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TITLE I.P.P.E.S. Master Objectives Bank, Science Instructional Topic Catalog.

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ABSTRACT

The Instructional Program Planning and Evaluation System (IPPE) Master Objectives Bank of the Jackson Public Schools, Michigan, provides a complete listing of the science instructional topics and objectives for kindergarten through the sixth grade. Each item is coded with a ten-digit number, which enables the user to categorize a given objective or to locate a given objective according to the following system: (1) the first two digits of the code indicate the subject matter area, classified under the headings of mathematics, reading and grammar, science, social studies, and writing skills and written expression; (2) the third and fourth digits indicate the grade level; (3) the fifth, sixth, and seventh digits indicate the topic of the instructional unit covered by the objective, and these topics together with their assigned codes are listed on the Topic Summary Sheet; and (4) the eighth, ninth and tenth digits indicate the objective within the topic, all allowing for a maximum of one thousand objectives to be grouped under a single instructional unit topic. In this volume the topics are listed alphabetically, and then objectives under each topic are further ordered according to grade level. This work was prepared under an ESEA Title III contract. (JR)

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**I.P.P.E.S. MASTER OBJECTIVE
SCIENCE INSTRUCTIONAL TOPIC**

JACKSON PUBLIC SCHOOLS

**INSTRUCTIONAL PROGRAM
PLANNING & EVALUATION SYSTEM**

290 WEST MICHIGAN AVENUE
JACKSON, MICHIGAN 49201

Funded under Title III, ESEA of 1965,
Michigan Department of Education Project Number 0621

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U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

MASTER OBJECTIVES BANK

INSTRUCTIONAL TOPIC CATALOG

JACKSON PUBLIC SCHOOLS

**INSTRUCTIONAL PROGRAM
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ITEM CODE NUMBERS

Each item of the I.P.P.E.S. Master Objectives Bank is coded with a ten digit number user to categorize a given objective or to locate a needed objective according to a number

1. Subject matter major classification. Initially IPES will provide objectives in and grammar, (c) science, (d) social studies, and (e) writing skills and written left to right) indicate subject matter:

- (a) 00XXXXXXXX = mathematics
- (b) 01XXXXXXXX = reading
- (c) 02XXXXXXXX = science
- (d) 03XXXXXXXX = social studies
- (e) 04XXXXXXXX = writing

2. Grade Level. The grade level at which an objective is normally or traditionally into the third and fourth digits of the code number. The first issue of the catalog through grade six according to the following code:

- (a) XX00XXXXXX = kindergarten
- (b) XX01XXXXXX = first grade
- (c) XX02XXXXXX = second grade
- (d) XX03XXXXXX = third grade
- (e) XX04XXXXXX = fourth grade
- (f) XX05XXXXXX = fifth grade
- (g) XX06XXXXXX = sixth grade

3. Topic of Instructional Unit: The fifth, sixth, and seventh digits indicate the the objective. Each subject matter major classification may be divided into one. The three digit numerals assigned to topics specific to this catalog are found on the body of the catalog all objectives associated with a topic are grouped within and are associated with a seven digit number.

ITEM CODE NUMBERS

es Bank is coded with a ten digit numeral. The system chosen makes it easy for any needed objective according to a number of factors:

Initially IPPES will provide objectives in five areas: (a) mathematics, (b) reading studies, and (c) writing skills and written expression. The first two digits (from

es

An objective is normally or traditionally introduced into the curriculum is coded code number. The first issue of the catalogs covers the grade span from kindergarten following code:

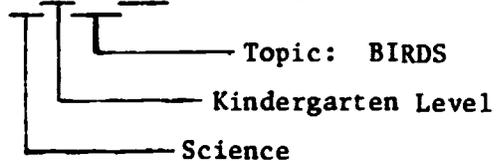
, sixth, and seventh digits indicate the topic of the instructional unit covered by or classification may be divided into one thousand topics within each grade level. Topics specific to this catalog are found on the following Topic Summary Sheet. Within associated with a topic are grouped within grade levels. Topic headings are given number.

4. Objective Within Topic. A maximum of one thousand objectives may be grouped under eighth, ninth, and tenth digits of the code number indicate the objective within t

SPECIFIC EXAMPLES OF CODING

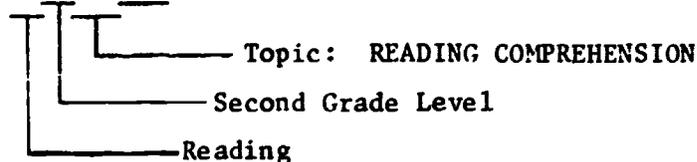
1. Science

0200060007 KNOW THE PARTS OF A CHICKEN EGG. (Seventh objective within topic)



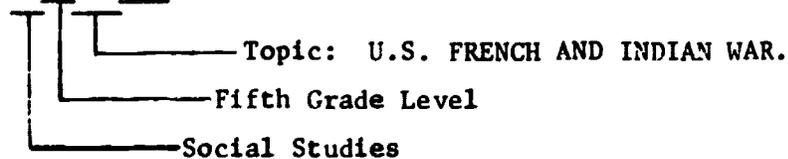
2. Reading

0102025001 SELECTS MAIN IDEA OF A PARAGRAPH. (First objective within topic)



3. Social Studies

0305295002 NAME THE MAIN CAUSES OF THE FRENCH AND INDIAN WAR. (Second objective)



num of one thousand objectives may be grouped under one Instructional Unit Topic. The
of the code number indicate the objective within the topic.

SPECIFIC EXAMPLES OF CODING

CHICKEN EGG. (Seventh objective within topic)

OF A PARAGRAPH. (First objective within topic)

COMPREHENSION

ES OF THE FRENCH AND INDIAN WAR. (Second objective within topic)

NCH AND INDIAN WAR.

SCIENCE TOPIC SUMMARY SHEET
Grades K-6

<u>CODE</u>	<u>TOPIC</u>	<u>CODE</u>
005	Adaptation (animals)	180
010	Adaptation (behavior)	185
015	Adaptation (defense)	190
020	Adaptation (food)	195
025	Adaptation (habitat)	200
030	Adaptation (man)	205
035	Adaptation (plants)	210
040	Adaptation (plants and animals)	215
045	Air	220
050	Amphibians	225
055	Animals	230
060	Birds	235
065	Cells	240
070	Classification	245
075	Classify (animals)	250
080	Classify by five senses	255
085	Classify by kind, form, and properties	260
090	Classify (matter)	265
095	Classify (plants)	270
100	Classify (plant and animal)	275
105	Classify (plant and animal cells)	280
110	Cloth	285
115	Ecology	290
120	Electricity	295
125	Energy Transformation	300
130	Energy Transformation (air)	305
135	Energy Transformation (atoms)	310
140	Energy Transformation (burning candle)	315
145	Energy Transformation (carbon dioxide)	320
150	Energy Transformation (chemical)	325
155	Energy Transformation (combustion)	330
160	Energy Transformation (compounds)	335
165	Energy Transformation (compounds & mixtures)	340
170	Energy Transformation (condensation)	345
175	Energy Transformation (copper oxide)	350

SCIENCE TOPIC SUMMARY SHEET
 Grades K-6

<u>CODE</u>	<u>TOPIC</u>
180	Energy Transformation (decomposition)
185	Energy Transformation (electric)
190	Energy Transformation (elements)
195	Energy Transformation (evaporation)
200	Energy Transformation (food)
205	Energy Transformation (forms)
210	Energy Transformation (heat)
215	Energy Transformation (internal combustion)
220	Energy Transformation (kinetic)
225	Energy Transformation (light & sound)
230	Energy Transformation (liquid)
235	Energy Transformation (mass)
240	Energy Transformation (mixture)
245	Energy Transformation (molecular)
250	Energy Transformation (nuclear)
255	Energy Transformation (oxidation)
260	Energy Transformation (oxygen)
265	Energy Transformation (pressure)
270	Energy Transformation (solar)
275	Energy Transformation (substance)
280	Energy Transformation (volume)
285	Energy Transformation (water)
290	Erosion
295	Fish
300	Force and Motion
305	Fuels
310	Genetics
315	Geology
320	Human Body (behavior)
325	Human Body (circulatory)
330	Human Body (defense)
335	Human Body (diet)
340	Human Body (digestive)
345	Human Body (disease)
350	Human Body (ear)

SCIENCE TOPIC SUMMARY SHEET (continued)

<u>CODE</u>	<u>TOPIC</u>	<u>CODE</u>
355	Human Body (exercise)	530
360	Human Body (eye)	535
365	Human Body (growth)	540
370	Human Body (health conditions)	545
375	Human Body (health & safety)	550
380	Human Body (life activities)	555
385	Human Body (muscular)	560
390	Human Body (nervous)	565
395	Human Body (nose)	570
400	Human Body (posture)	575
405	Human Body (reflex)	580
410	Human Body (respiratory)	585
415	Human Body (skeletal)	590
420	Human Body (skin, hair, teeth, nails)	595
425	Human Body (systems)	600
430	Human Body (temperature)	605
435	Human Body (tongue)	
440	Human Body (water)	610
445	Insects	615
450	Interdependence	620
455	Light	625
460	Machines	630
465	Machines (complex)	635
470	Machines (simple)	640
475	Mammals	645
480	Magnets	650
485	Mealworms	655
490	Metals	660
495	Microorganisms	665
500	Microscope technique	670
505	Mollusks	675
510	Plants (adaptation)	680
515	Plants (bacteria)	685
520	Plants (bacteria & mold)	690
525	Plants (capillary action)	695
		700

<u>CODE</u>	<u>TOPIC</u>
530	Plants (fertilization)
535	Plants (food chains)
540	Plants (gases)
545	Plants (growth)
550	Plants (hybrids)
555	Plants (molds)
560	Plants (needs)
565	Plants (nongreen)
570	Plants (parts)
575	Plants (roots)
580	Plants (seeds)
585	Plants (trees)
590	Plants (water)
595	Pollution (water)
600	Pollution (water & air)
605	Relative positions of stationary & moving objects)
610	Reproduction
615	Reptiles (extinct)
620	Scientific Method
625	Soil
630	Solar system
635	Solar System (stars)
640	Sound
645	Systems (Interactions)
650	Systems & subsystems
655	U niverse
660	Water
665	Weather
670	Weather (clouds)
675	Weather (fronts)
680	Weather (precipitation)
685	Weather (prediction)
690	Weather (recording)
695	Weather (storms)
700	Weather (temperature)

0204005 ADAPTATION (ANIMALS)

0204005001 KNOW HOW THE EMBRYONIC STRUCTURES ARE A SPECIAL ADAPTA

0204005003 GIVEN DESCRIPTION OR PICTURE OF THE COLORING OF ANIMAL AND AN
WOULD SURVIVE BY BLENDING WITH ITS HABITAT.

0204005004 TELL HOW BODY COVERINGS HELP ANIMALS TO ADAPT TO CERTAIN CLIMATE

0204005005 MATCH ILLUSTRATIONS OF FOLLOWING ANIMAL STRUCTURES WITH TASK FO
FEET, HOOFS, TOES, WINGS, FINS.

0204005006 MATCH MOUTH ADAPTATIONS TO KINDS OF FOOD TO BE GATHERED BY AN A

0204005007 MATCH BREATHING STRUCTURE (LUNGS OR GILLS) OF COMMON ANIMAL

0204005008 MATCH DEFINITIONS WITH FOLLOWING TERMS BIRTH, DEATH, SURVIVE

0205005 ADAPTATION (ANIMALS)

0205005001 KNOW THAT GROWTH OF ORGANISMS FROM EGG TO ADULT PROVIDES MANY EX

0205005002 KNOW THAT THE ADAPTATIONS OF AN ANIMAL TO ITS ENVIRON
TO THE FUNCTIONS SERVED.

0205005003 EXPLAIN HOW MAMMALS ARE BETTER ADAPTED FOR THE PROTECT

0205005004 INFER THAT THE ENVIRONMENT OF PAST ANIMALS WAS DIFFERENT FROM TH
FOUND.

0205005005 INFER SOME OF THE STRUCTURAL ADAPTATIONS OF EARLY LIFE.

0205005006 DEVELOP A SEQUENTIAL PATTERN ON A CHART FOR THE APPEARA

STRUCTURES ARE A SPECIAL ADAPTATION TO ENVIRONMENT.

DESCRIPTION OF THE COLORING OF ANIMAL AND ANIMAL'S HABITAT, EXPLAIN WHETHER OR NOT ANIMAL IS ADAPTED TO ITS HABITAT.

HOW DO ANIMALS ADAPT TO CERTAIN CLIMATES.

RELATE ANIMAL STRUCTURES WITH TASK FOR WHICH THEY ARE BEST SUITED CLAWS, WEBBED FINS.

WHAT KINDS OF FOOD TO BE GATHERED BY AN ANIMAL.

RELATE (LUNGS OR GILLS) OF COMMON ANIMAL TO HABITAT FOR WHICH IT IS BEST SUITED.

DEFINITION OF TERMS BIRTH, DEATH, SURVIVE, ADAPT, AND EXTINCT.

HOW ANIMALS CHANGE FROM EGG TO ADULT PROVIDES MANY EXAMPLES OF ADAPTIVE CHANGE AND DEVELOPMENT.

HOW THE ADAPTATION OF AN ANIMAL TO ITS ENVIRONMENT CAN BE UNDERSTOOD BY RELATING BONE STRUCTURE

HOW ANIMALS ARE BETTER ADAPTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

HOW THE ENVIRONMENT OF PAST ANIMALS WAS DIFFERENT FROM THE PRESENT ENVIRONMENT IN WHICH THEIR FOSSILS ARE

DESCRIBE THE NATURAL ADAPTATIONS OF EARLY LIFE.

DEVELOP A PATTERN ON A CHART FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

0204010 ADAPTATION (BEHAVIOR)

0204010001 KNOW THAT BEHAVIOR MAY BE INBORN OR LEARNED.

0204010002 KNOW THAT ALL ORGANISMS HAVE INBORN BEHAVIOR THAT ADAPTS THEM TO THE

0204010003 DEMONSTRATE HOW ORGANISMS BECAUSE OF THEIR INBORN BEHAVIOR AD

0206010 ADAPTATION (BEHAVIOR)

0206010001 KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY AND ENVIRON

0206010002 KNOW THAT BEHAVIOR MAY BE INBORN AND INVOLUNTARY.

0206010003 KNOW THAT RESPONSES TO STIMULI MAY BE SIMPLE OR COMPLEX.

0206010004 KNOW THAT BEHAVIOR CONSISTS OF RESPONSES TO CHANGES (STIMULI) IN

0206010005 KNOW THAT A RESPONSE MAY BE CHANGED BY SUBSTITUTING A NEW STIMULUS
STIMULUS.

0206010006 KNOW THAT HABITS AND LEARNING RESULT FROM INTERACTION OF INHERITED

0206010007 THE CHILD WILL DEMONSTRATE A CONDITIONED REFLEX BY CONDITIONING
LIGHT, WHEN FED) UNTIL THE FISH RESPONDS WITHOUT FOOD.

OR LEARNED.

ON BEHAVIOR THAT ADAPTS THEM TO THEIR ENVIRONMENT.

OF THEIR INBORN BEHAVIOR ADAPT TO VARIOUS ENVIRONMENTS.

PRODUCT OF ITS HEREDITY AND ENVIRONMENT.

AND INVOLUNTARY.

BE SIMPLE OR COMPLEX.

RESPONSES TO CHANGES (STIMULI) IN THE ENVIRONMENT.

ED BY SUBSTITUTING A NEW STIMULUS AND ASSOCIATING IT WITH THE ORIGINAL

ULT FROM INTERACTION OF INHERITED STRUCTURES WITH STIMULI.

TIONED REFLEX BY CONDITIONING A FISH TO RESPOND TO A STIMULUS (SUCH AS A
RESPONDS WITHOUT FOOD.

0206015

ADAPTATION (DEFENSE)

0206015001

KNOW THAT ORGANISMS ARE STRUCTURALLY ADAPTED FOR DEFENSE AGAINST

STRUCTURALLY ADAPTED FOR DEFENSE AGAINST HOSTILE MICROORGANISMS IN THEIR ENVIRONMENT.

0204020

ADAPTATION (FOOD)

0204020001

KNOW THAT LIVING THINGS NEED A FOOD SUPPLY.

0204020002

KNOW THAT AN ORGANISM NEEDS FOOD FOR GROWTH.

0204025 ADAPTATION (HABITAT)

0204025001 KNOW THAT A LIVING THING REPRODUCES ITSELF AND DEVELOPS I

0204025002 KNOW THAT DIFFERENT ANIMALS ARE ADAPTED TO DIFFERENT S

0204025003 KNOW THAT LIVING THINGS ARE DEPENDENT ON A PARTICULAR E

0204025004 KNOW WHY THE LIFE CYCLE OF AN ANIMAL IS ADAPTED TO THE S

0204025005 KNOW THAT A LIVING THING IS DEPENDENT ON ALL THE CO

ENVIRONMENT.

0204025006 KNOW THAT THE ENVIRONMENT OF A LIVING THING INCLUDES ALL SU

DIFFERENT PLANTS HAVE ADAPTED TO DIFFERENT ENVIRONMENTS.

0204025007 TELL WHAT MOST ORGANISMS NEED TO STAY ALIVE.

0204025008 KNOW HOW LIVING THINGS CAPTURE MATTER FROM THE EN

0204025009 KNOW HOW A LIVING THING MAY BE ADAPTED TO DIFFERENT EN

0204025010 GIVE THE DEFINITION OF HABITAT.

0204025011 IDENTIFY DEFINITION OF HABITAT. MATCH ORGANISMS WITH PI

THEY ARE BEST ADAPTED.

0204025012 SHOW UNDERSTANDING OF ADAPTATION TO ENVIRONMENT BY GI

DIFFERENT ENVIRONMENTS.

0205025 ADAPTATION (HABITAT)

0205025001 KNOW THAT THERE IS AN INTERCHANGE OF MATTER AND ENERGY BE

REPRODUCES ITSELF AND DEVELOPS IN A GIVEN ENVIRONMENT.

ALS ARE ADAPTED TO DIFFERENT SPECIAL ENVIRONMENTS.

ARE DEPENDENT ON A PARTICULAR ENVIRONMENT.

OF AN ANIMAL IS ADAPTED TO THE SPECIAL ENVIRONMENT, OR HABITAT.

IS DEPENDENT ON ALL THE CONDITIONS AND ALL OTHER LIVING THINGS IN ITS

OF A LIVING THING INCLUDES ALL SURROUNDING CONDITIONS THAT AFFECT ITS GROWTH.
ADAPTED TO DIFFERENT ENVIRONMENTS.

NEED TO STAY ALIVE.

EXTRACT MATTER FROM THE ENVIRONMENT AND RETURN IT TO THE ENVIRONMENT.

MAY BE ADAPTED TO DIFFERENT ENVIRONMENTS.

HABITAT.

HABITAT. MATCH ORGANISMS WITH PICTURES, DESCRIPTIONS, OR NAMES OF HABITATS TO WHICH

ADAPTATION TO ENVIRONMENT BY GIVING TWO EXAMPLES OF LIVING THINGS NEEDING SPECIAL AND

EXCHANGE OF MATTER AND ENERGY BETWEEN THE ORGANISM AND ITS ENVIRONMENT.

0205025002 KNOW THAT MOST LIVING THINGS DEPEND ON A CONTINUOUS SUPPLY OF

0205025003 KNOW THAT EACH KIND OF ORGANISM IS ADAPTED TO A SPECIAL ENVIRONMENT

0205025004 KNOW THAT THE ENVIRONMENT TO WHICH AN ORGANISM IS ADAPTED

0205025005 KNOW THAT MAN, LIKE ALL OTHER LIVING THINGS, IS DEPENDENT ON OTHER LIVING THINGS IN IT.

0205025006 KNOW THAT AN ORGANISM MUST HAVE AN ENVIRONMENT THAT SUPPLIES

0205025007 INFER THAT ENVIRONMENTAL CONDITIONS AFFECT THE DEVELOPMENT OF

0205025008 TESTS OF FOODS GIVE INSIGHT INTO THE MATTER LIVING THINGS TAKE

0205025009 KNOW THAT A LIVING THING IS THE PRODUCT OF ITS HEREDITY AND ENVIRONMENT

0205025010 DEVELOP UNDERSTANDING OF THE IMPORTANCE OF ADAPTATIONS OF STRUCTURE

0205025011 KNOW THAT STRUCTURAL ADAPTATIONS TO ENVIRONMENTS OF THE PAST OCCUR

0205025012 KNOW THAT GRADUAL CHANGES OF STRUCTURE IN WATER ANIMALS OF THE AN

0205025013 COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND AND RELATIONS

0205025014 COMPARE ENVIRONMENTAL CONDITIONS IN WATER AND ON LAND AND RELATIONS

0205025015 ANALYZE THE RELATIONSHIP BETWEEN ENVIRONMENT AND LIVING THINGS.

N A CONTINUOUS SUPPLY OF OXYGEN.
ADAPTED TO A SPECIAL ENVIRONMENT.
ORGANISM IS ADAPTED SUPPLIES ALL THE ORGANISM'S NEEDS.
THINGS, IS DEPENDENT ON HIS ENVIRONMENT---ON ALL THE MATTER AND
ENVIRONMENT THAT SUPPLIES ITS NEEDS IN ADEQUATE AMOUNTS.
EFFECT THE DEVELOPMENT OF AN ORGANISM.
MATTER LIVING THINGS TAKE FROM THEIR ENVIRONMENT.
CT OF ITS HEREDITY AND ENVIRONMENT.
CE OF ADAPTATIONS OF STRUCTURE TO SUCCESSFUL SURVIVAL IN AN ENVIRONMENT.
NVIRONMENTS OF THE PAST OCCURRED SLOWLY.
E IN WATER ANIMALS OF THE ANCIENT SEAS ADAPTED THEM FOR LAND LIVING.
ATER AND ON LAND AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.
ATER AND ON LAND AND RELATE THESE ENVIRONMENTS TO DEVELOPING LIFE FORMS.
RONMNT AND LIVING THINGS.

0205025016 PREDICT WHICH OF SEVERAL EXPERIMENTS IS BEST DESIGNED TO ANSWER
(TEMPERATURE, AIR SUPPLY, LIGHT, WATER, FOOD) ON BEHAVIOR

0206025 ADAPTATION (HABITAT)

0206025001 KNOW THAT LIVING THINGS ARE ADAPTED BY STRUCTURE AND FUNCTION

0206025002 KNOW THAT LIVING ORGANISMS HAVE STRUCTURES THAT ENABLE THEM TO

0206025003 KNOW THAT AN ORGANISM'S SPECIALIZED STRUCTURES ENABLE IT TO INTERACT

0206025004 KNOW THAT HEREDITY AND ENVIRONMENT WORK TOGETHER.

0206025005 KNOW THAT THE ENVIRONMENT FOR GROWTH OF VIRUSES DIFFERS FROM THAT OF CELLS

ENTS IS BEST DESIGNED TO ANSWER GIVEN QUESTION ABOUT EFFECT OF VARIABLES
WATER, FOOD) ON BEHAVIOR OF GROWTH OF ORGANISM IN ITS ENVIRONMENT.

ED BY STRUCTURE AND FUNCTION TO THEIR ENVIRONMENT.

STRUCTURES THAT ENABLE THEM TO RESPOND TO STIMULI IN THEIR ENVIRONMENT.

IZED STRUCTURES ENABLE IT TO INTERACT WITH THE ENVIRONMENT.

NT WORK TOGETHER.

OWTH OF VIRUSES DIFFERS FROM THAT OF OTHER LIVING THINGS.

0204030	ADAPTATION (MAN)	
0204030001	KNOW HOW KNOWLEDGE OF CONCEPTS, WHETHER OBTAINED BY TO KEEPING MAN ALIVE.	TRIAL A
0204030002	EXPLAIN HOW, BY USING HIS BRAIN TO MODIFY THE WHICH HE IS NOT STRUCTURALLY ADAPTED.	ENVIRON
0204030003	ENGAGE IN A PROJECT AND DEMONSTRATE, USING A VARIETY OF SCIENCE CONCEPTS, HAS BEEN ALTERED BY HUMAN ACTIVITIES.	MEDIA,
0205030	ADAPTATION (MAN)	
0205030001	WRITES A PARAGRAPH DESCRIBING THE DETAILS OF PROBLEMS HEAT, COLD).	MAN WILL
0206030	ADAPTATION (MAN)	
0206030001	KNOW THAT CHEMICAL TECHNOLOGY HAS PROVIDED MANY	SUBSTANC
0206030002	KNOW THAT MAN CHANGES THE ENVIRONMENT OF VIRUSES IN	SEEKING
0206030003	KNOW THAT MAN ATTEMPTS TO MANAGE HIS ENVIRONMENT.	
0206030004	INFER THAT THE CONQUEST OF DISEASE IS A COOPERATIVE	EFFORT.
0206030005	KNOW THAT MODERN TECHNOLOGY USES CONCEPTS OF SCIENCE TO	FREE THE
0206030006	KNOW THAT MAN CHANGES THE ENVIRONMENT OF MICROORGANISMS	AS HE SE

TS, WHETHER OBTAINED BY TRIAL AND ERROR OR BY INVESTIGATION, HAS BEEN ESSENTIAL
AIN TO MODIFY THE ENVIRONMENT, MAN IS ABLE TO LIVE IN ENVIRONMENTS TO
ADAPTED.
NSTRATE, USING A VARIETY OF MEDIA, HOW PHYSICAL ENVIRONMENT IN AT LEAST TWO AREAS OF
ALTERED BY HUMAN ACTIVITIES.
G THE DETAILS OF PROBLEMS MAN WILL FIND IN A NEW ENVIRONMENT (OXYGEN, ATMOSPHERE,
Y HAS PROVIDED MANY SUBSTANCES WITH USEFUL PROPERTIES.
VIRONMENT OF VIRUSES IN SEEKING TO CONQUER DISEASE.
NAGE HIS ENVIRONMENT.
ISEASE IS A COOPERATIVE EFFORT.
USES CONCEPTS OF SCIENCE TO FREE THE ENVIRONMENT OF HARMFUL MICROORGANISMS.
VIRONMENT OF MICROORGANISMS AS HE SEEKS TO CONQUER DISEASE.

0204035 ADAPTATION (PLANTS)

0204035001 MATCH DESCRIPTIONS OR DRAWINGS OF SEEDS WITH MEANS BY WHICH T
PLANT TO ANOTHER PLANT.

0205035 ADAPTATION (PLANTS)

0205035001 INFER THAT CELL WALLS SUPPORT AND STIFFEN THE STRUCTURE OF PLAN

0205035002 KNOW THAT AS PRIMITIVE PLANTS DEVELOPED STIFFER CELL WALLS,

S OF SEEDS WITH MEANS BY WHICH THEY TRAVEL (WIND, WATER, OR ANIMALS) FROM PARENT

AND STIFFEN THE STRUCTURE OF PLANTS.

DEVELOPED STIFFER CELL WALLS, THEY GREW TALLER.

0205040 ADAPTATION (PLANTS AND ANIMALS)

0205040001 KNOW THAT LIVING THINGS HAVE CHANGED OVER THE AGES,

0205040002 KNOW THAT LIVING THINGS HAVE BEEN CHANGING SINCE LIFE FIRST

0205040003 DEVELOP A SEQUENTIAL PATTERN FOR THE APPEARANCE OF THE DIFFER

ALS)

PAGE 10

HE CHANGED OVER THE AGES,

HE BEEN CHANGING SINCE LIFE FIRST BEGAN ON EARTH OVER TWO BILLION YEARS AGO.

N FOR THE APPEARANCE OF THE DIFFERENT FORMS OF LIFE.

0204045

AIR

0204045001

KNOW THAT NITROGEN IS THE MOST PLENTIFUL GAS IN THE AIR.

0204045002

KNOW THAT ABOUT ONE FIFTH OF AIR IS OXYGEN.

0204045003

KNOW WARM AIR IS FORCED UPWARD BY COOLER AIR SURROUNDING IT.

0204045004

KNOW HOW AIR CAN BE COLLECTED AND CLEANED BY THE DISPLACEMENT

0200050 AMPHIBIANS

0200050001 KNOW THAT A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH HATCH

0200050002 DESCRIBE HOW A TURTLE BEGAN ITS LIFE AS AN EGG, WHICH HATCH

0200050003 KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC AND L

0200050004 DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUAT
EAT.

0205050 AMPHIBIANS

0205050001 OBSERVE AND STUDY THE LIFE CYCLE OF AN AMPHIBIAN.

0205050002 DESCRIBE GROWTH AND DEVELOPMENT OF FROG. OBSERVE EGGS IN AC
GROW TO FROGS.

0205050003 DESCRIBE FROG BEGINNING LIFE AS SINGLE CELL MULTIPLIES BY CE
BREATHING FROG.

LIFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

LIFE AS AN EGG, WHICH HATCHED INTO A SMALL TURTLE AND THEN GREW INTO AN ADULT.

LIFE ACTIVITIES OF AQUATIC AND LAND TURTLES.

AND LIFE ACTIVITIES OF AQUATIC AND LAND TURTLES, BY OBSERVING THEM MOVE AND

LE OF AN AMPHIBIAN.

T OF FROG. OBSERVE EGGS IN ACQUARIUM AS THEY DEVELOP AND HATCH INTO TADPOLES AND

S SINGLE CELL MULTIPLIES BY CELL DIVISION, FORMS STRUCTURES, DEVELOPS INTO AIR

0201055 ANIMALS

0201055001 IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS HOW THEY EAT.

0201055002 IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS HOW THEY GROW

0201055003 IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS HOW THEY CHAN

0201055004 IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS HOW THEY MOVE

0201055005 IDENTIFY THE FOLLOWING PROPERTIES OF ANIMALS HOW THEY REPR

0201055006 KEEP AN ACCURATE RECORD OF GROWTH CHANGES OF AN ANIMAL YOU

0201055007 KNOW THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG PERI

0201055008 DEMONSTRATE THAT ANIMALS MAY BE PRESERVED IN ICE, BY PLAC
THEN ADDING WATER TO ENCLOSE THE DEAD INSECT WITHIN ICE.

0201055009 DESCRIBE THAT ANIMALS MAY BE PRESERVED IN ICE FOR LONG PERI
REMAIN OVER A LONG PERIOD OF TIME.

0203055 ANIMALS

0203055001 FILL IN OUTLINE. SHOW FIVE CLASSES OF ANIMALS AND 2-3 CHAR

0203055002 PLACE CLASSES OF ANIMALS IN PROPER ENVIRONMENT.

0203055003 CHOOSE FRESH-WATER ANIMAL. TELL HOW IT ADAPTED TO ITS ENVI

0203055004 DESCRIBE HOW ONE SEA ANIMAL IS ADAPTED TO LIFE IN SEA.

PROPERTIES OF ANIMALS HOW THEY EAT.

PROPERTIES OF ANIMALS HOW THEY GROW.

PROPERTIES OF ANIMALS HOW THEY CHANGE.

PROPERTIES OF ANIMALS HOW THEY MOVE BY THEMSELVES.

PROPERTIES OF ANIMALS HOW THEY REPRODUCE.

THE GROWTH CHANGES OF AN ANIMAL YOU HAVE OBSERVED.

HOW ANIMALS ARE PRESERVED IN ICE FOR LONG PERIODS.

HOW ANIMALS MAY BE PRESERVED IN ICE, BY PLACING A DEAD INSECT IN WATER, LETTING IT FREEZE, AND THAWING TO REMOVE THE DEAD INSECT WITHIN ICE.

HOW ANIMALS CAN BE PRESERVED IN ICE FOR LONG PERIODS, BY OBSERVING THAT THE INSECT FROZEN IN ICE WILL SURVIVE FOR LONG PERIODS OF TIME.

LIST SEVERAL CLASSES OF ANIMALS AND 2-3 CHARACTERISTICS OF EACH.

HOW ANIMALS LIVE IN THEIR PROPER ENVIRONMENT.

HOW ANIMALS ADAPT TO THEIR ENVIRONMENT.

HOW ANIMALS ARE ADAPTED TO LIFE IN SEA.

- 0203055005 WRITE STORY ABOUT ANIMAL THAT LIVES IN SEA. DESCRIBE ITS ENV
- 0203055006 DESCRIBE THAT BACKBONES OF DIFFERENT ANIMALS, SUCH AS CHICKEN
AND THAT EACH BONE HAS A HOLE IN THE MIDDLE.
- 0203055007 NAME THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS
WITHOUT BACKBONES AS INVERTEBRATES.
- 0203055008 KNOW THAT BACKBONES OF DIFFERENT ANIMALS ARE MADE OF BONES TH
THE MIDDLE.
- 0203055009 KNOW THE BONES THAT MAKE UP A BACKBONE AS VERTEBRAE, ANIMALS
WITHOUT BACKBONES AS INVERTEBRATES.
- 0203055010 PREPARE TWO-PART ANIMAL BOOKLET OF VERTEBRATES AND INVERTEB
- 0203055011 GIVE CHARACTERISTICS OF VERTEBRATES.
- 0204055002 KNOW HOW ANIMALS HAVE BEEN ADAPTED TO MEET THE NEEDS OF THEIR EN
- 0205055 ANIMALS .
- 0205055001 IDENTIFY BALL ON THE END OF THIGH BONE AND SOCKET OF HIP BONE.
- 0205055002 RECONSTRUCT THE LEG BONES OF A COOKED CHICKEN AND LABEL THE BALL
- 0205055003 ORDER BONES OF THE LEG OF COOKED CHICKEN WHEN GIVEN THEM SEPARATE
- 0205055004 CONTROL THE ENVIRONMENT AND DIET OF AN ANIMAL AND OBSERVE
THE NON-CONTROLLED ANIMAL.
- 0205055005 CONSTRUCT SMALL SYSTEM FOR OBSERVING SEALED-IN ORGANISM. SEAL AQU

IVES IN SFA. DESCRIBE ITS ENVIRONMENT. DRAW PICTURES TO ILLUSTRATE STORY.

RENT ANIMALS, SUCH AS CHICKEN AND FISH, ARE MADE OF BONES THAT FIT TOGETHER
THE MIDDLE.

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

ANIMALS ARE MADE OF BONES THAT FIT TOGETHER AND THAT EACH BONE HAS A HOLE I

CKBONE AS VERTEBRAE, ANIMALS WITH BACKBONES AS VERTEBRATES, AND ANIMALS
ES.

OF VERTEBRATES AND INVERTEBRATES.

TES.
ED TO MEET THE NEEDS OF THEIR ENVIRONMENT.

SH BONE AND SOCKET OF HIP BONE.

OOKED CHICKEN AND LABEL THE BALL AND SOCKET JOINTS CORRECTLY.

D CHICKEN WHEN GIVEN THEM SEPARATED.

OF AN ANIMAL AND OBSERVE THE CHANGE IN THE CONTROLLED ANIMAL WITH THAT OF

VERIC SEALED-IN ORGANISM. SEAL AQUATIC PLANTS, SAND, AQUARIUM WATER IN JAR.

0200060

BIRDS

0200060001

KNOW THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL
AND ARE COVERED WITH FEATHERS.

BIRDS A

0200060002

DESCRIBE THAT A CHICKEN IS ONE KIND OF BIRD AND THAT ALL BIRDS
EGGS AND THEY ARE COVERED WITH FEATHERS.

BIRDS A

0200060003

KNOW THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER
INTO ADULTS.

CHICKEN

0200060004

DESCRIBE THAT CHICKEN EGGS COME FROM THE HEN OR MOTHER
INTO ADULTS.

CHICKEN

0200060005

IDENTIFY PARTS OF THE EGG AS SHELL, MEMBRANE, WHITE AND

YOLK.

0200060006

DESCRIBE A CHICKEN EGG, BY BREAKING ONE OPEN AND

OBSERVING

0200060007

KNOW THE PARTS OF A CHICKEN EGG.

0204060

BIRDS

0204060001

DESCRIBE A CHICKEN EGG, BY OBSERVING WITH A HAND LENS

THE OUT

0204060002

IDENTIFY PARTS OF THE CHICKEN EGG AS SHELL, MEMBRANE,
WHEN IT JOINS WITH SPERM.

YOLK, A

0204060003

KNOW WHY IN BOTH STRUCTURE AND BEHAVIOR (MIGRATION) THE

DUCK IS

0204060004

TELL OR ILLUSTRATE (BY DRAWING, ETC.) HOW A DUCK IS
THE EGG IS ADAPTED TO THE LIFE OF THE EMBRYO.

ADAPTED

END OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS. ALL LAY HARD-SHELLED EGGS
 S.

OF KIND OF BIRD AND THAT ALL BIRDS ARE ALIKE IN TWO WAYS, THEY ALL LAY HARD-SHELLED
 WITH FEATHERS.

FROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GROW

COME FROM THE HEN OR MOTHER CHICKEN, AND THAT EGGS HATCH INTO BABY CHICKS WHICH GROW

SHELL, MEMBRANE, WHITE AND YOLK.

BREAKING ONE OPEN AND OBSERVING IT.

EGG.

OBSERVING WITH A HAND LENS THE OUTSIDE AND INSIDE OF THE EGG.

IN EGG AS SHELL, MEMBRANE, YOLK, AND WHITE SPECK ON THE YOLK, WHICH BECOMES EMBRYO

AND BEHAVIOR (MIGRATION) THE DUCK IS ADAPTED TO ITS ENVIRONMENT.

NG, ETC.) HOW A DUCK IS ADAPTED FOR FLIGHT, HATCHING YOUNG FROM EGGS, AND HOW
 FE OF THE EMBRYO.

- 0204065 CELLS
- 0204065001 KNOW THAT LIVING THINGS ARE MADE OF CELLS. THEY HAVE A COMPLEX S
- 0204065002 KNOW HOW LIVING THINGS GROW BY CELL DIVISION.
- 0204065003 KNOW THAT THE STRUCTURE OF CELLS VARIES ACCORDING TO THE FUNCTIONS
- 0204065004 DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING PLANT AND
- 0204065005 IDENTIFY FROM LIST WHICH NAMES CELL STRUCTURES, OR FROM PICTURES O
TRAITS WHICH ARE PRESENT ONLY IN PLANT CFLLS, ONLY IN ANIMAL CEL
- 0204065006 GIVEN SIMPLE SLIDE AND MICROSCOPE, CLASSIFY OBJECTS ON SLIDE AS C
BUBBLES, DIRT, CRYSTALS).
- 0204065007 ESTABLISH A RELATIONSHIP BETWEEN THE MOLD ON BREAD TO THE ACTION
CELLS.
- 0205065 CELLS
- 0205065001 DEFINE IN WRITING AND ORALLY WHAT THE WORD CELL MEANS.
- 0205065002 CONSTRUCT MICROSCOPE SLIDE PREPARATION. PLACE SCRAPING OF INSIDE
ADD COVER SLIP.
- 0205065003 DESCRIBE SHAPE OF CELLS.
- 0205065004 IDENTIFY NUCLEUS IN CELL.
- 0205065005 CONSTRUCT MODEL OF A CELL. USE MIXTURE OF WATER, CLEAR GELATIN, S
WILL GARDEN INSIDE SEALED PLASTIC BAG.
- 0205065006 IDENTIFY PARTS OF MODEL SIMILAR TO CELL, AS GELATIN FOR CYTOPLASM

THEY HAVE A COMPLEX STRUCTURE.

ON.

CORDING TO THE FUNCTIONS OF THE CELLS IN THE ORGANISM.

EN OBSERVING PLANT AND ANIMAL CELLS UNDER MICROSCOPE.

URES, OR FROM PICTURES OR SLIDES OF LIVING TISSUE, THOSE CELLULAR
LS, ONLY IN ANIMAL CELLS, OR IN BOTH.

Y OBJECTS ON SLIDE AS CELLS OR OBJECTS WHICH ARE NOT CELLS 'E.G., AIR

ON BREAD TO THE ACTION OF BACTERIA OF DECAY ON DEAD PLANT AND ANIMAL

CELL MEANS.

PLACE SCRAPING OF INSIDE CHEEK ON DROP OF WATER ON GLASS SLIDE STAIN

F WATER, CLEAR GELATIN, STARCH, COLOGNE, SMALL PIECES OF CLAY GELATIN

AS GELATIN FOR CYTOPLASM PLASTIC BAG FOR MEMBRANE, CLAY FOR NUCLEUS,

- 0205065007 KNOW THAT CELLS INTERCHANGE MATTER AND ENERGY WITH THE
- 0205065008 INFER, THROUGH INVESTIGATION, THAT A YEAST CELL GETS
- 0205065009 DEMONSTRATE THAT YEAST CELLS INCREASE WITH REPRODUCTION.
WITH WATER AND SAME AMOUNT MIXED WITH SUGAR AND WATER.
- 0205065010 DESCRIBE DIFFERENCE DUE TO GROWTH AND REPRODUCTION OF
- 0205065011 DEMONSTRATE THAT A CELL MEMBRANE ALLOWS SOME MATERIALS
SOLUTION. STARCH TURNS BLUE-BLACK.
- 0205065012 DESCRIBE THAT IODINE SOLUTION PASSES INTO CELL MODEL
- 0205065013 KNOW THAT ENERGY WITHIN A CELL COMES FROM A CYCLE OF
MOLECULES (THE CELL ENERGY PROCESS).
- 0205065014 KNOW THAT ENERGY IS A CYCLICAL PROCESS---ALL WITHIN A
- 0205065015 DESCRIBE THE ENERGY CYCLE IN CELLS.
- 0205065016 DERIVE INSIGHT INTO DIFFUSION AS A BASIC PROCESS IN ALL
- 0205065017 UNDERSTAND THAT THE CELL MEMBRANE DELIMITS THE CELL AS A
- 0205065018 THROUGH THE CONSTRUCTION OF MODELS, GAIN A BETTER IDEA
- 0205065019 KNOW THAT CELLS ARE SPECIALIZED FOR DIFFERENT FUNCTIONS.
- 0205065020 KNOW THAT CELLS REPRODUCE THEMSELVES.

MATTER AND ENERGY WITH THE ENVIRONMENT.

IN, THAT A YEAST CELL GETS ENERGY FOR GROWTH FROM SUGAR.

S INCREASE WITH REPRODUCTION. COMPARE SMALL AMOUNT OF YEAST CELLS AFTER 3 DAYS MIXED
 MIXED WITH SUGAR AND WATER. FILTER BOTH ONTO PAPER.

GROWTH AND REPRODUCTION OF YEAST CELLS IN SUGAR SOLUTION.

BRANE ALLOWS SOME MATERIALS TO PASS THROUGH. USE CELL MODEL PLACE IN IODINE
 BLUE-BLACK.

ON PASSES INTO CELL MODEL STARCH DID NOT COME OUT (IODINE NOT TURNED BLUE-BLACK).

CELL COMES FROM A CYCLE OF BREAKING DOWN AND BUILDING HIGH ENERGY CONTAINING
 (PROCESS).

CAL PROCESS---ALL WITHIN A TINY CELL.

N CELLS.

ION AS A BASIC PROCESS IN ALL BODIES, ESPECIALLY CELLS.

EMBRANE DELIMITS THE CELL AS A FUNCTIONING UNIT.

F MODELS, GAIN A BETTER IDEA OF CELL STRUCTURE.

ELIZED FOR DIFFERENT FUNCTIONS.

THEMSELVES.

0205065021	KNOW THAT WHEN CELLS DIVIDE, EACH NEW CELL HAS ITS OWN	NUCLEUS.
0205065022	PERCEIVE THAT CELL DIVISION TAKES PLACE BY CONTINUAL	DOUBLING.
0205065023	KNOW THAT A SINGLE-CELLED ORGANISM PERFORMS ALL THE LIFE FUNCTIONS	COMMUNITY OF INTERDEPENDENT CELLS.
0205065024	BUILD A FOUNDATION FOR UNDERSTANDING ORGANIZATION OF	CELL STRU
0205065025	EXPLAIN THE FUNCTIONS OF EACH TYPE CELL IN THE BODY.	
0205065026	VISUALIZE HOW CHROMOSOMES DUPLICATE IN CELL DIVISION.	
0205065027	DEMONSTRATE KNOWLEDGE OF ANIMAL CELL REPRODUCTION BY	DRAWING T
	CELL HAS THE SAME NUMBER OF CHROMOSOMES, AND NAMING	SUBSTANCE
0205065028	KNOW THAT GROWTH IN A MANY-CELLED ORGANISM CONSISTS IN	MULTIPLIC
0205065029	DISCOVER THE DISTINCTION BETWEEN CYTOPLASM AND	PROTOPLAS
0205065030	KNOW THAT PROTOPLASM, THE LIVING MATERIAL IN THE CELL,	IS COMPOS
	CRUST AND ATMOSPHERE.	
0205065031	KNOW THAT PROTOPLASM CONTAINS COMMON ELEMENTS AND	COMPOUNDS
0205065032	WRITE OR TELL THREE OF THE FIVE KINDS OR COMPOUNDS	FOUND IN
0205065033	SHOW RECOGNITION OF THE WORD PROTOPLASM THROUGH A	MATCHING
0205065034	KNOW THAT THE CELL IS THE UNIT OF STRUCTURE AND	FUNCTION

EACH NEW CELL HAS ITS OWN NUCLEUS.
 THIS PLACE BY CONTINUAL DOUBLING.
 EACH CELL PERFORMS ALL THE LIFE FUNCTIONS WITHIN THE CELL. A MANY-CELLED ORGANISM IS A
 SPECIALIZING ORGANIZATION OF CELL STRUCTURE FOR CELL FUNCTION WITHIN ORGANISMS.
 EACH TYPE CELL IN THE BODY.
 EACH CELL DIVIDES.
 CELL REPRODUCTION BY MITOSIS AND MEIOSIS, AND NAMING
 EACH ORGANISM CONSISTS IN MULTIPLICATION AND DIFFERENTIATION OF CELLS.
 CYTOPLASM AND PROTOPLASM.
 MATERIAL IN THE CELL, IS COMPOSED OF ELEMENTS AND COMPOUNDS IN THE EARTH'S
 COMMON ELEMENTS AND COMPOUNDS.
 KINDS OR COMPOUNDS FOUND IN CELLS.
 CYTOPLASM THROUGH A MATCHING TEST.
 OF STRUCTURE AND FUNCTION A LIVING THING DEVELOPS FROM A SINGLE CELL.

- 0205065035 KNOW THAT FOOD SUBSTANCES DIFFUSE THROUGH MEMBRANES.
- 0205065036 KNOW THAT CELLS WITH DIFFERENT FUNCTIONS APPEAR DIFFERENT
- 0205065037 SEE THE UNITY (THE BASIC STRUCTURE) IN ALL CELLS AND THE DIVERSITY
- 0205065038 KNOW THAT CELLS SECRETE NONLIVING MATERIAL.
- 0205065039 KNOW THAT IN MANY-CELLED ORGANISMS, GROUPS OF CELLS AND TISSUES
SPECIALIZED TO PERFORM THE BODY'S FUNCTIONS.
- 0205065040 KNOW THAT SIMILAR CELLS WITH SIMILAR FUNCTIONS ARE ORGANIZED
- 0205065041 KNOW THAT ORGANISMS ARE MADE UP OF CELLS. THE UNIT OF STRUCTURE
- 0205065042 MAKE DRAWINGS OF ALL THE TYPES OF CELLS IN THE BODY AND LABEL DRAWINGS
- 0205065043 KNOW THAT THE SINGLE-CELLED ORGANISMS THAT DEVELOPED IN THE EARLY
LATER ERAS ADAPTATION TO THE ENVIRONMENT PRODUCED MORE COMPLEX

USE THROUGH MEMBRANES.

FUNCTIONS APPEAR DIFFERENT IN DETAIL, BUT NOT IN BASIC STRUCTURES.

TURE; IN ALL CELLS AND THE DIVERSITY IN TERMS OF ADAPTATION TO FUNCTION.

ING MATERIAL.

ISMS, GROUPS OF CELLS AND TISSUES ARE ORGANIZED INTO ORGAN SYSTEMS, ALL
Y'S FUNCTIONS.

SIMILAR FUNCTIONS ARE ORGANIZED INTO TISSUES.

P OF CELLS. THE UNIT OF STRUCTURE AND FUNCTION IN THE ORGANISM IS THE CELL.

OF CELLS IN THE BODY AND LABEL DRAWINGS.

GANISMS THAT DEVELOPED IN THE EARLY SEAS GAVE RISE TO THE MANY-CELLED ORGANISMS OF
ENVIRONMENT PRODUCED MORE COMPLEX STRUCTURES.

0202070

CLASSIFICATION

0202070001

CLASSIFY GIVEN OBJECTS.

0202070002

DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.

0205070

CLASSIFICATION

0205070001

KNOW THAT OBJECTS AND EVENTS CAN BE GROUPED OR

CLASSIFIED.

0200075	CLASSIFY (ANIMALS)	
0200075001	KNOW THAT DIFFERENT ANIMALS CAN BE ORDERED BY AND AIR, MOVE, GROW, AND PRODUCE EGGS OR YOUNG.	CHARAC
0200075002	ORDER VARIETY OF DIFFERENT ANIMALS INTO SETS AND SUBSETS ACCORD HOW THEY GET FOOD AND AIR, MOVE, GROW, AND PRODUCE EGGS OR YOU	
0201075	CLASSIFY (ANIMALS)	
0201075001	LIST BASIC CHARACTERISTIC OF EACH ANIMAL GROUP.	
0201075002	CLASSIFY ANIMALS ACCORDING TO HABITATS, SKIN COVERING,	THE WA
0201075003	GIVEN A LIST OF PICTURES OF 30 DIFFERENT ANIMALS	CLASSI
0202075	CLASSIFY (ANIMALS)	
0202075001	CLASSIFY FAMILIAR ANIMALS ACCORDING TO WHETHER THEY EAT	MEAT,
0202075002	AFTER STUDYING DIFFERENT CLASSIFICATION SCHEMES, WRITE CHARACTERISTICS ARE MOST IMPORTANT IN CLASSIFYING	AT LEA ANIMAL
0204075	CLASSIFY (ANIMALS)	
0204075001	ON BASIS OF DISTINCT CHARACTERISTICS, CLASSIFY COMMON AMPHIBIANS, REPTILES, BIRDS, OR MAMMALS.	ANIMAL
0204075002	GIVEN A LIST OF 12 WORDS IN WHICH ARE MAMMALS AND BIRDS, TO EACH GROUP.	PUT AL
0204075003	KNOW THAT EVERY SPECIES OF ANIMAL HAS A LIFE CYCLE IN CHANGES IN STRUCTURE FROM EGG TO ADULT) IS REPEATED OVER AND OV	WHICH

CHARACTERISTICS AND LIFE ACTIVITIES OF HOW THEY GET FOOD
S CAN BE ORDERED BY PRODUCE EGGS OR YOUNG.

ANIMALS INTO SETS AND SUBSETS ACCORDING TO CHARACTERISTICS AND TO LIFE ACTIVITIES OF
MOVE, GROW, AND PRODUCE EGGS OR YOUNG.

OF EACH ANIMAL GROUP.

TO HABITATS, SKIN COVERING, THE WAY THE ANIMAL MOVES, AND/OR THE NUMBER OF LEGS.

OF 30 DIFFERENT ANIMALS CLASSIFY THEM IN CORRECT ANIMAL GROUP.

ACCORDING TO WHETHER THEY EAT MEAT, PLANTS, OR BOTH.

CLASSIFICATION SCHEMES, WRITE AT LEAST ONE PARAGRAPH STATING WHICH ANIMAL
IMPORTANT IN CLASSIFYING ANIMALS.

CHARACTERISTICS, CLASSIFY COMMON ANIMALS AS BEING EITHER WORMS, INSECTS, SHELLFISH, FISH,
BIRDS, OR MAMMALS.

IN WHICH ARE MAMMALS AND BIRDS, PUT ALL WORDS IN CORRECT GROUP AND ADD AT LEAST 2 WORDS

AN ANIMAL HAS A LIFE CYCLE IN WHICH THE SAME PATTERN OF DEVELOPMENT (SUCCESSIVE
EGG TO ADULT) IS REPEATED OVER AND OVER AGAIN.

- 0204075004 CHOOSE AN ANIMAL, IDENTIFY ITS STRUCTURE AND BEHAVIOR (INBORN AND
- 0205075 CLASSIFY (ANIMALS)
- 0205075001 GIVEN THE CHARACTERISTICS OF SEVERAL ANIMALS, CONSTRUCT A NEW CLASSIFICATION AND HARMFUL SIMILARITIES, I.E., PETS, SMALL ANIMALS, LARGE ANIMALS
- 0205075002 WHEN GIVEN A LIST OF THIRTY DIFFERENT ANIMALS (OR PICTURES OF 20 OF THE ANIMALS OR ANIMAL PICTURES INTO GROUPS, I.E., MAMMALS, BIR
- 0205075003 WRITE A PARAGRAPH OR TWO ON THIS TOPIC HOW SCIENTISTS KNOW WHICH B
- 0205075004 DESCRIBE AT LEAST TWO CHANGES IN THE STRUCTURE OF A HORSE DURING
- 0205075005 EXPLORE EVIDENCES OF LIFE IN THE PAST. DRAW INFERENCES ABOUT A FOSSIL FUNCTIONS OF BONES FROM A LIVING ANIMAL.

STRUCTURE AND BEHAVIOR (INBORN AND LEARNED), AND GIVE ONE EXAMPLE OF EACH.

SEVERAL ANIMALS, CONSTRUCT A NEW CLASSIFICATION SYSTEM GROUPING ANIMALS BY THEIR
L ANIMALS, LARGE ANIMALS AND HARMFUL ANIMALS.

DIFFERENT ANIMALS (OR PICTURES OF THIRTY DIFFERENT ANIMALS), CLASSIFY AT LEAS
CTURES INTO GROUPS, I.E., MAMMALS, BIRDS OR AMPHIBIANS.

THIS TOPIC HOW SCIENTISTS KNOW WHICH BONES OF A FOSSIL FIT TOGETHER.

IN THE STRUCTURE OF A HORSE DURING SIXTY MILLION YEARS.

THE PAST. DRAW INFERENCES ABOUT A FOSSIL ANIMAL BY EXAMINING THE STRUCTURE AND
NG ANIMAL.

0200080 CLASSIFY BY FIVE SENSES

0200080001 IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN

0200080002 KNOW THAT OBJECTS CAN BE IDENTIFIED BY SIZE, SHAPE,

0200080003 NAME A VARIETY OF OBJECTS, BY SIZE, SHAPE, COLOR,

0200080004 IDENTIFY A VARIETY OF OBJECTS BY SIZE, SHAPE, COLOR,

0200080005 KNOW THAT OBJECTS CAN BE ORDERED ACCORDING TO THEIR

0200080006 ORDER A VARIETY OF OBJECTS ACCORDING TO THEIR LIKENESSES

0200080007 KNOW THAT OBJECTS CAN BE DISTINGUISHED ACCORDING TO

0200080008 DISTINGUISH BETWEEN OBJECTS, ACCORDING TO THEIR COLORS.

0200080009 KNOW THAT OBJECTS CAN BE NAMED BY COLOR.

0200080010 KNOW THAT OBJECTS CAN BE IDENTIFIED BY COLORS.

0200080011 KNOW THAT OBJECTS CAN BE ORDERED BY COLORS.

0200080012 ORDER OBJECTS BY THEIR COLORS.

0200080013 CLASSIFY OBJECTS BY COLOR.

0200080014 NAME OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND GREEN.

IS USED IN EXAMINING A GIVEN OBJECT.

IDENTIFIED BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

TS BY SIZE, SHAPE, COLOR, TEXTURE, AND MATERIAL.

DERED ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

ACCORDING TO THEIR LIKENESSES AND DIFFERENCES.

STINGUISHED ACCORDING TO COLORS.

ACCORDING TO THEIR COLORS.

MED BY COLOR.

IDENTIFIED BY COLORS.

DERED BY COLORS.

RS.

RED, BLUE, YELLOW, AND GREEN.

0200080015 IDENTIFY OBJECTS BY COLORS, AS RED, BLUE, YELLOW, AND GREEN.

0200080016 NAME THE PRIMARY COLORS.

0200080017 IDENTIFY THE SECONDARY COLOR RESULTING FROM THE COMBINA

0200080018 CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY SHAPE.

0200080019 KNOW THAT OBJECTS CAN BE IDENTIFIED BY THE SOUND THEY MAKE.

0200080020 KNOW THAT OBJECTS CAN BE DISTINGUISHED BY SIMILAR SOUNDS.

0200080021 RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.

0200080022 IDENTIFY OBJECTS BY THE SOUND THEY MAKE.

0200080023 DESCRIBE OBJECTS BY THE SOUND THEY MAKE.

0200080024 DISTINGUISH BETWEEN OBJECTS THAT GIVE A SIMILAR SOUND.

0200080025 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH S

0200080026 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH S

0200080027 CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.

0200080028 KNOW THAT OBJECTS CAN BE DISTINGUISHED BY TEXTURE, TOUCH,

BLUE, YELLOW, AND GREEN.

FROM THE COMBINATION OF TWO PRIMARY COLORS.

AND RECTANGLES BY SHAPE.

BY THE SOUND THEY MAKE.

SHED BY SIMILAR SOUNDS.

THAT YOU CAN HEAR.

MAKE.

MAKE.

GIVE A SIMILAR SOUND.

FOR SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

FOR SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

Y MAKE.

SHED BY TEXTURE, TOUCH, AND BY TASTE.

0200080029 DISTINGUISH BETWEEN OBJECTS OF SIMILAR TEXTURE, BY TOUCH

0200080030 KNOW THAT TEXTURES CAN BE DESCRIBED BY TOUCH,

0200080031 DESCRIBE THE TEXTURES OF A VARIETY OF OBJECTS BY TOUCH

0200080032 AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.

0200080033 RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A RECTA

0200080034 KNOW THAT OBJECTS CAN BE DISTINGUISHED BY THEIR WEIGHT.

0200080035 IDENTIFY HEAVIER OF TWO OBJECTS WHEN THEY ARE PLACED ONE I

0200080036 KNOW THAT SUBSTANCES CAN BE IDENTIFIED BY ODOR AND TASTE

0200080037 DESCRIBE SUBSTANCES BY ODOR AND TASTE, WHILE BLIND

0200080038 IDENTIFY SUBSTANCES BY ODOR AND TASTE, WHILE BLIND

0200080039 GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE DIFFER

0200080040 GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS SALTY,

0201080 CLASSIFY BY FIVE SENSES

0201080001 NAME THE PRIMARY COLORS.

OBJECTS OF SIMILAR TEXTURE, BY TOUCH AND BY TASTE.
BE DESCRIBED BY TOUCH.
OF A VARIETY OF OBJECTS BY TOUCHING THEM, WHILE BLINDFOLDED.
OBJECT, DESCRIBE ITS TEXTURE.
SQUARE, A TRIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.
BE DISTINGUISHED BY THEIR WEIGHT.
TWO OBJECTS WHEN THEY ARE PLACED ONE IN EACH HAND.
CAN BE IDENTIFIED BY ODOR AND TASTE.
BY ODOR AND TASTE, WHILE BLINDFOLDED.
BY ODOR AND TASTE, WHILE BLINDFOLDED.
TASTES ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE
BY TASTE, CLASSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

- 0201080002 RECOGNIZE OBJECTS THAT ARE THE PRIMARY COLORS.
- 0201080003 IDENTIFY THE SECONDARY COLOR RESULTING FROM THE COMBINA
- 0201080004 CLASSIFY OBJECT BY COLOR.
- 0201080005 CLASSIFY BIRCH, WALNUT, AND OAK WOODS BY KIND.
- 0201080006 IDENTIFY OBJECTS MADE OF MORE THAN ONE MATERIAL.
- 0201080007 DESCRIBE SOME PROPERTIES OF A GIVEN METAL.
- 0201080008 CLASSIFY OBJECTS BY TEXTURE.
- 0201080009 RECOGNIZE THE ROCK AND POWDER FORMS OF A GIVEN KIND OF ROCK.
- 0201080010 CLASSIFY ROCKS BY SIZE, COLOR, KIND, HARDNESS, AND WEIGHT.
- 0201080011 RECOGNIZE A CIRCLE, A SQUARE, A TRIANGLE, AND A RECTANG
- 0201080012 CLASSIFY CIRCLES, TRIANGLES, SQUARES, AND RECTANGLES BY SHAPE.
- 0201080013 DESCRIBE THE SHAPE AND TEXTURE OF UNSEEN OBJECTS BY USING T
- 0201080014 AFTER TOUCHING AN OBJECT, DESCRIBE ITS TEXTURE.
- 0201080015 GIVEN VARIOUS FOODS TO TASTE, CLASSIFY THEIR TASTES AS SALTY,

PRIMARY COLORS.

RESULTING FROM THE COMBINATION OF TWO PRIMARY COLORS.

GROUPS BY KIND.

FROM ONE MATERIAL.

NON-METAL.

SAMPLES OF A GIVEN KIND OF ROCK.

IDENTIFY BY COLOR, HARDNESS, AND WEIGHT.

IDENTIFY A TRIANGLE, AND A RECTANGLE BY USING THE SENSE OF TOUCH.

IDENTIFY SQUARES, AND RECTANGLES BY SHAPE.

IDENTIFY UNSEEN OBJECTS BY USING THE SENSE OF TOUCH.

IDENTIFY BY FEELING ITS TEXTURE.

CLASSIFY THEIR TASTES AS SALTY, SOUR, SWEET, OR BITTER.

0201080016	GIVEN OBJECTS THAT LOOK ALIKE BUT SMELL OR TASTE DIFFERENT.	DIF
0201080017	IDENTIFY THE SENSE OR SENSES USED IN EXAMINING A GIVEN	OBJ
0201080018	DESCRIBE THE PROPERTIES OF A GIVEN OBJECT.	
0201080019	DESCRIBE THE TEXTURE, SIZE, COLOR, SHAPE, AND	REF
0201080020	CLASSIFY WOOD, METAL, AND PLASTIC OBJECTS BY MATERIAL.	
0201080021	CLASSIFY OBJECTS BY SIZE. (USE ONLY THE SENSE OF	TOU
0201080022	CLASSIFY OBJECTS BY TEMPERATURE USING THE SENSE OF	TOU
0201080023	CLASSIFY GIVEN OBJECTS BY SMELL.	
0201080024	CLASSIFY GIVEN OBJECTS BY TASTE.	
0201080025	RECOGNIZE THE CHIPS, SAWDUST, AND SHAVINGS OF A GIVEN	KIN
0201080026	CLASSIFY STEEL, LEAD, BRASS, AND ALUMINUM OBJECTS BY	KIN
0201080027	CLASSIFY LIQUIDS BY DENSITY AND OPAQUENESS.	
0201080028	IDENTIFY THE LIQUID AND ICE FORMS OF WATER.	
0201080029	WHEN GIVEN AN OBJECT, EXAMINE AND DESCRIBE ORALLY THE CRITERIA SHAPE, COLOR, TEXTURE.	OBJ

ALIKE BUT SMELL OR TASTE DIFFERENT, RECOGNIZE WHETHER THEY SMELL OR TASTE
SENSES USED IN EXAMINING A GIVEN OBJECT.
OF A GIVEN OBJECT.
SIZE, COLOR, SHAPE, AND REFLECTANCE OF A GIVEN OBJECT.
NO PLASTIC OBJECTS BY MATERIAL.
E. (USE ONLY THE SENSE OF TOUCH).
PERATURE USING THE SENSE OF TOUCH. (WARM, HOT, COLD).
BY SMELL.
BY TASTE.
WDUST, AND SHAVINGS OF A GIVEN KIND OF WOOD.
RASE, AND ALUMINUM OBJECTS BY KIND.
NSITY AND OPAQUENESS.
D ICE FORMS OF WATER.
EXAMINE AND DESCRIBE ORALLY THE OBJECT IN TERMS OF AT LEAST THREE OF THE FOLLOWING
R, TEXTURE.

0201080030 GIVEN A LIST OF TWENTY-FIVE DESCRIPTIVE ADJECTIVES AND A LIST OF FOUR (TEXTURE), MATCH AT LEAST FIVE OF THE ADJECTIVES WITH EACH SCIENTIST

0201080031 CLASSIFY A GROUP OF OBJECTS IN MORE THAN ONE WAY. (TEXTURE, S

0205080 CLASSIFY BY FIVE SENSES

0205080001 RECOGNIZE SEVERAL PROPERTIES OF AN OBJECT OR SUBSTANCE INCLUDING COLOR AND STATE OF MATTER RECOGNIZE THE SENSE USED TO DETERMINE EACH OF THE

SCRIPTIVE ADJECTIVES AND A LIST OF FOUR SCIENTIFIC PROPERTIES (SHAPE, COLOR, ODOR,
OF THE ADJECTIVES WITH EACH SCIENTIFIC PROPERTY.

MORE THAN ONE WAY. (TEXTURE, SIZE, COLOR, SHAPE, REFLECTANCE).

AN OBJECT OR SUBSTANCE INCLUDING COLOR, SHAPE, SIZE, TEXTURE, TASTE, ODOR,
SENSE USED TO DETERMINE EACH OF THESE PROPERTIES.

0200085 CLASSIFY BY KIND, FORM, AND PROPERTIES

0200085001 KNOW THAT OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, C

0200085002 KNOW THAT OBJECTS CAN BE DESCRIBED ACCORDING TO WEIGHT ON A SCAL

0200085003 DESCRIBE SOME PROPERITES OF A GIVEN OBJECT. (COLOR, MAGNETISM

0200085004 DISTINGUISH BETWEEN TWO OBJECTS, ACCORDING TO THEIR WEIGHT.

0200085005 DESCRIBE OBJECTS ACCORDING TO THEIR WEIGHT ON A SCALE OR SPRING BA

0200085006 DISTINGUISH BETWEEN OBJECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN

0200085007 KNOW THAT OBJECTS THAT WILL FLOAT AND NOT FLOAT CAN BE DISTINGUIS

0200085008 DISTINGUISH BETWEEN OBJECTS THAT WILL FLOAT AND NOT FLOAT, BY

0200085009 KNOW THAT A SCALE WORKS BY CAUSING THE INDICATOR TO MOVE FARTH

0200085010 RECOGNIZE HEAVIER OF TWO OBJECTS WHE., THEY ARE PLACED ONE IN EAC

0200085011 DEMONSTRATE HOW A SCALE WORKS, BY WEIGHING OBJECTS, CAUSING TH

0200085012 GIVEN STANDARD UNIT OF WEIGHT AND A SOLID OBJECT, PREDICT HO

0201085 CLASSIFY BY KIND, FORM, AND PROPERTIES

0201085001 IDENTIFY THE EVIDENCE OF AIR AS AN OBJECT.

HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, CAN BE DISTINGUISHED BY USING A SCALE.

BE DESCRIBED ACCORDING TO WEIGHT ON A SCALE OR SPRING BALANCE.

ES OF A GIVEN OBJECT. (COLOR, MAGNETISM, WEIGHT, MATERIAL, SHAPE, TEXTURE).

D OBJECTS, ACCORDING TO THEIR WEIGHT.

DING TO THEIR WEIGHT ON A SCALE OR SPRING BALANCE.

JECTS THAT HAVE SIMILAR SIZE, BUT DIFFER IN WEIGHT, BY USING A SCALE.

WILL FLOAT AND NOT FLOAT CAN BE DISTINGUISHED, BY PLACING THEM IN WATER.

JECTS THAT WILL FLOAT AND NOT FLOAT, BY PLACING THEM IN WATER.

S BY CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER OBJECTS.

WO OBJECTS WHEN THEY ARE PLACED ONE IN EACH PAN OF EQUAL-ARM BALANCE.

E WORKS, BY WEIGHING OBJECTS, CAUSING THE INDICATOR TO MOVE FARTHER WITH HEAVIER

WEIGHT AND A SOLID OBJECT, PREDICT HOW MUCH OBJECT WOULD WEIGH IN STANDARD UNITS.

0201085002 TELL AFTER OBSERVATION WHETHER A GIVEN OBJECT FLOATS OR SINKS IN W

0201085003 CLASSIFY OBJECTS BY TEMPERATURE USING A THERMOMETER.

0201085004 CLASSIFY OBJECTS BY WEIGHT.

0205085 CLASSIFY BY KIND, FORM, AND PROPERTIES

0205085001 USING A GRADUATED CYLINDER, MEASURE QUANTITIES OF WATER TO WITHIN

0205085002 USE AN ELEMENTARY BALANCE SCALE TO WEIGH OBJECTS TO THE NEAREST GRA

h

GIVEN OBJECT FLOATS OR SINKS IN WATER.

USING A THERMOMETER.

PERTIES

URE QUANTITIES OF WATER TO WITHIN TWO MILLILITERS OF EXACTNESS.

TO WEIGH OBJECTS TO THE NEAREST GRAM.

0202090	CLASSIFY (MATTER)	
0202090001	GIVEN THE NAME OF 20 DIFFERENT MATERIALS USED IN OUR PHYSICAL PROPERTIES AS LIQUID, GAS, OR SOLID.	DAILY
0203090	CLASSIFY (MATTER)	
0203090001	DEMONSTRATE 3 STATES OF MATTER AND ITS CHANGES.	USE WATER
0203090002	KNOW THE DIFFERENCES IN LIMA BEANS AND SIMILAR SIZED	PEBBL
0203090003	DISTINGUISH BETWEEN LIMA BEANS AND SIMILAR SIZED PEBBLES AS LI	
0203090004	KNOW THAT LIMA BEANS ARE LIVING THINGS AND MAY BE KILLED BY EX	
0203090005	DEMONSTRATE THAT LIMA BEANS ARE LIVING THINGS AND MAY BE KI	BE KI BEANS
0203090006	KNOW THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.	PEBBL
0203090007	DESCRIBE THAT LIMA BEANS WILL CHANGE, AND SIMILAR SIZED AS COMPARED TO THE SAME SUBSTANCES NOT BOILED.	PEBBL
0204090	CLASSIFY (MATTER)	
0204090001	KNOW THAT MATTER IS OF MANY KINDS.	
0204090002	RECOGNIZE A SOLID, A LIQUID, AND A GAS ON THE BASIS OF	SHAPE
0204090003	DESCRIBE HOW IT CAN BE SHOWN THAT MATTER HAS WEIGHT.	
0204090004	DESCRIBE HOW IT CAN BE SHOWN THAT MATTER TAKES UP SPACE.	

T MATERIALS USED IN OUR DAILY LIVES, CLASSIFY THE MATERIALS ACCORDING TO THEIR
GAS, OR SOLID.

R AND ITS CHANGES. USE WATER.

BEANS AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

S AND SIMILAR SIZED PEBBLES AS LIVING AND NON-LIVING SUBSTANCES.

NG THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT.

RE LIVING THINGS AND MAY BE KILLED BY EXTREMES SUCH AS HEAT, BY SHOWING THAT
UTES WILL NOT SPROUT AND BEANS NOT BOILED WILL SPROUT.

NGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER,
ANCES NOT BOILED.

CHANGE, AND SIMILAR SIZED PEBBLES WILL NOT CHANGE, WHEN THEY ARE BOILED IN WATER
ANCES NOT BOILED.

INDS.

AND A GAS ON THE BASIS OF SHAPE.

THAT MATTER HAS WEIGHT.

THAT MATTER TAKES UP SPACE.

0204090005 KNOW THAT MATTER IS NOT ALL MOLECULAR.

0204090006 KNOW THAT A SUBSTANCE MAY BE RECOGNIZED BY ITS PROPERTIES

0204090007 KNOW THAT SUBSTANCES HAVE PROPERTIES THAT DISTINGUISH THEM FROM

0205090 CLASSIFY (MATTER)

0205090001 GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQUID,

0205090002 GIVEN A LIST OF SUBSTANCES, IDENTIFY EACH SUBSTANCE AS A GAS, LIQUID,

0205090003 GIVEN SITUATION IN WHICH OBJECT OR SUBSTANCE MUST FIT INTO PRESET
CAPACITY, EXPLAIN WHETHER IT IS MOST IMPORTANT TO KNOW ABOUT MATTER

0205090004 IDENTIFY AN ACCEPTABLE DEFINITION OF THE TERMS MATTER, MOLECULE,

0205090005 ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS,

0206090 CLASSIFY (MATTER)

0206090001 KNOW THAT THERE ARE HIDDEN LIKENESSES IN MATTER.

0206090002 KNOW THAT MATTER CAN UNDERGO CHANGE.

0206090003 GIVEN A LIST OF EARLY THEORIES ON MATTER, MATCH EACH THEORY WITH
BOYLE, DEMOCRITUS, AND EMPEDOCLES).

0206090004 CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS WHEN GIVEN

AR.

IZED BY ITS PROPERTIES.

S THAT DISTINGUISH THEM FROM ONE ANOTHER.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

Y EACH SUBSTANCE AS A GAS, LIQUID, OR A SOLID.

SUBSTANCE MUST FIT INTO PRESCRIBED SPACE OR CONFORM TO GIVEN WEIGHT
T IMPORTANT TO KNOW ABOUT MATERIAL'S WEIGHT OR ITS VOLUME.

F THE TERMS MATTER, MOLECULE, ATOM, ELECTRON, AND NEUTRON.

N ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

ES IN MATTER.

MATTER, MATCH EACH THEORY WITH THE SCIENTIST WHO FURTHERED IT (DALTON,

NT  COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

0206090005

CLASSIFY SUBSTANCES (E.G., SUGAR, SALT, GLASS) AS
OR DRAWING OF THE MOLECULAR ARRANGEMENTS.

CRYST

SUGAR, SALT, GLASS) AS
ARRANGEMENTS.

CRYSTALLINE OR NONCRYSTALLINE WHEN GIVEN A DESCRIPTION

0200095

CLASSIFY (PLANTS)

0200095001

KNOW THAT PLANTS ARE DIFFERENT, ALTHOUGH THEY HAVE

SIMILAR L

0200095002

DESCRIBE THAT PLANTS DIFFER, BY OBSERVING DIFFERENT
CHARACTERISTICS, THOUGH SIMILAR LIFE ACTIVITIES.

PLANTS, AN

0204095

CLASSIFY (PLANTS)

0204095001

GIVEN DESCRIPTION OR EXAMPLE OF A PLANT, CLASSIFY IT
FERNS OR SEED PLANT (INCLUDING PLANTS WITH CONES AND

INTO ONE O
PLANTS WIT

NT, ALTHOUGH THEY HAVE SIMILAR LIFE ACTIVITIES.

BY OBSERVING DIFFERENT PLANTS, AND BY DISCUSSING THAT THEY HAVE DIFFERENT
LAR LIFE ACTIVITIES.

OF A PLANT, CLASSIFY IT INTO ONE OF THE MAJOR GROUPS (SIMPLE PLANTS, MOSSES,
NG PLANTS WITH CONES AND PLANTS WITH FLOWERS).

0203100 CLASSIFY (PLANT AND ANIMAL)

0203100001 TELL POSSIBLE GEOGRAPHIC REASONS WHY PREHISTORIC PLANTS AND ANI

0203100002 TELL WHAT A FOSSIL IS. TELL WHAT WE LEARN FROM FOSSILS.

0205100 CLASSIFY (PLANT AND ANIMAL)

0205100001 KNOW THAT SEDIMENTARY DEPOSITS INDICATE AGE OF FOSSILS.

0205100002 INFER THAT THE AGE OF FOSSILS CAN BE DATED WITH GREAT ACCURAC

0205100003 FROM A GRAPH OF SEDIMENTARY LAYERS AND FOSSILS DETERMINE THE OLD

0205100004 KNOW THAT LIVING THINGS CAN GROW AND CAN REPRODUCE.

0205100005 KNOW THAT PLANTS AND ANIMALS ARE USEFUL TO MAN IN MANY WAYS.

AL)

REASONS WHY PREHISTORIC PLANTS AND ANIMALS ARE NO LONGER LIVING.

TELL WHAT WE LEARN FROM FOSSILS.

AL)

ROCK LAYERS INDICATE AGE OF FOSSILS.

FOSSILS CAN BE DATED WITH GREAT ACCURACY.

ROCK LAYERS AND FOSSILS DETERMINE THE OLDEST.

FOSSILS CAN GROW AND CAN REPRODUCE.

FOSSILS ARE USEFUL TO MAN IN MANY WAYS.

0204105 CLASSIFY (PLANT AND ANIMAL CELLS)
0204105001 DESCRIBE AS MANY DIFFERENCES AS YOU CAN WHEN OBSERVING PLANT AND

0205105 CLASSIFY (PLANT AND ANIMAL CELLS)
0205105001 GIVEN A SIMPLE SLIDE AND A MICROSCOPE, CLASSIFY OBJECTS ON THE SLI
(E.G., AIR BUBBLES, DIRT, CRYSTALS).
0205105002 KNOW THAT PLANT AND ANIMAL CELLS HAVE BASICALLY SIMILAR STRUCTURES
0205105003 IDENTIFY FROM GROUP OF PICTURES EXHIBITING CELL STRUCTURE
1. PLANT CELLS 2. ANIMAL CELLS, OR 3. BOTH.
0205105004 KNOW THAT PLANT AND ANIMAL CELLS CH'NGE MATTER AS THEY INTERCHANG

0205110 CLOTH
0205110001 EVALUATE THE USEFULNESS OF PLANT AND ANIMAL FIBERS.
0205110002 DISTINGUISH BETWEEN WOOL AND COTTON. OBSERVE ODOR OF BURN
0206110 CLOTH
0206110001 KNOW THAT SILK FIBERS ARE MADE BY A LIVING ANIMAL.
0206110002 KNOW THAT KNOWLEDGE OF MOLECULAR STRUCTURE ENABLES MAN TO IN
0206110003 KNOW THAT FIBERS ARE MADE OF COMMON ELEMENTS.
0206110004 KNOW THAT ATOMS CAN BE REARRANGED IN MOLECULES TO FORM FIBER

PLANT AND ANIMAL FIBERS.

COTTON. OBSERVE ODOR OF BURNING PROTEIN WITH WOOL AND NOT COTTON.

PRODUCED BY A LIVING ANIMAL.

CELLULAR STRUCTURE ENABLES MAN TO INVENT NEW FIBERS WITH IMPROVED PROPERTIES.

COMMON ELEMENTS.

LINKED IN MOLECULES TO FORM FIBERS WITH SPECIAL PROPERTIES.

0201115	ECOLOGY	
0201115001	AFTER VIEWING A PICTURE SHOWING AREA OF NATURAL CONSERVATION PRACTICES.	RESOURCES WA
0204115	ECOLOGY	
0204115001	KNOW THAT ECOLOGY IS THE STUDY OF THE RELATIONSHIP OF ENVIRONMENT.	LIVING T' ING
0204115002	DO INDEPENDENT RESEARCH TO FIND OUT WHAT ECOLOGY IS AND	HOW IT AFFECT
0204115003	USING THE OVERHEAD PROJECTOR, SHOW THREE AREAS IN WHICH	NATURAL RESO
0204115004	TELL, OR DEVISE AN INVESTIGATION TO SHOW HOW RETURNING	THE MATTER T
0204115005	PROVIDED WITH DATE CONCERNING WILDLIFE CONSERVATION IN SUCH A PROGRAM.	THE EVERGLAD
0205115	ECOLOGY	
0205115001	AFTER VIEWING A FILM ON CONSERVATION LIST FIVE	CONSERVATION
0205115002	USING LIBRARY RESOURCES, WRITE TO THE SATISFACTION OF PRACTICES'.	THE TEACHER,
0205115003	RELATE CONSERVATION PRACTICES TO 3 OF 5 COMPONENTS IN	HIS ENVIRONM

OF NATURAL RESOURCES WASTED OR DESTROYED, LIST FOUR POOR

RELATIONSHIP OF LIVING THINGS TO EACH OTHER AND TO THEIR NONLIVING

HAT ECOLOGY IS AND HOW IT AFFECTS US.

REE AREAS IN WHICH NATURAL RESOURCES HAVE BEEN WASTED.

HOW HOW RETURNING THE MATTER TO THE ENVIRONMENT IS HELPFUL.

E CONSERVATION IN THE EVERGLADES, ORALLY DESCRIBE A PLAN TO ACCOMPLISH

LIST FIVE CONSERVATION PRACTICES THAT SHOULD BE MODIFIED.

SATISFACTION OF THE TEACHER. A COMPOSITION TITLED 'ACCEPTED CONSERVATION

5 COMPONENTS IN HIS ENVIRONMENT (WATER, AIR, WILDLIFE, LAND, MINERAL).

0202120	ELECTRICITY	
0202120001	KNOW HOW TO CONSTRUCT A CIRCUIT, USING A DRY CELL,	WIRES, A
0202120002	IDENTIFY OPEN AND CLOSED CIRCUITS.	
0202120003	PREDICT WHETHER OR NOT AN OBJECT WILL CLOSE AN OPEN	CIRCUIT.
0202120004	KNOW HOW A FLASHLIGHT WORKS.	
0202120005	DESCRIBE HOW A FLASHLIGHT WORKS BY DISASSEMBLING ONE	AND OBSERVE
0202120006	CONSTRUCT A CIRCUIT, USING A DRY CELL, WIRES, AND A	LAMP, CAPACITOR
0202120007	EXPLAIN WHY AN ELECTRICAL CIRCUIT IS A SYSTEM OF	INTERACTING
0202120008	KNOW THAT HUMAN ENERGY CAN BE USED TO GENERATE	ELECTRICITY
0202120009	DEMONSTRATE THAT HIS OWN ENERGY CAN BE USED TO GENERATE	ELECTRICITY
0203120	ELECTRICITY	
0203120001	BUILD AN ELECTRO MAGNET.	
0203120002	CONSTRUCT AN ELECTROMAGNET USING A DRY CELL, AND COVERED COPPER WIRE	
0203120003	KNOW THAT A NAIL ACTS AS A MAGNET WHEN IT IS IN A COIL	OF WIRE
0203120004	DESCRIBE THAT A NAIL ACTS AS A MAGNET ONLY WHEN IT IS	IN A COIL

CIRCUIT, USING A DRY CELL, WIRES, AND A LAMP.

CIRCUITS.

OBJECT WILL CLOSE AN OPEN CIRCUIT.

S.

WORKS BY DISASSEMBLING ONE AND OBSERVING THE COMPONENTS IN RELATION TO A CIRCUIT.

A DRY CELL, WIRES, AND A LAMP, CAUSING THE LAMP TO LIGHT.

CIRCUIT IS A SYSTEM OF INTERACTING OBJECTS.

BE USED TO GENERATE ELECTRICITY.

ENERGY CAN BE USED TO GENERATE ELECTRICITY, BY USING A HAND GENERATOR TO LIGHT A LAMP.

USING A DRY CELL, AND COVERED COPPER WIRE TO FORM A COIL AROUND A LARGE NAIL.

A MAGNET WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

AS A MAGNET ONLY WHEN IT IS IN A COIL OF WIRE CONNECTED TO A DRY CELL.

0203120005	DEMONSTRATE THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE,	BY USING TH
0203120006	KNOW THAT AN ELECTROMAGNET CAN MAKE A BELL RING.	
0203120007	DEMONSTRATE THAT AN ELECTROMAGNET CAN MAKE A BELL RING,	BY WIRING T
0203120008	GIVEN ALL THE COMPONENTS TO CONSTRUCT A COMPLETE ON WHAT WILL HAPPEN IF ALL COMPONENTS ARE CORRECTLY	ELECTRICAL CONNECTED.
0203120009	GIVEN WORKING COMPONENTS TO CONSTRUCT ELECTRICAL CIRCUIT DEFECTIVE COMPONENT RETARDS WORKING PARTS FROM	AND ONE DEF FUNCTIONING
0205120	ELECTRICITY	
0205120001	WHEN GIVEN A LESSON ON THE USEFULNESS OF ELECTRICITY OF BE LIKE WITH OUT ELECTRICITY.	TODAY, WRITE
0205120002	WHEN PROVIDED WITH APPROPRIATE MATERIALS TO BUILD AN LIGHT BULB), HYPOTHEZIZE WHAT WOULD HAPPEN IF ALL THE	ELECTRICAL C COMPONENTS W
0206120	ELECTRICITY	
0206120001	APPLY INFORMATION ON THE STRUCTURE OF THE ATOM IN	EXPLAINING S
0206120002	EXPLAIN HOW THE PROCESSES OF 'INDUCTION' AND 'ELECTRON TRANSFER' AR	
0206120003	EXPLAIN HOW ATTRACTION AND REPULSION BETWEEN CHARGED ON THE OBJECTS.	OBJECTS ARE
0206120004	DESCRIBE VARIABLES THAT AFFECT EXPERIMENTS ON STAT	ELECTRICTY A
0206120005	DESCRIBE THE VARIABLES THAT AFFECT EXPERIMENTS ON	STATIC ELECT

CAN MAKE THINGS MOVE, BY USING THE ELECTROMAGNET TO LIFT PAPER CLIPS.

MAKE A BELL RING.

CAN MAKE A BELL RING, BY WIRING THE BELL INTO THE ELECTROMAGNET CIRCUIT.

CONSTRUCT A COMPLETE ELECTRICAL CIRCUIT, DEMONSTRATE AND GIVE AN ORAL REPORT
IF ALL COMPONENTS ARE CORRECTLY CONNECTED.

CONSTRUCT ELECTRICAL CIRCUIT AND ONE DEFECTIVE COMPONENT, DEMONSTRATE HOW ONE
PART IS NOT FUNCTIONING.

IMPORTANCE OF ELECTRICITY OF TODAY, WRITE AT LEAST TWO PARAGRAPHS ON WHAT LIFE WOULD

BE LIKE WITH THESE MATERIALS TO BUILD AN ELECTRICAL CIRCUIT (DRY CELL, COPPER WIRE AND FLASH
IF ALL THE COMPONENTS WERE CONNECTED CORRECTLY.

STRUCTURE OF THE ATOM IN EXPLAINING STATIC ELECTRICITY.

'ELECTROSTATIC INDUCTION' AND 'ELECTRON TRANSFER' ARE USED TO DEVELOP STATIC CHARGES ON OBJECTS.

RELATIONSHIP BETWEEN CHARGED OBJECTS ARE RELATED TO THE KINDS OF ELECTRICAL CHARGES

EXPERIMENTS ON STATIC ELECTRICITY AND EXPLAIN THE EFFECT.

CONDUCT EXPERIMENTS ON STATIC ELECTRICITY AND EXPLAIN THE EFFECT.

0206120006	KNOW THAT FRICTION MAY TRANSFER ELECTRONS, GIVING	OBJECTS
0206120007	THE CHILD WILL DEMONSTRATE A FORCE OF ATTRACTION BY OF TISSUE PAPER TO CLING TO THE ROD.	RUBBING
0206120008	KNOW THAT STATIC ELECTRICITY IS STORED ENERGY	CURRENT ELECTRIC
0206120009	KNOW THAT METALS ARE GOOD CONDUCTORS.	
0206120010	KNOW THAT ELECTRIC ENERGY CAN BE CHANGED INTO OTHER	KINDS OF
0206120011	KNOW THAT THE ENERGY GOTTEN OUT OF MOVING ELECTRONS IS MOVE THROUGH A CIRCUIT.	NEVER GR
0206120012	KNOW THAT A MAGNET MOVING IN A COIL OF WIRE INDUCES A CAN BE INCREASED.	FLOW OF
0206120013	DEMONSTRATE EXISTANCE OF ELECTRIC CURRENT USING THE GALVANOMETER POINTER TO MOVE AS THE MAGNET IS MOVED	GALVANME THROUGH
0206120014	DEMONSTRATE INCREASING THE CURRENT BY USING A STRONGER MORE WINDINGS IN THE COIL RATHER THAN FEWER WINDINGS.	MAGNET,
0206120015	KNOW THAT A WIRE THROUGH WHICH ELECTRONS ARE FLOWING	HAS A MA
0206120016	KNOW THAT A STRONGER MAGNET MAY BE MADE BY CONVERTING	ELECTRIC
0206120017	KNOW THAT THE ENERGY OF MOVING ELECTRONS CAN BE USED TO	DO WORK.
0206120018	DEMONSTRATE SUBSTANCES VARY IN THEIR ABILITY TO CONDUCT CONDUCTIVITY OF VARIOUS METALS CAUSING A LAMP TO LIGHT.	ELECTRIC
0206120019	CONSTRUCT A CIRCUIT TESTER BY CONNECTING DRY CELL CAUSING THE LAMP TO LIGHT WHEN THE CIRCUIT IS COMPLETED.	TERMINAL

TRANSFER ELECTRONS, GIVING OBJECTS AN ELECTRIC CHARGE.

A FORCE OF ATTRACTION BY RUBBING A PLASTIC ROD WITH A WOOL CLOTH, CAUSING PIECES
OF THE ROD.

ENERGY IS STORED ENERGY CURRENT ELECTRICITY IS KINETIC ENERGY.

CONDUCTORS.

CAN BE CHANGED INTO OTHER KINDS OF ENERGY.

OUTPUT OF MOVING ELECTRONS IS NEVER GREATER THAN THE ENERGY PUT INTO MAKING ELECTRONS

INDUCED IN A COIL OF WIRE INDUCES A FLOW OF ELECTRONS IN THE WIRE THIS FLOW OF ELECTRONS

ELECTRIC CURRENT USING GALVANMETER, COIL OF WIRE AND A STRONG MAGNET, CAUSING
TO MOVE AS THE MAGNET IS MOVED THROUGH THE COIL.

CURRENT BY USING A STRONGER MAGNET, USING FASTER RATHER THAN SLOWER MOVEMENTS AND
RATHER THAN FEWER WINDINGS.

WHICH ELECTRONS ARE FLOWING HAS A MAGNETIC FIELD.

THIS MAY BE MADE BY CONVERTING ELECTRIC ENERGY INTO A MAGNETIC FORCE.

MOVING ELECTRONS CAN BE USED TO DO WORK.

TESTING IN THEIR ABILITY TO CONDUCT ELECTRICITY, BY USING A CIRCUIT TESTER TO CHECK
ALSO CAUSING A LAMP TO LIGHT.

BY CONNECTING DRY CELL TERMINALS, THREE PIECES OF WIRE AND A LAMP AND SOCKET
WHEN THE CIRCUIT IS COMPLETED.

0206120020 KNOW THAT MAGNETISM AND MECHANICAL ENERGY TOGETHER PROVIDE A STEADY FORCE TO DO WORK. LOCATE AND IDENTIFY THE PARTS (CORE, COIL, SOURCE) OF AN ELECTROMAGNETIC DEVICE.

0206120021 LOCATE AND IDENTIFY THE PARTS (CORE, COIL, SOURCE) OF AN ELECTROMAGNETIC DEVICE.

0206120022 DEMONSTRATE HOW STRENGTH OF MAGNETIC FIELD PRODUCED BY AN ELECTROMAGNETIC WIRE AROUND THE CORE.

0206120023 APPLY PRINCIPLES OF ELECTROMAGNETISM WHEN YOU MAKE A SIMPLE ELECTRIC BELL.

0206120024 KNOW THAT IN AN ELECTRIC BELL, ELECTRIC ENERGY DOES WORK IN MOVING AN ARMATURE.

0206120025 CONSTRUCT ELECTRIC BELL. MAKE COIL OF 100 TURNS OF WIRE. USE COIL AND DRY CELLS.

0206120026 DEMONSTRATE HOW TO CONNECT DRY CELLS AND WIRE TO ELECTRIC BELL.

0206120027 DEMONSTRATE OPERATION OF ELECTRIC BELL. RING IT WHEN KNIFE SWITCH IS CLOSED.

0206120028 NAME PARTS OF ELECTRIC BELL.

0206120029 DESCRIBE HOW AN ELECTRIC BELL WORKS BY OBSERVING MECHANISM AT WORKING OF CURRENT.

0206120030 KNOW THAT ELECTRIC ENERGY CAN BE CONVERTED TO SOUND ENERGY BY A SPEAKER.

0206120031 MAKE WORKING MODEL OF TELEGRAPH. MAKE COIL AND KEY, USE WOOD AND WIRE.

0206120032 DEMONSTRATE OPERATION OF TELEGRAPH. SOUNDER MAKES CLICKS AS KEY IS PRESSED.

0206120033 MAKE WORKING MODEL OF TELEPHONE TRANSMITTER. USE SUGAR BOX, ALUMINUM WIRE, CARBON, AND FOUR 1.5 VOLT DRY CELLS.

MECHANICAL ENERGY TOGETHER
 CONVERTED INTO A STEADY
 PROVIDE A STRONG AND STEADY FLOW OF ELECTRONS THIS
 FORCE TO DO WORK.

DESIGN (CORE, COIL, SOURCE) OF AN ELECTROMAGNET WHEN GIVEN A DESCRIPTION OR DIAGRAM OF
 MAGNETIC FIELD PRODUCED BY AN ELECTROMAGNET IS AFFECTED BY THE NUMBER OF TURNS OF
 MAGNETISM WHEN YOU MAKE A SIMPLE ELECTROMAGNET. DEMONSTRATE ITS USE TO A GROUP

HOW ELECTRIC ENERGY DOES WORK IN MOVING AN OBJECT, THE CLAPPER, THROUGH A DISTANCE.
 MAKE COIL OF 100 TURNS OF WIRE. USE CLAPPER, BELL, KNIFE, SWITCH, WOOD, 2 1.5-
 VOLT DRY CELLS AND WIRE TO ELECTRIC BELL SO IT RINGS.
 RING IT WHEN KNIFE SWITCH IS DEPRESSED.

HOW IT WORKS BY OBSERVING MECHANISM AT REST AND WHILE IT IS RINGING. DISCUSS FLOW
 OF ENERGY BY A MECHANICAL DEVICE.
 MAKE COIL AND KEY. USE WOOD ADD TWO 1.5 VOLT DRY CELLS.
 SOUNDER MAKES CLICKS AS KEY DEPRESSED.

HOW TO MAKE A WIRELESS TRANSMITTER. USE SUGAR BOX, ALUMINUM STRIPS, PAPER CLIPS, WIRE, PENCIL LEADS,
 DRY CELLS.

0206120034 DEMONSTRATE OPERATION OF TELEPHONE TRANSMITTER. SPEAK INTO BOX VOICE.

0206120035 DEMONSTRATE HOW TELEPHONE RECEIVER CHANGES ELECTRICITY TO SOUND CELL. IRON DISC VIBRATES AND MAKES SOUND WAVES.

0206120036 KNOW THAT AN ELECTRIC MOTOR TRANSFERS AND MULTIPLIES A FORCE.

0206120037 MAKE WORKING MODEL OF ELECTRIC MOTOR. MAKE ARMATURE AND COILS OF VOLT DRY CELLS.

0206120038 DEMONSTRATE OPERATION OF ELECTRIC MOTOR. ARMATURE SPINS WHEN KNIFE

0206120039 KNOW THAT OPENING AND CLOSING A SWITCH IN AN ELECTRIC CIRCUIT

0206120040 KNOW THAT SOUND WAVES MAY BE CONVERTED INTO VARYING STRENGTHS CONDUCTOR, AND RECONVERTED INTO SOUND WAVES.

0206120041 KNOW THAT SOUND WAVES CAN BE CONVERTED INTO ELECTRICAL ENERGY, SOUND WAVES.

0206120042 KNOW THAT ELECTRIC ENERGY CAN BE CHANGED TO ELECTROMAGNETIC SPACE AT THE SPEED OF LIGHT.

0206120043 KNOW THAT WHENEVER ELECTRONS FLOW THROUGH A WIRE, THEY SET UP A

0206120044 KNOW THAT ELECTRONS MOVING BACK AND FORTH GENERATE ELECTROMAGNETIC

0206120045 KNOW THAT ELECTROMAGNETIC WAVES CAN BE CHANGED TO ELECTRIC

0206120046 KNOW THAT LIGHT ENERGY LIKE SOUND ENERGY, CAN BE CONVERTED

0206120047 KNOW THAT ELECTROMAGNETIC WAVES CAN BE SEPARATED BY THEIR FREQUENCIES

TELEPHONE TRANSMITTER. SPEAK INTO BOX. VIBRATIONS CARRY CURRENT-WITH PATTERN-LIKE
 RECEIVER CHANGES ELECTRICITY TO SOUND. EXPOSE INSIDE OF RECEIVER, TOUCH WIRES TO DR
 AND MAKES SOUND WAVES.
 TRANSFERS AND MULTIPLIES A FORCE.
 ELECTRIC MOTOR. MAKE ARMATURE AND COILS OF WIRE. USE KNIFE, SWITCH, PEGBOARD, AND TWO 1.
 ELECTRIC MOTOR. ARMATURE SPINS WHEN KNIFE SWITCH CLOSED.
 USING A SWITCH IN AN ELECTRIC CIRCUIT CAN BE USED TO TRANSMIT SIGNALS.
 CAN BE CONVERTED INTO VARYING STRENGTHS OF ELECTRIC CURRENT, TRANSFERRED THROUGH A
 INTO SOUND WAVES.
 CAN BE CONVERTED INTO ELECTRICAL ENERGY, TRANSMITTED OVER A CIRCUIT, AND RECONVERTED TO
 CAN BE CHANGED TO ELECTROMAGNETIC WAVES THAT CAN CARRY SIGNALS THROUGH
 AS THEY FLOW THROUGH A WIRE, THEY SET UP A MAGNETIC FIELD AROUND THE WIRE,
 GOING BACK AND FORTH GENERATE ELECTROMAGNETIC WAVES.
 THESE WAVES CAN BE CHANGED TO ELECTRIC ENERGY THAT CAN BE CONVERTED INTO SOUND WAVES.
 SOUND ENERGY, CAN BE CONVERTED TO ELECTROMAGNETIC WAVES.
 THESE WAVES CAN BE SEPARATED BY THEIR FREQUENCIES.

0206120048

KNOW THAT ELECTROMAGNETIC WAVES CAN ACTIVATE DEVICES IN SPACE TO GAT
SIGNALS TO EARTH.

↑

WAVES CAN ACTIVATE DEVICES IN SPACE TO GATHER LIGHT AND SOUND AND TRANSMIT THEIR

J

0203125 ENERGY TRANSFORMATION

0203125001 DISCOVER THAT ENERGY IS REQUIRED TO CAUSE MOVEMENT BY USING

0203125002 EXPLAIN DIFFERENCE IN STORED ENERGY AND ENERGY OF MOTION

0203125003 STATE THAT ENERGY CAN BE CHANGED NOT MADE.

0203125004 GIVE THE CORRECT DEFINITION OF THE FOLLOWING IN A MATCH

MOLECULE.

0204125 ENERGY TRANSFORMATION

0204125001 KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TO

0205125 ENERGY TRANSFORMATION

0205125001 KNOW THAT GRAVITATION IS UNIVERSAL.

0205125002 KNOW THAT WEIGHT IS A MEASURE OF GRAVITATIONAL PULL ON A MASS.

0205125003 INFER THAT THE LESS THE MASS, THE LESS ITS GRAVITATIONAL PULL A

OVERCOME IT.

0205125004 INFER THAT THE GREATER THE MASS, THE GREATER ITS GRAVIT

BE USED TO OVERCOME IT.

0205125005 KNOW THAT TO MOVE AN OBJECT, ENERGY MUST BE APPLIED TO OVERCO

0205125006 TELL HOW ENERGY IS USEFUL TO YOU WHEN RELEASED.

0205125007 KNOW THAT CHANGES ARE PREDICTABLE.

REQUIRED TO CAUSE MOVEMENT BY USING WATER AND A BOAT.

RED ENERGY AND ENERGY OF MOTION.

CHANGED NOT MADE.

ON OF THE FOLLOWING IN A MATCHING TEST SOLAR ENERGY, ENERGY, HEAT, AND

ANGES FROM ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

UNIVERSAL.

SURE OF GRAVITATIONAL PULL ON A MASS.

MASS, THE LESS ITS GRAVITATIONAL PULL AND THE LESS THE ENERGY WHICH MUST BE USED TO

THE MASS, THE GREATER ITS GRAVITATIONAL PULL AND THE GREATER THE ENERGY WHICH MUST

ACT, ENERGY MUST BE APPLIED TO OVERCOME THE PULL OF GRAVITATION.

TO YOU WHEN RELEASED.

DICTABLE.

0205125008 KNOW THAT MATTER CAN BE CHANGED INTO ENERGY. HOWEVER THE TOTAL A
REMAINS THE SAME.

0205125009 KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A

0206125 ENERGY TRANSFORMATION

0206125001 KNOW THAT WHEN ENERGY CHANGES FROM ONE FORM TO ANOTHER, THE TOTAL A

0206125002 KNOW THAT IN ALL MASS-ENERGY RELATIONSHIPS, THE SUM OF THE AMOUNTS
UNCHANGED.

0206125003 GIVEN DESCRIPTION OF AN ENERGY CHANGE, EXPLAIN IF IT HAS BEEN A TRAN
ENERGY AND/OR NAME THE FORM OR STATE TO WHICH IT HAS BEEN CHANGE

0206125004 RECOGNIZE SITUATIONS IN WHICH WORK, AS A SCIENTIST DEFINES IT,

TO ENERGY. HOWEVER THE TOTAL AMOUNT OF MATTER AND ENERGY IN THE UNIVERSE

ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

ONE FORM TO ANOTHER, THE TOTAL AMOUNT OF ENERGY REMAINS UNCHANGED.

ICNSHIPS, THE SUM OF THE AMOUNTS OF MATTER AND ENERGY INVOLVED REMAINS

ANGE, EXPLAIN IF IT HAS BEEN A TRANSFORMATION IN THE FORM OR THE STATE OF THE
TE TO WHICH IT HAS BEEN CHANGED.

AS A SCIENTIST DEFINES IT, IS DONE.

0202130 ENERGY TRANSFORMATION (AIR)

0202130001 CONSTRUCT A HYPOTHESIS THAT THIS EXPANSION OF HEATED AIR IN A BALL

0202130002 KNOW THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.

0202130003 DESCRIBE THAT AIR IN A BOTTLE CAN BE HEATED TO EXPAND A BALLOON.

0203130 ENERGY TRANSFORMATION (AIR)

0203130001 KNOW THAT MOVING AIR HAS ENERGY.

0203130002 CONSTRUCT A PINWHEEL, USING A ROUND PIECE OF CARDBOARD, KNITTING

0203130003 DEMONSTRATE THAT WIND WILL HAVE ENERGY OF MOTION BY USE OF PINWHE

0203130004 DEMONSTRATE THAT MOVING AIR HAS ENERGY, BY USING THE PINWHEEL
PLACING IT IN FRONT OF AN ELECTRIC FAN.

0204130 ENERGY TRANSFORMATION (AIR)

0204130001 KNOW THAT HEATED AIR EXPANDS, COOLED AIR CONTRACTS.

0204130002 DEMONSTRATE THAT WARMED AIR EXPANDS, BY CAUSING A DEFLATED
OVER A BOTTLE OPENING AND THE BOTTLE IS HEATED.

0204130003 DEMONSTRATE HOW TO COLLECT CLEAN AIR, BY RUBBLING AIR THROUGH A
INVERTED BOTTLE.

0206130 ENERGY TRANSFORMATION (AIR)

THIS EXPANSION OF HEATED AIR IN A BALLOON MAY BE DUE TO FASTER MOVING MOLECULES.

CAN BE HEATED TO EXPAND A BALLOON.

IT CAN BE HEATED TO EXPAND A BALLOON.

ENERGY.

USE A ROUND PIECE OF CARDBOARD, KNITTING NEEDLES, AND RUBBER BANDS.

TO HAVE ENERGY OF MOTION BY USE OF PINWHEEL.

IT HAS ENERGY, BY USING THE PINWHEEL AND CAUSING IT TO TURN BY BLOWING ON IT OR BY ELECTRIC FAN.

COOLED AIR CONTRACTS.

IT EXPANDS, BY CAUSING A DEFLATED BALLOON TO INFLATE WHEN THE BALLOON IS PLACED IN A BOTTLE IS HEATED.

IT Cools CLEAN AIR, BY RUBBLING AIR THROUGH A PAN OF WATER, DISPLACING WATER FROM AN

0206130001 DEMONSTRATE FASTER MOVING AIR HAS LOWER PRESSURE BY BLOWING BET
AN INVERTED FUNNEL CONTAINING A PING PONG CAUSING THE BALL TO BE

0206130002 KNOW THAT AIR MOVING FASTER OVER THE UPPER SURFACE OF AN OBJECT DEVE

0206130003 DEMONSTRATE KINETIC ENERGY INCREASES AND TEMPERATURE RISES AS MO
TIRE. PUMP GETS HOT NEAR BOTTOM. USE FIRE SYRINGE TO COMPRESS AI

AS LOWER PRESSURE BY BLOWING BETWEEN TWO SUSPENDED APPLES AND BLOWING THROUGH
PING PONG CAUSING THE BALL TO BE SUSPENDED INSIDE THE FUNNEL.

R THE UPPER SURFACE OF AN OBJECT DEVELOPS A LIFTING FORCE.

CREASES AND TEMPERATURE RISES AS MOLECULES OF GAS PRESS CLOSER. PUMP AIR INTO
M, USE FIRE SYRINGE TO COMPRESS AIR. AIR GETS HOT, IGNITES COTTON INSIDE.

0205135 ENERGY TRANSFORMATION (ATOMS)

0205135001 KNOW THAT THE EARTH'S MATTER IS BUILT UP OF ATOMS COMBINED

0205135002 KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM, WITH A D
BUILDING BLOCKS OF MATTER.

0205135003 TELL OR SHOW BY MODEL THAT ALL MATTER IS COMPOSED OF ATOMS.

0205135004 ON A DIAGRAM SHOWING THE PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS,

0205135005 INFER THERE IS NO CHANGE IN WEIGHT AS ATOMS RECOMBINE INTO NEW

0206135 ENERGY TRANSFORMATION (ATOMS)

0206135001 EXPLAIN DIFFERENCE BETWEEN ATOMS AND MOLECULES WHEN GIVEN A

0206135002 MAKE MODELS OF NEUTRAL ATOMS OF DIFFERENT ELEMENTS.

0206135003 NAME KINDS OF PARTICLES IN ATOM.

0206135004 RECOGNIZE RELATIONSHIP BETWEEN THE ATOMIC NUMBER OF AN ELEMENT
ELEMENT.

0206135005 DESCRIBE ATOMS. MADE UP OF 3 KINDS OF PARTICLES, OBSERVE
PARTICLES, DIFFERENT NUMBERS.

0206135006 KNOW THAT ELECTRONS ARE EXTREMELY SMALL.

0206135007 KNOW THAT LOSS OR GAIN OF AN ELECTRON GIVES AN ATOM A CHARGE.

0206135008 KNOW THAT THE BASIC ATOMIC PARTICLES ARE PROTONS WITH A POSITIVE
NEUTRONS WITH NO CHARGE.

ATOMS)

MATTER IS BUILT UP OF ATOMS COMBINED IN MANY WAYS.

MADE UP OF ONE KIND OF ATOM, WITH A DEFINABLE SET OF PROPERTIES. ATOMS ARE THE

AT ALL MATTER IS COMPOSED OF ATOMS.

PARTS OF AN ATOM, RECOGNIZE THE NUCLEUS, A PROTON, AN ELECTRON, AND A NEUTRON.

IN WEIGHT AS ATOMS RECOMBINE INTO NEW SUBSTANCES.

ATOMS)

IDENTIFY ATOMS AND MOLECULES WHEN GIVEN A DIAGRAM, DRAWING, OR DESCRIPTION OF EACH.

IDENTIFY ATOMS OF DIFFERENT ELEMENTS.

IDENTIFY ATOM.

RELATIONSHIP BETWEEN THE ATOMIC NUMBER OF AN ELEMENT AND THE NUMBER OF ELECTRONS IN THE ATOM OF THE

IDENTIFY THE 3 KINDS OF PARTICLES, OBSERVE 4 DIFFERENT MODELS OF ATOMS WITH SAME KINDS OF PARTICLES.

IDENTIFY PARTICLES EXTREMELY SMALL.

IDENTIFY THE CHARGE OF AN ELECTRON GIVES AN ATOM A CHARGE.

IDENTIFY THE CHARGE OF PARTICLES ARE PROTONS WITH A POSITIVE CHARGE, ELECTRONS WITH A NEGATIVE CHARGE, AND

0206135009 KNOW THAT EACH DIFFERENT ATOM CONSISTS OF PARTICLES ARRANGED IN ITS

0206135010 KNOW THAT THE NUMBER OF PARTICLES IN AN ATOM DETERMINES ITS STRUCTURE A

0206135011 REINFORCE CONCEPT OF ATOMIC STRUCTURE BY MODELING SEVERAL ATOMS.

0206135012 KNOW THAT WHEN THE NUCLEUS OF THE ATOM CHANGES, ENERGY IS RELEASED.

0206135013 KNOW THAT THE PARTS OF THE ATOM ARE TIGHTLY BOUND TOGETHER CERT

0206135014 KNOW THAT RADIOACTIVE (UNSTABLE) ATOMS EMIT PARTICLES FROM THEIR NUCL

0206135015 KNOW THAT A CHANGE IN THE NUMBER OF PROTONS IN AN ATOM CHANGES THE ATO

0206135016 KNOW THAT ENERGY MUST BE PUT IN TO INCREASE SPEED OF NUCLEAR PARTICL

0206135017 KNOW THAT ENERGY INPUT IS NEEDED TO RAISE THE ATOMIC NUMBER.

CONSISTS OF PARTICLES ARRANGED IN ITS OWN CHARACTERISTIC STRUCTURE.
 THE NUMBER OF PARTICLES IN AN ATOM DETERMINES ITS STRUCTURE AND ITS ATOMIC WEIGHT.
 THE STRUCTURE OF AN ATOM IS DETERMINED BY MODELING SEVERAL ATOMS.
 WHEN THE ATOM CHANGES, ENERGY IS RELEASED.
 PARTICLES ARE TIGHTLY BOUND TOGETHER CERTAIN PARTS ARE ELECTRICALLY CHARGED.
 SOME ATOMS EMIT PARTICLES FROM THEIR NUCLEUS THESE PARTICLES HAVE ENERGY.
 THE NUMBER OF PROTONS IN AN ATOM CHANGES THE ATOM INTO THAT OF ANOTHER ELEMENT.
 WE CAN TRY TO INCREASE SPEED OF NUCLEAR PARTICLES.
 WE CAN TRY TO RAISE THE ATOMIC NUMBER.

0203140 ENERGY TRANSFORMATION (BURNING CANDLE)

0203140001 DEMONSTRATE THAT WE GET LIGHT AND HEAT ENERGY WHEN A FUEL BURN

0204140 ENERGY TRANSFORMATION (BURNING CANDLE)

0204140001 STATE THAT ENERGY CAN BE CHANGED FROM ONE FORM TO ANOTHER

0204140002 WHEN PROVIDED WITH APPROPRIATE MATERIALS TO START A FIRE, OR
LEAST ONE PARAGRAPH BASED ON OBSERVATIONS.

0204140003 DESCRIBE THAT A CHEMICAL CHANGE IS OCCURRING AS A CANDLE BURNS, TH
GIVEN OFF.

0204140004 DEMONSTRATE THAT A CANDLE BURNS AT CONSTANT RATE, BY PLACING
TIME IT TAKES FOR THE PARAFFIN TO DISAPPEAR.

0204140005 DEMONSTRATE THAT CARBON DIOXIDE FORMS WHEN A CANDLE BURNS, BY
CONTAIN CLEAR LIMEWATER, CAUSING THE LIMEWATER TO TURN CLOUDY WH

0206140 ENERGY TRANSFORMATION (BURNING CANDLE)

0206140001 DEMONSTRATE WHEN A FUEL BURNS WATER IS FORMED, BY PLACING
GOES OUT AND WATER FORMS INSIDE JAR.

BURNING CANDLE)

LIGHT AND HEAT ENERGY WHEN A FUEL BURNS. (BY USE OF CANDLE).

BURNING CANDLE)

CHANGED FROM ONE FORM TO ANOTHER (BY DEMONSTRATION OF BURNING CANDLE).

APPROPRIATE MATERIALS TO START A FIRE, OBSERVE THE COMBINED FIRE AND CANDLE AND WRITE AT LEAST ONE OBSERVATION.

CHANGE IS OCCURRING AS A CANDLE BURNS, THE PARAFFIN DISAPPEARS, AND LIGHT AND HEAT ARE

A CANDLE BURNS AT CONSTANT RATE, BY PLACING HALF-INCH MARKS ON THE CANDLE AND MEASURING THE AMOUNT OF PARAFFIN TO DISAPPEAR.

CARBON DIOXIDE FORMS WHEN A CANDLE BURNS, BY ARRANGING A CANDLE INSIDE JOINED JARS WHICH CAUSE THE LIMEWATER TO TURN CLOUDY WHEN THE LIGHTED CANDLE IS PUT OUT.

BURNING CANDLE)

WATER IS FORMED, BY PLACING A BURNING CANDLE IN A CLOSED JAR UNTIL THE FLAME GOES OUT INSIDE JAR.

0204145 ENERGY TRANSFORMATION (CARBON DIOXIDE)

0204145001 UNDERSTAND THAT EXHALED AIR CONTAINS CARBON DIOXIDE.

0204145002 SHOW THAT OXYGEN AND CARBON DIOXIDE HAVE DIFFERENT PROPERTIES

0204145003 DESCRIBE THAT CARBON DIOXIDE CAUSES LIMEWATER TO TURN TO A MILKY

0204145004 DISTINGUISH BETWEEN AIR FROM HIS LUNGS AND AIR FROM THE ATMOSPHERE
COMPARING RESULTS WITH A SIMILAR TEST WHERE AIR FROM A BICYCLE PUMP

0204145005 DEMONSTRATE AND ANSWER QUESTIONS ABOUT THE PROPERTIES OF CARBON
AND ONE BLOWN UP BY A PERSON.

0204145006 DEMONSTRATE THAT THE AIR FROM LUNGS CONTAINS CARBON DIOXIDE,
INTO LIMEWATER.

0204145007 KNOW THAT OXYGEN GIVES ENERGY WHEN IT COMBINES CHEMICALLY

0205145 ENERGY TRANSFORMATION (CARBON DIOXIDE)

0205145001 EXAMINE THE MAKING OF CARBON DIOXIDE BY YEAST, AND INFER THAT YEAST

0205145002 DEMONSTRATE YEAST IN SUGAR MAKES CARBON DIOXIDE. PUT POWDERED
SET 10 MINUTES BUBBLES TURN LIMEWATER MILKY.

0205145003 CONSTRUCT CARBON DIOXIDE GENERATOR. USE EGG SHELLS IN VINEGAR
DISPLACEMENT.

0205145004 DEMONSTRATE TEST FOR CARBON DIOXIDE. USE GAS IN ABOVE ACTIVITIES
CLOUDY.

0205145005 DEMONSTRATE SIMILARITY OF MILKY LIMEWATER TO EGGSHELL. COMPARE
ACTION ON LIMEWATER.

0205145006 SHOW SOAKED SEEDS MAKE CARBON DIOXIDE. PUT SOAKED LIMA BEANS ON
SQUEEZE GENERATOR GAS BUBBLES INTO LIMEWATER, TURNS MILKY.

OXIDE)

CONTAINS CARBON DIOXIDE.

GASES HAVE DIFFERENT PROPERTIES USING LIMEWATER AS A REAGENT.

USES LIMEWATER TO TURN TO A MILKY COLOR.

LUNGS AND AIR FROM THE ATMOSPHERE, USING EXHALATION THROUGH LIMEWATER AND
TEST WHERE AIR FROM A BICYCLE PUMP IS USED TO FILL A BALLOON.

ABOUT THE PROPERTIES OF CARBON DIOXIDE BY USING ONE BALLOON FILLED BY A PUMP

WHICH CONTAINS CARBON DIOXIDE, BY BLOWING INTO A BALLOON AND BUBBLING THE AIR

WHEN IT COMBINES CHEMICALLY WITH CARBON.

OXIDE)

GAS PRODUCED BY YEAST, AND INFER THAT YEAST CELLS ARE ALIVE.

TO PRODUCE CARBON DIOXIDE. PUT POWDERED YEAST, SUGAR, IN WARM WATER IN GAS GENERATOR
LIMEWATER MILKY.

FOR. USE EGG SHELLS IN VINEGAR IN FLASK COLLECTS BUBBLES BY WATER

GAS PRODUCED. USE GAS IN ABOVE ACTIVITIES ADD LIMEWATER MIX LIMEWATER TURNS

LIMEWATER TO EGGSHELL. COMPARE BUBBLING ACTION OF VINEGAR ON SHELL AND SIMILAR

GAS PRODUCED. PUT SOAKED LIMA BEANS ON WET COTTON IN GAS GENERATOR LET STAND
INTO LIMEWATER, TURNS MILKY.

0205145007 DESCRIBE BUBBLES OF GAS GIVEN OFF AS CARBON DIOXIDE.

0206145 ENERGY TRANSFORMATION (CARBON DIOXIDE)

0206145001 DEMONSTRATE THAT CARBON DIOXIDE IS FORMED DURING THE SAME AC
WITH LIMEWATER, CAUSING THE LIMEWATER TO TURN MILKY.

VEN OFF AS CARBON DIOXIDE.

MON DIOXIDE)

OXIDE IS FORMED DURING THE
E LIMEWATER TO TURN MILKY.

SAME ACTIVITY, BY MISSING THE GAS TRAPPED IN THE JAR

0204150 ENERGY TRANSFORMATION (CHEMICAL)

0204150001 KNOW THAT IN CHEMICAL CHANGE, ATOMS REACT TO PRODUCE A CHANGE

0205150 ENERGY TRANSFORMATION (CHEMICAL)

0205150001 KNOW THAT IN CHEMICAL AND PHYSICAL CHANGE, THE TOTAL AMOUNT

0205150002 STATE THE CONCEPT THAT IN AN ORDINARY CHEMICAL REACTION MATTER

0205150003 GAIN AN UNDERSTANDING OF CHEMICAL PROPERTIES AND INFER THE EFFECT

0205150004 KNOW THAT CHEMICAL PROPERTIES HELP IN IDENTIFYING A SUBSTANCE

0205150005 KNOW THAT WORD EQUATIONS HELP TO DESCRIBE A CHEMICAL REACTION

0205150006 ESTABLISH THE CHEMICAL TEST FOR DISTINGUISHING ACIDS, BASES

0205150007 DISCOVER THAT LITMUS PAPER IS A CHEMICAL INDICATOR,

0205150008 IDENTIFY SODA AS NEUTRAL, LIMEWATER AS BASIC, LEMON JUICE

0205150009 BY DEMONSTRATION CHOOSE WHAT KIND OF SOLUTION CAUSES PINK

0205150010 DEMONSTRATE CHANGING COLOR OF LITMUS PAPER PLACE VINEGAR
PLACE AMMONIA ON PINK AND BLUE LITMUS. PINK TURNS BLUE.

0205150011 DEMONSTRATE TEST FOR ACIDS AND BASES. PLACE SODA, LIMEWATER
CHANGE BLUE, LIMEWATER TURNS PINK TO BLUE, LEMON TURN BLUE

0205150012 KNOW THAT CHEMICAL REACTIONS ARE A DEPENDABLE MEANS OF TESTING

(ICAL)
E, ATOMS REACT TO PRODUCE A CHANGE IN THE MOLECULES.

(ICAL)
PHYSICAL CHANGE, THE TOTAL AMOUNT OF MATTER REMAINS UNCHANGED.

ORDINARY CHEMICAL REACTION MATTER IS NEITHER LOST OR GAINED.

CHEMICAL PROPERTIES AND INFER THE EXISTENCE OF MOLECULES.

ES HELP IN IDENTIFYING A SUBSTANCE.

P TO DESCRIBE A CHEMICAL REACTION.

FOR DISTINGUISHING ACIDS, BASES, AND NEUTRAL SUBSTANCES.

IS A CHEMICAL INDICATOR.

LIMEWATER AS BASIC, LEMON JUICE AS ACIDIC.

T KIND OF SOLUTION CAUSES PINK LITMUS TO TURN PINK.

OF LITMUS PAPER PLACE VINEGAR ON PINK AND BLUE LITMUS. BLUE TURNS PINK
BLUE LITMUS. PINK TURNS BLUE.

AND BASES. PLACE SODA, LIMEWATER, LEMON JUICE ON RED, BLUE LITMUS. SODA WON'T
S PINK TO BLUE, LEMON TURN BLUE TO PINK.

S ARE A DEPENDABLE MEANS OF TESTING THE PRESENCE OF A SUBSTANCE.

0205150013 EXPERIENCE SOME TECHNIQUES A CHEMIST USES IN IDENTIFYING UNKNOWN S

0205150014 GAIN NEW AND DEEPER UNDERSTANDING OF THE CHEMIST'S 100 BUILDING

0205150015 KNOW THAT NO ATOMS ARE GAINED OR LOST IN A CHEMICAL CHANGE.

0205150016 KNOW THAT IN CHEMICAL CHANGE, MATTER IS NOT DESTROYED, ONLY CHAN

0205150017 GIVEN A CHEMICAL CHANGE, SUGGEST VARIABLES THAT COULD AFFECT TH

0205150018 GIVEN DESCRIPTION OF A PHYSICAL OR CHEMICAL CHANGE, PREDICT E
CHANGE.

0205150019 GIVEN A SERIES OF SITUATIONS IN WHICH CHANGE HAS TAKEN PLACE, DE
CHANGES.

0205150020 WHEN PERFORMING AN EXPERIMENT, RECOGNIZE AND RECORD SIGNS OF

0205150021 CONSTRUCT GAS GENERATOR FROM PAPER MILK CARTON SO THAT SIDES ARE

0205150022 DESCRIBE EGGSHHELL AND WHITE SUBSTANCE AS CALCIUM CARBONATE

A CHEMIST USES IN IDENTIFYING UNKNOWN SUBSTANCES.

KNOWLEDGE OF THE CHEMIST'S 100 BUILDING BLOCKS.

NOT DESTROYED OR LOST IN A CHEMICAL CHANGE.

IN A CHEMICAL CHANGE, MATTER IS NOT DESTROYED, ONLY CHANGED FROM ONE FORM TO ANOTHER.

IDENTIFY THE BIGGEST VARIABLES THAT COULD AFFECT THE CHANGE.

PREDICT EFFECT OF A GIVEN MANIPULATED VARIABLE ON THAT PHYSICAL OR CHEMICAL CHANGE.

IN WHICH CHANGE HAS TAKEN PLACE, DESCRIBE THE PHYSICAL CHANGES AND THE CHEMICAL

CHANGES. IDENTIFY, RECOGNIZE AND RECORD SIGNS OF CHEMICAL CHANGE.

USE A PAPER MILK CARTON SO THAT SIDES ARE FLEXIBLE AND CAN BE SQUEEZED.

IDENTIFY THE SUBSTANCE AS CALCIUM CARBONATE.

0205155

ENERGY TRANSFORMATION (COMBUSTION)

0205155001

DEVELOP INSIGHT INTO COMBUSTION AS ANALOGOUS TO CERTAIN

BUSTION)

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STION AS ANALOGOUS TO CERTAIN KINDS OF OXIDATION---FAST OR SLOW.

0204160 ENERGY TRANSFORMATION (COMPOUNDS)

0204160001 KNOW THAT A COMPOUND IS MADE UP OF MORE THAN ONE EL

0204160002 COMBINE TWO COMPOUNDS WITH DIFFERENT PROPERTIES IN ORDER TO

0205160 ENERGY TRANSFORMATION (COMPOUNDS)

0205160001 CHOOSE THE TYPE OF COMPOUNDS FOUND IN THE GREATEST NU

0205160002 KNOW THAT COMPOUNDS CAN BE BROKEN DOWN INTO THE ELEMENTS OF

0205160003 KNOW THAT COMPOUNDS MAY BE GROUPED BY THEIR CHEMICAL PR

0205160004 DEMONSTRATE THE BREAKING DOWN OF A COMPOUND INTO ITS EL

0206160 ENERGY TRANSFORMATION (COMPOUNDS)

0206160001 KNOW THAT ENERGY IS NEEDED TO SEPARATE METALS FROM THEIR CO

COMPOUNDS)

PAGE 57

MADE UP OF MORE THAN ONE ELEMENT.

TH DIFFERENT PROPERTIES IN ORDER TO CREATE A THIRD COMPOUND WITH NEW PROPERTIES.

COMPOUNDS)

UNDS FOUND IN THE GREATEST NUMBER IN THE EARTH'S CRUST,

BE BROKEN DOWN INTO THE ELEMENTS OF WHICH THEY ARE COMPOSED.

BE GROUPED BY THEIR CHEMICAL PROPERTIES.

DOWN OF A COMPOUND INTO ITS ELEMENTS USING MERCURIC OXIDE.

COMPOUNDS)

ED TO SEPARATE METALS FROM THEIR COMPOUNDS.

0206165

ENERGY TRANSFORMATION (COMPOUNDS AND MIXTURES)

0206165001

FROM A GIVEN DEFINITION OR DESCRIPTION OF A SUBSTANCE, RECO

COMPOUNDS AND MIXTURES)

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OR DESCRIPTION OF A SUBSTANCE, RECOGNIZE SUBSTANCE AS EITHER A COMPOUND OR A MIXTURE.

0204170 ENERGY TRANSFORMATION (CONDENSATION)

0204170001 KNOW THAT WATER VAPOR IN THE AIR CAN BE CHANGED TO WATER.

0204170002 KNOW THAT TO CONDENSE WATER VAPOR, HEAT ENERGY MUST BE TAKEN AWAY.

0204170003 KNOW THAT WATER VAPOR CONDENSES WHEN COOLED.

0204170004 DEMONSTRATE THAT WATER IS IN THE AIR, BY CAUSING MOISTURE TO CONDENSE WITH ICE WATER.

0204170005 DEMONSTRATE THAT WATER VAPOR IS FORMED INSIDE AND AT THE TOP OF A GLASS CHAMBER AIR, WHEN THE GLASS CHAMBER IS PLACED IN A WARM LOCATION.

CONDENSATION)

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THE AIR CAN BE CHANGED TO WATER.

FOR VAPOR, HEAT ENERGY MUST BE TAKEN AWAY.

CONDENSES WHEN COOLED.

IN THE AIR, BY CAUSING MOISTURE TO COLLECT ON THE SURFACE OF A SHINY CAN FILLED

VAPOR IS FORMED INSIDE AND AT THE TOP OF A SEALED GLASS CHAMBER THAT CONTAINS WATER AND
THE CHAMBER IS PLACED IN A WARM LOCATION.

0206175

ENERGY TRANSFORMATION (COPPER OXIDE)

0206175001

THE CHILD WILL DEMONSTRATE THAT COPPER CAN BE OBTAINED FROM
TONGS IN A BUNSEN BURNER, CAUSING SOME COPPER TO FORM ON THE

ER OXIDE,

PAGE 60

THAT COPPER CAN BE OBTAINED FROM COPPER OXIDE, BY HEATING COPPER OXIDE POWDER ON
CAUSING SOME COPPER TO FORM ON THE TONGS:

0204180

ENERGY TRANSFORMATION (DECOMPOSITION)

0204180001

KNOW THAT THROUGH THE ACTION OF BACTERIA AND OTHER
TO THE ENVIRONMENT.

ORGANI

0204180002

EXPLAIN HOW BACTERIA AND FUNGT BREAK DOWN ONCE LIVING

THINGS

COMPOSITION;

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ON OF BACTERIA AND OTHER

ORGANISMS, THE MATTER OF ONCE-LIVING THINGS IS RETURNED

UNGT BREAK DOWN ONCE LIVING

THINGS AND RETURN THEM TO THE ENVIRONMENT.

0203185 ENERGY TRANSFORMATION (ELECTRIC)

0203185001 KNOW THAT ELECTRIC ENERGY CAN MAKE THINGS MOVE.

0206185 ENERGY TRANSFORMATION (ELECTRIC)

0206185001 DEMONSTRATE SEPARATION OF COMPOUND WITH ELECTRIC CURRENT USING TWO
STEEL SPOONS TO WIRE, PUT IN COPPER SULFATE SOLUTION.

MAKE THINGS MOVE.

AND WITH ELECTRIC CURRENT USING TWO 1-1/2 VOLT DRY CELLS, ATTACH TWO STAINLESS
COPPER SULFATE SOLUTION.

0203190 ENERGY TRANSFORMATION (ELEMENTS)
0203190001 DEMONSTRATE AND ANSWER QUESTIONS ABOUT ELEMENT BEING MADE ONLY

0204190 ENERGY TRANSFORMATION (ELEMENTS)
0204190001 KNOW THAT AN ELEMENT IS MADE UP OF ONE KIND OF ATOM.
0204190002 KNOW THAT THE ATOMS IN AN ELEMENT ARE ALIKE. THE ATOMS IN A COM
0204190003 STATE THE DIFFERENCES IN ELEMENTS AND COMPOUNDS.

0205190 ENERGY TRANSFORMATION (ELEMENTS)
0205190001 KNOW THAT COMPOUNDS ARE BUILT UP FROM ELEMENTS.
0205190002 KNOW THAT ALL MATTER IS MADE UP OF ELEMENTS. ALL MATTER IS MADE
PARTICLES.
0205190003 CHOOSE THE CORRECT NUMBER OF ELEMENTS IN A MULTIPLE CHOICE Q

0206190 ENERGY TRANSFORMATION (ELEMENTS)
0206190001 CLASSIFY COMMON SUBSTANCES AS ELEMENTS OR COMPOUNDS WHEN GIV
0206190002 APPLY INFORMATION OBTAINED FROM SIMPLE EXPERIMENTAL TESTS TO

TS)
IONS ABOUT ELEMENT BEING MADE ONLY OF ITSELF.

TS)
UP OF ONE KIND OF ATOM.

MENT ARE ALIKE. THE ATOMS IN A COMPOUND ARE DIFFERENT.

ENTS AND COMPOUNDS.

TS)
UP FROM ELEMENTS.

UP OF ELEMENTS. ALL MATTER IS MADE UP OF ATOMS. ALL MATTER IS MADE UP OF

ELEMENTS IN A MULTIPLE CHOICE QUESTION.

TS)
ELEMENTS OR COMPOUNDS WHEN GIVEN SYMBOLS, FORMULAS, OR MODELS.

OM SIMPLE EXPERIMENTAL TESTS TO IDENTIFY ELEMENTS.

0201195 ENERGY TRANSFORMATION (EVAPORATION)

0201195001 KNOW THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO WATER VAPOR

0201195002 DEMONSTRATE EVAPORATION, BY PLACING DROPS OF WATER INTO AN OPEN GLASS ONE DAY.

0201195003 DEMONSTRATE THAT HEAT FROM THE SUN HELPS TO CHANGE WATER TO WATER VAPOR IN A GLASS OF WATER IN SUNLIGHT AND AN EQUAL GLASS OF WATER IN A DARK PLACE.

0202195 ENERGY TRANSFORMATION (EVAPORATION)

0202195001 CONSTRUCT A HYPOTHESIS THAT THE MOLECULES MUST HAVE PASSED INTO THE AIR.

0202195002 KNOW THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM THEM.

0202195003 DEMONSTRATE THAT WET MATERIALS DRY WHEN WATER EVAPORATES FROM THEM.

0203195 ENERGY TRANSFORMATION (EVAPORATION)

0203195001 KNOW THAT THE CHANGE FROM LIQUID TO GAS IS CALLED EVAPORATION.

0203195002 NAME, AS EVAPORATION, THE PROCESS OF THE PERFUME DISAPPEARING FROM THE PAPER.

0203195003 DEMONSTRATE THAT LIQUID CHANGES TO A GAS, BY PLACING A DROP OF PERFUME ON A PAPER (EVAPORATE) WHILE THE ODOR REMAINS.

0203195004 KNOW THAT A SOLID CAN CHANGE INTO A GAS WITHOUT CHANGING FIRST TO A LIQUID.

0203195005 DESCRIBE THAT A SOLID CAN CHANGE INTO A GAS WITHOUT CHANGING FIRST TO A LIQUID. MOTHBALLS GET SMALLER OVER A PERIOD OF TIME.

TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR.

ING DROPS OF WATER INTO AN OPEN GLASS AND OBSERVING THE CHANGE IN QUANTITY AFTER

HELPS TO CHANGE WATER TO WATER VAPOR WHICH GOES INTO THE AIR, BY PLACING ONE
EQUAL GLASS OF WATER IN A DARK OR SHADED PLACE.

MOLECULES MUST HAVE PASSED INTO THE AIR WHEN WET MATERIALS DRIED.

WATER EVAPORATES FROM THEM.

WHEN WATER EVAPORATES FROM THEM.

TO GAS IS CALLED EVAPORATION.

OF THE PERFUME DISAPPEARING AS IT CHANGES FROM A LIQUID TO A GAS.

TO A GAS, BY PLACING A DROP OF PERFUME INTO A BOTTLE, CAUSING IT TO DISAPPEAR
S.

TO A GAS WITHOUT CHANGING FIRST TO A LIQUID.

TO A GAS WITHOUT CHANGING FIRST TO A LIQUID, BY OBSERVING THAT BITS OF
OD OF TIME.

0204195 ENERGY TRANSFORMATION (EVAPORATION);

0204195001 KNOW THAT WATER EVAPORATES TO BECOME A GAS, WATER VAPOR.

0204195002 UNDERSTAND HOW EVAPORATION IS EXPLAINED BY THE MOLECULAR THEORY.

0204195003 DESCRIBE HOW A DROP OF WATER EVAPORATES AS IT CHANGES FROM LIQ

APORATION:

PAGE

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S TO BECOME A GAS, WATER VAPOR.

N IS EXPLAINED BY THE MOLECULAR THEORY.

TER EVAPORATES AS IT CHANGES FROM LIQUID TO WATER VAPOR, DUE TO A TEMPERATURE CHANGE.

0203200 ENERGY TRANSFORMATION (FOOD)

0203200001 INFER THAT ENERGY FROM FOOD IS RESPONSIBLE FOR GROWTH AND THE

0203200002 DEMONSTRATE THAT FOOD IS A FUEL BY USE OF BUTTER CANDLE.

0203200003 DEMONSTRATE THAT FOOD HAS ENERGY, BY BURNING A PAT OF BUTTER T

0203200004 KNOW THAT FOOD HAS ENERGY.

IS RESPONSIBLF FOR GROWTH AND THE ABILITY TO WORK.

FUEL BY USE OF BUTTER CANDLE.

ENERGY, BY BURNING A PAT OF BUTTER THAT HAS BEEN FASHIONED INTO A CANDLE.

0206205

ENERGY TRANSFORMATION (FORMS)

0206205001

EXPLAIN WHAT FORM OF ENERGY (CHEMICAL, MECHANICAL, HEAT, LIGHT, SOUND,
(KINETIC OR POTENTIAL) DIFFERENT OBJECTS HAVE, USE, OR PRODUCE THEM.

0206205002

FROM LIST OF COMMON OBJECTS, RECOGNIZE THOSE WHICH ARE IN A STATE OF
WHICH ARE IN A STATE OF KINETIC ENERGY (ENERGY OF MOTION).

(CHEMICAL, MECHANICAL, HEAT, LIGHT, SOUND, ELECTRICAL) AND/OR WHAT STATE OF ENERGY
DIFFERENT OBJECTS HAVE, USE, OR PRODUCE THAT MAKE IT POSSIBLE FOR THEM TO DO WORK.

RECOGNIZE THOSE WHICH ARE IN A STATE OF POTENTIAL ENERGY (STORED ENERGY) AND THOSE
WHICH ARE IN A STATE OF KINETIC ENERGY (ENERGY OF MOTION).

- 0203210 ENERGY TRANSFORMATION (HEAT)
- 0203210001 KNOW THAT HEAT IS A FORM OF ENERGY.
- 0203210002 GIVE ONE EXAMPLE OF HEAT ENERGY DOING WORK.
- 0203210003 SHOW THAT HEATED AIR MOVES BY HOLDING PAPER STRIPS OVER THE
- 0203210004 DEMONSTRATE THAT HEAT IS A FORM OF ENERGY, BY USING CANDLES
- 0203210005 EXPLAIN HOW AN EXPERIMENT SHOWS THAT HEAT IS A FORM OF ENERGY.
- 0203210006 GIVEN OBJECTS, PREDICT WHICH OBJECT IS A HEAT CONDUCTOR AND WHICH
AND TEST YOUR PREDICTIONS.
- 0203210007 DEMONSTRATE HOW APPLICATION OF HEAT BREAKS UP MOLECULE OF SUGAR
- 0204210 ENERGY TRANSFORMATION (HEAT)
- 0204210001 DESCRIBE THE STATE TO WHICH MATTER WILL CHANGE IF HEAT ENERGY IS
CONTACT.
- 0204210002 GIVEN TWO STATES OF MATTER, TELL IF HEAT MUST BE ADDED OR TAKEN
AND GIVE THE NAME OF THE PROCESS.
- 0204210003 GIVEN DESCRIPTION OR ILLUSTRATION OF A CHANGE OF STATE OF LIQUID
FREEZING POINT OR IF IT WAS AT BOILING POINT.
- 0205210 ENERGY TRANSFORMATION (HEAT)
- 0205210001 KNOW THAT HEAT IS ONE FORM OF ENERGY THAT CAUSES MOTION OF MOLECULES
- 0205210002 READ A THERMOMETER TO THE NEAREST DEGREE IN EITHER FAHRENHEIT

ENERGY.

ENERGY DOING WORK.

HOLDING PAPER STRIPS OVER THE RADIATOR.

FORM OF ENERGY, BY USING CANDLES BELOW AN ALUMINUM FOIL PINWHEEL TO REVOLVE.

SHOWS THAT HEAT IS A FORM OF ENERGY.

OBJECT IS A HEAT CONDUCTOR AND WHICH IS NOT, EXPLAIN WHY YOU PREDICTED IN THAT WAY,

HEAT BREAKS UP MOLECULES OF SUGAR.

MATTER WILL CHANGE IF HEAT ENERGY IS ADDED OR TAKEN AWAY, USING THE TERMS EXPAND OR

TELL IF HEAT MUST BE ADDED OR TAKEN AWAY TO GO FROM THE FIRST TO THE SECOND STATE
PROCESS.

EXPLANATION OF A CHANGE OF STATE OF LIQUID, EXPLAIN IF TEMPERATURE OF SUBSTANCE WAS AT
AT BOILING POINT.

HEAT ENERGY THAT CAUSES MOTION OF MOLECULES---AND OF GROUPS OF MOLECULES.

HIGHEST DEGREE IN EITHER FAHRENHEIT SCALE OR THE CENTIGRADE SCALE.

- 0205210003 DEMONSTRATE THE BOILING POINTS OF VARIOUS WATER SOLUTION
- 0205210004 IDENTIFY THE BOILING AND FREEZING POINTS OF WATER ON BOTH THE
- 0205210005 DESCRIBE HOW HEAT AFFECTS THE AMOUNT OF SOLID SUBSTANCE THAT WILL
- 0205210006 GIVEN TWO STATES OF MATTER, EXPLAIN WHAT OCCURS WHEN HEAT IS
TO THE MOLECULES BETWEEN THE FIRST AND SECOND STATE AND GIVE THE
- 0205210007 GIVEN A SUBSTANCE, DESCRIBE EFFECT THAT HEAT HAS ON THE VOLUME OF
ACTION OR MOTION.

0206210 ENERGY TRANSFORMATION (HEAT)

- 0206210001 KNOW THAT THE NATURE OF HEAT HAS ENABLED MAN TO DEVELOP WAYS TO
- 0206210002 KNOW THAT HEAT IS THE KINETIC ENERGY OF MOLECULES.
- 0206210003 KNOW THAT HEAT IS TRANSFERRED FROM ONE PLACE TO ANOTHER BY MOVING
- 0206210004 KNOW THAT HEAT ENERGY IS TRANSFERRED FROM MOLECULE TO MOLECULE
- 0206210005 THE CHILD WILL DESCRIBE THAT THE VACUUM FLASK ACTS AS AN INSULATOR
HEAT.
- 0206210006 KNOW THAT A SUBSTANCE BECOMES COOLER AS A RESULT OF TRANSFER
- 0206210007 KNOW THAT HEAT GIVES GREATER KINETIC ENERGY TO MOLECULE
- 0206210008 TELL DIFFERENCE BETWEEN HEAT AND TEMPERATURE. DISCUSS HEAT IN
AND TEMPERATURE AS MEANS OF MEASURING HOT AND COLD.

POINTS OF VARIOUS WATER SOLUTIONS.

FREEZING POINTS OF WATER ON BOTH THE FAHRENHEIT SCALE AND THE CENTIGRADE SCALE.

THE AMOUNT OF SOLID SUBSTANCE THAT WILL DISSOLVE IN WATER.

EXPLAIN WHAT OCCURS WHEN HEAT IS ADDED OR TAKEN AWAY. EXPLAIN WHAT HAS HAPPENED THE FIRST AND SECOND STATE AND GIVE THE NAME OF THE PROCESS.

THE EFFECT THAT HEAT HAS ON THE VOLUME OF SUBSTANCE AND ON THE SPEED OF THE MOLECULAR

(AT)

HEAT HAS ENABLED MAN TO DEVELOP WAYS TO MODIFY AND CONTROL HIS ENVIRONMENT.

KINETIC ENERGY OF MOLECULES.

TRANSFERRED FROM ONE PLACE TO ANOTHER BY MOVING MOLECULES.

TRANSFERRED FROM MOLECULE TO MOLECULE IT CANNOT BE TRANSFERRED IN A VACUUM.

WHAT THE VACUUM FLASK ACTS AS AN INSULATOR, WHICH SLOW DOWN OR PREVENTS THE TRAVEL OF

BECOMES COOLER AS A RESULT OF TRANSFER OF ITS HEAT ENERGY.

TRANSFER KINETIC ENERGY TO MOLECULES.

TEMPERATURE. DISCUSS HEAT IN TERMS OF NUMBER AND SPEED OF MOLECULES IN MOTION DURING HOT AND COLD.

0206215	ENERGY TRANSFORMATION (INTERNAL COMBUSTION)	
0206215001	GIVEN DRAWINGS SHOWING MOVEMENT OF AIR OR WATER PRODUCTION OF KINETIC ENERGY.	MOLECULES,
0206215002	GIVEN DESCRIPTION OF MACHINE ACTIVITIES THAT SHOW ELECTRICAL), MATCH EACH MACHINE ACTIVITY WITH FORM OF	DIFFERENT F ENERGY IT U
0206215003	GIVEN DESCRIPTION OF AN INTERNAL COMBUSTION ENGINE, MECHANICAL ENERGY IS BEING USED OR PRODUCED.	RECOGNIZE W

INTERNAL COMBUSTION)

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EMENT OF AIR OR WATER
GY.

MOLECULES, RECOGNIZE WHICH ILLUSTRATES THE GREATEST

NE ACTIVITIES THAT SHOW
CHINE ACTIVITY WITH FORM OF

DIFFERENT FORMS OF ENERGY (CHEMICAL, MECHANICAL, OR
ENERGY IT USES OR PRODUCES.

INTERNAL COMBUSTION ENGINE,
USED OR PRODUCED.

RECOGNIZE WHERE POTENTIAL, KINETIC, CHEMICAL, AND

0206220 ENERGY TRANSFORMATION (KINETIC)

0206220001 KNOW THAT MOLECULES MAY BE GIVEN KINETIC ENERGY IN A CHEMICAL

0206220002 KNOW THAT AN INCREASE IN KINETIC ENERGY CAN PRODUCE AN UNBALANCE

0206220003 KNOW THAT ACTION AND REACTION, RESULTING FROM KINETIC ENERGY OF
FORCE.

0206220004 KNOW THAT ROCKETS AND JETS OPERATE ON THE SAME PRINCIPLE
INTO FORCE.

0206220005 KNOW THAT A TRANSFER OF ELECTRONS FROM ONE OBJECT TO ANOTHER OF
ELECTRONS MOVING, THEY HAVE KINETIC ENERGY.

0206220006 DESCRIBE RESULTS OF KINETIC ENERGY ACTIVITY. DUE TO MOLECULES
AS GAS IS COMPRESSED.

(KINETIC)

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BY THE GIVEN KINETIC ENERGY IN A CHEMICAL CHANGE.

IN KINETIC ENERGY CAN PRODUCE AN UNBALANCED FORCE.

REACTION, RESULTING FROM KINETIC ENERGY GIVEN TO MOLECULES CAN PRODUCE AN UNBALANCED

JETS OPERATE ON THE SAME PRINCIPLE, BUT ROCKETS CONVERTS KINETIC ENERGY DIRECTLY

OF ELECTRONS FROM ONE OBJECT TO ANOTHER GIVES THEM POTENTIAL ENERGY WHEN THE
HAVE KINETIC ENERGY.

KINETIC ENERGY ACTIVITY. DUE TO MOLECULES BOUNCING OFF ONE ANOTHER WITH GREATER ENERGY

03225 ENERGY TRANSFORMATION (LIGHT AND SOUND)
0203225001 IDENTIFY DEFINITIONS OF LIGHTS AND SOUND AND HOW THEY TRAVEL. (I

0204225 ENERGY TRANSFORMATION (LIGHT AND SOUND)
0204225001 STATE THE DIFFERENCES IN LIGHT AND SOUND AS FORMS OF ENERGY.

0206225 ENERGY TRANSFORMATION (LIGHT AND SOUND)
0206225001 KNOW THAT THE DIRECTION OF A MOVING OBJECT CAN BE DETERMINED

LIGHT AND SOUND)

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LIGHTS AND SOUND AND HOW THEY TRAVEL. (I.E., SPEED THROUGH AIR, WATER, SOLIDS, ETC.)

LIGHT AND SOUND)

LIGHT AND SOUND AS FORMS OF ENERGY.

LIGHT AND SOUND)

OF A MOVING OBJECT CAN BE DETERMINED BY WAVELENGTHS OF LIGHT OR SOUND.

0203230 ENERGY TRANSFORMATION (LIQUID)

0203230001 KNOW THAT LIQUID CHANGES TO A GAS.

0206230 ENERGY TRANSFORMATION (LIQUID)

0206230001 DEMONSTRATE MOTION OF INK PARTICLES ADD FEW DROPS OF INK IN G.
WATER.

0206230002 THE CHILD WILL DESCRIBE EXAMPLES OF BERNOULLI'S DISCOVERY
PRESSURE WITHIN THE FLUID.

LIQUID)
TO A GAS.

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LIQUID)
K PARTICLES ADD FEW DROPS OF INK IN GLASS OF WATER. INK WILL SPREAD THROUGHOUT

EXAMPLES OF BERNOULLI'S DISCOVERY THAT THE FASTER A FLUID MOVES THE LOWER THE
D.

0206235 ENERGY TRANSFORMATION (MASS)

0206235001 TELL THE DIFFERENCE BETWEEN OPERATIONAL DEFINITIONS OF WEIGHT

0206235002 DESCRIBE HOW MASS, VOLUME, AND DENSITY ARE RELATED WHEN GIVEN

ON OPERATIONAL DEFINITIONS OF WEIGHT AND OF MASS.

AND DENSITY ARE RELATED WHEN GIVEN INFORMATION ON MASS AND VOLUME OF VARIOUS OBJECTS.

0203240 ENERGY TRANSFORMATION (MIXTURE)

0203240001 KNOW THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT CHANGE WHEN MIXED.

0203240002 DESCRIBE THAT A MIXTURE CONTAINS SUBSTANCES THAT DO NOT CHANGE WHEN MIXED. OBSERVE THE MIXTURE WITH A MAGNIFYING GLASS.

0203240003 KNOW THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE SEPARATED INTO SUGAR AND IRON FILINGS USING A MAGNET TO REMOVE THE IRON FILINGS.

0203240004 DEMONSTRATE THAT A MIXTURE OF SUGAR AND IRON FILINGS CAN BE SEPARATED INTO SUGAR AND IRON FILINGS USING A MAGNET TO REMOVE THE IRON FILINGS.

0203240005 KNOW THAT A MIXTURE OF SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY DISSOLVING THE SUGAR, AND LEAVING THE SAND.

0203240006 DEMONSTRATE THAT A MIXTURE OF SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY ADDING WATER, DISSOLVING THE SUGAR, AND LEAVING THE SAND.

0203240007 KNOW HOW TO SEPARATE LIQUID FROM SAND, BY POURING THROUGH THE MESH.

0203240008 DEMONSTRATE HOW TO SEPARATE THE LIQUID FROM THE SAND, BY POURING THROUGH THE MESH, LEAVING THE SAND.

(URF)

SUBSTANCES THAT DO NOT CHANGE WHEN MIXED TOGETHER.

SUBSTANCES THAT DO NOT CHANGE WHEN MIXED TOGETHER, BY MIXING SUGAR AND IRON
THE MIXTURE WITH A MAGNIFYING GLASS.

SUGAR AND IRON FILINGS CAN BE SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

SUGAR AND IRON FILINGS CAN BE SEPARATED INTO THE ORIGINAL SUBSTANCES, BY USING A
FILINGS.

SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN WATER,
LEAVING THE SAND.

SUGAR AND SAND CAN BE CHANGED INTO A NEW MIXTURE BY PUTTING THE MIXTURE IN
WATER, AND LEAVING THE SAND.

SUGAR FROM SAND, BY POURING THROUGH THE MILK CARTON FILTER, LEAVING THE SAND.

SEPARATE THE LIQUID FROM THE SAND, BY POURING THE LIQUID THROUGH THE MILK CARTON FILTER,

0203245 ENERGY TRANSFORMATION (MOLECULAR)

0203245001 KNOW THAT ODOR MUST BE DUE TO SOME OF THE TINIEST PARTS OF MOTHBALL NOSE.

0203245002 DESCRIBE THAT THE ODOR MUST BE DUE TO SOME OF THE TINIEST PARTS OF MOTHBALLS TO HIS NOSE.

0203245003 DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT SUGAR AS A COMPOUND AND

0203245004 DEMONSTRATE AND/OR ANSWER QUESTIONS ABOUT THE BREAK UP OF A MOLECULE

0204245 ENERGY TRANSFORMATION (MOLECULAR)

0204245001 KNOW THAT MATTER IS MOLECULAR IN NATURE.

0204245002 KNOW THAT THE SPACE BETWEEN MOLECULES INCREASES AS A SUBSTANCE EXPANDS

0204245003 KNOW THAT MOLECULES CAN BE MOVED AROUND TO FORM COMPOUNDS OF DIFFERENT

0204245004 KNOW THAT ENERGY IS RELEASED DURING A MOLECULAR CHANGE.

0204245005 KNOW THAT A LOSS OR GAIN OF ENERGY AFFECTS MOLECULAR MOTION.

0204245006 KNOW THAT A LOSS OR GAIN IN ENERGY AFFECTS MOLECULAR MOTION.

0204245007 KNOW THAT MOLECULES OF SUBSTANCES INTERACT.

0204245008 KNOW THAT AIR AND WATER CANNOT OCCUPY THE SAME SPACE AT THE SAME TIME

0204245009 THROUGH THE USE OF MODELS, DISCOVER THAT DIFFERENT COMPOUNDS HAVE DIFFERENT

AR)

SOME OF THE TINIEST PARTS OF MOTHBALLS SPREADING FROM THE SOLID MOTHBALLS TO HIS

DUE TO SOME OF THE TINIEST PARTS OF MOTHBALLS SPREADING FROM THE SOLID

QUESTIONS ABOUT SUGAR AS A COMPOUND AND ITS THREE ELEMENTS.

QUESTIONS ABOUT THE BREAK UP OF A MOLECULE OF SUGAR.

AR)

IN NATURE.

MOLECULES INCREASES AS A SUBSTANCE EXPANDS.

MOVED AROUND TO FORM COMPOUNDS OR TO OBTAIN ELEMENTS.

DURING A MOLECULAR CHANGE.

ENERGY AFFECTS MOLECULAR MOTION.

ENERGY AFFECTS MOLECULAR MOTION.

ANCES INTERACT.

NOT OCCUPY THE SAME SPACE AT THE SAME TIME.

DISCOVER THAT DIFFERENT COMPOUNDS HAVE DIFFERENT NUMBERS OF ATOMS IN THEIR

0205245 ENERGY TRANSFORMATION (MOLECULAR)

0205245001 KNOW THAT A MOLECULE IS THE SMALLEST PARTICLE OF A SUBSTANCE

0205245002 DEMONSTRATE HOW MOLECULES OF PERFUME CAN PASS THROUGH RUBBER BA
PUSH IN CLEAN JAR FOR 15 MINUTES. ODOR IS IN JAR.

0205245003 DEMONSTRATE FORMATION OF CRYSTALS. DISSOLVE 2/3 CUP OF SUGAR IN
ALLOW LIQUID TO COOL. CRYSTALS FORM ON BOLT.

0205245004 CONSTRUCT MODEL OF DRY ICE ROCKET ENGINE USE PINT MILK CARTON, T

0205245005 DEMONSTRATE MILK CARTON ENGINE IT REVOLVES AS DRY ICE CONTACTS
THROUGH HOLE IN ONE DIRECTION. CARTON REVOLVES IN ANOTHER D

0206245 ENERGY TRANSFORMATION (MOLECULAR)

0206245001 KNOW THAT WHEN A SUBSTANCE BECOMES WARMER, THE MOTION OF ITS MOLECU

0206245002 KNOW THAT THE ENERGY OF MOVING MOLECULES OF AIR AND WATER PRO

0206245003 KNOW THAT A CHANGE OF STATE INCREASES OR DECREASES THE KINETIC E

0206245004 DESCRIBE HOW KINETIC ENERGY IS USED WHEN BOILING WATER BLOWS THE

0206245005 DEMONSTRATE MOVING MOLECULES DO WORK. PLACE WATER IN TEST TUBE
CAUSING CORK TO BE BLOWN OUT.

0206245006 DESCRIBE HYDROGEN GAS. COLLECT FROM WATER WITH HOFFMAN APPARATUS
LIGHTED MATCH BROUGHT TO MOUTH OF TUBE.

MULAR)

SMALLEST PARTICLE OF A SUBSTANCE WHICH RETAINS THE PROPERTIES OF THE SUBSTANCE.

PERFUME CAN PASS THROUGH RUBBER BALLOON. PLACE DROPS IN BALLOON, INFLATE, SEAL, UNZIPS. ODOR IS IN JAR.

CRYSTALS. DISSOLVE 2/3 CUP OF SUGAR IN 1/4 CUP BOILING WATER. SUSPEND BOLT IN LIQUID AND OBSERVE CRYSTALS FORM ON BOLT.

ROCKET ENGINE USE PINT MILK CARTON, THREAD, TOOTHPICK, CLAY, WATER, DRY ICE.

ROCKET ENGINE IT REVOLVES AS DRY ICE CONTACTS WATER. PRODUCES CARBON DIOXIDE. IT ESCAPES FROM THE CARTON REVOLVES IN ANOTHER DIRECTION.

MULAR)

AS TEMPERATURE BECOMES WARMER, THE MOTION OF ITS MOLECULES INCREASES.

MOVING MOLECULES OF AIR AND WATER PROVIDE A FORCE THAT CAN BE HARNESSSED TO DO WORK.

HEATING INCREASES OR DECREASES THE KINETIC ENERGY OF MOLECULES OF MATTER.

STEARIC ACID IS USED WHEN BOILING WATER BLOWS THE CORK FROM THE TEST TUBE.

HOW TO DO WORK. PLACE WATER IN TEST TUBE, FIT GREASED CORK IN PLACE AND HEAT TO BOIL.

TEST TUBE FROM WATER WITH HOFFMAN APPARATUS. OBSERVE THAT GLASS EXPLODES WITH A POP WHEN HEATED TO THE BOTTOM OF TUBE.

0206250 ENERGY TRANSFORMATION (NUCLEAR)

0206250001 KNOW THAT IN NUCLEAR REACTIONS, A LOSS OF MATTER IS A GAIN IN ENERGY
REMAINS UNCHANGED.

0206250002 KNOW THAT ENERGY CAN BE RELEASED BY FISSION OF ATOMIC NUCLEI

0206250003 KNOW THAT A CHAIN REACTION DEPENDS ON THE QUANTITY OF URANIUM WHICH

0206250004 KNOW THAT NEUTRONS, WHEN TRAVELING AT THE RIGHT SPEED, CAUSE FISSION
NUCLEI CONTROLS THE RATE OF FISSION.

0206250005 KNOW THAT NUCLEAR ENERGY CAN BE HARNESSSED TO MACHINES TO DEVELOP OTHER

0206250006 KNOW THAT NUCLEAR ENERGY PRODUCES GREAT FORCES.

0206250007 KNOW THAT NUCLEAR ENERGY HAS PRODUCED USEFUL ISOTOPES.

0206250008 KNOW THAT IN A NUCLEAR REACTION, MATTER LOST EQUALS ENERGY GAINED

0206250009 KNOW THAT IN NUCLEAR REACTIONS, THE NUCLEI OF ATOMS ARE DIVIDED (FISSION)

0206250010 DEMONSTRATE USE OF GEIGER COUNTER. RECORD COUNTS ON GUAGE FROM

0206250011 MAKE MODEL OF NUCLEAR REACTOR.

0206250012 KNOW THAT IN A FUSION REACTION, SOME MATTER IS CONVERTED TO TREMENDOUS

0206250013 KNOW THAT GREAT ENERGY STARTS A FUSION REACTION GREAT ENERGY IS

0206250014 GIVEN DESCRIPTION OF AN ATOM BEFORE AND AFTER NUCLEAR PROCESS HAS
NATURAL RADIOACTIVE DECAY, ARTIFICIAL RADIOACTIVE DECAY (FISSION),

A LOSS OF MATTER IS A GAIN IN ENERGY AND THE SUM OF THE MATTER AND ENERGY
RELEASSED BY FISSION OF ATOMIC NUCLEI THE RATE OF FISSION CAN BE CONTROLLED.
DEPENDS ON THE QUANTITY OF URANIUM WHICH CAN UNDERGO FISSION.
MOVING AT THE RIGHT SPEED, NEUTRONS CAN CAUSE FISSION. THE NUMBER OF NEUTRONS CAPTURED BY
FISSION.
CAN BE HARNESSSED TO MACHINES TO DEVELOP OTHER FORMS OF ENERGY TO DO WORK,
WHICH EXERTS GREAT FORCES.
NUCLEAR REACTORS PRODUCE USEFUL ISOTOPES.
IN A NUCLEAR REACTION, MATTER LOST EQUALS ENERGY GAINED.
IN FISSION, THE NUCLEI OF ATOMS ARE DIVIDED (FISSION) OR COMBINED (FUSION).
A GEIGER COUNTER RECORDS COUNTS ON A SCALER GAUGE FROM SOURCE, SUCH AS LUMINOUS CLOCK DIAL.
IN FISSION, SOME MATTER IS CONVERTED TO TREMENDOUS ENERGY.
IN A FUSION REACTION, GREAT ENERGY IS RELEASED.
BEFORE AND AFTER NUCLEAR FISSION, EXPLAIN WHETHER ATOM WENT THROUGH
ARTIFICIAL RADIOACTIVE DECAY (FISSION), OR FUSION.

0206250015

IDENTIFY BENEFICIAL (E.G., TREATMENT OF CANCER) AND THE DETRIMENTAL (E.G., RADIATION EXPOSURE) OF NUCLEAR ENERGY.

NT OF CANCER) AND THE DETRIMENTAL (E.G., RADIOACTIVE FALLOUT) ASPECTS OF

0204255 ENERGY TRANSFORMATION (OXIDATION)

0204255001 NAME THE BLACK SUBSTANCE AS CARBON AND THE LIQUID AS WATER IN

0204255002 DEMONSTRATE THAT A BLACK SUBSTANCE AND A LIQUID ARE FORMED WH

0204255003 KNOW THAT IRON AND OXYGEN COMBINE TO FORM IRON OXIDE, OR RUST.

0204255004 KNOW THAT OXYGEN RUSTS IRON MORE QUICKLY THAN AIR DOES.

0204255005 KNOW THAT SOME MOLECULES OF AIR SEEM TO DISAPPEAR WHEN IRON RUST

0204255006 DEMONSTRATE AS IRON RUSTS, THE AIR IN A CLOSED CONTAINER IS DIMINI

0204255007 DEMONSTRATE THAT, INSIDE A TEST TUBE CONTAINING WET STEEL WOOL
AS THE STEEL WOOL RUSTS.

0205255 ENERGY TRANSFORMATION (OXIDATION)

0205255001 KNOW THAT OTHER METALS COMBINE WITH OXYGEN TO FORM OXIDES
COMPOSITION.

0205255002 KNOW THAT RUSTING CAN BE PREVENTED BY KEEPING OXYGEN AND IRON ATOM

0205255003 KNOW THAT RUSTING MAY BE HASTENED BY RAPID RELEASE OF OXYGEN IN

0205255004 DEMONSTRATE FORMATION OF RUST. COLLECT OXYGEN AFTER PLACING A
SECOND. ALLOW TUBES TO SET TIL RUST FORMS.

0205255005 DESCRIBE RUST THAT FORMS AS A CHEMICAL COMPOUND, IRON OXIDE.

0205255006 KNOW THAT THE PRODUCTION OF CARBON DIOXIDE IS EVIDENCE OF OXIDAT

D THE LIQUID AS WATER IN THE HEATING OF SUGAR OVER A FLAME.

D A LIQUID ARE FORMED WHEN SUGAR IN A TEST TUBE IS HEATED OVER A FLAME.

FORM IRON OXIDE, OR RUST.

KLY THAN AIR DOES.

TO DISAPPEAR WHEN IRON RUSTS.

A CLOSED CONTAINER IS DIMINISHED.

CONTAINING WET STEEL WOOL INVERTED IN WATER, THE WATER LINE WILL RISE

OXYGEN TO FORM OXIDES OXIDES CAN BE IDENTIFIED BY THEIR CHEMICAL

KEEPING OXYGEN AND IRON ATOMS FROM COMBINING.

RAPID RELEASE OF OXYGEN IN A CHEMICAL REACTION.

CT OXYGEN AFTER PLACING AN IRON NAIL IN ONE TEST TUBE, STEEL WOOL IN
FORMS.

L COMPOUND, IRON OXIDE.

OXIDE IS EVIDENCE OF OXIDATION WITHIN LIVING THINGS.

0205255007 INVESTIGATE OXIDATION IN SEVERAL EXAMPLES OF LIVING THINGS.

0205255008 KNOW THAT OXYGEN IS AN ACTIVE ELEMENT IT COMBINES READILY
COMPOUNDS.

0205255009 KNOW THAT IN OXIDATION, MATTER IS NEITHER GAINED NOR LOST.

ERAL EXAMPLES OF LIVING THINGS.

ELEMENT IT COMBINES READILY WITH MANY OTHER ELEMENTS TO FORM MANY OXYGEN

ER IS NEITHER GAINED NOR LOST.

0204260 ENERGY TRANSFORMATION (OXYGEN)

0204260001 KNOW THAT OXYGEN AND CARBON DIOXIDE FORM A CYCLE.

0204260002 STATE THE FIVE IMPORTANT FACTS ABOUT THE OXYGEN CYCLE.

0204260003 NAME BUBBLES OF GAS, FROM AQUARIUM PLANTS, AS OXYGEN.

0204260004 DESCRIBE THAT BUBBLES RISE FROM AQUARIUM PLANTS GROWING IN SUNLIGHT. LIGHT IS CUT OFF.

0204260005 DEMONSTRATE THE COLLECTION OF OXYGEN BY ADDING HYDROGEN PEROXIDE TO A TEST TUBE IN WATER, CAUSING GAS TO FORM IN THE TEST TUBE.

0205260 ENERGY TRANSFORMATION (OXYGEN)

0205260001 CONSTRUCT OXYGEN GAS GENERATOR. USE PLASTIC TUBING, FLASK AND BUBBLES OF OXYGEN PASS THROUGH WATER. WATER DISPLACED FROM FLASK.

0205260002 DEMONSTRATE USE OF APPARATUS TO COLLECT OXYGEN.

DE FORM A CYCLE.

OUT THE OXYGEN CYCLE.

M PLANTS, AS OXYGEN.

QUARIUM PLANTS GROWING IN SUNLIGHT, AND THAT THE BUBBLES DECREASE WHEN THE

GEN BY ADDING HYDROGEN PEROXIDE TO A TEST TUBE CONTAINING YEAST, INVERTING THE
O FORM IN THE TEST TUBE, DISPLACING THE WATER.

USE PLASTIC TUBING, FLASK, CLAY- 3 PER CENT HYDROGEN PEROXIDE, YEAST,
TER. WATER DISPLACED FROM TUBE.

COLLECT OXYGEN.

0206265

ENERGY TRANSFORMATION (PRESSURE)

0206265001

KNOW THAT DIFFERENCES IN PRESSURE RESULT IN A FORCE ACTING IN T

0206265002

KNOW THAT A DIFFERENCE IN PRESSURE MAY RESULT IN MOTION.

0206265003

KNOW THAT AN INCREASE IN PRESSURE RAISES TEMPERATURE, AND A RISE

(PRESSURE)

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IN PRESSURE RESULT IN A FORCE ACTING IN THE DIRECTION OF THE LOWER PRESSURE.

IN PRESSURE MAY RESULT IN MOTION.

IN PRESSURE RAISES TEMPERATURE, AND A RISE IN TEMPERATURE INCREASES PRESSURE.

0203270 ENERGY TRANSFORMATION (SOLAR)

0203270001 STATE THE EARTH'S CHIEF SOURCE OF RADIANT ENERGY.

0203270002 EXPLAIN HOW WIND IS CAUSED BY HEAT FROM THE SUN.

0203270003 STATE THAT THERE IS STORED ENERGY IN A FUEL AND THAT THIS ENERGY
THAT ONCE GREW IN SUNLIGHT.

0203270004 DEMONSTRATE THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO HEAT, BY
SUNLIGHT ONTO THE BULB OF A THERMOMETER, CAUSING THE LIQUID TO

0203270005 KNOW THAT LIGHT (RADIANT ENERGY) CAN CHANGE INTO HEAT.

0203270006 USE A RADIOMETER TO DEMONSTRATE HOW LIGHT FROM THE SUN CAN BE CH

0205270 ENERGY TRANSFORMATION (SOLAR)

0205270001 KNOW THAT THE STORED ENERGY OF THE SUN IS TRANSFORMED INTO OTHER
ON THE PAST AS WELL AS ON THE PRESENT.

RADIANT ENERGY.

AT FROM THE SUN.

IN A FLUFL AND THAT THIS ENERGY WAS PROBABLEY STORED BY PLANTS AND ANIMALS

ENERGY) CAN CHANGE INTO HEAT, BY USING A MAGNIFYING GLASS AND BY FOCUSING
MOMETER, CAUSING THE LIQUID TO RISE.

CAN CHANGE INTO HEAT.

HOW LIGHT FROM THE SUN CAN BE CHANGED TO ENERGY OF MOTION.

THE SUN IS TRANSFORMED INTO OTHER KINDS OF ENERGY MAN'S ENVIRONMENT DEPENDS
PRESENT.

0202275 ENERGY TRANSFORMATION (SUBSTANCE)

0202275001 KNOW THAT SUGAR WILL DISSOLVE EVENLY IN WATER, AND THE PARTICLES TASTED.

0202275002 DEMONSTRATE THAT SUGAR WILL DISSOLVE EVENLY IN WATER, AND THE PA BE TASTED.

0202275003 NAME THE PARTICLES IN SUGAR-WATER AS MOLECULES.

0202275004 KNOW THAT THE PARTICLES IN SUGAR-WATER ARE MOLECULES.

0202275005 KNOW THAT SUGAR MOLECULES IN WATER PASS THROUGH A COTTON FILTER, AND PARTICLES NOW VISIBLE.

0202275006 DEMONSTRATE THAT SUGAR MOLECULES IN WATER PASS THROUGH A COTTON F LEAVING SUGAR PARTICLES NOW VISIBLE.

0203275 ENERGY TRANSFORMATION (SUBSTANCE)

0203275001 KNOW THAT A SOLID DISSOLVED IN SOLUTION CAN BE RECOVERED AS A SOLID.

0203275002 DEMONSTRATE THAT A SOLID DISSOLVED IN SOLUTION CAN BE RECOVERED A HEATING THE WATER, CAUSING IT TO BOIL AWAY, LEAVING NEARLY ORIG

0203275003 KNOW THAT A SUBSTANCE CAN BE BROKEN APART INTO OTHER SUBSTANCES.

0203275004 DEMONSTRATE THAT A SUBSTANCE CAN BE BROKEN APART INTO OTHER SUBST COLLECT ON A GLASS INVERTED OVER IT ALSO CAUSING MATERIAL LE

0206275 ENERGY TRANSFORMATION (SUBSTANCE)

0206275001 THE CHILD WILL DESCRIBE THE PRESENCE OF SUGAR IN THE TEST TUBE W DIASTASE CHANGING STARCH TO SUGAR.

(SUBSTANCE)

DISSOLVE EVENLY IN WATER, AND THE PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN BE

ALL DISSOLVE EVENLY IN WATER, AND THE PARTICLES OF SUGAR WILL NOT BE VISIBLE BUT CAN

SUGAR-WATER AS MOLECULES.

IN SUGAR-WATER ARE MOLECULES.

IN WATER PASS THROUGH A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE LEAVING SUGAR

MOLECULES IN WATER PASS THROUGH A COTTON FILTER, AND THAT THE WATER CAN EVAPORATE
AND BECOME VISIBLE.

(SUBSTANCE)

RECOVERED IN SOLUTION CAN BE RECOVERED AS A SOLID.

DISSOLVED IN SOLUTION CAN BE RECOVERED AS A SOLID BY DISSOLVING SALT IN WATER THEN
HEATING IT TO BOIL AWAY, LEAVING NEARLY ORIGINAL AMOUNT OF SALT LEFT AS SOLID.

CAN BE BROKEN APART INTO OTHER SUBSTANCES.

SUBSTANCE CAN BE BROKEN APART INTO OTHER SUBSTANCES, BY HEATING SUGAR, CAUSING STEAM TO
RISE OVER IT ALSO CAUSING MATERIAL LEFT TO TURN BLACK AND CHANGE.

(SUBSTANCE)

THE PRESENCE OF SUGAR IN THE TEST TUBE WHICH TURNED YELLOW-ORANGE, DUE TO THE
TEST TUBE TO SUGAR.

0206280

ENERGY TRANSFORMATION (VOLUME)

0206280001

USE FORMULA (L X W X H) FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS R
UNIT OF VOLUME (CUBIC CENTIMETER)).

(VOLUME)

PAGE 86

FOR FINDING VOLUME OF A REGULAR SOLID (SUCH AS RECTANGULAR PRISM) USING BASIC METRIC CENTIMETER).

0202285 ENERGY TRANSFORMATION (WATER)

0202285001 KNOW THAT BOILING WATER CAUSES WATER TO CHANGE TO STEAM, AND THIS

0202285002 DESCRIBE THAT BOILING WATER CAUSES WATER TO CHANGE TO STEAM, A

0202285003 KNOW THAT BOILING WATER CAUSES STEAM, AND THAT THE STEAM TAKES UP
APART.

0202285004 DESCRIBE THAT BOILING WATER CAUSES STEAM, AND THAT THE STEAM TA
APART.

0203285 ENERGY TRANSFORMATION (WATER)

0203285001 KNOW THAT MOVING WATER HAS ENERGY.

0203285002 DEMONSTRATE THAT MOVING WATER HAS ENERGY, BY POURING WATER OVER
TO TURN.

0203285003 USE A PINWHEEL TO DEMONSTRATE THAT MOVING WATER CAN MOVE OBJECTS.

0203285004 KNOW THAT THE WEIGHT OF WATER DOES NOT CHANGE AS WATER CHANGES

0203285005 DEMONSTRATE THAT THE WEIGHT OF WATER DOES NOT CHANGE AS WATER CHA
ICE BEFORE AND AFTER THE ICE MELTS.

0203285006 KNOW THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS

0203285007 DEMONSTRATE THAT WATER CAN BE CHANGED QUICKLY FROM SOLID TO GAS BY
BOILING.

0204285 ENERGY TRANSFORMATION (WATER)

0204285001 KNOW THAT FREEZING WATER EXPANDS.

ER)
USES WATER TO CHANGE TO STEAM, AND THIS CAN DO WORK.

R CAUSES WATER TO CHANGE TO STEAM, AND THIS CAN DO WORK.

USES STEAM, AND THAT THE STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER

R CAUSES STEAM, AND THAT THE STEAM TAKES UP MORE ROOM DUE TO MOLECULES MOVING FARTHER

ER)
ENERGY.

TER HAS ENERGY, BY POURING WATER OVER THE PINWHEEL, CAUSING THE VANES OF THE WHEEL

ATE THAT MOVING WATER CAN MOVE OBJECTS.

TER DOES NOT CHANGE AS WATER CHANGES FROM LIQUID TO SOLID.

T OF WATER DOES NOT CHANGE AS WATER CHANGES FROM LIQUID TO SOLID BY WEIGHING A JAR OF
ICE MELTS.

ANGED QUICKLY FROM SOLID TO GAS

BE CHANGED QUICKLY FROM SOLID TO GAS BY PLACING A PAN OF ICE OVER HIGH HEAT, CAUSING

ER)

XPANDS.

- 0204285002 KNOW THAT THE EXPANSION OF WATER AS IT TURNS TO ICE HAS A GREAT FORCE.
- 0204285003 DEMONSTRATE THAT AS WATER FREEZES IT EXPANDS AND TAKES UP MORE SPACE BY CAUSING ICE TO RISE ABOVE TOP OF CAN.
- 0204285004 KNOW THAT ICE OCCUPIES A GREATER VOLUME THAN WATER.
- 0204285005 KNOW THAT WARM WATER RISES IN COLD WATER COLD WATER SINKS IN WARM W
- 0204285006 KNOW THAT WARM WATER RISES BECAUSE IT EXPANDS...
- 0204285007 DEMONSTRATE THAT WARM WATER RISES AND COLD WATER SINKS.
- 0204285008 DEMONSTRATE THAT WARM WATER RISES WHEN MIXED WITH COLD WATER, BY POURI
COLD WATER, CAUSING THE COLORED WATER TO REMAIN IN THE TOP HALF OF THE
- 0204285009 DEMONSTRATE THAT COLD WATER SINKS WHEN MIXED WITH WARM WATER, BY POURI
WARM WATER, CAUSING THE COLORED WATER TO SETTLE IN THE BOTTOM HALF OF
- 0204285010 DEMONSTRATE THAT A DROP OF WATER DISAPPEARS AND CAN BE FORMED AGAIN, B
CHAMBER AND ALTERNATELY PLACING THE CONTAINER IN A WARM, THEN COOL
- 0204285011 KNOW THAT WATER BECOMES AN INVISIBLE GAS WHEN SUPER HEATED AND RETU

0205285

ENERGY TRANSFORMATION (WATER)

0205285001

DEMONSTRATE FORCE OF ICE. FILL PLASTIC CONTAINER WITH WATER, TAP ON L
OPEN.

0206285

ENERGY TRANSFORMATION (WATER)

0206285001

DEMONSTRATE THAT COLD WATER CAN GIVE MORE HEAT TO THAN HOT WATER
BOILING WATER TO ONE, COLD TO OTHER. COLD WATER ICE FASTER.

WATER AS IT TURNS TO ICE HAS A GREAT FORCE.

WHEN IT FREEZES IT EXPANDS AND TAKES UP MORE SPACE BY FREEZING WATER IN OPEN CAN, THUS
OF CAN.

LARGER WATER VOLUME THAN WATER.

COLD WATER COLD WATER SINKS IN WARM WATER.

BECAUSE IT EXPANDS...

ICE AND COLD WATER SINKS.

ICE SINKS WHEN MIXED WITH COLD WATER, BY POURING COLORED WARM WATER INTO A GLASS OF
COLD WATER TO REMAIN IN THE TOP HALF OF THE JAR.

ICE SINKS WHEN MIXED WITH WARM WATER, BY POURING COLORED COLD WATER INTO A GLASS OF
COLD WATER TO SETTLE IN THE BOTTOM HALF OF THE JAR.

ICE DISAPPEARS AND CAN BE REFORMED AGAIN, BY ENCLOSING THE DROP IN A CLOSED GLASS
CONTAINER IN A WARM, THEN COOL PLACE.

ICE BECOMES A VISIBLE GAS WHEN SUPERHEATED AND RETURNS TO A LIQUID WHEN COOLED.

ICE IN A PLASTIC CONTAINER WITH WATER, TAP ON LID, FREEZE WATER. LID WILL BE FORCED

ADD MORE HEAT TO ICE THAN HOT WATER. FILL TWO BEAKERS, WITH ICE, ADD 1/2 IN.
COLD WATER HELPS ICE FASTER.

- 0206285002 MAKE TABLE OF TEMPERATURES OF WATER AND TIME TO MELT ICE.
- 0206285003 DEMONSTRATE MOTION OF WATER MOLECULES. COLUMN OF WATER WILL MOVE FLASK WHEN FLASK IS WARMED BY HANDS.
- 0206285004 THE CHILD WILL DEMONSTRATE THAT A COLUMN OF WATER DOES NOT MOVE THE GLASS FLASK.
- 0206285005 THE CHILD WILL DESCRIBE THAT THE WATER MOVES UP THE GLASS TUBE WHEN THE WATER IS WARMED.

ES OF WATER AND TIME TO MELT ICE.

ATER MOLECULES. COLUMN OF WATER WILL MOVE UP GLASS TUBE INSERTED AND SEALED INTO GLASS
ED BY HANDS.

TE THAT A COLUMN OF WATER DOES NOT MOVE UPWARD WHEN A VACUUM FLASK IS USED INSTEAD OF

THAT THE WATER MOVES UP THE GLASS TUBE, DUE TO FASTER MOVING MOLECULES, WHEN THE

0204290

EROSION

0204290001

DEFINE EROSION. NAME AND DESCRIBE THREE WAYS IT CAN OCCUR.

0204290002

DEMONSTRATE HOW WATER MOVES LAND BY SPRINKLING WATER ON SAND HILL CAUSING

0204290003

DEMONSTRATE THAT MOVING WATER CAN CARRY SAND PARTICLES BY STIRRING WATER,
CAUSING SAND PARTICLES TO RISE INTO SWIRLING WATER.

0204290004

DEMONSTRATE THAT FASTER MOVING WATER CARRIES MORE SAND PARTICLES THAN
WHICH WATER IS STIRRED.

0204290005

KNOW HOW PLANTS REDUCE EROSION.

0205290

EROSION

0205290001

KNOW THAT WEATHERING AND EROSION BREAK DOWN THE HARDEST ROCK.

0205290002

KNOW THAT PLANTS ARE AGENTS OF EROSION.

0205290003

KNOW THAT WIND AND WATER ARE AGENTS OF EROSION.

0205290004

KNOW THAT WEATHERING AND EROSION HELP BUILD UP NEW LAND.

0205290005

KNOW THAT THE ACTION OF WATER SORTS OUT SOIL PARTICLES, WHICH SETTLE IN
ROCKS.

0205290006

EXPLAIN THE DIFFERENCE BETWEEN WEATHERING AND EROSION AND GIVE EXAMPLES
THE EARTH.

BE THREE WAYS IT CAN OCCUR.

BY SPRINKLING WATER ON SAND HILL CAUSING SAND TO FLOW DOWN GROOVE AS IN RIVER.

CARRY SAND PARTICLES BY STIRRING WATER IN JAR CONTAINING SAND AT BOTTOM
INTO SWIRLING WATER,

WATER CARRIES MORE SAND PARTICLES THAN SLOWER MOVING WATER BY VARYING SPEED WITH

BREAK DOWN THE HARDEST ROCK.

EROSION.

WAYS OF EROSION.

HELP BUILD UP NEW LAND.

WINDS OUT SOIL PARTICLES, WHICH SETTLE IN LAYERS AND EVENTUALLY FORM SEDIMENTARY

WEATHERING AND EROSION AND GIVE EXAMPLES OF HOW EACH BREAK DOWN AND BUILD UP

0200295 FISH

0200295001 KNOW THAT A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINIEST ADULT.

0200295002 DESCRIBE HOW A FISH BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINIEST ADULT.

0200295003 KNOW HOW A FISH MOVES, GETS AIR, AND EATS.

0200295004 DESCRIBE HOW A FISH MOVES, GETS AIR, AND EATS, BY OBSERVING A FISH.

0200295005 IDENTIFY THE PARTS OF THE FISH AS TAIL, FINS, GILLS, AND SCALES.

0204295 FISH

0204295001 INVESTIGATE THE STRUCTURES THAT ADAPT A FISH FOR WATER LIVING.

0204295002 DESCRIBE HOW LIVING FISH IS FITTED FOR MOVING THROUGH WATER, BY CHARACTERISTICS AND ITS MOTIONS.

0204295003 DRAW AND LABEL THE FOOD CHAIN OF A SALMON.

0204295004 UNDERSTAND THE SALMON LIFE CYCLE IN WHICH THEY TRAVEL GREAT DISTANCES TO SPAWNING GROUNDS IN FRESH WATER.

0204295005 KNOW THAT THE LIFE CYCLE OF A SALMON IS REPEATED AS THE EGGS HATCH TO DEVELOP INTO ADULT SALMON.

0204295006 KNOW HOW THE SALMON'S LIFE CYCLE IS REPEATED OVER AND OVER.

0204295007 WRITE OR TELL THE STORY OF A SALMON'S LIFE CYCLE USING THE CORRECT WORDS.

LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN ADULT.

ITS LIFE AS AN EGG, WHICH HATCHED INTO A TINY FISH AND THEN GREW TO BECOME AN
AIR, AND EATS.

GETS AIR, AND EATS, BY OBSERVING A GOLDFISH IN AN AQUARIUM.

FISH AS TAIL, FINS, GILLS, AND SCALES.

THAT ADAPT A FISH FOR WATER LIVING.

FITTED FOR MOVING THROUGH WATER, BY OBSERVING AND RECORDING THE FISH'S
MOTIONS.

LIFE CYCLE OF A SALMON.

LIFE CYCLE IN WHICH THEY TRAVEL GREAT DISTANCES FROM FEEDING GROUNDS IN SALT WATER TO
FRESH WATER.

LIFE CYCLE OF A SALMON IS REPEATED AS THE EGGS HATCH AND THE SALMON YOUNG RETURNED TO SALT WATER
LIFE.

LIFE CYCLE IS REPEATED OVER AND OVER.

DRAW A SALMON'S LIFE CYCLE USING CORRECT NAMES FOR EACH PHASE.

0205295

FISH

0205295001

CONSTRUCT AN AQUARIUM SYSTEM BY ESTABLISHING A TANK CONTAINING WA

0205295002

DEMONSTRATE THAT TEMPERATURE OF WATER CHANGES LESS RAPIDLY THAN
MEASURE CHANGES IN AIR AND WATER DURING ENVIRONMENTAL TEMPERATURE C

0205295003

OBSERVE A FISH AND EXPLAIN HOW ITS STRUCTURE ADAPTS IT TO ITS ENVIRO

0205295004

DESCRIBE ADAPTATIONS OF FISH FOR LIFE ACTIVITIES AS MOVEMENT, GET
BY OBSERVING FISH IN AN AQUARIUM AND BY READING REFERENCES.

0206295

FISH

0206295001

THE CHILD WILL CONSTRUCT A HYPOTHESIS ABOUT HOW LONG IT WILL TAKE FOR
STIMULUS.

M BY ESTABLISHING A TANK CONTAINING WATER, SAND, PLANTS, AND FISH;
E OF WATER CHANGES LESS RAPIDLY THAN TEMPERATURE OF AIR BY USING THERMOMETERS TO
WATER DURING ENVIRONMENTAL TEMPERATURE CHANGES.
HOW ITS STRUCTURE ADAPTS IT TO ITS ENVIRONMENT.
H FOR LIFE ACTIVITIES AS MOVEMENT, GETTING FOOD, GETTING AIR, AND REPRODUCTION,
ARIUM AND BY READING REFERENCES.

HYPOTHESIS ABOUT HOW LONG IT WILL TAKE FOR THE FISH TO BE CONDITIONED TO THE NEW

0200300 FORCE AND MOTION

0200300001 KNOW THAT PUSHES AND/OR PULLS ARE FORCES.

0200300002 DEMONSTRATE THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, B

0200300003 NAME PUSHES AND PULLS AS FORCES.

0200300004 KNOW THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING.

0200300005 KNOW THAT A FORCE IS NEEDED TO CHANGE THE DIRECTION OF A MOTION.

0200300006 DEMONSTRATE THAT A FORCE IS NEEDED TO CHANGE THE DIRECTION
OBSTACLES, CAUSING THEM TO BE DEFLECTED.

0200300007 KNOW THAT A PUSH OR PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVING

0200300008 NAME THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD

0200300009 KNOW THAT THE FORCE THAT CAUSES FALLING THINGS TO FALL TOWARD

0200300010 KNOW THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EARTH.

0200300011 DEMONSTRATE THAT AS THINGS ARE DROPPED THEY FALL TOWARD THE EARTH

0200300012 KNOW THAT GRAVITY MAKES THINGS GO FASTER AND FASTER.

0200300013 DEMONSTRATE THAT GRAVITY MAKES THINGS GO FASTER, BY ROLLING
POINTS ON BOARD, OR BY RAISING AND LOWERING BOARD MARKING

0200300014 KNOW THAT THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD

LS ARE FORCES.

PULL IS NEEDED TO MAKE THINGS MOVE, BY MOVING VARIOUS OBJECTS.

RCES.

TO STOP AN OBJECT THAT IS MOVING.

TO CHANGE THE DIRECTION OF A MOTION.

NEEDED TO CHANGE THE DIRECTION OF A MOTION, BY ROLLING OBJECTS AGAINST
BE DEFLECTED.

NEEDED TO MAKE THINGS MOVE, BY MOVING VARIOUS OBJECTS.

FALLING THINGS TO FALL TOWARD THE EARTH AS GRAVITY.

USES FALLING THINGS TO FALL TOWARD THE EARTH IS GRAVITY.

PPED THEY FALL TOWARD THE EARTH.

ARE DROPPED THEY FALL TOWARD THE EARTH.

INGS GO FASTER AND FASTER.

AKES THINGS GO FASTER, BY ROLLING OBJECTS DOWN SMOOTH BOARD, STARTING AT DIFFERENT
SING AND LOWERING BOARD MARKING WHERE OBJECTS STOP.

SES FALLING THINGS TO FALL TOWARD THE EARTH IS A FORCE.

- 0200300015 DESCRIBE THE PULL THAT CAUSES FALLING THINGS TO FALL TOWARD THE
- 0200300016 KNOW THAT IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE GREATER
- 0200300017 DESCRIBE THAT A FORCE IS NEEDED TO STOP AN OBJECT THAT IS MOVING,
BEEN MOVED WILL COME TO A STOP.
- 0200300018 KNOW THAT THE FORCE THAT STOPS MOVING OBJECTS IS FRICTION.
- 0200300019 DEMONSTRATE THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS, BY
BOARD CAUSING SLIDING OBJECTS TO STOP MORE QUICKLY.
- 0200300020 KNOW THAT FRICTION STOPS ROLLING AND SLIDING OBJECTS.
- 0200300021 NAME THE FORCE THAT STOPS MOVING OBJECTS AS FRICTION.
- 0200300022 DEMONSTRATE THE FUNCTION OF A LEVER AND FULCRUM, BY USING A SIMP
DIRECTION OF FORCE BEING USED BY HIM.
- 0200300023 KNOW THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN
- 0200300024 DEMONSTRATE THAT IT IS EASIER TO LIFT SOMETHING WITH A LEVER OR SEE
- 0200300025 DEMONSTRATE THAT LIFTING OBJECTS IS THE USING OF A FORCE IN THE DIREC
OBJECTS REQUIRE MORE FORCE TO LIFT THEM.
- 0200300026 KNOW THE FUNCTION OF A LEVER AND FULCRUM.
- 0200300027 KNOW THAT HEAVIER OBJECTS ARE THOSE THAT NEED MORE FORCE TO MOV
- 0200300028 DESCRIBE HEAVIER OBJECTS AS THOSE THAT NEED MORE FORCE TO MOVE THEM

FALLING THINGS TO FALL TOWARD THE EARTH AS A FORCE.

OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.

ED TO STOP AN OBJECT THAT IS MOVING, BY OBSERVING THAT ROLLING OBJECTS THAT HAVE
P.

S MOVING OBJECTS IS FRICTION.

PS ROLLING AND SLIDING OBJECTS, BY ROLLING AND SLIDING DIFFERENT OBJECTS DOWN A
TO STOP MORE QUICKLY.

ING AND SLIDING OBJECTS.

ING OBJECTS AS FRICTION.

LEVER AND FULCRUM, BY USING A SIMPLE LEVER TO LIFT OBJECTS AND CHANGE THE
BY HIM.

T SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

TO LIFT SOMETHING WITH A LEVER OR SEESAW WHEN THE LOAD IS ON THE SHORT END.

CTS IS THE USING OF A FORCE IN THE DIRECTION OPPOSITE TO GRAVITY, AND THAT HEAVIER
LIFT THEM.

AND FULCRUM.

THOSE THAT NEED MORE FORCE TO MOVE THEM.

HOSE THAT NEED MORE FORCE TO MOVE THEM.

0200300029 DESCRIBE THAT, IN ORDER TO LIFT AN OBJECT, THE NET FORCE MUST BE G

0201300 FORCE AND MOTION

0201300001 KNOW THAT THE UPWARD PUSH OF A RELEASED BALLOON IS CAUSED BY

0201300002 DEMONSTRATE A MODEL OF A ROCKET BY BLOWING UP A BALLOON AND LETTI

0201300003 DESCRIBE THAT THE UPWARD PUSH IS CAUSED BY THE AIR RUSHING D

0201300004 DEMONSTRATE FRICTION BY PULLING A ROLLER SKATE WITH A RUBBER BA
WHEN THE SKATE IS DRAGGED ON ITS SIDE THAN WHEN IT IS IS PULLED

0203300 FORCE AND MOTION

0203300001 GIVEN A 4 WHEELED CART AND RAMP, SHOW BY DEMONSTRATION WHICH WAY

0204300 FORCE AND MOTION

0204300001 DEMONSTRATE YOUR UNDERSTANDING OF THE TERM FORCE AND APPLY THE
A PULL IS EXERTED ON AN OBJECT.

0204300002 DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES THE APPLICATION
INERTIA).

0205300 FORCE AND MOTION

0205300001 KNOW THAT PRESSURE CAUSES MATTER TO MOVE.

TO LIFT AN OBJECT, THE NET FORCE MUST BE GREATER THAN THE FORCE OF GRAVITY.

THE UPWARD FORCE OF A RELEASED BALLOON IS CAUSED BY THE DOWNWARD RUSH OF AIR FROM THE BALLOON.

THE REACTION FORCE OF A ROCKET BY BLOWING UP A BALLOON AND LETTING IT GO, CAUSING THE BALLOON TO MOVE.

THE REACTION FORCE OF A PUSH IS CAUSED BY THE AIR RUSHING DOWNWARD FROM THE BALLOON.

THE REACTION FORCE OF PULLING A ROLLER SKATE WITH A RUBBER BAND, CAUSING THE RUBBER BAND TO STRETCH MORE ON ITS SIDE THAN WHEN IT IS IS PULLED ON ITS WHEELS.

ON AN INCLINED RAMP, SHOW BY DEMONSTRATION WHICH WAY THE CART PULLS EASIEST---UP THE RAMP OR DOWN.

DEFINITION OF THE TERM FORCE AND APPLY THE TERM IN DESCRIBING SITUATIONS WHERE A PUSH OR PULL IS APPLIED TO AN OBJECT.

AN EXPERIMENT WHICH DEMONSTRATES THE APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF INERTIA).

0205300002 KNOW THAT ENERGY MUST BE SUPPLIED TO DEVELOP A FORCE SUFFICIENT

0205300003 THROUGH INVESTIGATION, DEDUCE THAT ENERGY IS NECESSARY TO SUPPLY
IS AN UNBALANCED FORCE.

0205300004 FROM OBSERVATION, REASON THAT ENERGY OF MOTION (AN UNBALANCED
TO CREATE THRUST.

0205300005 FROM OBSERVATION OF AN EXPERIMENT, RECOGNIZE PROOF WHICH SHOWS THAT
(WEIGHT) AN EQUAL AMOUNT OF FORCE IS NEEDED.

0205300006 DESCRIBE SPRING BALANCE AS A FORCE OF GRAVITATION METER AND READ

0205300007 DEMONSTRATE FORCE OF GRAVITY EXERTS PULL ON OBJECT. SUSPEND

0205300008 INFER THAT EVERY ACTION HAS AN OPPOSITE AND EQUAL REACTION

0205300009 DEMONSTRATE PRINCIPLE THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE

0205300010 DESCRIBE ABOVE ACTION AS EXAMPLE OF NEWTON'S LAW OF ACTION AND

0205300011 USE THE LAW OF ACTION AND REACTION BY RESPONDING TO GIVEN QUANTITIES

0205300012 GAIN INSIGHT INTO INERTIA OF REST AND INERTIA OF MOTION BY EXAMINING

0205300013 INFER THAT OBJECTS IN MOTION TEND TO MOVE IN A STRAIGHT LINE BUT
SPACECRAFT INTO ORBIT AROUND THE EARTH.

0205300014 KNOW THAT ENERGY MUST BE APPLIED TO PRODUCE AN UNBALANCED
MOTION.

0205300015 MATCH WORDS AND PHRASES WITH THEIR DEFINITION PERTAINING TO MOTION

TO DEVELOP A FORCE SUFFICIENT TO OVERCOME GRAVITATIONAL PULL.

ST ENERGY IS NECESSARY TO SUPPLY A FORCE THAT STARTS AN OBJECT MOVING. THIS

RGY OF MOTION (AN UNBALANCED FORCE) REACTS AGAINST THE GRAVITATIONAL PULL

, RECOGNIZE PROOF WHICH SHOWS THAT TO ACT AGAINST CERTAIN GRAVITATIONAL FORCE IS NEEDED.

E OF GRAVITATION METER AND READING FOR EACH OBJECT AS MEASURE OF PULL.

TS PULL ON OBJECT. SUSPEND OBJECTS FROM SPRING BALANCES. POINTER MOVES.

POSITE AND EQUAL REACTION.

ACTION HAS AN EQUAL AND OPPOSITE REACTION.

OF NEWTON'S LAW OF ACTION AND REACTION.

N BY RESPONDING TO GIVEN QUESTIONS.

AND INERTIA OF MOTION BY EXAMINING FAMILIAR OBJECTS.

TO MOVE IN A STRAIGHT LINE BUT THAT SOME FORCE (GRAVITATIONAL) PULLS A EARTH.

TO PRODUCE AN UNBALANCED FORCE, RESULTING IN MOTION OR CHANGE OF

R DEFINITION PERTAINING TO MOTION OR THE CHANGE IN MOTION.

- 0205300016 IDENTIFY ACCEPTABLE DEFINITIONS FOR THE TERMS FORCE, INERTIA, AND
- 0205300017 RECOGNIZE EXAMPLES OF INERTIA SHOWN IN EXPERIMENTS.
- 0205300018 USE THE LAW OF INERTIA IN AN EXPLANATION OF A SITUATION USING BOOKS
- 0205300019 KNOW THAT ALL OBJECTS ATTRACT ONE ANOTHER BY THE FORCE OF GRAVITATION
- 0205300020 KNOW THAT AN OBJECT AT REST REMAINS AT REST AND AN OBJECT IN MOTION UNDER AN UNBALANCED FORCE.
- 0205300021 KNOW THAT MOTION IS A FORM OF CHANGE.
- 0205300022 IDENTIFY VARIABLES WHICH AFFECT THE SWING OF A PENDULUM AND TELL HOW

0206300 FORCE AND MOTION

- 0206300001 GIVEN A SERIES OF EVERYDAY ACTIVITIES, RECOGNIZE THOSE WHICH ARE COMPLETING AN ACTION OR ACTIVITY.
- 0206300002 KNOW THAT WHEN EFFORT FORCE IS MULTIPLIED, DISTANCE IS LOST.
- 0206300003 KNOW THAT FRICTION INCREASES EFFORT THAT MUST BE APPLIED, AND
- 0206300004 KNOW THAT FRICTION IS A FORCE THAT RESISTS MOTION.
- 0206300005 KNOW THAT THE AMOUNT OF FRICTION DEPENDS UPON THE KINDS OF SURFACES
- 0206300006 KNOW THAT THE LESS TWO SURFACES ARE IN CONTACT, THE LESS THE FRICTION

DEFINITIONS FOR THE TERMS FORCE, INERTIA, AND WEIGHT.

INERTIA SHOWN IN EXPERIMENTS.

USE IN AN EXPLANATION OF A SITUATION USING BOOKS AND BICYCLES.

ATTRACT ONE ANOTHER BY THE FORCE OF GRAVITATION.

AN OBJECT AT REST REMAINS AT REST AND AN OBJECT IN MOTION REMAINS IN MOTION UNLESS ACTED ON BY AN

EXTERNAL FORCE OF CHANGE.

FACTORS WHICH AFFECT THE SWING OF A PENDULUM AND TELL HOW THE SWING IS AFFECTED BY THESE VARIABLES.

IN DAILY ACTIVITIES, RECOGNIZE THOSE WHICH ARE DEPENDENT UPON THE GRAVITATIONAL FORCE FOR EACH ACTIVITY.

IF THE FORCE IS MULTIPLIED, DISTANCE IS GAINED, AND IF THE FORCE IS LOST.

INCREASES EFFORT THAT MUST BE APPLIED, AND DECREASES SPEED (DISTANCE),

IS A FORCE THAT RESISTS MOTION.

FRICTION DEPENDS UPON THE KINDS OF SURFACES THAT ARE IN CONTACT,

SMOOTHER SURFACES ARE IN CONTACT, THE LESS THE FRICTION BETWEEN THEM.

- 0206300007 KNOW THAT FRICTION IS SOMETIMES USEFUL.
- 0206300008 KNOW THAT WORK IS DONE ONLY WHEN AN OBJECT IS MOVED THROUGH A
- 0206300009 STATE THE RULE FOR WORK WHICH IS MULTIPLYING THE FORCE NEEDED BY
- 0206300010 INFER RELATIONSHIPS AND DEVELOP AN EQUATION FOR WORK.
- 0206300011 KNOW THAT EVERY ACTION HAS AN EQUAL AND OPPOSITE REACTION.
- 0206300012 KNOW THAT ACTION-REACTION CAN BE USED TO CHANGE SPEED OR DIRECTION
- 0206300013 USING NEWTON'S FIRST LAW OF MOTION, PREDICT WHAT WILL HAPPEN TO C
APPLIED TO THE OBJECTS.
- 0206300014 PREDICT WHICH OF SEVERAL OBJECTS WILL ACCELERATE MORE WHEN GIVEN
DIRECTION OF THE FORCE APPLIED.
- 0206300015 RECOGNIZE FACTORS THAT WILL AFFECT THE INERTIA OF AN OBJECT IN A
- 0206300016 PREDICT HOW THE FOLLOWING FACTORS AFFECT THE MOVEMENT OF OBJECTS

OBJECT IS MOVED THROUGH A DISTANCE.
APPLYING THE FORCE NEEDED BY THE DISTANCE THE OBJECT IS MOVED.
SITUATION FOR WORK.
AND OPPOSITE REACTION.
TO CHANGE SPEED OR DIRECTION OF MOTION.
PREDICT WHAT WILL HAPPEN TO OBJECTS MOVING OR AT REST WHEN SOME FORCE IS
ACCELERATE MORE WHEN GIVEN THE MASS OF THE OBJECTS AND THE SIZE AND
INERTIA OF AN OBJECT IN A GIVEN SITUATION.
AFFECT THE MOVEMENT OF OBJECTS FORCES, FRICTION, UNBALANCED FORCES.

0202305	FUELS	
0202305001	KNOW THAT OIL DROPS CAN SOAK INTO SANDSTONE.	
0202305002	DEMONSTRATE THAT OIL DROPS CAN SOAK INTO SANDSTONE, THUS DEVELOPING OF THE EARTH.	
0202305003	KNOW THAT THERE ARE THREE COMPONENT LEVELS OF AN OIL.	SUPPLY MODE
0202305004	IDENTIFY THREE COMPONENT LEVELS OF A MODEL OF AN OIL FILLED WITH MARBLES), ---WATER, OIL, AND GAS.	SUPPLY IN T
0202305005	CONSTRUCT A MODEL OF AN OIL SUPPLY IN THE EARTH, BY	MIXING OIL

AK INTO SANDSTONE.

CAN SOAK INTO SANDSTONE, THUS DEVELOPING A MODEL OF HOW OIL CAN BE HELD IN ROCK LAYERS

COMPONENT LEVELS OF AN OIL SUPPLY MODEL IN THE EARTH--WATER, OIL, AND GAS.

LEVELS OF A MODEL OF AN OIL SUPPLY IN THE EARTH, (BY MIXING OIL AND WATER INTO A JAR
WATER, OIL, AND GAS.

SUPPLY IN THE EARTH, BY MIXING OIL AND WATER INTO A JAR FILLED WITH MARBLES.

0205310 GENETICS

0205310001 STUDY AND RESEARCH THE PART THAT CHROMOSOMES PLAY IN CHANGES I

0205310002 KNOW THAT THE PATTERN OF THE ORGANISM IS PASSED ALONG TO NEW CELLS
CONTENT.

0205310003 CONCEPTUALIZE CHROMOSOME PAIRING BY MAKING AND MANIPULAT

0206310 GENETICS

0206310001 KNOW THAT THE CHARACTERISTICS OF A LIVING THING ARE LAID DOWN IN A

0206310002 KNOW THAT INHERITED TRAITS INTERACT WITH THE ENVIRONME

0206310003 KNOW THAT THE CELLS IN THE OFFSPRING OF ONLY ONE PARENT WILL CARR
CELL NUCLEUS) DETERMINES FOR THE TRAITS OF THE PARENT.

0206310004 KNOW THAT A SEED PLANT IS THE PRODUCT OF A CELL CARRYING TRAITS FR

0206310005 KNOW THAT THE DNA MOLECULE CARRIES IN ITS PARTS (GENES) THE CODE
ORGANISM.

0206310006 KNOW THAT GENES CARRYING THE GENETIC CODE FOR A TRAIT MAY BE EI

0206310007 KNOW THAT THE GENETIC CODE IS CARRIED BY A LARGE MOLECULE

0206310008 KNOW THAT ORGANISMS CAN BE MAINTAINED GENETICALLY PURE FOR A GIV

0206310009 KNOW THAT A PURE TRAIT CAN BE KEPT PURE BY MAKING SURE THAT SEED

0206310010 KNOW THAT SELECTING OF TRAITS CAN BE CONTROLLED BY SELECTIVE

THAT CHROMOSOMES PLAY IN CHANGES IN THE STRUCTURE OF LIVING THINGS.

ORGANISM IS PASSED ALONG TO NEW CELLS BY DUPLICATION OF CHROMOSOMES AND THEIR DNA

ING BY MAKING AND MANIPULATING MODELS.

S OF A LIVING THING ARE LAID DOWN IN A GENETIC CODE.

INTERACT WITH THE ENVIRONMENT.

FFSPRING OF ONLY ONE PARENT WILL CARRY IN ITS CHROMOSOMES (TINY BODIES WITHIN THE
THE TRAITS OF THE PARENT.

E PRODUCT OF A CELL CARRYING TRAITS FROM TWO PARENTS.

ARRIES IN ITS PARTS (GENES) THE CODE THAT DETERMINES THE INHERITED TRAITS OF AN

GENETIC CODE FOR A TRAIT MAY BE EITHER DOMINANT OR RECESSIVE.

S CARRIED BY A LARGE MOLECULE IN THE CHROMOSOME.

MAINTAINED GENETICALLY PURE FOR A GIVEN TRAIT.

E KEPT PURE BY MAKING SURE THAT SEEDS HAVE GENES FOR ONLY THE PURE TRAIT.

S CAN BE CONTROLLED BY SELECTIVE POLLINATION.

0206310011 KNOW THAT DOMINANT AND RECESSIVE TRAITS CAN BE SORTED OUT BY

0206310012 KNOW THAT GENETIC TRAITS INTERACT IN MANY WAYS. THE RESULT IS BLENDING.

0206310013 KNOW THAT WHEN TWO DIFFERENT GENES AFFECTING THE SAME TRAIT IN AN ORGANISM IS A HYBRID.

0206310014 KNOW THAT THE VISIBLE APPEARANCE OF TRAITS MAY BE ALTERED.

0206310015 KNOW THAT THE GENETIC CODE CAN CHANGE.

0206310016 KNOW THAT CHANGES IN THE GENETIC CODE PRODUCE CHANGES IN LIVING ORGANISMS.

0206310017 KNOW THAT OFFSPRING OF A SINGLE PARENT HAVE THE PARENT'S GENETIC TRAITS.

0206310018 KNOW THAT A MUTATION (A CHANGE IN THE GENE) IS PASSED ALONG WITH THE GENES.

0206310019 KNOW THAT IMPROVED PLANTS AND ANIMALS ARE THE PRODUCT OF SELECTION.

0206310020 KNOW THAT OFFSPRING OF TWO PARENTS INHERIT GENES FROM BOTH PARENTS. THE RESULT DEPENDS ON THE INTERACTION OF THE GENETIC CODE FROM BOTH PARENTS.

0206310021 KNOW THAT DESIRABLE MUTATIONS MAY BE ESTABLISHED BY CROSSING.

0206310022 KNOW THAT DESIRABLE MUTATIONS IN ANIMALS MAY BE ESTABLISHED BY SELECTION.

RECESSIVE TRAITS CAN BE SORTED OUT BY CROSSING.

THEY INTERACT IN MANY WAYS. THE RESULTING EFFECT MAY BE DOMINANCE, RECESSIVENESS, OR

DIFFERENT GENES AFFECTING THE SAME TRAIT ARE IN THE CHROMOSOME (FOR THE DNA MOLECULE), THE

APPEARANCE OF TRAITS MAY BE ALTERED, BUT THE TRAITS REMAIN UNCHANGED.

THE GENETIC CODE CAN CHANGE.

MUTATIONS IN THE GENETIC CODE PRODUCE CHANGES IN LIVING THINGS.

OFFSPRING OF A SINGLE PARENT HAVE THE PARENT'S GENETIC CODE.

A CHANGE IN THE GENE IS PASSED ALONG IN THE GENETIC CODE.

PLANTS AND ANIMALS ARE THE PRODUCT OF SELECTIVE BREEDING FOR THE DESIRED TRAITS.

OFFSPRING OF TWO PARENTS INHERIT GENES FROM BOTH PARENTS. AN INCREASE IN THE NUMBER OF MUTANTS
MUTATIONS OF THE GENETIC CODE FROM BOTH PARENTS.

MUTATIONS MAY BE ESTABLISHED BY CROSS-POLLINATION OF PLANTS HAVING THE DESIRED TRAITS.

MUTATIONS IN ANIMALS MAY BE ESTABLISHED BY SELECTIVE BREEDING.

- 0204315 GEOLOGY
- 0204315001 KNOW THAT THE ENVIRONMENT IS IN CONSTANT CHANGE.
- 0204315002 KNOW THAT THE EARTH'S SURFACE IS ALWAYS CHANGING.
- 0204315003 UNDERSTAND HOW THE ENERGY OF MOVING WATER CHANGES THE EARTH'S S
- 0204315004 KNOW HOW LAND WORN DOWN IN ONE PLACE IS BUILT UP IN ANOTHER.
- 0204315005 KNOW HOW PRESSURES ON AND IN THE EARTH CAUSE MOUNTAINS TO RISE.
- 0204315006 KNOW HOW THE PRESSURE OF SEDIMENT MAY CAUSE MOUNTAINS TO RISE.
- 0204315007 EXPLAIN HOW THE WEIGHT OF SEDIMENT CAN HELP TO RAISE MOUNTAINS
- 0204315008 KNOW THAT THE PRESSURE ON THE MOLTEN ROCK WITHIN THE EARTH CAU
- 0204315009 KNOW HOW UNEQUAL EXPANSION AND CONTRACTION CAN BREAK ROCKS.
- 0204315010 USING MARBLES SHOW HOW EXPANSION AND CONTRACTION WITH HEAT AND
- 0204315011 SHOW HOW FREEZING WATER EXPANDS WITH ENOUGH FORCE TO BREAK ROC
- 0204315012 KNOW THAT THE EXPANSION AND THE CONTRACTION OF ROCK, AND AND THE F
- 0204315013 KNOW HOW THE EXPANSION OF FREEZING WATER BREAKS DOWN ROCKS.
- 0204315014 GIVEN MODEL OR DIAGRAM OF THE EARTH, NAME EACH OF THE THREE LAY
- GENERAL PROPERTIES OF EACH.

IN CONSTANT CHANGE.

IS ALWAYS CHANGING.

MOVING WATER CHANGES THE EARTH'S SURFACE.

PLACE IS BUILT UP IN ANOTHER.

THE EARTH CAUSE MOUNTAINS TO RISE.

MENT MAY CAUSE MOUNTAINS TO RISE.

MENT CAN HELP TO RAISE MOUNTAINS.

MOLTEN ROCK WITHIN THE EARTH CAUSES THE CRUST TO RISE FORMING MOUNTAINS.

CONTRACTION CAN BREAK ROCKS.

ON AND CONTRACTION WITH HEAT AND COLD CAN BREAK DOWN ROCK.

S WITH ENOUGH FORCE TO BREAK ROCK, USING CAN, WATER AND BRICK.

E CONTRACTION OF ROCK, AND AND THE FORCE OF GROWING PLANTS, HELP BREAK DOWN ROCK.

ZING WATER BREAKS DOWN ROCKS.

EARTH, NAME EACH OF THE THREE LAYERS (CRUST, MANTLE, AND CORE) AND DESCRIBE

0204315015	KNOW WHY THE EARTH'S ROCKS DEEP BELOW THE CRUST CAN	FLOW UNDER
0204315016	GIVEN A DESCRIPTION OF HOW A ROCK WAS FORMED, TELL METAMORPHIC.	WHETHER TH
0205315	GEOLOGY	
0205315001	CONSTRUCT MODEL OF EARTH. FILL BALLOON WITH TOOTHPASTE	FORM MODEL
0205315002	IDENTIFY PARTS OF MODEL TO REPRESENT LAYERS OF EARTH AS	CRUST, MAN
0205315003	DEMONSTRATE HOW LAYERS OF SEDIMENT FORMED. MIX WATER, PARTICLES ACCUMULATE NEAR BOTTOM.	PEBBLES, G
0205315004	DESCRIBE THIS ACTIVITY AS A MODEL OF HOW LAYERS OF	SEDIMENT P
0205315005	KNOW THAT THE EARTH IS CONTINUALLY CHANGING.	
0205315006	LEARN ABOUT EARTH'S INTERIOR BY MAKING A DIAGRAMMATIC	MODEL.
0205315007	RELATE THE EARTH'S STRUCTURE TO A THREE DIMENSIONAL	MODEL.
0205315008	KNOW THAT HEAT AND PRESSURE GENERATED WITHIN THE EARTH	RESULT IN
0205315009	KNOW THAT BREAKING UP OF RADIOACTIVE ATOMS WITHIN THE PRESSURE.	EARTH RELE
0205315010	KNOW THAT PRESSURES ON AND WITHING THE EARTH UPLIFT THE	EARTH'S CR
0205315011	RELATE INSIDE AND OUTSIDE PRESSURES TO MOUNTAIN	BUILDING.

DEEP BELOW THE CRUST CAN FLOW UNDER PRESSURE.

A ROCK WAS FORMED, TELL WHETHER THE ROCK IS IGNEOUS, SEDIMENTARY, OR

FILL BALLOON WITH TOOTHPASTE FORM MODELING CLAY AROUND BALLOON.

REPRESENT LAYERS OF EARTH AS CRUST, MANTLE, CORE.

SEDIMENT FORMED. MIX WATER, PEBBLES, GRAVEL, SAND AND ALLOW TO SETTLE HEAVY BOTTOM.

MODEL OF HOW LAYERS OF SEDIMENT FORM IN OCEANS.

INUALLY CHANGING.

R BY MAKING A DIAGRAMMATIC MODEL.

E TO A THREE DIMENSIONAL MODEL.

GENERATED WITHIN THE EARTH RESULT IN CHANGES OF ITS SURFACE.

RADIOACTIVE ATOMS WITHIN THE EARTH RELEASES ENORMOUS HEAT, CREATING TREMENDOUS

WITHING THE EARTH UPLIFT THE EARTH'S CRUST.

RE ERIC'S TO MOUNTAIN BUILDING.

- 0205315012 RELATE PRESSURES TO THE BENDING OF ROCK LAYERS.
- 0205315013 DISCOVER THAT ROCKS MAY BE GROUPED BY THEIR ORIGIN.
- 0205315014 KNOW THAT THE COMPOSITION OF THE EARTH'S ROCKS IS DETERMINE
- 0205315015 KNOW THAT ROCKS MAY BE IDENTIFIED BY THEIR MINERAL COMPOSITI
- 0205315016 MAKE A ROCK COLLECTION NAMEING AND CLASSIFYING EACH ROCK.
- 0205315017 DEMONSTRATE THE HARDNESS OF VARIOUS MINERALS BY USING A SCALE F
- 0205315018 CONSTRUCT A SCALE OF RELATIVE HARDNESS FROM SEVERAL MINERALS.
- 0205315019 RELATE OIL DEPOSITS TO SEDIMENTATION IN ANCIENT TIMES.
- 0205315020 DO INDEPENDENT RESEARCH ON HOW THE STORED ENERGY FROM THE SUN IS
PAST IMPORTANT TO THE PRESENT.

0206315

GEOLOGY

0206315001

KNOW THAT SUBSTANCES (MINERALS) IN THE EARTH'S CRUST CAN BE AL

ORDERING OF ROCK LAYERS.

ROCKS GROUPED BY THEIR ORIGIN.

THE ORDER OF THE EARTH'S ROCKS IS DETERMINED BY THE MANNER IN WHICH THEY WERE FORMED.
ROCKS ARE IDENTIFIED BY THEIR MINERAL COMPOSITION.

THE ORDER OF IDENTIFYING AND CLASSIFYING EACH ROCK.

IDENTIFYING VARIOUS MINERALS BY USING A SCALE FOR MEASURING HARDNESS.

MEASURING ROCK HARDNESS FROM SEVERAL MINERALS.

ROCK IDENTIFICATION IN ANCIENT TIMES.

HOW THE STORED ENERGY FROM THE SUN IS TRANSFORMED INTO COAL AND OIL, MAKING THE
IDENTIFICATION OF ROCKS POSSIBLE.

ROCKS (AND MINERALS) IN THE EARTH'S CRUST CAN BE ALTERED TO PRODUCE NEW MATERIALS.

0205320 HUMAN BODY (BEHAVIOR)

0205320001 GIVEN A SIMPLE GRAPH ON WHICH A SERIES OF TEST SCORES HAS BEEN BETWEEN TESTS.

0205320002 GIVEN LIST OF ORDINARY, EVERYDAY ACTS PERFORMED BY ANIMALS THOSE THAT ARE LEARNED AND THOSE THAT ARE UNLEARNED (REFLEX)

0205320003 GIVEN SEVERAL WAYS OF IMPROVING A LEARNED BEHAVIOR, RECOGNIZE PROGRESS IN GIVEN PERIOD OF TIME, AND CHOOSE REASON WHY YOUR CHOICE

0205320004 DEMONSTRATE DIFFERENCE (DISCRIMINATION) BETWEEN A STIMULUS AND A RESPONSE

0205320005 DEMONSTRATE IN A GIVEN EXPERIMENT INVOLVING STIMULUS AND RESPONSE CONTROLLED AND THE ONES THAT ARE CHANGED.

0205320006 RECOGNIZE FROM GROUPS OF WORDS OR NUMBERS ONE GROUP WHICH WOULD REASON WHY GROUP YOU SELECTED IS EASIEST TO REMEMBER.

0205320007 GIVEN LIST OF THINGS WHICH ARE PRESENT IN A PLACE OF STUDY, EXPERIMENT PREVENT LEARNING AND THOSE WHICH WILL PREVENT LEARNING.

0205320008 GIVEN AN EXPERIMENT ON PRACTICE AND MEMORIZATION, RECOGNIZE EXPERIMENT.

0205320009 GIVEN A LIST OF VARIABLES THAT WERE CONTROLLED IN AN EXPERIMENT REASONS THEY WERE CONTROLLED.

0205320010 EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT

0205320011 EXPLAIN WAYS IN WHICH A GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT

0205320012 EXPLAIN WHICH VARIABLES WERE CONTROLLED IN AN EXPERIMENT ON FORGETTING

0205320013 GIVEN DESCRIPTION OF LEARNING SITUATION, RECOGNIZE THOSE VARIABLES LEARN AND THOSE VARIABLES THAT MIGHT BOTH HELP YOU OR SLOW DOWN YOUR LEARNING

0205320014 GIVEN SEVERAL WAYS OF LEARNING, PREDICT WHICH YOU THINK WOULD LEAD THROUGH EXPERIMENTAL PROCEDURES.

WHICH A SERIES OF TEST SCORES HAS BEEN PLOTTED, EXPLAIN THE REASONS THE SCORES CHANGED

EVERYDAY ACTS PERFORMED BY ANIMALS AND HUMAN BEINGS, RECOGNIZE DIFFERENCE BETWEEN
AND THOSE THAT ARE UNLEARNED (REFLEX).

IMPROVING A LEARNED BEHAVIOR, RECOGNIZE ONE WHICH WOULD HELP YOU SHOW THE MOST
OF TIME, AND CHOOSE REASON WHY YOUR CHOICE IS A GOOD ONE.

(DISCRIMINATE) BETWEEN A STIMULUS AND A RESPONSE IN A GIVEN SITUATION.

EXPERIMENT INVOLVING STIMULUS AND RESPONSE IN LIVING THINGS, THE VARIABLES THAT ARE
THAT ARE CHANGED.

WORDS OR NUMBERS ONE GROUP WHICH WOULD PROBABLY BE MOST EASILY MEMORIZED EXPLAIN
SELECTED IS EASIEST TO REMEMBER.

WHICH ARE PRESENT IN A PLACE OF STUDY, EXPLAIN DIFFERENCE BETWEEN THOSE WHICH WILL NOT
OF WHICH WILL PREVENT LEARNING.

PRACTICE AND MEMORIZATION, RECOGNIZE THE VARIABLES THAT WERE CONTROLLED IN THE

VARIABLES THAT WERE CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION, EXPLAIN THE
CONTROLLED.

WHICH GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

WHICH GIVEN VARIABLE WAS CONTROLLED IN AN EXPERIMENT ON PRACTICE AND MEMORIZATION.

WHICH VARIABLES WERE CONTROLLED IN AN EXPERIMENT ON FORGETTING AND RELEARNING.

LEARNING SITUATION, RECOGNIZE THOSE VARIABLES THAT MIGHT MAKE IT EASIER FOR YOU TO
VARIABLES THAT MIGHT BOTHER YOU OR SLOW DOWN YOUR RATE OF LEARNING.

LEARNING, PREDICT WHICH YOU THINK WOULD LEAD TO BEST RESULTS AND TEST YOUR PREDICTION
PROCEDURES.

0205320015	GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TEST SCORES, INTERPRET WHAT THE SCORES MEAN.	EXPLAIN W
0205320016	GIVEN DIFFERENT FORMS OF GRAPHS SHOWING TEST SCORES, INTERPRET WHAT THE SCORES MEAN.	EXPLAIN W
0206320	HUMAN BODY (BEHAVIOR)	
0206320001	KNOW THAT PAST EXPERIENCES PROVIDE INSIGHT INTO METHODS	OF SOLVIN
0206320002	THE CHILD WILL DEMONSTRATE HOW INSIGHT DEVELOPS- AS HE MUCH WATER WILL BE DISPLACED.	TRIES TO
0206320003	KNOW THAT HABITS ARE LEARNED ACTS THAT HAVE BECOME	AUTOMATIC
0206320004	THE CHILD WILL CONSTRUCT A HYPOTHESIS, INDICATING DECREASE SMOOTHLY WITH PRACTICE.	WHETHER OF
0206320005	DEMONSTRATE IMPORTANCE OF REGULAR PRACTICE. COMPARE ANOTHER WHO HAS PRACTICED.	RESULTS OF
0206320006	THE CHILD WILL DEMONSTRATE THAT LEARNING CAN LEAD TO AN COMPLETE THE ACT TO DECREASE WITH PRACTICE.	AUTOMATIC
0206320007	KNOW THAT DEVELOPMENT OF A HABIT REQUIRES PRACTICE.	
0206320008	THE CHILD WILL DESCRIBE THAT REGULAR PRACTICE HELPS IN	FORMING A
0206320009	KNOW THAT LEARNING IS IMPROVED BY THE DEVELOPMENT OF	EFFICIENT
0206320010	KNOW THAT GOOD STUDY HABITS REQUIRE THE PROPER TOOLS, EQUIPMENT,	EQUIPMENT,
0206320011	KNOW THAT DEVELOPMENT OF A HABIT REQUIRES THE PROPER	CONDITIONS

HS SHOWING TEST SCORES,

EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND

HS SHOWING TEST SCORES,

EXPLAIN WHICH FORMS CAN BE COMPARED MOST EASILY AND

PROVIDE INSIGHT INTO METHODS OF SOLVING A PROBLEM AND ACHIEVING A GOAL.

INSIGHT DEVELOPS- AS HE TRIES TO SOLVE A PROBLEM, USING A JAR- FOR DETERMINING HOW

ACTS THAT HAVE BECOME AUTOMATIC.

PROTHESIS, INDICATING WHETHER OR NOT THE TIME TO COMPLETE THE ACT WILL

ULAR PRACTICE COMPARE RESULTS OF WRITING NAME WITH OPPOSITE HAND AGAINST

AT LEARNING CAN LEAD TO AN AUTOMATIC ACT (TYING OF A BOW KNOT), CAUSING THE TIME TO

IT REQUIRES PRACTICE.

REGULAR PRACTICE HELPS IN FORMING A NEW HABIT.

BY THE DEVELOPMENT OF EFFICIENT HABITS OF STUDY.

QUIRE THE PROPER TOOLS, EQUIPMENT, AND SURROUNDINGS,

ERIC IQUIRES THE PROPER CONDITIONS AND SURROUNDINGS,

0206320012

INFER THAT DEVELOPMENT OF GOOD STUDY HABITS RESULTS IN MORE EFFIC

0206320013

THE CHILD WILL DESCRIBE THAT HE CANNOT PREVENT THIS REFLEX BY

STUDY HABITS RESULTS IN MORE EFFICIENT LEARNING.

WE CANNOT PREVENT THIS REFLEX BY THINKING ABOUT IT.

0204325

HUMAN BODY (CIRCULATORY)

0204325001

USING THE TERMS ARTERIES, VEINS, CAPILLARIES, AND HEART, DESCRIBE HO

0205325

HUMAN BODY (CIRCULATORY)

0205325001

KNOW THAT THE CIRCULATORY SYSTEM WORKS IN CONJUNCTION WITH THE DI
THE CELLS WITH SUBSTANCES THEY NEED.

INS, CAPILLARIES, AND HEART, DESCRIBE HOW THE BLOOD TRAVELS IN THE BODY.

STEM WORKS IN CONJUNCTION WITH THE DIGESTIVE AND RESPIRATORY SYSTEMS TO PROVIDE
EY NEED.

0204335 HUMAN BODY (DIET)

0204335001 TELL WHY WE NEED NUTRIENTS AND HOW THEY DIFFER FROM WASTES.

0204335002 CONDUCT TESTS TO FIND OUT WHETHER A FOOD IS MAINLY CARBOHYDR

0204335003 CLASSIFY A FAMILIAR FOOD AS BELONGING TO ONE OF THE FOLLOWING
VEGETABLE=FRUIT.

0204335004 FROM LIST OF FOODS, IDENTIFY BEST SOURCES OF PROTEIN, CARBOHYDR

0204335005 EXPLAIN WHETHER FOOD EATEN IN ONE DAY BY A CHILD IS A BALANCED

0204335006 PLAN A WELL-BALANCED DIET FOR A DAY.

0205335 HUMAN BODY (DIET)

0205335001 KNOW THAT CERTAIN DISEASES ARE AVOIDED OR CURED BY ADEQUATE

0205335002 INFER THE IMPORTANCE OF HAVING A BALANCED DIET EVERY DAY.

0205335003 REALIZE THE NEED FOR FOODS RICH IN CERTAIN SUBSTANCES.

0205335004 INFER THE NUTRITIONAL VALUES OF FOOD SUBSTANCES IN MILK.

0205335005 MAKE A POSTER SHOWING VITAMINS AND THEIR SOURCES.

0206335 HUMAN BODY (DIET)

0206335001 MATCH ESSENTIAL NUTRIENT WITH THE FOOD WHICH CAN PROVIDE MAJOR AMO

HOW THEY DIFFER FROM WASTES.

WHETHER A FOOD IS MAINLY CARBOHYDRATE, FAT, OR PROTEIN.

LONGING TO ONE OF THE FOLLOWING FOOD GROUPS MILK, MEAT, BREAD-CEREAL, OR

BEST SOURCES OF PROTEIN, CARBOHYDRATE, AND FAT.

ONE DAY BY A CHILD IS A BALANCED DIET. IF NOT, TELL WHAT IS MISSING.

A DAY.

AVOIDED OR CURED BY ADEQUATE AMOUNTS OF VITAMINS.

A BALANCED DIET EVERY DAY.

IN CERTAIN SUBSTANCES.

OF FOOD SUBSTANCES IN MILK.

AND THEIR SOURCES.

THE FOOD WHICH CAN PROVIDE MAJOR AMOUNT OF THAT NUTRIENT.

0206335002

KNOW THAT HARMFUL BACTERIA IN MILK ARE DESTROYED BY

PASTEURIZ

PAGE 110

DESTROYED BY PASTEURIZATION.

0204340	HUMAN BODY (DIGESTIVE)	
0204340001	ON DRAWING OF DIGESTIVE SYSTEM, IDENTIFY MOUTH, TEETH,	TONGUE
0205340	HUMAN BODY (DIGESTIVE)	
0205340001	KNOW THAT DIGESTION BEGINS AS FOOD IS BROKEN INTO	SMALLER
0205340002	KNOW THAT OUR DIGESTIVE ORGANS MAKE OUR FOOD READY TO	MOVE TH
0205340003	KNOW THAT THE ORGANS OF THE DIGESTIVE SYSTEM WORK	TOGETHE
0205340004	DESCRIBE THAT SUBSTANCE IN SALIVA IS RESPONSIBLE FOR	CHANGIN
0205340005	COMPLETE AN INVESTIGATION USING BENEDICTS SOLUTION TO	SHOW HO
0205340006	DEMONSTRATE HOW STARCH IS CHANGED TO SUGAR. TEST AND	SHOW AE
	SOLUTION, SALIVA, PRESENCE IN STARCH AND SALIVA SOLUTION	(SET FC
0205340007	REPORT WRITTEN OR ORALLY WHAT HAPPENS TO FOOD IN THE	MOUTH,
0206340	HUMAN BODY (DIGESTIVE)	
0206340001	DEMONSTRATE ACTION OF ENZYME MIX STARCH IN TWO TUBES,	ADD DIA
	ONE TURNS YELLOW-ORANGE.	
0206340002	DEMONSTRATE ACTION OF BACTERIA IN STOMACH-USING FOOD-	GELATIN
	ONE, WATER TO OTHER, DETERMINE GROWTH.	

M, IDENTIFY MOUTH, TEETH, TONGUE, FOOD PIPE, STOMACH, AND INTESTINE.

FOOD IS BROKEN INTO SMALLER PARTICLES.

S MAKE OUR FOOD READY TO MOVE THROUGH MEMBRANES.

IGESTIVE SYSTEM WORK TOGETHER.

LIVA IS RESPONSIBLE FOR CHANGING STARCH TO SUGAR.

NG BENEDICTS SOLUTION TO SHOW HOW SALIVA BREAKS DOWN STARCH.

NGED TO SUGAR. TEST AND SHOW ABSENCE OF SUGAR WITH BENEDICTS SOLUTION IN STARCH
STARCH AND SALIVA SOLUTION (SET FOR 10 MINUTES).

HAPPENS TO FOOD IN THE MOUTH, STOMACH, AND INTESTINES.

MIX STARCH IN TWO TUBES, ADD DIASTASE TO ONE, TEST BOTH WITH BENEDICT'S SOLUTION,

CA IN STOMACH-USING FOOD- GELATIN. ADD TEN DROPS OF WEAK HYDROCHLORIC ACID TO
E GROWTH.

0206345 HUMAN BODY (DISEASE)

0206345001 KNOW THAT CERTAIN CELLS SECRETE SUBSTANCES THAT PROVIDE AN E

0206345002 INVESTIGATE THE FUNCTION OF EPITHELIAL CELLS THAT LINE THE

0206345003 KNOW THAT ANTIBIOTICS CHANGE THE ENVIRONMENT OF CERTAIN TYPE
SURVIVAL.

0206345004 KNOW THAT THE FAVORABLE ENVIRONMENT FOR A VIRUS IS WITH

0206345005 KNOW THAT ONLY ANTIBODIES GIVE IMMUNITY.

0206345006 THE CHILD WILL DESCRIBE THAT HIS STOMACH CELLS MAKE A JUICE
THIS COULD HELP REDUCE THE GROWTH OF BACTERIA.

0206345007 THE CHILD WILL DESCRIBE THAT ANTISEPTICS REDUCE THE GROW

0206345008 DEMONSTRATE PURIFYING WATER WITH CHEMICALS BY OBSERVING MICRO
BLEACH TO THE SLIDE, KILLING THE ORGANISMS.

0206345009 IDENTIFY SOURCES OF INFORMATION TO ANSWER FOUR QUESTIONS ABOUT

0206345010 GIVEN SENTENCE DESCRIBING SOME ACTIVITIES OF A MICRO
HARMFUL TO MAN.

0206345011 KNOW THAT THE BODY, BY REFLEX ACTS, EXPELS BACTERIA AND OTHER

0206345012 KNOW THAT THE WHITE BLOOD CELLS ARE ONE OF THE BODY'S DEFEN

0206345013 NAME BODY'S LINES OF DEFENSE WHICH HELP IN RESISTING AND/C

0206345014 FIND THAT MOST GERMS DO NOT GROW WHEN AN ANTISEPTIC IS USED

THE SUBSTANCES THAT PROVIDE AN ENVIRONMENT UNFAVORABLE TO BACTERIA.

EPITHELIAL CELLS THAT LINE THE BODY CAVITIES.

THE ENVIRONMENT OF CERTAIN TYPES OF MICROORGANISMS, MAKING IT UNFAVORABLE TO THEIR

ENVIRONMENT FOR A VIRUS IS WITHIN THE BODY CELLS.

OF IMMUNITY.

THE STOMACH CELLS MAKE A JUICE WHICH CONTAINS WEAK HYDROCHLORIC ACID, AND THAT
INHIBITS THE GROWTH OF BACTERIA.

ANTISEPTICS REDUCE THE GROWTH OF BACTERIA.

STUDY WITH CHEMICALS BY OBSERVING MICROORGANISMS WITH A MICROSCOPE, WHILE ADDING CHLORINE
TO THE ORGANISMS.

DESIGN AN EXPERIMENT TO ANSWER FOUR QUESTIONS ABOUT KEEPING WATER AND FOOD FREE FROM BACTERIA.

LIST THE ACTIVITIES OF A MICROORGANISM, TELL WHETHER ACTIVITIES ARE HELPFUL OR

IF THEY ACT, EXPELS BACTERIA AND OTHER IRRITANTS.

THE DEFENSES ARE ONE OF THE BODY'S DEFENSES AGAINST INFECTION.

LIST THE FACTORS WHICH HELP IN RESISTING AND/OR COMBATING DISEASE-CAUSING MICROORGANISMS,

AND HOW WHEN AN ANTISEPTIC IS USED.

- 0206345015 DEMONSTRATE ANTISPETICS USING FOOD-GELATIN, ADD DROPS OF DIFFERE WATER TO ONE AS A CONTROL, EXPOSED DISHES AND DETERMINE GROWTH.
- 0206345016 KNOW THAT SOME DISEASES C USE THE BODY TO BUILD IMMUNIT
- 0206345017 TELL DIFFERENCE BETWEEN STRUCTURES AND FUNCTIONS OF FOUR GENERAL FUNGUS, BACTERIA AND PROTOZOA.
- 0206345018 GIVEN EXAMPLES OF COMMON (HOUSEHOLD OR PROFESSIONAL) MEDICAL ANTIBIOTICS ARE BEING USED TO COMBAT INFECTIOUS BACTERI
- 0206345019 DESCRIBE HOW WATER AND FOOD ARE KEPT FREE FROM BACTERIA.
- 0206345020 WHEN GIVEN LIST OF SCIENTISTS (LOUIS PASTEUR, EDWARD JENNER, ROBERT KOCH) AND THEIR SCIENTIFIC DISCOVERIES, MATCH EACH SC
- 0206345021 TELL DIFFERENCE BETWEEN DEFINITIONS OF FOLLOWING TYPES OF DISE
- 0206345022 GIVEN DESCRIPTION OF A PARTICULAR DISEASE AND THE WAY IT IS CONT NONCOMMUNICABLE.
- 0206345023 IDENTIFY WAYS IN WHICH SPECIFIC DISEASE CAUSING ORGANISM ENTRY WITH AIR AND THROUGH SKIN).
- 0206345024 IDENTIFY THE MOST EFFECTIVE METHODS USED TO PREVENT THE SPREAD C

ING FOOD-GELATIN, ADD DROPS OF DIFFERENT ANTISEPTICS TO DIFFERENT DISHES AND BOILED EXPOSED DISHES AND DETERMINE GROWTH.

USE THE BODY TO BUILD IMMUNITY.

STRUCTURES AND FUNCTIONS OF FOUR GENERAL GROUPS OF DISEASE-CAUSING MICROORGANISMS, VIRUS, ZOA.

HOUSEHOLD OR PROFESSIONAL) TO COMBAT INFECTIOUS MEDICAL PRACTICES, TELL WHETHER CHEMICALS, HEAT, OR BACTERIA.

D ARE KEPT FREE FROM BACTERIA.

ISTS (LOUIS PASTEUR, EDWARD JENNER, JOSEPH LISTER, JONAS SALK, ALEXANDER FLEMING, SCIENTIFIC DISCOVERIES, MATCH EACH SCIENTIST WITH HIS DISCOVERY.

DEFINITIONS OF FOLLOWING TYPES OF DISEASES ORGANIC, ALLERGIC, INFECTIOUS, DEFICIENCY.

ICULAR DISEASE AND THE WAY IT IS CONTRACTED, CLASSIFY DISEASE AS COMMUNICABLE OR

SPECIFIC DISEASE CAUSING ORGANISMS ENTER THE BODY (ENTRY WITH WATER, MILK, FOOD SKIN).

THE METHODS USED TO PREVENT THE SPREAD OF DISEASE.

0201350

HUMAN BODY (FAR)

0201350001

IDENTIFY THE FUNCTION OF THE EAR.

0203350

HUMAN BODY (EAR)

0203350001

IDENTIFY THESE PARTS OF THE EAR AND TELL WHAT THEY DO. OUTER EAR,
DRUM, HAMMER, ANVIL, COCHLEA, AND NERVE.

AR.

R AND TELL WHAT THEY DO. OUTER EAR, MIDDLE EAR, INNER EAR, PINNA, EAR CANAL, EAR
AND NERVE.

0204355

HUMAN BODY (EXERCISE)

0204355001

SUGGEST SCHEDULE OF EXERCISES FOR ADULT TO DO TO REMAIN HEALTHY.

0201360

HUMAN BODY (EYE)

0201360001

IDENTIFY THE FUNCTION OF THE EYE.

0203360

HUMAN BODY (EYE)

0203360001

IDENTIFY THESE PARTS OF THE EYE AND TELL WHAT THEY DO. EYELID,

TELL WHAT THEY DO. EYELID, EYELASHES, IRIS, PUPIL, AND TEAR DUCT.

0202365

HUMAN BODY (GROWTH)

0202365001

DESCRIBE GROWTH CHANGES, SINCE LAST YEAR, BY USING GROWTH

0202365002

DEMONSTRATE HEIGHT AND WEIGHT, BY USING A TAPE MEASURE AND SC

LAST YEAR, BY USING GROWTH AND WEIGHT MEASUREMENTS.

BY USING A TAPE MEASURE AND SCALE.

0206370

HUMAN BODY (HEALTH CONDITIONS)

0206370001

FROM LIST OF STATEMENTS, IDENTIFY THOSE WHICH DESCRIBE HEALTH C
STORY ABOUT HEALTH PROBLEMS IN UNDERDEVELOPED NATION.

IDENTIFY THOSE WHICH DESCRIBE HEALTH CONDITIONS IN AN UNDERDEVELOPED NATION. TELL A
N UNDERDEVELOPED NATION.

0206375

HUMAN BODY (HEALTH AND SAFETY)

0206375001

LIST SEVEN EXAMPLES OF GOOD HEALTH AND SAFETY
RESPONSIBLE FOR EACH ITEM LISTED.

PRECAUTIONS

ETY)

PAGE 119

D HEALTH AND SAFETY
LISTED.

PRECAUTIONS AND EXPLAIN WHY YOU SHOULD OR SHOULD NOT BE

0200380

HUMAN BODY (LIFE ACTIVITIES)

0200380001

KNOW THAT HUMAN LIFE ACTIVITIES ARE COMMON WITH ALL

LIVING THINGS

0200380002

DESCRIBE HIS OWN LIFE ACTIVITIES, IN COMMON WITH ALL
HIS OWN ACTIVITIES WITH OTHER LIVING THINGS STUDIED.

LIVING THINGS

S ARE COMMON WITH ALL LIVING THINGS.

ES, IN COMMON WITH ALL LIVING THINGS, BY OBSERVING BABY PICTURES AND COMPARING LIVING THINGS STUDIED.

0204385

HUMAN BODY (MUSCULAR)

0204385001

EXPLAIN HOW OPPOSING MUSCLES IN MAN (INCLUDING THOSE OF ARM AND

MUSCLES IN MAN (INCLUDING THOSE OF ARM AND LEG) WORK TO CAUSE MOVEMENT OF BODY PARTS;

0205390

HUMAN BODY (NERVOUS)

0205390001

KNOW THAT THE NERVOUS SYSTEM SERVES TO COORDINATE THE SYSTEMS OF THE

0206390

HUMAN BODY (NERVOUS)

0206390001

IDENTIFY THE LOCATIONS AND FUNCTIONS OF MAJOR PARTS OF CENTRAL NERVOUS
MEDULLA) AND SPINAL CORD.

S TO COORDINATE THE SYSTEMS OF THE BODY.

NS OF MAJOR PARTS OF CENTRAL NERVOUS SYSTEM BRAIN (CEREBELLUM, CEREBRUM,

0201395

HUMAN BODY (NOSE)

0201395001

IDENTIFY THE FUNCTION OF THE NOSE.

0204400

HUMAN BODY (POSTURE)

0204400001

NAME TWO HEALTH REASONS FOR GOOD POSTURE AND TELL IF A PERSON IS STANDING AND SITTING.

PAGE 124

GOOD POSTURE AND TELL IF A PERSON IS SHOWING PROPER POSTURE IN STANDING, WALKING,

0206405

HUMAN BODY (REFLEX)

0206405001

DEMONSTRATE A REFLEX ACTION BY HOLDING Cellophane in
A BALL OF PAPER GENTLY AGAINST IT.

FRONT OF

0206405002

DEMONSTRATE A SIMPLE REFLEX, BY SITTING WITH LEGS
BELOW THE KNEE WITH THE EDGE OF THE PALM.

HANGING L

ION BY HOLDING CFILOPHANE IN
GAINST IT.

FRONT OF HIS EYES AND ALLOWING ANOTHER STUDENT TO THROW

LEX, BY SITTING WITH LEGS
EDGE OF THE PALM.

HANGING LOOSELY, ALLOWING ANOTHER CHILD TO TAP HIM JUST

0204410	HUMAN BODY (RESPIRATORY)	
0204410001	DESCRIBE NORMAL FLOW OF AIR IN AND OUT OF HUMAN PASSAGE, AND WINDPIPE.	RESPIRATOR
0205410	HUMAN BODY (RESPIRATORY)	
0205410001	THROUGH OBSERVATION, INFER THAT RATES OF BREATHING MAY	DIFFER.
0205410002	KNOW THAT THE AMOUNT OF AIR THAT CAN BE INHALED IS	DETERMINED
0205410003	READ A CHART TO DETERMINE DIFFERENCES IN INHALED AND	EXHALED AIR
0205410004	DISTINGUISH RATE OF BREATHING FROM OTHERS. COMPARE	RATES.
0205410005	DESCRIBE RATE OF BREATHING. COUNT NUMBER OF TIMES HE	INHALES IN
0205410006	CONSTRUCT TABLE OF BREATHING RATES. INDICATE NUMBER OF	CHILDREN AND
0205410007	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING	QUESTION
0205410008	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING	QUESTION
0205410009	DEVISE AN INVESTIGATION TO HELP ANSWER THE FOLLOWING RATE OF BREATHING	QUESTION
0205410010	KNOW THAT ALTHOUGH THE AMOUNT OF OXYGEN IN FRESH AIR LESS.	REMAINS ABOUT
0205410011	KNOW THAT THE ORGANS OF THE RESPIRATORY SYSTEM ARE SO CONTINUOUS SUPPLY OF OXYGEN.	STRUCTURED

AND OUT OF HUMAN

RESPIRATORY SYSTEM, USING THE TERMS LUNGS, NOSE, NASAL

RATES OF BREATHING MAY DIFFER.

WHAT CAN BE INHALED IS DETERMINED BY THE EXPANSION OF THE LUNGS.

DIFFERENCES IN INHALED AND EXHALED AIR.

DIFFERENCES FROM OTHERS. COMPARE RATES.

COUNT NUMBER OF TIMES HE INHALES IN ONE MINUTE.

DIFFERENCES IN RATES. INDICATE NUMBER OF CHILDREN AND DIFFERENT RATES.

QUESTION ANSWER THE FOLLOWING QUESTION DOES EVERYONE INHALE AT THE SAME RATE

QUESTION ANSWER THE FOLLOWING QUESTION DOES EXERCISE AFFECT BREATHING RATE

QUESTION ANSWER THE FOLLOWING QUESTION CAN YOU DETERMINE AN AVERAGE OR NORM IN THE

AMOUNT OF OXYGEN IN FRESH AIR REMAINS ABOUT THE SAME, THE AMOUNT IN EXHALED AIR IS

RESPIRATORY SYSTEM ARE SO STRUCTURED THAT THEY PROVIDE THE BODY CELLS WITH A

0204415

HUMAN BODY (SKFLETAL)

0204415001

IN DRAWING, IDENTIFY SKULL, BACKBONE, RIBS, SHOULDER BLADE, U
THIGHBONE, KNFECAP, SHINBCNE, HEEL BONE, TOE AND FINGER BONES.

0205415

HUMAN BODY (SKELETAL)

0205415001

KNOW THAT THE SKELETAL AND MUSCULAR SYSTEMS PROVIDE THE BODY SUPP

0206415

HUMAN BODY (SKELETAL)

0206415001

IN DIAGRAM OF HUMAN SKELETON, LOCATE SKULI, RIB CAGE, BACKBONE,
PHALANGES.

0206415002

GIVEN DIAGRAM OF SKELETON, LOCATE FOUR KINDS OF JOINTS. HINGE, SA

BACKBONE, RIBS, SHOULDER BLADE, UPPER ARM BONE, LOWER ARM BONES, HIPBONE,
HEEL BONE, TOE AND FINGER BONES.

MUSCULAR SYSTEMS PROVIDE THE BODY SUPPORT AND PROTECTION AND ENABLE IT TO MOVE ABOUT

LOCATE SKULL, RIB CAGE, BACKBONE, PELVIS, FEMUR, TIBIA, FIBULA, RADIUS, ULNA,

NAME FOUR KINDS OF JOINTS. HINGE, BALL-AND-SOCKET, IMMOVABLE, AND PIVOT JOINTS.

0204420 HUMAN BODY (SKIN, HAIR, TEETH, NAILS)

0204420001 DESCRIBE HOW TO TAKE PROPER CARE OF SKIN, TEETH, HAIR, AND NAILS FOR GOOD HEALTH.

0206420 HUMAN BODY (SKIN, HAIR, TEETH, NAILS)

0206420001 INVESTIGATE THE PROTECTIVE FUNCTIONS OF THE EPITHELIAL CELLS

(SKIN, TEETH, NAILS)

PROPER CARE OF SKIN, TEETH, HAIR, AND NAILS. NAME TWO REASONS WHY THIS IS IMPORTANT FOR

(SKIN, TEETH, NAILS)

THE FUNCTIONS OF THE EPITHELIAL CELLS THAT COVER OUTER BODY SURFACES.

0204425 HUMAN BODY (SYSTEMS)

0204425001 IN A DRAWING OF HUMAN BODY, FIND AND NAME FIVE SYSTEMS OF THE BODY

0204425002 MATCH HUMAN BODY SYSTEMS (SKELETAL, MUSCULAR, DIGESTIVE, CIRCULATORY)

0205425 HUMAN BODY (SYSTEMS)

0205425001 VISUALIZE THE BODY AS MORE THAN A MASS OF CELLS---RATHER AS AN ORGANISM

0205425002 KNOW THAT THE ORGAN SYSTEMS WORK TOGETHER IN PERFORMING THE BODY'S FUNCTIONS

0205425003 KNOW THAT THE EXCRETORY SYSTEM ENABLES THE OTHER SYSTEMS TO MAINTAIN CELL OXIDATION.

0206425 HUMAN BODY (SYSTEMS)

0206425001 MATCH SYSTEMS OF HUMAN BODY (DIGESTIVE, CIRCULATORY, RESPIRATORY, SKELETAL, MUSCULAR, AND SKIN) WITH IMPORTANT GENERAL FUNCTIONS

FIND AND NAME FIVE SYSTEMS OF THE BODY.

(SKELETAL, MUSCULAR, DIGESTIVE, CIRCULATORY, AND RESPIRATORY) TO THEIR MAJOR FUNCTIONS.

NOT JUST A MASS OF CELLS---RATHER AS AN ORGANIZED STRUCTURE.

THESE SYSTEMS WORK TOGETHER IN PERFORMING THE BODY'S FUNCTIONS.

THE CIRCULATORY SYSTEM ENABLES THE OTHER SYSTEMS TO MAINTAIN A BALANCE BY REMOVING UNDESIRABLE WASTES OF

(DIGESTIVE, CIRCULATORY, RESPIRATORY, NERVOUS, REPRODUCTIVE, GLAND, EXCRETORY,
AND ENDOCRINE) WITH IMPORTANT GENERAL FUNCTIONS OF EACH.

0205430

HUMAN BODY (TEMPERATURE)

0205430001

CONSTRUCT A TABLE OF TEMPERATURE READINGS COLLECTED,
OUTDOORS AND INDOORS.

INDICATING

0205430002

DEMONSTRATE BODY'S ADAPTATION FOR STEADY TEMPERATURE BY
A WEEK SHOWING THAT BODY TEMPERATURE VARIES LITTLE

MEASURING
COMPARED

0205430003

OBSERVE, INVESTIGATE, AND ANALYZE THE IMPORTANCE OF AN

EVEN BODY

THE READINGS COLLECTED, INDICATING DAY OF READING AND AIR AND BODY TEMPERATURES
FOR STEADY TEMPERATURE BY MEASURING BODY AND AIR TEMPERATURES, IN- AND OUTDOOR FO
TEMPERATURE VARIES LITTLE COMPARED TO AIR TEMPERATURE.
EMPHASIZE THE IMPORTANCE OF AN EVEN BODY TEMPERATURE.

0201435

HUMAN BODY (TONGUE)

0201435001

IDENTIFY THE FUNCTIONS OF THE TONGUE.

0206440

HUMAN BODY (WATER)

0206440001

KNOW THAT BACTERIA MAY BE CHEMICALLY REMOVED FROM WATER TO MAKE

0206440002

KNOW THAT MANY HARMFUL BACTERIA AND UNDESIRABLE SOLIDS ARE REM

ICALLY REMOVED FROM WATER TO MAKE IT SUITABLE FOR DRINKING.

AND UNDESIRABLE SOLIDS ARE REMOVED FROM WATER BY FILTRATION.

0200445	INSECTS	
0200445001	KNOW THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL SKELETON.	INSECTS H
0200445002	DESCRIBE THAT A MOTH IS ONE KIND OF INSECT, AND THAT ALL SKELETON.	INSECTS H
0200445003	KNOW THAT THE CATERPILLAR HATCHED FROM TINY EGGS	PRODUCED
0200445004	DESCRIBE HOW THE CATERPILLAR HATCHED FROM TINY EGGS	PRODUCED
0200445005	DESCRIBE THE LIFE CYCLE OF A MOTH, BY OBSERVING LIVE CHANGE INTO ADULTS.	CATERPILL
0200445006	KNOW THE LIFE CYCLE OF A MOTH.	
0203445	INSECTS	
0203445001	RECOGNIZE WHEN A PICTURE OF AN INSECT IS IN AN ADULT, THEY OCCUR.	EGG, LARVA
0204445	INSECTS	
0204445001	RECOGNIZE THE BODY PARTS OF AN INSECT YOU CHOOSE TO	STUDY.
0206445	INSECTS	
0206445001	DEMONSTRATE COLLECTION OF FRUIT FLIES IN WARM SEASON. COTTON OR CLOTH.	ATTRACT W
0206445002	DESCRIBE DIFFERENT CHARACTERISTICS OF FRUIT FLIES. USE	MAGNIFYING

ND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE

E KIND OF INSECT, AND THAT ALL INSECTS HAVE SIX LEGS, USUALLY WINGS, AND AN OUTSIDE

HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.

AR HATCHED FROM TINY EGGS PRODUCED BY THE ADULT MOTH.

A MOTH, BY OBSERVING LIVE CATERPILLARS AS THEY MOVE, FEED, SPIN COCOONS, AND

OTH.

F AN INSECT IS IN AN ADULT, EGG, LARVA OR PUPA STAGE. RECOGNIZE THE ORDER IN WHICH

OF AN INSECT YOU CHOOSE TO STUDY.

FRUIT FLIES IN WARM SEASON. ATTRACT WITH RAW OR COOKED FRUIT IN JAR, CLOSE JAR WITH

ERISTICS OF FRUIT FLIES. USE MAGNIFYING GLASS.

0200450 INTERDEPENDENCE

0200450001 KNOW THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE SAME ENVI

0200450002 KNOW THAT PLANTS AND ANIMALS SHARE A COMMON ENVIRONMENT FROM WHICH GROW.

0200450003 KNOW PLANT-ANIMAL RELATIONSHIPS AND THEIR DEPENDENCE

0200450004 DESCRIBE HOW PLANTS AND ANIMALS SHARE A COMMON ENVIRONME
LIVE AND GROW.

0200450005 DEMONSTRATE THE VARIETY OF PLANT AND ANIMAL MATERIALS IN THE SAME
NEIGHBORHOOD AREA.

0200450006 DESCRIBE PLANT-ANIMAL RELATIONSHIPS AND THEIR DEPENDENCE ON MAN, B

0204450 INTERDEPENDENCE

0204450001 KNOW HOW LIVING THINGS DEPEND ON OTHER LIVING THINGS FOR THEIR
GREEN PLANTS.

0204450002 KNOW THE INHERITED CHARACTERISTICS OF A LIVING THING CAN DEVELOP
GROWING PLANT OR ANIMAL CAN INTERCHANGE MATTER AND ENERGY WITH

0204450003 INFER OR DEMONSTRATE WAYS IN WHICH PLANTS AND ANIMALS MAY BE INT
GREEN PLANTS OR THEIR PRODUCTS FOR FOOD.

0205450 INTERDEPENDENCE

0205450001 KNOW THAT ANIMALS ARE DEPENDENT ON THE OXYGEN GREEN PLANTS GIV

0205450002 GAIN INSIGHT INTO THE INTERDEPENDENCE OF ORGANISMS AND THIER ENVI

0205450003 KNOW THAT LIVING THINGS OBTAIN FROM ONE ANOTHER AND FROM THE ENVIRO
GROWTH AND ACTIVITY.

MATERIALS IN THE SAME ENVIRONMENT.

COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO LIVE AND
THEIR DEPENDENCE ON MAN.

A COMMON ENVIRONMENT FROM WHICH THEY GET THE THINGS THEY NEED TO

ANIMAL MATERIALS IN THE SAME ENVIRONMENT, BY COLLECTING MATERIALS FROM THE
AND THEIR DEPENDENCE ON MAN, BY VISITING AND OBSERVING LIFE ON A FARM.

ER LIVING THINGS FOR THEIR FOOD, IN FOOD CHAINS THAT IN THE END DEPEND ON

A LIVING THING CAN DEVELOP ONLY IN THE KIND OF ENVIRONMENT IN WHICH THE
MATTER AND ENERGY WITH THE ENVIRONMENT.

PLANTS AND ANIMALS MAY BE INTERDEPENDENT. NONGREEN PLANTS ARE DEPENDENT ON
FOOD.

THE OXYGEN GREEN PLANTS GIVE OFF DURING PHOTOSYNTHESIS.

OF ORGANISMS AND THEIR ENVIRONMENTS.

AND FROM THE ENVIRONMENT THE MATTER AND ENERGY THEY NEED FOR

PLANTS IN A SEALED ENVIRONMENT DEPEND UPON ONE ANOTHER. THE OXYGEN-CARBON-DIOXIDE ENVIRONMENT.

USING FISH AND PLANT LIFE TO SHOW THE INTERDEPENDENCE OF ALL LIVING THINGS, BEING IN THE SEALED-IN ENVIRONMENT OF THE EARTH.

OF LIVING THINGS WITH THEIR ENVIRONMENT IS RELATED TO THE TRANSFORMATION OF MATTER

THEY ARE RELATED TO THE INTERDEPENDENCE OF ORGANISMS THAT LIVED IN AN ANCIENT

ANIMAL FIBERS ARE DEPENDENT ON EARLIER CAPTURE OF ENERGY BY GREEN PLANTS.

INTERDEPENDENT.

INTERDEPENDENT WITH ONE ANOTHER AND WITH THEIR ENVIRONMENT.

TO UNDERSTAND THE WORLD IN WHICH HE LIVES, MAN HAS DEVELOPED THE LARGE CONCEPTUAL SCHEME OF INTERDEPENDENT WITH ONE ANOTHER AND THE ENVIRONMENT.

0202455 LIGHT

0202455001 KNOW THAT A BEAM OF SUNLIGHT PASSED THROUGH A PRISM (OR DIFFRACTION) OF THE SPECTRUM.

0202455002 DEMONSTRATE THAT A BEAM OF SUNLIGHT PASSES THROUGH A PRISM (OR DIFFRACTION) AND SHOWS THE COLORS OF THE SPECTRUM.

0202455003 KNOW THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS REFLECTED BY A MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIRECTION.

0202455004 DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE AND IS REFLECTED BY A MIRROR, CAUSING THE LIGHT SPOT TO BE OBSERVED IN ANOTHER DIRECTION.

0202455005 KNOW THAT AN IMAGE IS REFLECTED IN THE MIRROR, AND APPEARS TO BE BEHIND THE FRONT OF THE MIRROR.

0202455006 DEMONSTRATE THAT AN IMAGE IS REFLECTED IN THE MIRROR, AND APPEARS TO BE BEHIND THE FRONT OF THE MIRROR, BY USING MIRROR AND YARDSTICK FOR MEASUREMENT.

0202455007 KNOW THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS.

0202455008 DEMONSTRATE THAT DIFFERENT AMOUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS: TRANSPARENT, TRANSLUCENT, AND OPAQUE MATERIALS.

0203455 LIGHT

0203455001 GIVEN A SERIES OF PICTURES OF OBJECTS OR ACTUAL OBJECTS, RECOGNIZE THE OBJECTS.

0204455 LIGHT

0204455001 KNOW THAT LIGHT AND SOUND ARE DIFFERENT FORMS OF ENERGY.

0204455002 DEMONSTRATE HOW WE KNOW THAT LIGHT IS A FORM OF ENERGY.

0204455003 KNOW THAT THE LIGHT ENERGY OF A CANDLE COMES FROM PARAFFIN.

PASSED THROUGH A PRISM (OR DIFFRACTION GRATING), AND IS SEPARATED INTO COLORS

LIGHT PASSES THROUGH A PRISM (OR DIFFRACTION GRATING), AND IS SEPARATED INTO

STRAIGHT LINE AND IS REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
 T TO BE OBSERVED IN ANOTHER DIRECTION.

S IN A STRAIGHT LINE AND IS REFLECTED WHEN A FLASHLIGHT BEAM IS DIRECTED AT A
 T TO BE OBSERVED IN ANOTHER DIRECTION.

ED IN THE MIRROR, AND APPEARS AS FAR INTO THE MIRROR AS THE PERSON IS IN

REFLECTED IN THE MIRROR, AND APPEARS AS FAR INTO THE MIRROR AS THE STUDENT IS IN
 MIRROR AND YARDSTICK FOR MEASURING.

F LIGHT PASS THROUGH DIFFERENT MATERIALS.

OUNTS OF LIGHT PASS THROUGH DIFFERENT MATERIALS, BY USING A WIDE VARIETY OF
 OPAQUE MATERIALS.

OBJECTS OR ACTUAL OBJECTS, RECOGNIZE IF THE OBJECT PRODUCES OR REFLECTS LIGHT.

DIFFERENT FORMS OF ENERGY.

IGHT IS A FORM OF ENERGY.

A CANDLE COMES FROM PARAFFIN.

- 0204455004 KNOW THAT LIGHT ENERGY MAY BE RELEASED BY A CHEMICAL . CHAN
- 0204455005- KNOW THAT CHEMICAL ENERGY CAN BECOME LIGHT ENERGY.
- 0204455006 KNOW THAT THE LIGHT ENERGY OF A CANDLE IS PRODUCED BY CHEM
- 0204455007 KNOW THAT LIGHT TRAVELS THROUGH SPACE.
- 0204455008 KNOW THAT OBJECTS BECOME VISIBLE AS LIGHT IS REFLECTED FROM
- 0204455009 KNOW THAT LIGHT MUST REACH THE EYE TO BE SEEN.
- 0204455010 DEMONSTRATE THAT LIGHT TRAVELS IN A STRAIGHT LINE.
- 0204455011 OBSERVE THE BEHAVIOR OF LIGHT.
- 0204455012 KNOW THAT LIGHT ENERGY BEHAVES SOMETIMES AS WAVES, AND SOME
- 0204455013 KNOW THAT LIGHT CAN BE POLARIZED BY CERTAIN MATERIALS.
- 0204455014 KNOW THAT LIGHT MAY BE BENT AS IT PASSES THROUGH CERTAIN MATE
- 0204455015 DEMONSTRATE THAT LIGHT MAY BE BENT (REFRACTED) AS IT ENTE
- 0204455016 DEMONSTRATE HOW LIGHT CAN BE ABSORBED AND REFLECTED.
- 0204455017 DEMONSTRATE THAT LIGHT BOUNCES, BY USING A LIGHT SOURCE, MIRR
AMOUNTS OF LIGHT TO REFLECT ONTO A DARKENED OBJECT.

MAY BE RELEASED BY A CHEMICAL CHANGE.

BY CAN BECOME LIGHT ENERGY.

ERGY OF A CANDLE IS PRODUCED BY CHEMICAL CHANGE.

THROUGH SPACE.

E VISIBLE AS LIGHT IS REFLECTED FROM THEM TO THE EYE.

ACH THE EYE TO BE SEEN.

TRAVELS IN A STRAIGHT LINE.

LIGHT.

BEHAVES SOMETIMES AS WAVES, AND SOMETIMES AS PARTICLES.

POLARIZED BY CERTAIN MATERIALS.

BENT AS IT PASSES THROUGH CERTAIN MATERIALS.

MAY BE BENT (REFRACTED) AS IT ENTERS OR LEAVES WATER.

CAN BE ABSORBED AND REFLECTED.

BOUNCES, BY USING A LIGHT SOURCE, MIRROR, WHITE PAPER, AND BLACK PAPER, CAUSING VARYING
LECT ONTO A DARKENED OBJECT.

- 0204455018 DESIGN EXPERIMENT TO SHOW WHETHER SUBSTANCES OR OBJECTS WITH DIFF
ABSORB MOST OF THE LIGHT WHICH FALLS ON THEM.
- 0204455019 DESCRIBE THE BEHAVIOR OF LIGHT IN TERMS OF REFLECTION OF BRIGHT
- 0204455020 DEMONSTRATE THAT LIGHT CAN BE REFLECTED, ABSORBED, DIFFUSED,
- 0204455021 DEMONSTRATE THAT THE BEHAVIOR OF POLARIZED LIGHT IS EXPLAINED
- 0204455022 DEMONSTRATE THAT LIGHT PASSES THROUGH ONE PIECE OF POLARIZED
WHEN TWO PIECES ARE USED AND ONE IS TURNED.
- 0204455023 CONSTRUCT A DRAWING OF LIGHT RAYS PASSING THROUGH A LENS TO THE FOC
TO A POINT.
- 0204455024 DESCRIBE THE LENS AS FOCUSING THE LIGHT WHEN IT BRINGS LIGHT TO A
- 0204455025 DEMONSTRATE THAT LIGHT RAYS BEND, BY CAUSING SUNLIGHT TO PASS THROU
IT MAY BE HOT ENOUGH TO BURN PAPER.
- 0205455 LIGHT
- 0205455001 DISCOVER HOW MIRRORS COLLECT LIGHT.
- 0205455002 KNOW THAT A TELESCOPE MIRROR SERVES TO COLLECT LIGHT.
- 0205455003 KNOW THAT LIGHT COLLECTED BY A CURVED MIRROR CAN BE BROUGHT TO
- 0205455004 KNOW THAT LENSES AND PRISMS CAN CHANGE THE DIRECTION OF LIGHT.
- 0205455005 DEMONSTRATE THAT LIGHT WILL BOUNCE AT AN ANGLE OR STRAIGHT
DIFFERENT ANGLES ONTO A MIRROR.

OTHER SUBSTANCES OR OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS REFLECT OR FALLS ON THEM.

IN TERMS OF REFLECTION OF BRIGHT SURFACES AND ITS ABSORPTION BY DARK SURFACES.

REFLECTED, ABSORBED, DIFFUSED, AND BENT.

OF POLARIZED LIGHT IS EXPLAINED BY A WAVE MODEL.

THROUGH ONE PIECE OF POLARIZED PLASTIC, BUT ALTERNATELY STOPS AND PASSES ONE IS TURNED.

AYS PASSING THROUGH A LENS TO THE PAPER, ILLUSTRATING THAT THE RAYS BEND AND FOCUS THE LIGHT WHEN IT BRINGS LIGHT TO A POINT.

ND, BY CAUSING SUNLIGHT TO PASS THROUGH A CONVEX LENS AND FORM A SMALL SPOT WHERE PAPER.

IGHT.

SERVES TO COLLECT LIGHT.

A CURVED MIRROR CAN BE BROUGHT TO A FOCUS AND MAGNIFIED BY A LENS.

AN CHANGE THE DIRECTION OF LIGHT.

STRAIGHT BACK TO THE SOURCE, BY SHINING A FLASHLIGHT AT

- 0205455006 . MAKE A WORKABLE MODEL OF A PERISCOPE.
- 0205455007 KNOW THAT LIGHT TRAVELS IN STRAIGHT LINES. IT CAN BE BROKE
PRISM.
- 0205455008 DO AN INVESTIGATION WITH A PRISM TO SHOW THAT WHITE LIGHT
THAT THE SPECTRUM HAS A SET PATTERN.
- 0205455009 NAME THE COLOR OF THE BANDS AS RED, ORANGE, YELLOW, GREEN
- 0205455010 DEMONSTRATE THAT BANDS OF COLORED LIGHT ARE FORMED AS SUNLI
- 0205455011 KNOW THAT LIGHT CAN BE REFLECTED BY MIRRORS.
- 0205455012 DISCOVER THAT LIGHT MOVES IN A STRAIGHT LINE.
- 0205455013 DEMONSTRATE USING A LONG TUBE THAT LIGHT TRAVELS IN A STRAI
- 0205455014 KNOW THAT PARTS OF THE LIGHT SPECTRUM ARE INVISIBLE THEIR
- 0205455015 UNDERSTAND THE SHORTNESS OF WAVELENGTHS OF LIGHT.
- 0205455016 WRITE OR DISCUSS THIS TOPIC, 'THE WAVE THEORY OF LIGHT,' THIS
WAVE LENGTHS.
- 0205455017 KNOW THAT THE BEHAVIOR OF LIGHT MAY BE EXPLAINED AS THE MOTION
- 0205455018 INFER THAT THE NUMBER OF WAVES IS RELATED TO THE LENGTH OF THE
- 0205455019 KNOW THAT LIGHT BEHAVES AT TIMES AS PARTICLES, AND AT TIMES

A PERISCOPE.

IN STRAIGHT LINES. IT CAN BE BROKEN INTO A SPECTRUM OF COLORS AS IT PASSES THROUGH A
 A PRISM TO SHOW THAT WHITE LIGHT IS MADE OF MANY DIFFERENT COLORS OF LIGHT, AND
 SET PATTERN. GREEN, BLUE, AND VIOLET, AND THE TOTAL PATTERN SPECTRUM
 BANDS AS RED, ORANGE, YELLOW, OF COLORED LIGHT ARE FORMED AS
 SUNLIGHT PASSES THROUGH A GLASS PRISM.
 REFLECTED BY MIRRORS.

IS IN A STRAIGHT LINE.

TUBE THAT LIGHT TRAVELS IN A STRAIGHT LINE.
 LIGHT SPECTRUM ARE INVISIBLE THEIR EXISTENCE CAN BE INFERRED FROM THEIR EFFECTS.

OF WAVELENGTHS OF LIGHT.

TOPIC, 'THE WAVE THEORY OF LIGHT,' THIS SHOULD INCLUDE THE KNOWLEDGE OF COLORS RELATED TO

OF LIGHT MAY BE EXPLAINED AS THE MOTION OF WAVES THROUGH SPACE.

OF WAVES IS RELATED TO THE LENGTH OF THE WAVE.

AT TIMES AS PARTICLES, AND AT TIMES AS WAVES.

- 0205455020 EXAMINE AN EXAMPLE OF LIGHT BEHAVING AS PARTICLES RATHER THAN AS
- 0205455021 WRITE OR DISCUSS THIS TOPIC, 'THE PARTICLE THEORY OF LIGHT.'
- 0205455022 RELATE WAVELENGTH TO THE COLOR SPECTRUM.
- 0205455023 COMPARE THE TWO THEORIES OF LIGHT AND BECOME AWARE THAT MORE EVIDENCE
- 0205455024 GIVEN TWO PIECES OF EVIDENCE, A AND B, DECIDE WHICH THEORY OF
- 0205455025 KNOW THAT THE LIGHT FROM THE STARS ENABLES US TO DETERMINE
- 0205455026 DEDUCE THAT DIFFERENT ELEMENTS PRODUCE DIFFERENT FLAME COLORS.
- 0205455027 INFER THAT LIGHT FROM THE STARS WAS EMITTED AT SOME TIME IN THE PAST
- 0205455028 KNOW THAT DISTANCES IN SPACE CAN BE MEASURED ACCURATELY BY USING
- 0205455029 DESCRIBE THAT LIGHT WAVES OR RADIO WAVES CAN BE USED TO MEASURE DISTANCES BY REFLECTING WAVES OFF A DISTANT OBJECT.
- 0205455030 FIGURE WHAT A LIGHT YEAR IS USING MATH CONCEPTS.
- 0205455031 RECOGNIZE IN MULTIPLE CHOICE SITUATION THE SPEED OF LIGHT.
- 0205455032 OBSERVE OR PERFORM AN INVESTIGATION OF A FLAME SHOWING COLORS PRODUCED
- 0205455033 DEMONSTRATE FLAME TEST FOR IDENTIFYING CHEMICAL SUBSTANCES BY OBSERVING THE COLORS OF AN OPEN FLAME CAUSING DIFFERENT COLORS TO BE FORMED AS THEY BURN.

...ING AS PARTICLES RATHER THAN AS WAVES (ELECTRICAL ENERGY).

...E PARTICLE THEORY OF LIGHT.

...PECTRUM.

...T AND BECOME AWARE THAT MORE EVIDENCE IS NEEDED.

...AND B, DECIDE WHICH THEORY OF LIGHT BEST EXPLAINS EACH.

...RS ENABLES US TO DETERMINE THEIR COMPOSITION AND THEIR TEMPERATURE.

...PRODUCE DIFFERENT FLAME COLORS.

...WAS EMITTED AT SOME TIME IN THE PAST.

...BE MEASURED ACCURATELY BY USING THE SPEED OF LIGHT AS A YARDSTICK.

...DIO WAVES CAN BE USED TO MEASURE DISTANCES IN SPACE, BY MEASURING THE TIME IT
...TANT OBJECT.

...G MATH CONCEPTS.

...TUATION THE SPEED OF LIGHT.

...TION OF A FLAME SHOWING COLORS PRODUCED WHEN DIFFERENT SUBSTANCES ARE PRESENT.

...TIFYING CHEMICAL SUBSTANCES BY HOLDING DIFFERENT CHEMICAL POWDERS IN AN
...LORS TO BE FORMED AS THEY BURN.

0206455

LIGHT

0206455001

RECOGNIZE WHICH ONE OF THE THREE MOST COMMON THEORIES ABOUT THE WAY LIGHT TRAVELS.

ABOUT THE

0206455002

TELL HOW LIGHT AND THE PARTS OF YOUR EYE INTERACT TO

PRODUCE

0206455003

WHEN YOU ARE GIVEN INFORMATION ABOUT THE ROUGHNESS OR REFLECT LIGHT IN A SCATTERED WAY AND WHICH WILL REFLECT

SMOOTHNESS ABOUT IT IN A

0206455004

RECOGNIZE WHETHER SUBSTANCES OR OBJECTS WITH DIFFERENT LIGHT WHICH FALLS ON THEM OR WILL ABSORB IT.

SURFACE

0206455005

TELL WHETHER OBJECTS ARE TRANSPARENT, TRANSLUCENT, OR

OPAQUE.

0206455006

PREDICT ANGLE AT WHICH LIGHT WILL BE REFLECTED FROM A THAT SURFACE.

SURFACE

0206455007

RECOGNIZE DIAGRAMS THAT CORRECTLY ILLUSTRATE HOW WHITE CONCAVE AND CONVEX LENSES, (2) THROUGH PRISMS, AND (3)

LIGHT IS THROUGH

0206455008

PREDICT THE KINDS OF IMAGES THAT WILL BE MADE BY CONVEX

LENSES AND

THE MOST COMMON THEORIES ABOUT THE NATURE OF LIGHT IS DEMONSTRATED IN EXAMPLES OF

HOW YOUR EYE INTERACT TO PRODUCE AN IMAGE.

ABOUT THE ROUGHNESS OR SMOOTHNESS OF SOME OBJECTS, RECOGNIZE WHICH ONES WILL REFLECT IT IN A REGULAR WAY.

OBJECTS WITH DIFFERENT SURFACE TEXTURES AND COLORS WILL REFLECT MOST OF THE LIGHT THAT STRIKES THEM. SOME OBJECTS WILL ABSORB IT.

TRANSPARENT, TRANSLUCENT, OR OPAQUE.

HOW LIGHT WILL BE REFLECTED FROM A SURFACE WHEN GIVEN THE ANGLE AT WHICH THAT LIGHT STRIKES IT.

HOW TO ILLUSTRATE HOW WHITE LIGHT IS BENT (REFRACTED) AS IT PASSES (1) THROUGH PRISMS, AND (2) THROUGH WATER.

HOW LENSES WILL BE MADE BY CONVEX LENSES AND THE TYPES MADE BY CONCAVE LENSES.

0202460

MACHINES

0202460001

AFTER LEARNING WHAT MACHINES DO FOR THEM, DRAMATIZE WHAT THE

0206460

MACHINES

0206460001

KNOW THAT THE AMOUNT OF ENERGY GOTTEN OUT OF A MACHINE DOES NO

0206460002

KNOW THAT MACHINES MAY MULTIPLY FORCE, INCREASE SPEED, OR CHAN

0206460003

VERIFY THE CONCEPT BY INVESTIGATING A DIFFERENT MACHINE.

FOR THEM, DRAMATIZE WHAT THE WORLD WOULD BE LIKE WITHOUT A PARTICULAR MACHINE.

NOTTEN OUT OF A MACHINE DOES NOT EXCEED THE ENERGY PUT INTO IT.

FORCE, INCREASE SPEED, OR CHANGE DIRECTION,

TING A DIFFERENT MACHINE.

0204465 MACHINES (COMPLEX)

• 0204465001 DISASSEMBLE A COMPLEX MACHINE AND IDENTIFY AT LEAST TWO OF THE

0204465002 DISASSEMBLE A COMPLEX MACHINE AND DESCRIBE ORALLY AT LEAST TWO

0205465 MACHINES (COMPLEX)

0205465001 COMPARE POWER MACHINES WITH MANUAL MACHINES TO SHOW ADVANTAGES

0206465 MACHINES (COMPOUND)

0206465001 KNOW THAT MOST COMPOUND MACHINES ARE MODIFICATIONS OR COMBINATIONS

0206465002 KNOW THAT COMPOUND MACHINES MULTIPLY THE FORCES OF THE SIMPLE

0206465003 KNOW THAT BOTH PHYSICAL AND CHEMICAL CHANGES OCCUR IN STEAM AND

0206465004 KNOW THAT INTERNAL COMBUSTION ENGINES TRANSFER THE FORCE OF

NAME AND IDENTIFY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

NAME AND DESCRIBE ORALLY AT LEAST TWO OF THE SIMPLE MACHINES INVOLVED.

WITH MANUAL MACHINES TO SHOW ADVANTAGES OR DISADVANTAGES OF EACH.

MACHINES ARE MODIFICATIONS OR COMBINATIONS OF A FEW SIMPLE MACHINES.

HOW THEY MULTIPLY THE FORCES OF THE SIMPLE MACHINES OF WHICH THEY CONSIST.

HOW AND WHERE CHEMICAL CHANGES OCCUR IN STEAM AND INTERNAL COMBUSTION ENGINES.

HOW INTERNAL COMBUSTION ENGINES TRANSFER THE FORCE OF KINETIC ENERGY DIRECTLY TO MACHINES.

- 0201470 MACHINES (SIMPLE)
- 0201470001 CHOOSE FIVE MACHINES FROM GROUP OF FIFTEEN OBJECTS,
- 0201470002 WITH SIMPLE MACHINE, GIVE DEMONSTRATION. SHOW HOW TASK CAN BE MADE
- 0201470003 LEARN SIX SIMPLE MACHINES. IDENTIFY BY LISTING FOUR IN SCHOOL ENVIRONMENT
- 0201470004 USING SIMPLE MATERIALS (SPOOLS, ROPE), MAKE A PULLEY SYSTEM WHICH
-
- 0202470 MACHINES (SIMPLE)
- 0202470001 IDENTIFY PULLEY SYSTEMS IN EVERYDAY OBJECTS.
- 0202470002 PREDICT WHETHER AN OBJECT WITH A PULLEY WILL MOVE MORE OR LESS EASILY. COMPLETE AN EXPERIMENT TO SEE IF YOU WERE RIGHT.
- 0202470003 PREDICT WHICH DIRECTION THE PULLEY CORD SHOULD BE PULLED IN ORDER TO COMPLETE AN EXPERIMENT TO SEE IF YOU WERE RIGHT.
- 0202470004 PREDICT WHETHER AN OBJECT ON ROLLERS OR WHEELS WILL MOVE MORE OR LESS EASILY. COMPLETE EXPERIMENT TO SEE IF YOU WERE RIGHT.
- 0202470005 IDENTIFY GEARS ON AN OBJECT.
- 0202470006 IDENTIFY THE FASTER GEAR ON AN OBJECT WITH TWO GEARS.
-
- 0203470 MACHINES (SIMPLE)
- 0203470001 IDENTIFY DEFINITIONS OF A SIMPLE MACHINE.
- 0203470002 TELL THE BENEFITS OF SIMPLE MACHINES.

FIFTEEN OBJECTS.

ATION. SHOW HOW TASK CAN BE MADE EASIER WITH MACHINE.

IFY BY LISTING FOUR IN SCHOOL ENVIRONMENT.

PE), MAKE A PULLEY SYSTEM WHICH WORK.

Y OBJECTS.

PULLEY WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WITHOUT A PULLEY.
YOU WERE RIGHT.

CORD SHOULD BE PULLED IN ORDER TO MAKE THE OBJECT MOVE UP OR DOWN. COMPLETE
RIGHT.

RS OR WHEELS WILL MOVE MORE OR LESS EASILY THAN AN OBJECT WHICH IS NOT.
WERE RIGHT.

JECT WITH TWO GEARS.

MACHINE.

- 0203470003 RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (INCLINED PLANE, WEDGE, LEVER) IM
- 0203470004 RECOGNIZE WHICH TYPE OF SIMPLE MACHINE (PULLEY, SCREW, OR WHEEL) IM
- 0203470005 DESCRIBE THE SIMPLE MACHINES YOU HAVE OBSERVED IN YOUR OWN HOME. NE
- 0204470 MACHINES (SIMPLE)
- 0204470001 WHEN GIVEN THREE SIMPLE MACHINES, IDENTIFY AND DESCRIBE THE OPERATION AC
- 0204470002 DESIGN A SIMPLE TOOL WHICH WILL HELP YOU PERFORM A TASK AT SCHOOL H
- 0205470 MACHINE (SIMPLE)
- 0205470001 COMBINING SEVERAL OF THE SIX SIMPLE MACHINES (INCLINED PLANE, SCREW, SI
DESIGN AND BUILD A WORKING MODEL. G
- 0206470 MACHINES (SIMPLE)
- 0206470001 KNOW THAT A SIMPLE MACHINE MULTIPLIES EFFORT BUT DOES NOT INCREASE NE
- 0206470002 KNOW THAT A SCREW IS A WINDING INCLINED PLANE. ND
- 0206470003 DEMONSTRATE IT IS EASIER TURNING A SCREW INTO WOOD THAN PUSHING IT TU
ATTEMPTING TO PUSH IT THE REST OF THE WAY. I
- 0206470004 CONSTRUCT A WINDING INCLINED PLANE. CUT INCLINED PLANE 12 INCHES NI
WILL RISE 1/2 INCH PER TURN AND TAKE 11 TURNS. RI

WHICH SIMPLE MACHINE (INCLINED PLANE, WEDGE, LEVER) IS BEING USED IN A GIVEN SITUATION.

WHICH SIMPLE MACHINE (PULLEY, SCREW, OR WHEEL) IS BEING USED IN A GIVEN SITUATION.

NAME THE MACHINES YOU HAVE OBSERVED IN YOUR OWN HOME.

FOR EACH OF THE MACHINES, IDENTIFY AND DESCRIBE THE OPERATION OF ONE MACHINE,

AND EXPLAIN HOW IT WILL HELP YOU PERFORM A TASK AT SCHOOL OR AT HOME.

FOR EACH OF THE SIX SIMPLE MACHINES (INCLINED PLANE, SCREW, WEDGE, LEVER, PULLEY, WHEEL, AND AXLE) DRAW A SIMPLE MODEL.

WHICH MACHINE MULTIPLIES EFFORT BUT DOES NOT INCREASE WORK.

CONSTRUCT AN INCLINED PLANE.

COMPARE THE EFFORT REQUIRED IN TURNING A SCREW INTO WOOD THAN PUSHING IT BY PARTIALLY TURNING IT INTO WOOD THEN THE REST OF THE WAY.

FOR THE INCLINED PLANE. CUT INCLINED PLANE 12 INCHES BY 6 INCHES AND WIND IT AROUND A PENCIL. IT WILL TAKE 11 TURNS.

0206470005 DESCRIBE THAT TURNING THE SCREW INTO WOOD IS SIMILAR TO USING AN

0206470006 KNOW THAT WEDGES ARE MOVABLE INCLINED PLANES FOR OVERCOMI

0206470007 DEMONSTRATE AN INCLINED PLANE MAKES A JOB EASIER BY PULLING
BOARD, CAUSING THE AMOUNT TO READ LESS THAN BY LIFTING THE SKAT

0206470008 KNOW THAT THE EFFORT NEEDED TO RAISE A WEIGHT A GIVEN DISTANCE
IS INCREASED.

0206470009 KNOW THAT A LEVER IS A SIMPLE MACHINE THAT CONCENTRATES THE EFFO
LEVER USUALLY MULTIPLIES FORCE.

0206470010 KNOW THAT THE EFFORT NEEDED TO RAISE A WFIGHT WITH A LEVER DE
THE EFFORT FROM THE FULCRUM.

0206470011 KNOW THAT MOVING THE FULCRUM IN RELATION TO LOAD AND EFFORT I
APPLIED TO LIFT A LOAD.

0206470012 KNOW THAT THE LONGER THE EFFORT ARM, THE MORE A FORCE IS MULTIPLI

0206470013 DEMONSTRATE LOCATION OF FULCRUM AFFECTING EFFORT FORCE USING A
CLOSE TO EFFORT, CAUSING GREATER EFFORT FORCE AS FULCRUM IS CLOSE

0206470014 DEMONSTRATE A LEVER MAKES A JOB EASIER BY USING A RULER TO HOLD
DOWN THE OTHER END CAUSING IT TO READ LESS THAN WITH THE BALANCE

0206470015 DESCRIBE THAT THE LEVER IS A FORCE MULTIPLIFR SINCE IT ALLOWS F

0206470016 KNOW THAT A FIXED PULLEY CHANGES THE DIRFCTION OF A FORCE.

0206470017 KNOW THAT A FIXED PULLEY CHANGES THE DIRFCTION OF THE EFFORT F

0206470018 DEMONSTRATE A FIXED PULLEY CHANGES DIRECTION OF FORCE REQUIRED
FIXED PULLY. COMPARING DIRECTION WITH AND WITHOUT PULLEY.

WOOD IS SIMILAR TO USING AN INCLINED PLANE USING LESS EFFORT FORCE.

ED PLANES FOR OVERCOMING GREAT RESISTANCES.

A JOB EASIER BY PULLING A SKATE WITH A SPRING BALANCE UP A SLANTED
 LESS THAN BY LIFTING THE SKATE ALONE.

E A WEIGHT A GIVEN DISTANCE DECREASES AS THE LENGTH OF AN INCLINED PLACE

NE THAT CONCENTRATES THE EFFORT FORCE AND THE LOAD, EACH AT ONE POINT. A

E A WEIGHT WITH A LEVER DEPENDS ON THE RELATIVE DISTANCES OF THE LOAD AND

ATION TO LOAD AND EFFORT INCREASES OR DECREASES THE EFFORT THAT MUST BE

THE MORE A FORCE IS MULTIPLIED.

ECTING EFFORT FORCE USING A SPRING BALANCE TO MEASURE FORCE WHEN FULCRUM IS
 FORT FORCE AS FULCRUM IS CLOSER TO LOAD.

IER BY USING A RULER TO HOLD A BOOK WHILE A SPRING BALANCE IS USED TO PULL
 AD LESS THAN WITH THE BALANCE ALONE.

MULTIPLIER SINCE IT ALLOWS FOR LESS FORCE NEEDED TO LIFT AN OBJECT.

HE DIRECTION OF A FORCE. IT DOES NOT MULTIPLY THE FORCE.

HE DIRECTION OF THE EFFORT FORCE. A MOVABLE PULLEY DOUBLES THE FORCE.

DIRECTION OF FORCE REQUIRED TO LIFT A LOAD, BY LIFTING A BRICK USING A
 WITH AND WITHOUT PULLEY.

0206470019 DEMONSTRATE A MOVABLE PULLEY REDUCES EFFORT IN A FIXED AND MOVABLE PULLEY CAUSING LESS EFFORT WITH COMPARE MOVABLE

0206470020 KNOW THAT PULLEY SYSTEMS BOTH CHANGE THE DIRECTION OF A FORCE AND

0206470021 TEST UNDERSTANDING OF PULLEYS BY CONSIDERING SEVERAL SITUATIONS

0206470022 KNOW THAT A BLOCK AND TACKLE PULLEY SYSTEM MULTIPLIES THE FORCE

0206470023 DEMONSTRATE A BLOCK AND TACKLE CAN INCREASE THE TIMES A FORCE IS INCREASED USING FIXED AND MOVABLE PULLEYS PROVING FORCE IS INCREASED

0206470024 DESCRIBE THE AMOUNT OF EFFORT FORCE IS MULTIPLIED IS INCREASED TO SUPPORT THE MOVEABLE PULLEY BLOCK.

0206470025 DEMONSTRATE USING TWO DOUBLE BLOCKS IN A BLOCK AND TACKLE SYSTEM COMPARE EFFORT.

0206470026 KNOW THAT ONE USE OF THE WHEEL AND AXLE IS TO INCREASE SPEED.

0206470027 KNOW THAT A WHEEL AND AXLE MULTIPLIES FORCE WHEN IT IS APPLIED TO THE AXLE.

0206470028 KNOW THAT GEARS MULTIPLY FORCE OR INCREASE SPEED AS THE WHEEL AND AXLE ARE USED TO INCREASE FORCE.

0206470029 DEMONSTRATE FRICTION RESISTS MOTION BY PULLING WOOD ACROSS A POLISHED OILED SURFACE, COMPARING WITH SPRING BALANCE WHICH REQUIRES MORE FORCE

0206470030 DEMONSTRATE WORK LIFTING A SKATE TO THE TOP OF A PILE OF BOOKS IS TO EQUAL HEIGHT BY READING A SPRING BALANCE AND APPLYING THE WORK

0206470031 MATCH EXAMPLES OF INCLINED PLANE, FIXED PULLEY, WHEEL AND AXLE AND HOW THEY MAKE WORK EASIER.

0206470032 WHEN GIVEN DRAWINGS OF LEVERS, RECOGNIZE THE FULCRUM, THE LOAD AND THE EFFORT

REDUCES EFFORT IN LIFTING A WEIGHT WITH
 USING LESS EFFORT WITH A COMPARISON WITH A FIXED PULLEY BY LIFTING A BRICK USING
 A MOVABLE PULLEY.

CHANGE THE DIRECTION OF A FORCE AND MULTIPLY IT.

CONSIDERING SEVERAL SITUATIONS IN WHICH THEY MAY BE USED.

A PULLEY SYSTEM MULTIPLIES THE FORCE BY THE NUMBER OF ROPES THAT SUPPORT THE LOAD.

HOW CAN AN INCREASE IN THE NUMBER OF PULLEYS PROVIDING FORCE IN A BLOCK AND
 TACKLE MULTIPLY FORCE MORE THAN TWO SINGLE BLOCKS. USE

THE FORCE IS MULTIPLIED IS INCREASED WITH AN INCREASE IN THE NUMBER OF STRINGS THAT
 TACKLE MULTIPLY FORCE MORE THAN TWO SINGLE BLOCKS. USE

AND AXLE IS TO INCREASE SPEED.

APPLIES FORCE WHEN IT IS APPLIED TO THE WHEEL, AND INCREASES SPEED WHEN IT IS

INCREASES SPEED AS THE WHEEL AND AXLE DOES, AND CHANGE THE DIRECTION OF THE

WORK DONE BY PULLING A WEIGHT UP A RAMP USING A WOODEN RAMP WHICH
 REQUIRES GREATEST EFFORT.

TO THE TOP OF A PILE OF BOOKS IS EQUAL TO WORK PULLING IT UP AN INCLINED PLANE
 USING A WOODEN RAMP AND APPLYING THE WORK RULE.

A FIXED PULLEY, WHEEL AND AXLE, LEVEL, WEDGE, AND SCREW WITH WAYS IN WHICH

TO RECOGNIZE THE FULCRUM, THE LOAD, AND THE BEST POINT TO APPLY EFFORT.

0206470033

DEMONSTRATE DIFFERENCE BETWEEN VALUE OF A FIXED PULLEY AND VALUE OF V

0206470034

DEMONSTRATE RELATIONSHIPS BETWEEN EFFORT APPLIED AND AMOUNT OF WORK DONE
SIMPLE MACHINES.

VALUE OF A FIXED PULLEY AND VALUE OF A BLOCK AND TACKLE AS SIMPLE MACHINES.
EVEN EFFORT APPLIED AND AMOUNT OF WORK DONE IN EXPERIMENTAL SITUATIONS USING

0200475 MAMMALS

0200475001 KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF MAMMALS.

0200475002 KNOW THAT THE MOTHER MAMMAL HAS BABIES, WHICH SHE WILL TA
THEIR OWN TO BECOME ADULTS.

0200475003 DESCRIBE HOW THE MOTHER MAMMAL HAS BABIES, WHICH SHE WI
ON THEIR OWN TO BECOME ADULTS.

0200475004 DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF MA
THEM MOVE, EAT, CONSTRUCT NESTS, AND RAISE YOUNG.

0205475 MAMMALS

0205475001 KNOW THAT THE MAMMALS HAVE BEEN MORE SUCCESSFUL IN THEIR AD

0205475002 KNOW THAT MAMMALS ARE ADAPTED FOR THE PROTECTION AND CA

0205475003 UNDERSTAND THE IMPORTANT RELATIONSHIP BETWEEN CHANGES IN ST
CHANGES IN CHROMOSOMES.

AND LIFE ACTIVITIES OF MAMMALS.

MAMMAL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW ON
TS.

MAMMAL HAS BABIES, WHICH SHE WILL TAKE CARE OF FOR A WHILE UNTIL THE BABIES CAN GROW
ADULTS.

STUDIES AND LIFE ACTIVITIES OF MAMMALS, SUCH AS WHITE RATS OR GUINEA PIGS, BY OBSERVING
THEIR NESTS, AND RAISE YOUNG.

THEY HAVE BEEN MORE SUCCESSFUL IN THEIR ADAPTATIONS THAN HAVE OTHER FORMS OF LIVING THINGS.

ADAPTED FOR THE PROTECTION AND CARE OF THEIR YOUNG.

THE RELATIONSHIP BETWEEN CHANGES IN STRUCTURE AND FUNCTION OF THE BODY (ADAPTATION) AND

0200480 MAGNETS

0200480001 DEMONSTRATE THE PUSHING AND PULLING FORCE OF A MAGNET, BY USING
OBJECTS.

0200480002 KNOW THE PUSHING AND PULLING FORCE OF A MAGNET, BY USING A MA

0200480003 KNOW THAT ONE BAR MAGNET EFFECTS ANOTHER BY CAUSING LIKE ENDS TO RE

0200480004 DEMONSTRATE THE EFFECT OF ONE BAR MAGNET UPON ANOTHER, BY CAUSING
ATTRACT.

0200480005 KNOW THAT BAR MAGNETS ARE STRONGER ON THE ENDS THAN IN THE MIDDLE

0200480006 DEMONSTRATE THAT BAR MAGNETS ARE STRONGER ON THE ENDS THAN IN TH
PLACES ON THE MAGNET.

0200480007 KNOW THAT SOME OBJECTS ARE AFFECTED BY THE MAGNET AND OTHERS ARE

0200480008 DISTINGUISH BETWEEN OBJECTS THAT CAN AND CANNOT BE MOVED BY THE MAG
NOT AFFECTED BY THE MAGNET.

0201480 MAGNETS

0201480001 KNOW THAT A MAGNETIC FORCE CAN BE USED TO OVERCOME THE FORCE OF G

0201480002 DEMONSTRATE THAT A MAGNETIC FORCE CAN BE USED TO OVERCOME T
SOME OBJECTS.

0201480003 KNOW THAT A MAGNET CAN BE USED TO PICK UP SOME METAL OBJECTS FR
OBJECTS.

0201480004 DEMONSTRATE THAT A MAGNET CAN BE USED TO PICK UP SOME METAL OBJE
NON-METAL OBJECTS.

0201480005 KNOW THAT OBJECTS CAN BE ORDERED INTO TWO GROUPS THOSE THAT CAN B

LING FORCE OF A MAGNET, BY USING A MAGNET TO LIFT AND MOVE VARIOUS METAL

RCE OF A MAGNET, BY USING A MAGNET TO LIFT AND MOVE VARIOUS METAL OBJECTS.

S ANOTHER BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO ATTRACT,

AR MAGNET UPON ANOTHER, BY CAUSING LIKE ENDS TO REPEL AND UNLIKE ENDS TO

GER ON THE ENDS THAN IN THE MIDDLE,

E STRONGER ON THE ENDS THAN IN THE MIDDLE, BY LIFTING PAPER CLIPS AT DIFFERENT

CTED BY THE MAGNET AND OTHERS ARE NOT.

T CAN AND CANNOT BE MOVED BY THE MAGNET, BY USING VARIOUS KINDS OF OBJECTS, SOME

BE USED TO OVERCOME THE FORCE OF GRAVITY.

CE CAN BE USED TO OVERCOME THE FORCE OF GRAVITY, BY USING A MAGNET TO LIFT

TO PICK UP SOME METAL OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND NON-METAL

E USED TO PICK UP SOME METAL OBJECTS FROM AN ARRAY OF DIFFERENT METAL AND

D INTO TWO GROUPS THOSE THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.

0201480006 ORDER OBJECTS INTO TWO GROUPS, THOSE THAT CAN BE PICKED UP BY ROU

0205480 MAGNETS

0205480001 GIVEN GROUP OF OBJECTS AND A MAGNET, PREDICT WHICH OF THE O ND
TEST YOUR PREDICTIONS IN EXPERIMENTAL PROCEDURES. EX

0205480002 GIVEN A MAGNET AND GROUP OF MATERIALS (E.G., PAPER, CARDB OF
MATERIALS ARE MAGNETICALLY TRANSPARENT. LY

0205480003 GIVEN TWO MARKED BAR MAGNETS, RECOGNIZE THE POLES WHICH ATTRA NE

0205480004 GIVEN A MAGNET, DEMONSTRATE THE PATTERN OF ITS LINES OF FORCE AT

0206480 MAGNETS

0206480001 DEMONSTRATE DIFFERENCE BETWEEN MAGNETIC MATERIALS WHICH ARE P ET

0206480002 GIVEN DIAGRAM OR DRAWING OF A MAGNETIC FIELD, LOCATE THE STRON O
FIELD.

0206480003 TELL THE DIFFERENCE BETWEEN THE NORTH GEOGRAPHIC POLE AND T EE

GROUPS, THOSE THAT CAN BE PICKED UP BY A MAGNET AND THOSE THAT CANNOT.

AND A MAGNET, PREDICT WHICH OF THE OBJECTS ARE MAGNETIC AND WHICH ARE NONMAGNETIC.
EXPERIMENTAL PROCEDURES.

OF MATERIALS (E.G., PAPER, CARDBOARD, PLASTIC GLASS, TIN), DEMONSTRATE WHICH
LY TRANSPARENT.

MAGNETS, RECOGNIZE THE POLES WHICH ATTRACT EACH OTHER AND THE POLES WHICH REPEL EACH OTHER.

STATE THE PATTERN OF ITS LINES OF FORCE.

BETWEEN MAGNETIC MATERIALS WHICH ARE PERMANENT AND THOSE WHICH ARE TEMPORARY.

OF A MAGNETIC FIELD, LOCATE THE STRONGEST AND WEAKEST LINES OF FORCE IN THE MAGNETIC

BETWEEN THE NORTH GEOGRAPHIC POLE AND THE NORTH MAGNETIC POLE.

0205485

MEALWORMS

0205485001

RECOGNIZE BODY PARTS OF A MEALWORM (ANTENNA, HEAD,
FUNCTIONS.

MOUTH WOR

FORM (ANTENNA, HEAD, MOUTH, LEG, THORAX, ABDOMEN) AND DESCRIBE THEIR

0206490

METALS

0206490001

KNOW THAT THE CONCEPTS OF THE BEHAVIOR OF MATTER HAD TO BE UNDERSTOOD

0206490002

KNOW THAT METALS CAN BE SEPARATED FROM THEIR COMPOUNDS. THEY CAN BE SEPARATED BY USING DIFFERENT PROPERTIES.

0206490003

KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING COPPER FROM ORES

0206490004

KNOW THAT HEAT IS A SOURCE OF ENERGY FOR EXTRACTING IRON FROM ORES

0206490005

KNOW THAT METALS WITH NEW PROPERTIES CAN BE OBTAINED IF TWO OR MORE METALS ARE MELTED TOGETHER AND COOLED.

0206490006

KNOW THAT ALLOYS PROVIDE US WITH SUBSTANCES WITH ADVANCED PROPERTIES

0206490007

KNOW THAT ALUMINUM HAS MANY USES.

IF THE BEHAVIOR OF MATTER HAD TO BE UNDERSTOOD BEFORE METALS COULD BE USED WIDELY,
SEPARATED FROM THEIR COMPOUNDS. THEY CAN BE COMBINED TO OBTAIN NEW COMPOUNDS HAVING NEW
CE OF ENERGY FOR EXTRACTING COPPER FROM ITS ORES.
CE OF ENERGY FOR EXTRACTING IRON FROM ITS ORE.
W PROPERTIES CAN BE OBTAINED IF TWO OR MORE ELEMENTS, AT LEAST ONE OF THEM A METAL, ARE
LED.
US WITH SUBSTANCES WITH ADVANTAGEOUS PROPERTIES.
ANY USES.

0204495 MICRO-ORGANISMS

0204495001 DEMONSTRATE FOOD IS NECESSARY FOR ORGANISMS TO GROW AND MULTI
HARD-BOILED EGG YOLK CAUSING JARS WITH FOOD TO BE CLOUDY WITH

0205495 MICROORGANISMS

0205495001 PLAN FOR COLLECTING, CULTURING, AND STUDYING PROTOZOANS.

0205495002 KNOW THAT PROTOZOANS MOVE AND GATHER FOOD IN DIFFERENT WAYS.

0205495003 DESCRIBE MOVEMENT AND FEEDING OF LIFE IN DROP OF POND WATER

0205495004 DISTINGUISH BETWEEN LIFE FOUND IN DROP OF WATER AND IN WATER

FOR ORGANISMS TO GROW AND MULTIPLY BY CULTURING POND WATER WITH/WITHOUT ADDING
JARS WITH FOOD TO BE CLOUDY WITH MICRO-ORGANISMS.

G, AND STUDYING PROTOZOANS.

GATHER FOOD IN DIFFERENT WAYS.

OF LIFE IN DROP OF POND WATER. USE MICROSCOPE.

D IN DROP OF WATER AND IN WATER FROM SURFACE OF POND MUD. USE MICROSCOPE.

0205500 MICROSCOPE TECHNIQUE

0205500001 USE A COMPOUND MICROSCOPE BY SETTING UP AND FOCUSING IT FOR CO

0205500002 GIVEN A MICROSCOPE, A SLIDE, AND A SIMPLE SKETCH, LABEL SKET P SU
RECORD THE MAGNIFICATION USED. ION

0205500003 GIVEN LIST OF DIRECTIONS, PREPARE A SLIDE FOR VIEWING FROM ON
SLIP, A SPECIMEN (SUCH AS POND WATER). H /

0205500004 DEMONSTRATE HOW TO PLACE A COVER SLIP ON DROP OF WATER (PON AC

0205500005 DEMONSTRATE USE OF MICROSCOPE. PLACE IN FOCUS SLIDE PREP CR

COPE BY SETTING UP AND FOCUSING IT FOR VIEWING AT A GIVEN POWER.

SLIDE, AND A SIMPLE SKETCH, LABEL SKETCH ACCORDING TO WHAT YOU OBSERVE ON THE SPECIMEN.
ION USED.

ONS, PREPARE A SLIDE FOR VIEWING FROM THE FOLLOWING MATERIALS A GLASS SLIDE, A COVER
H AS POND WATER).

ACE A COVER SLIP ON DROP OF WATER (POND) ON MICROSCOPE SLIDE. DO NOT TRAP AIR BUBBLES.

CROSCOPE. PLACE IN FOCUS SLIDE PREPARED EARLIER.

0200505

MOLLUSKS

0200505001

KNOW THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A

0200505002

DESCRIBE THAT A SNAIL BEGAN ITS LIFE AS AN EGG, WHICH HATCHED INTO A LI

0200505003

KNOW THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC AND GARDEN FE

0200505004

DESCRIBE THE CHARACTERISTICS AND LIFE ACTIVITIES OF AQUATIC AND L
EAT.

0204505

MOLLUSKS

0204505001

DESCRIBE THE HATCHING OF AN EGG, BY OBSERVING AND RECORDING CH E
SNAILS HATCH.

AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

LIFE AS AN EGG, WHICH HATCHED INTO A TINY SNAIL AND THEN GREW INTO AN ADULT.

FE ACTIVITIES OF AQUATIC AND GARDEN SNAILS.

D LIFE ACTIVITIES OF AQUATIC AND GARDEN SNAILS, BY OBSERVING THEM MOVE AND

BY OBSERVING AND RECORDING CHANGES OF SNAIL EGGS EACH DAY UNTIL TINY

0204510

PLANTS (ADAPTATION)

0204510001

KNOW THAT DIFFERENT PLANTS ARE ADAPTED TO DIFFERENT

ENVIRONMENTS

0204510002

DEMONSTRATE HOW NONGREEN PLANTS ARE ADAPTED FOR

OBTAINING

0206510

PLANTS (ADAPTATION)

0206510001

DESCRIBE THAT PLANTS FROM POTATO HAD SAME HEREDITY BUT

DID NOT

PLANTS ARE ADAPTED TO DIFFERENT ENVIRONMENTS.

PLANTS ARE ADAPTED FOR OBTAINING FOOD AND REPRODUCING.

ALL POTATOES HAD SAME HEREDITY BUT DID NOT DEVELOP ALIKE DUE TO ENVIRONMENT.

0206515	PLANTS (BACTERIA)	
0206515001	KNOW THAT BACTERIA CAN BE CLASSIFIED, OR GROUPED BY	THEIR STRUCT
0206515002	INFER, FROM INVESTIGATION, THAT HEAT AND ABSENCE OF MOST BACTERIA.	LIGHT IN THE
0206515003	APPLY UNDERSTANDING OF THE NEEDS OF BACTERIA TO METHODS	OF FOOD PRES
0206515004	KNOW THAT BACTERIA CAN BE CLASSIFIED AS HELPFUL OR	HARMFUL TO M
0206515005	KNOW THAT THE GROWTH OF LARGE NUMBERS OF BACTERIA OR HEALTH.	TOXICITY OF
0206515006	KNOW THAT BACTERIA OBTAIN FOOD FROM CHANGING COMPLEX	SUBSTANCES I
0206515007	CHILD WILL DEMONSTRATE GROWTH OF BACTERIA USING PETRI REFRIGERATOR AND OTHER IN A WARM DARK PLACE, THEN	DISHES, EXPO COMPARE GROW
0206515008	DEMONSTRATE CULTURE OF MICROORGANISMS, BY ADDING HARD- FOR SEVERAL DAYS UNTIL CULTURE IS SWARMING WITH	BOILED EGG Y BACTERIA.
0206515009	GIVEN DRAWINGS OR DESCRIPTIONS OF THREE TYPES OF CORRECTLY.	BACTERIA (CO

ED, OR GROUPED BY THEIR STRUCTURE.

AT AND ABSENCE OF LIGHT IN THE ENVIRONMENT ARE ESSENTIAL FOR GROWTH OF

F BACTERIA TO METHODS OF FOOD PRESERVATION.

ED AS HELPFUL OR HARMFUL TO MAN.

ERS OF BACTERIA OR TOXICITY OF SUBSTANCES FORMED MAY BE DANGEROUS TO

M CHANGING COMPLEX SUBSTANCES INTO SIMPLER ONES.

BACTERIA USING PETRI DISHES, EXPOSE THE PREPARED DISHES, PLACING ONE IN
ARK PLACE, THEN COMPARE GROWTH.

SMS, BY ADDING HARD-BOILED EGG YOLK TO JAR OF POND WATER, KEEPING IT WARM
SWARMING WITH BACTERIA.

THREE TYPES OF BACTERIA (COCCUS, BACILLUS, AND SPIRILLUM), LABEL

0206520

PLANTS (BACTERIA AND MOLD)

0206520001

KNOW THAT BACTERIA AND MOLD ARE CLASSIFIED AS PLANTS BY THEIR

0206520002

KNOW THAT BACTERIA AND MOLDS CHEMICALLY BREAK DOWN COMPOUNDS
THROUGH A MEMBRANE.

01
HOLD ARE CLASSIFIED AS PLANTS BY THEIR STRUCTURE.

HOLDS CHEMICALLY BREAK DOWN COMPLEX FOODS INTO SIMPLE SUBSTANCES THAT CAN PASS

0202525 PLANTS (CAPILLARY ACTION)

0202525001 KNOW THAT WATER TRAVELS THROUGH THE STEM AND INTO THE

0202525002 DEMONSTRATE THAT WATER TRAVELS THROUGH THE STEM AND INTO
CONTAINING DYE AND LEAVING IT THERE UNTIL THE COLOR

0203525 PLANTS (CAPILLARY ACTION)

0203525001 KNOW THAT WATER CAN MOVE UP A SUBSTANCE.

0203525002 KNOW THAT THE FORCE THAT CAUSES THE LIQUID TO RISE UP

0203525003 DEMONSTRATE HOW WATER CAN MOVE UP A SUBSTANCE, BY
AND ANOTHER IN WATER CONTAINING RED INK, CAUSING BOTH

0203525004 DESCRIBE THAT THE FORCE THAT CAUSES THE LIQUID TO RISE

0203525005 KNOW THAT A SOLUTION WILL MOVE UP A PLANT STEM.

0203525006 DEMONSTRATE THAT A SOLUTION WILL MOVE UP A PLANT STEM BY
AND BY OBSERVING THAT IN TIME THE COLOR APPEARS IN THE

THE STEM AND INTO THE LEAVES.

THROUGH THE STEM AND INTO THE LEAVES, BY PLACING CUT CELERY STALK IN WATER
HERE UNTIL THE COLOR APPEARS IN THE LEAF VEINS.

SUBSTANCE.

THE LIQUID TO RISE UP THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

OF A SUBSTANCE, BY PLACING ONE STRIP OF BLOTTER PAPER IN A GLASS OF WATER
RED INK, CAUSING BOTH LIQUIDS TO RISE UP THE BLOTTERS.

MOVES THE LIQUID TO RISE UP THE BLOTTER IS SIMILAR TO THAT WHICH WORKS IN PLANTS.

OF A PLANT STEM.

TO MOVE UP A PLANT STEM BY PLACING A CUT CELERY STALK INTO WATER CONTAINING DYE,
THE COLOR APPEARS IN THE LEAVES.

0204530

PLANTS (FERTILIZATION)

0204530001

DESCRIBE ORALLY OR IN WRITING HOW FERTILIZATION TAKES

P TIL

TILIZATION TAKES PLACE IN THE PLANT.

0204535

PLANTS (FOOD CHAINS)

0204535001

KNOW THAT FOOD CHAINS LEAD ULTIMATELY TO GREEN PLANTS.

0204540

PLANTS (GASES)

0204540001

KNOW THAT GREEN PLANTS GIVE OFF OXYGEN GAS.

0204540002

KNOW THAT THE SUBSTANCES IN THE AIR ARE AFFECTED BY THE AC
IN LIGHT, AND TAKE IN CARBON DIOXIDE).

E OFF OXYGEN GAS.

IN THE AIR ARE AFFECTED BY THE ACTION OF GREEN PLANTS. (GREEN PLANTS GIVE OFF OXYGEN
ON DIOXIDE).

0201545 PLANTS (GROWTH)
0201545001 KEEP AN ACCURATE RECORD OF THE CHANGING PROPERTIES OF A GR
0201545002 DESCRIBE THE CHANGE OF PROPERTIES IN A GROWING PLANT.

0203545 PLANTS (GROWTH)
0203545001 KNOW THAT ALL GREEN PLANTS MAKE FOOD.
0203545002 DEFINE CHLOROPHYLL.
0203545003 MAKE DISPLAY OF PLANTS THAT DO NOT MAKE FOOD.

0204545 PLANTS (GROWTH)
0204545001 KNOW HOW GROWING PLANTS CAN BREAK ROCKS.
0204545002 KNOW HOW MATTER FROM THE ENVIRONMENT IS USED FOR GROWTH BY
0204545003 KNOW THAT PLANTS HAVE LIFE CYCLES ADAPTED TO GROWTH IN THE
0204545004 CONSTRUCT A HYPOTHESIS ABOUT WHAT WILL HAPPEN TO THE HEI
CONTINUES GROWING.
0204545005 DEMONSTRATE THAT THE HEIGHT OF THE MARK WILL NOT CHANGE AS

0205545 PLANTS (GROWTH)

CHANGING PROPERTIES OF A GROWING PLANT.

ES IN A GROWING PLANT.

FOOD.

NOT MAKE FOOD.

AK ROCKS.

MENT IS USED FOR GROWTH BY CELLS OF GREEN PLANTS AND ALL OTHER LIVING THINGS.

ES ADAPTED TO GROWTH IN THEIR ENVIRONMENTS.

AT WILL HAPPEN TO THE HEIGHT OF A MARK ON A GROWING PLANT STEM, AS THE PLANT

THE MARK WILL NOT CHANGE AS THE PLANT CONTINUES GROWING.

- 0205545001 KNOW THAT DURING PHOTOSYNTHESIS (THE MANUFACTURE OF CARBOHYDRATE
- 0205545002 CONSTRUCT AN HYPOTHESIS CONCERNING THE REACTIONS IN A PLANT THAT
- 0205545003 OPERATIONALLY DEFINE PHOTOSYNTHESIS AND CHLOROPHYLL.
- 0205545004 KNOW THAT DURING PHOTOSYNTHESIS, GREEN PLANTS MANUFACTURE OF LIGHT.
- 0205545005 PERFORM AN INVESTIGATION SHOWING THE PRODUCTION OF OXYGEN DURING FOR THIS PROCESS.
- 0205545006 DISCOVER THAT MANY OF OUR FOODS COME FROM PLANTS CELLS SPECIALIZED
- 0205545007 KNOW THAT GREEN PLANTS MAKE CARBOHYDRATES FROM CARBON DIOXIDE AND PLANTS FOR THEIR FOOD.
- 0205545008 KNOW THAT PLANTS MAKE AND STORE FATS.
- 0205545009 KNOW THAT PLANTS MAKE AND STORE PROTEINS.
- 0205545010 KNOW THAT GREEN PLANTS ARE A BASIC SOURCE FOR MANY SUBSTANCES
- 0205545011 LIST THE FOOD SUBSTANCE AND GASES PRODUCED DURING PHOTOSYNTHESIS
- 0205545012 KNOW THAT PLANTS ARE A SOURCE OF FOOD SUBSTANCES THAT KEEP US WELL

0206545 PLANTS (GROWTH)

- 0206545001 DEMONSTRATE EFFECT OF ENVIRONMENT ON LIVING THINGS OF SAME HERE COMBINATIONS OF FOOD, WATER, LIGHT, AND ARRANGE IN FOUR DIFFERENT

PHOTOSYNTHESIS (THE MANUFACTURE OF CARBOHYDRATES), GREEN PLANTS PRODUCE OXYGEN.
CONCERNING THE REACTIONS IN A PLANT THAT MIGHT PRODUCE CARBOHYDRATES.
PHOTOSYNTHESIS AND CHLOROPHYLL.
PHOTOSYNTHESIS, GREEN PLANTS MANUFACTURE SIMPLE SUGARS AND STARCHES, USING THE ENERGY
SHOWING THE PRODUCTION OF OXYGEN DURING PHOTOSYNTHESIS AND THE NECESSITY OF LIGHT
OUR FOODS COME FROM PLANTS CELLS SPECIALIZED FOR STORAGE OF CARBOHYDRATES,
MAKE CARBOHYDRATES FROM CARBON DIOXIDE AND WATER. ANIMALS ARE DEPENDENT ON GREEN
AND STORE FATS.
AND STORE PROTEINS.
ARE A BASIC SOURCE FOR MANY SUBSTANCES NEEDED BY ALL ANIMAL LIFE.
AND GASES PRODUCED DURING PHOTOSYNTHESIS.
SOURCE OF FOOD SUBSTANCES THAT KEEP US WELL.

ENVIRONMENT ON LIVING THINGS OF SAME HEREDITY. GROW PLANTS FROM POTATO EYES, CONTROL
ARRANGE IN FOUR DIFFERENT COMBINATIONS.

0204550

PLANTS (HYBRIDS)

0204550001

DEBATE FOR OR AGAINST SPENDING TIME AND MONEY TO IMPROVE THE QUANTITY OF
HYBRIDIZATION.

0205550

PLANTS (HYBRIDS)

0205550001

GIVEN DUPLICATES OF SEEDS, PLANTS, OR FRUITS, TRY TO IMPROVE THE QUANTITY OF
HYBRIDIZATION.

0206550

PLANTS (HYBRIDS)

0206550001

DEMONSTRATE CROSS-POLLINATION OF PETUNIAS. REMOVE STAMENS FROM
TRANSFER POLLEN TO IT FROM RED FLOWER. PRODUCE PINK- WHITE FLOWERS.

TIME AND MONEY TO IMPROVE THE QUANTITY AND THE QUALITY OF CROPS BY SELECTION OR

S, OR FRUITS, TRY TO IMPROVE THE QUALITY BY SELECTION, GRAFTING, OR BUDDING.

PETUNIAS. REMOVE STAMENS FROM COVERED WHITE BUD. LET FLOWER MATURE.
LOWER. PRODUCE PINK-WHITE FLOWER FROM IT.

0201555 PLANTS (MOLDS)

0201555001 KNOW THAT MOLD PLANTS MAKE MORE MOLD PLANTS.

0201555002 DEMONSTRATE THAT MOLD PLANTS MAKE MORE MOLD PLANTS BY PLAC
DARK, WARM PLACE.

0203555 PLANTS (MOLDS)

0203555001 NAME THE THINGS GROWING AS MOLDS, WHICH ARE FUNGI PLANTS ON M

0204555 PLANTS (MOLDS)

0204555001 WHEN GIVEN THE APPROPRIATE MATERIAL UNDER CONTROLLED COND
GROW SUCCESSFULLY UNDER CONTROLLED CONDITIONS.

0204555002 DEMONSTRATE THAT MOLD WILL GROW ON FOOD, PLACING MOIS
PLACE FOR A FEW DAYS.

0204555003 DESCRIBE THE GROWTH OF THE MOLD ON BREAD AS SIMILAR TO WHIC
CELLS TO DISAPPEAR IN TIME.

0206555 PLANTS (MOLDS)

0206555001 DEMONSTRATE GROWTH OF MOLD. USE TWO PIECES OF DRY BREA
PLACE. MOLD WILL GROW ON MOIST PIECE.

0206555002 THE CHILD WILL DESCRIBE THE MOLD WHICH GROWS BY OBSE
OF THREADS, BLACK BALL AT ONE END, AND ROOT-LIKE PARTS.

MORE MOLD PLANTS.

MAKE MORE MOLD PLANTS BY PLACING A PIECE OF MOLDY FOOD NEAR NON-MOLDY FOODS IN A

MOLDS, WHICH ARE FUNGI PLANTS ON MOLDED BREAD.

MATERIAL UNDER CONTROLLED
CONTROLLED CONDITIONS.

CONDUCTION, CONDUCT AN EXPERIMENT TO SHOW MOLDS WILL

GROW ON FOOD, PLACING

MOISTENED STALE BREAD IN A COVERED JAR AND IN A WARM

MOLD ON BREAD AS SIMILAR TO

WHICH FUNGI WOULD GROW ON A DEAD TREE, CAUSING THE TREE

USE TWO PIECES OF DRY
FIRST PIECE.

BREAD, MOISTEN ONE, PLACE EACH IN A SEALED JAR IN DARK

MOLD WHICH GROWS BY
THE END, AND ROOT-LIKE PARTS.

OBSERVING WITH A MICROSCOPE AND NOTING CHARACTERISTICS

0201560	PLANTS (NEEDS)	
0201560001	PREPARE AN EXPERIMENT IN WHICH YOU TRY TO GROW SIMILAR	SE CH
0201560002	KNOW THAT WATER IS ESSENTIAL FOR SURVIVAL OF LIVING	PL F
0201560003	DEMONSTRATE THAT WATER IS ESSENTIAL FOR SURVIVAL OF SOME WITH SUFFICIENT WATER, AND SOME WITH INSUFFICIENT	LI SE WA AN
0201560004	KNOW THAT GREEN PLANTS NEED SUNLIGHT.	SU
0201560005	DEMONSTRATE THAT GREEN PLANTS NEED SUNLIGHT, BY IN THE DARK TO BE PALE AND WEAK.	SP S EA
0202560	PLANTS (NEEDS)	
0202560001	KNOW THAT SEEDS NEED HEAT TO GROW.	G
0202560002	DEMONSTRATE THAT SEEDS NEED HEAT TO GROW, BY TRYING TO PLACE, SHOWING THAT SEEDS GROW SUBJECT TO LIMITS OF	SP HE TH OW
0202560003	KNOW THAT A GREEN PLANT NEEDS WATER.	OS
0202560004	DEMONSTRATE THAT A GREEN PLANT NEEDS WATER, BY GROWING WATERING OTHERS.	PL ANT
0202560005	KNOW THAT A GREEN PLANT NEEDS LIGHT.	OS
0202560006	DEMONSTRATE THAT A GREEN PLANT NEEDS LIGHT BY GROWING	SO ANT
0203560	PLANTS (NEEDS)	
0203560001	KNOW THE CONDITIONS UNDER WHICH A PLANT THAT IS NOT	GR VIC

WHICH YOU TRY TO GROW SIMILAR SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS,
FOR SURVIVAL OF LIVING PLANTS.
ESSENTIAL FOR SURVIVAL OF LIVING PLANTS, BY PLANTING BEAN SEEDS IN SOIL, WATERING
AND SOME WITH INSUFFICIENT WATER.
SUNLIGHT.
PLANTS NEED SUNLIGHT, BY SPROUTING POTATO EYES IN LIGHT AND DARK, CAUSING THOSE
TO GROW.
PLANTS NEED HEAT TO GROW, BY TRYING TO SPROUT SOME SEEDS IN A WARM PLACE AND OTHERS IN A COOL
PLACE SUBJECT TO LIMITS OF THEIR ENVIRONMENT.
PLANTS NEED WATER.
PLANTS NEED WATER, BY GROWING PLANTS IN THE CLASSROOM AND BY WATERING SOME AND NOT
OTHERS.
PLANTS NEED LIGHT.
PLANTS NEED LIGHT BY GROWING SOME PLANTS IN LIGHT AND OTHERS IN DARK.
PLANTS WHICH ARE NOT GREEN WILL GROW.

0203560002	DEMONSTRATE CONDITIONS UNDER WHICH PLANT THAT IS NOT BREAD AND TOAST WETTED WITH DIFFERENT AMOUNTS OF WATER	GREEN CAUSIN
0203560003	KNOW THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE TOO SOIL, AND IN A SENSE ARE DROWNING IN WATER.	MUCH W
0203560004	DESCRIBE THAT PLANTS FLOODED WITH WATER NOT ONLY HAVE THE SOIL, AND IN A SENSE ARE DROWNING IN WATER.	TOO MU
0203560005	KNOW THAT GROWING PLANTS MAY DIE FROM TOO MUCH WATER AS	WELL A
0203560006	DEMONSTRATE THAT PLANTS MAY DIE FROM TOO MUCH WATER, OR RADISH PLANTS, NOT WATERING ONE, WETTING ONE AND	FROM C DROWNI
0203560007	KNOW THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT ON	GREEN
0203560008	DEMONSTRATE THE EFFECT OF SUNLIGHT AND LACK OF SUNLIGHT ON GRE PAPER FOR TWO DAYS, AND THEN OBSERVING THE PALE COLOR OF THE CO	ON GRE THE CO
0204560	PLANTS (NEEDS)	
0204560001	KNOW WHY GREEN PLANTS NEED THE RIGHT CONDITIONS FOR	GROWTH
0204560002	WHEN GIVEN FIVE SEEDS, GROW AND OBSERVE ENVIRONMENTAL	CONDIT
0204560003	DEMONSTRATE THAT LIGHT IS NECESSARY FOR GROWTH OF A SUNLIGHT, TO LIGHT FROM AN ELECTRIC LAMP, AND TO	GREEN DARKNE
0204560004	DEMONSTRATE THE CONDITIONS UNDER WHICH GREEN PLANTS CONDITIONS OF SOIL, WATER AND LIGHT AND COMPARING	WILL G RESULT
0204560005	KNOW THAT GREEN PLANTS GET THE MATTER FOR GROWTH FROM	WATER,
0204560006	DESCRIBE THAT LIGHT IS THE SOURCE OF ENERGY FOR GROWING	GREEN

UNDER WHICH PLANT THAT IS NOT
WITH DIFFERENT AMOUNTS OF WATER

GREEN WILL GROW PLACING IN DIFFERENT LOCATIONS FRESH
CAUSING NONGREEN PLANT GROWTH ON SOME.

WITH WATER NOT ONLY HAVE TOO
CROWNING IN WATER.

MUCH WATER, BUT ARE NOT GETTING ENOUGH OXYGEN FROM THE

ODED WITH WATER NOT ONLY HAVE
ARE DROWNING IN WATER.

TOO MUCH WATER, BUT ARE NOT GETTING ENOUGH OXYGEN FROM

MAY DIE FROM TOO MUCH WATER AS

WELL AS FROM COMPLETE LACK OF WATER.

MAY DIE FROM TOO MUCH WATER, OR
ING ONE, WETTING ONE AND

FROM COMPLETE LACK OF WATER, BY USING THREE POTS OF
DROWNING ONE, NOTING OUTCOME.

IGHT AND LACK OF SUNLIGHT ON

GREEN LEAVES.

F SUNLIGHT AND LACK OF SUNLIGHT
THEN OBSERVING THE PALE COLOR OF

ON GREEN LEAVES, BY COVERING SOME LEAVES WITH CARBON
THE COVERED LEAVES.

ED THE RIGHT CONDITIONS FOR

GROWTH.

ROW AND OBSERVE ENVIRONMENTAL

CONDITIONS OF AT LEAST ONE PLANT.

S NECESSARY FOR GROWTH OF A
AN ELECTRIC LAMP, AND TO

GREEN PLANT BY SUBJECTING GROWING RADISH SEEDLINGS TO
DARKNESS, CAUSING MOST TO LEAST GROWTH.

NS UNDER WHICH GREEN PLANTS
R AND LIGHT AND COMPARING

WILL GROW BEST, BY GROWING SEEDS UNDER EIGHT DIFFERENT
RESULTS.

ET THE MATTER FOR GROWTH FROM

WATER, SOIL, AND AIR.

THE SOURCE OF ENERGY FOR GROWING GREEN PLANTS.

- 0204560007 CONTROL THE ENVIRONMENT OF A GROWING PLANT AND OBSERVE WHAT HAPPENS WHEN THE ENVIRONMENT IS CHANGED.
- 0204560008 CONSTRUCT THREE TESTS OF GROWING CONDITIONS.
- 0204560009 STATE THREE THINGS NECESSARY FOR A GROWING LAND PLANT.
- 0204560010 KNOW THAT MINERALS IMPORTANT FOR PLANT GROWTH ARE FOUND IN SOIL.
- 0204560011 KNOW THAT USING ENERGY FROM LIGHT, GREEN PLANTS MAKE THEIR OWN FOOD IN THEIR ENVIRONMENT.
- 0204560012 DEMONSTRATE THAT THE AMOUNT AND KIND OF LIGHT ENERGY RECEIVED BY A PLANT AFFECTS THE AMOUNT OF FOOD AND GROW.
- 0204560013 UNDERSTAND HOW THE ACTION OF DECAY RETURNS TO THE SOIL COMPOUNDS USED BY PLANTS.
- 0204560014 DEMONSTRATE WAYS IN WHICH A GREEN PLANT MAY BE DEPENDENT UPON ANIMALS.
- 0204560015 DEMONSTRATE, IN A MULTIPLE CHOICE TEST, KNOWLEDGE OF PLANTS USING CARBOHYDRATES AND PROTEINS.

0205560 PLANTS (NEEDS)

- 0205560001 KNOW THAT GREEN PLANTS CAN DIRECTLY TRAP AND STORE THE ENERGY OF LIGHT.
- 0205560002 KNOW THAT LIGHT IS ESSENTIAL FOR THE MANUFACTURE OF CARBOHYDRATES.
- 0205560003 KNOW THAT THE CAPTURE OF RADIANT ENERGY BY GREEN PLANTS IS BASIC TO LIFE.
- 0205560004 DESCRIBE THE PRESENCE OF LIGHT NECESSARY FOR PHOTOSYNTHESIS.

ING PLANT AND OBSERVE WHAT HAPPENS TO IT WHEN THE ENVIRONMENTAL CONDITIONS ARE
CONDITIONS.

A GROWING LAND PLANT.

PLANT GROWTH ARE FOUND IN SOIL WATER.

, GREEN PLANTS MAKE THEIR OWN FOODS FROM INORGANIC SUBSTANCES IN THE

KIND OF LIGHT ENERGY RECEIVED AFFECTS THE ABILITY OF GREEN PLANTS TO MAKE

Y RETURNS TO THE SOIL COMPOUNDS ESSENTIAL TO GROWING PLANTS.

PLANT MAY BE DEPENDENT UPON ANIMALS IN ITS ENVIRONMENT.

E TEST, KNOWLEDGE OF PLANTS USING CARBON DIOXIDE AND NITROGEN TO MAKE SUGARS

LY TRAP AND STORE THE ENERGY OF SUNLIGHT.

THE MANUFACTURE OF CARBOHYDRATES BY CELLS IN A GREEN LEAF.

ENERGY BY GREEN PLANTS IS BASIC TO THE GROWTH AND MAINTENANCE OF ALL LIVING

ERIC FOR PHOTOSYNTHESIS TO FORM STARCH IN GREEN PLANTS.

0205560005

INFER THE SOURCES OF THE CARBON, OXYGEN, AND HYDROGEN

0205560006

DEMONSTRATE STARCH ABSENT IN LEAF 1/2 COVERED FOR 3
WITH HEATED ALCOHOL AND TEST WITH IODINE SOLUTION.

CARBON, OXYGEN, AND HYDROGEN

A GREEN PLANTS USES IN PHOTOSYNTHESIS.

IN LEAF 1/2 COVERED FOR 3
DAYS WITH IODINE SOLUTION.

DAYS, PRESENT IN UNCOVERED HALF. REMOVE CHLOROPHYLL

0206565 PLANTS (NONGREEN)

0206565001 KNOW THAT NONGREEN PLANTS ARE INTERDEPENDENT WITH OTHER
CONDITIONS FAVORABLE TO SURVIVAL.

0206565002 KNOW THAT BACTERIA, PLANTS WITHOUT CHLOROPHYLL, DEPEND

0206565003 KNOW NONGREEN PLANTS GROW AND REPRODUCE RAPIDLY IN A

ORGANISMS ARE INTERDEPENDENT WITH OTHER ORGANISMS FOR THEIR FOOD AND WITH THEIR ENVIRONMENT FOR SURVIVAL.

ORGANISMS WITHOUT CHLOROPHYLL, DEPEND ON OTHER ORGANISMS FOR THEIR FOOD.

ORGANISMS GROW AND REPRODUCE RAPIDLY IN A FAVORABLE ENVIRONMENT.

0200570 PLANTS (PARTS)
0200570001 KNOW THE PARTS OF A PLANT AS ROOT, STEM, LEAF, FLOWER,
0200570002 IDENTIFY PARTS OF THE PLANT AS ROOT, STEM LEAF, FLOWER,

0201570 PLANTS (PARTS)
0201570001 DESCRIBE THE PROPERTIES OF A PLANT OR PART OF A PLANT.

0203570 PLANTS (PARTS)
0203570001 KNOW THE DIFFERENT PARTS OF A FLOWER AS PETALS, STAMENS,
0203570002 NAME PARTS OF A FLOWER, AS PETALS, STAMENS, POLLEN,
0203570003 IDENTIFY DIFFERENT PARTS OF A FLOWER BY OBSERVING WITH
0203570004 KNOW THE DIFFERENCE BETWEEN PARTS OF A PLANT THAT LOOK
0203570005 DISTINGUISH BETWEEN PARTS OF A PLANT THAT LOOK GREEN
0203570006 KNOW THAT THE GREEN COLOR IN THE LEAVES CAN BE REMOVED.
0203570007 DEMONSTRATE THAT GREEN COLOR IN THE LEAVES CAN BE
CAUSING ALCOHOL TO TURN GREEN THAT NO COLOR OCCURS

0204570 PLANTS (PARTS)

ROOT, STEM, LEAF, FLOWER, AND SEED.

ROOT, STEM LEAF, FLOWER, AND SEED.

PLANT OR PART OF A PLANT.

FLOWER AS PETALS, STAMENS, POLLEN, PISTIL, AND OVULES.

PETALS, STAMENS, POLLEN, PISTIL, AND OVULES.

FLOWER BY OBSERVING WITH A MAGNIFYING GLASS.

PARTS OF A PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

PLANT THAT LOOK GREEN (LEAVES) AND PARTS THAT DO NOT LOOK GREEN (ROOTS).

THE LEAVES CAN BE REMOVED.

IN THE LEAVES CAN BE REMOVED BY SOAKING GREEN LEAVES IN WARMED ALCOHOL
THAT NO COLOR OCCURS WHEN ROOTS ARE TREATED IN SAME WAY.

0204570001

MAKE MODELS AND DIAGRAMS OF DIFFERENT PLANT STRUCTURES, BASI FE
ACTUAL PLANTS.

0204570002

AFTER STUDYING DIAGRAMS OF VARIOUS PLANTS, DESCRIBE THE STRU OUL

0205570

PLANTS (PARTS)

0205570001

CONSTRUCT 'RUBBING' OF LEAF. PLACE LEAF, FACE DOWN UNDER LA

0205570002

DESCRIBE THAT LEAF SKELETON IS MADE OF CELLULOSE AND GIVES MA

DIFFERENT PLANT STRUCTURES, BASING THE MODELS ON OBSERVATIONS THEY HAVE MADE OF
VARIOUS PLANTS, DESCRIBE THE STRUCTURE AND PARTS OF A PLANT.

PLACE LEAF, FACE DOWN UNDER PAPER, RUB CRAYON OVER OUTLINE OF LEAF.
MADE OF CELLULOSE AND GIVES LEAF STRENGTH AND STIFFNESS.

0202575 PLANTS (ROOTS)

0202575001 KNOW THAT GROWING SEEDS FORM ROOTS THAT GROW DOWNWARD TOWARD R

0202575002 DEMONSTRATE THAT GROWING SEEDS FORM ROOTS THAT GROW DOWNWA DS
GLASS CONTAINERS IN DIFFERENT POSITIONS. T

0203575 PLANTS (ROOTS)

0203575001 KNOW THE DIFFERENCE BETWEEN ROOT HAIRS ON THE MAIN ROOT OF A G RO

0203575002 IDENTIFY ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLANT, AI
OBSERVING WITH A MAGNIFYING GLASS. GL

0204575 PLANTS (ROOTS)

0204575001 KNOW THAT PLANTS TAKE WATER THROUGH THEIR ROOTS. TH

0204575002 DEMONSTRATE THAT AS BEAN SEEDS SPROUT, ROOTS GROW DOWNWA DS
BETWEEN MOIST BLOTTING PAPER AND SIDES OF GLASS JARS AND BY PLAC A

ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH.

SEEDS FORM ROOTS THAT GROW DOWNWARD TOWARDS THE EARTH, BY PLACING GROWING SEEDS IN
DIFFERENT POSITIONS.

ROOT HAIRS ON THE MAIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A
MAIN ROOT OF A GROWING RADISH PLANT, AND ON A RADISH PLANT FROM A FOOD MARKET,
IN A GLASS.

WATER THROUGH THEIR ROOTS.

SEEDS SPROUT, ROOTS GROW DOWNWARD AND LEAVES GROW UPWARD BY SPROUTING SEEDS
IN DIFFERENT POSITIONS AND SIDES OF GLASS JARS AND BY PLACING THE JARS IN DIFFERENT POSITIONS.

0200580 PLANTS (SEEDS)

0200580001 KNOW THAT AN ASSORTMENT OF BEAN SEEDS CAN BE ORDERED ACCORD

0200580002 ORDER AN ASSORTMENT OF BEAN SEEDS ACCORDING TO THEIR LIKENE

0200580003 KNOW THAT BEAN SEEDS WILL SPROUT AND EXHIBIT DIFFERENCES IN THE

0200580004 KNOW DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING SOME ON A MOIS
SOME IN SOIL, AND SOME IN WATER.

0200580005 DEMONSTRATE DIFFERENT WAYS TO SPROUT SEEDS, BY PLACING SOME O
GLASS, SOME IN SOIL, AND SOME IN WATER.

0200580006 DEMONSTRATE THAT BEAN SEEDS WILL SPROUT AND EXHIBIT DIFFER
OF SEEDS AND OBSERVING THEIR GROWTH.

0200580007 KNOW THAT WHEN SEEDS ARE PLANTED, THEY WILL SPROUT AND GROW IN

0200580008 DESCRIBE THAT WHEN SEEDS ARE PLANTED THEY WILL SPROUT AND GRO
CAME.

0200580009 DESCRIBE A GROWING SEED PLANT BY OBSERVING A COMPLETE DANDEL

0201580 PLANTS (SEEDS)

0201580001 GIVEN SOME SEEDS, GROW A PLANT.

0201580002 KNOW THAT A NEW PLANT SPROUTS FROM A DRIED LIMA BEAN; WHEN IT
SEVERAL DAYS.

0201580003 OBSERVE DEVELOPMENT OF SEED. DRAW DIAGRAMS AND CONSTRU
DEVELOPMENTAL STAGES OF GROWTH FOR PLANTS.

0201580004 DEMONSTRATE THAT A NEW PLANT SPROUTS FROM A DRIED LIMA BEAN WH
SEVERAL DAYS.

BEAN SEEDS CAN BE ORDERED ACCORDING BY LIKENESSES OR DIFFERENCES.

SEEDS ACCORDING TO THEIR LIKENESSES OR DIFFERENCES.

ROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS.

SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND GLASS, WATER.

TO SPROUT SEEDS, BY PLACING SOME ON A MOIST SPONGE, SOME BETWEEN BLOTTING PAPER AND WATER IN WATER.

WILL SPROUT AND EXHIBIT DIFFERENCES IN THEIR SPROUTS, BY PLANTING VARIOUS KINDS GROWTH.

PLANTED, THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY CAME.

PLANTED THEY WILL SPROUT AND GROW INTO THE SAME KIND OF PLANT FROM WHICH THEY

BY OBSERVING A COMPLETE DANDELION PLANT, AND DISCUSSING PARTS OF THE PLANT.

NT.

S FROM A DRIED LIMA BEAN, WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

DRAW DIAGRAMS AND CONSTRUCT VIEWER TO OBSERVE GERMINATION AND WITH FOR PLANTS.

SPROUTS FROM A DRIED LIMA BEAN WHEN IT HAS BEEN SOAKED IN WATER AND KEPT MOIST FOR

0201580005 PREPARE EXPERIMENT IN WHICH YOU TRY TO GROW SIMILIAR SEEDS UND

0202580 PLANTS (SEEDS)

0202580001 IDENTIFY CONE, SCALE, AND SEED, BY OBSERVING MATURE PINE CONES.

0202580002 KNOW THAT PARTS OF A MATURE PINE CONE---CONE, SCALE, AND SEED.

0202580003 NAME PARTS AS CONE, SCALE, AND SEED ON MATURE PINE CONES.

0202580004 DISTINGUISH BETWEEN GROWING BEAN AND CORN SEEDLINGS, BY OBSERVING

0202580005 KNOW THAT GRASS PLANTS GROW FROM GRASS SFEDS, ILLUSTRAT

HEREDITY.

0202580006 DEMONSTRATE THAT GRASS PLANTS GROW FROM GRASS SEEDS, ILLUSTRAT

HEREDITY.

0202580007 DEMONSTRATE THAT EACH ORGANISM GIVES RISE TO ITS OWN KIND, BY

0202580008 KNOW THE DIFFERENCES BETWEEN GROWING BEAN AND CORN SEEDLINGS

0202580009 IDENTIFY THE NEW PLANT AND FOOD FOR GROWTH IN LIMA BEANS AND

0204580 PLANTS (SEEDS)

0204580001 KNOW THAT SEEDS TRANSMIT THE CHARACTERISTICS OF THE PARENT PL

0204580002 DEMONSTRATE THAT GROWING PLANTS EXERT FORCE BY SPROUTING SEEDS BE
BE PRIED APART.

BY TRY TO GROW SIMILIAR SEEDS UNDER TWO OR MORE DIFFERENT SOIL CONDITIONS.

BY OBSERVING MATURE PINE CONES.

ONE CONE---CONF, SCALE, AND SEED.

SEED ON MATURE PINE CONES.

BEAN AND CORN SEEDLINGS, BY OBSERVING THEIR CHARACTERISTICS.

FROM GRASS SEEDS, ILLUSTRATING THAT AN ORGANISM IS THE PRODUCT OF ITS

GROW FROM GRASS SEEDS, ILLUSTRATING THAT AN ORGANSIM IS THE PRODUCT OF ITS

GIVES RISE TO ITS OWN KIND, BY PLANTING BEAN AND CORN SEEDS.

ROWING BEAN AND CORN SEEDLINGS.

FOR GROWTH IN LIMA BEANS AND CORN SEEDS WHICH HAVE BEEN SOAKED IN WATER.

CHARACTERISTICS OF THE PARENT PLANTS.

FORCE BY SPROUTING SEEDS BETWEEN TWO GLASS PLATES CAUSING GLASS PIECES TO

0204580003

DEMONSTRATE THAT SPROUTING SEEDS EXERT FORCE BY FILLING
PUTTING CONTAINER IN DARK FOR FEW DAYS UNTIL SEEDS

SEEDS EXERT FORCE BY FILLING SMALL BOTTLE WITH DRY BEANS ADDING WATER AND CORK AND
FOR FEW DAYS UNTIL SEEDS SPROUT, PUSHING OUT CORK.

0200585 PLANTS (TREES)

0200585001 KNOW THAT TREES HAVE SIMILARITIES WITH, AND DIFFERENC

0200585002 DESCRIBE THAT TREES HAVE SIMILARITIES WITH, AND
OF SEEDS, FRUITS, AND OTHER TREE PARTS.

0206585 PLANTS (TREES)

0206585001 DEMONSTRATE TREE GRAFTING IN EARLY SPRING. PREPARE A
CLOTH AND WAX.

SIMILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS.

THE SIMILARITIES WITH, AND DIFFERENCES FROM OTHER PLANTS, BY OBSERVING A COLLECTION OF OTHER TREE PARTS.

ING IN EARLY SPRING. PREPARE AND GRAFT 2 RELATED FRUIT TREE BRANCHES, COVER GRAFT WITH

- 0200590 PLANTS (WATER)
- 0200590001 KNOW THAT SOME PLANTS GROW IN WATER. W
- 0200590002 DESCRIBE THAT SOME PLANTS GROW IN WATER, BY OBSERVING AQUAR G
AND SIMILARITIES WITH, AND DIFFERENCES FROM, OTHER PLANT D
- 0200590003 KNOW THAT SEaweeds DIFFER FROM OTHER PLANTS IN THAT THEY LACK F
SPECIAL PLANT CLASS (ALGAE). E)
- 0200590004 DESCRIBE THAT SEaweeds DIFFER FROM OTHER PLANTS IN THAT THAT FF
BELONG TO A SPECIAL PLANT CLASS (ALGAE). C

W IN WATER.

GROW IN WATER, BY OBSERVING AQUARIUM PLANTS AND BY DISCUSSING THE PARTS OF PLANTS
D DIFFERENCES FROM, OTHER PLANTS.

FROM OTHER PLANTS IN THAT THEY LACK ROOTS, STEMS, LEAVES, AND FLOWERS, AND BELONG TO A
E).

FFER FROM OTHER PLANTS IN THAT THAT THEY LACK ROOTS, STEMS, LEAVES AND FLOWERS, AND
CLASS (ALGAE).

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0202595

POLLUTION (WATER)

0202595001

DEMONSTRATE HOW WATER POLLUTION IS CAUSED AND PREDICT
EXIST.

TI

ION IS CAUSED AND PREDICT

WHAT WILL HAPPEN IF THE POLLUTION FACTORS CONTINUE TO

0202600

POLLUTION (WATER AND AIR)

0202600001

DIVIDE INTO GROUPS AND GATHER INFORMATION ON A
PAPER GIVING THEIR INFERENCES ON HOW ONE OF TH

I
O

INFORMATION ON AT LEAST
ON HOW ONE OF THE

FIVE CAUSES OF AIR OR WATER POLLUTION AND WRITE A SHORT
POLLUTION FACTORS CAN BE ELIMINATED.

0204605 RELATIVE POSITIONS OF STATIONARY AND MOVING OBJECTS
0204605001 RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE
0204605002 TELL WHICH WAY AN OBJECT HAS MOVED RELATIVE TO YOU AND
0204605003 DESCRIBE THE POSITION OF AN OBJECT RELATIVE TO OTHER
0204605004 DESCRIBE DIRECTION OF MOVEMENT THAT AN OBJECT HAS AS
THAT OBSERVER. DESCRIPTION COULD INCLUDE A REFERENCE
0204605005 RECOGNIZE EVIDENCE OF MOTION IN MOVIES OR FLIP-BOOK
THAT HAVE APPARENT MOTION. NOTE CHANGES IN POSITION
0204605006 RECOGNIZE WHETHER OR NOT AN OBJECT HAS MOVED RELATIVE
0204605007 GIVEN ILLUSTRATIONS OF TWO OBJECTS OR SYSTEMS HAVING
SYSTEM IS MOVING FASTER AND WHICH IS MOVING SLOWER,
0204605008 DESCRIBE THE POSITION OF AN OBJECT AS SEEN BY ANOTHER

N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

AS MOVED RELATIVE TO YOU AND A REFERENCE OBJECT.

N OBJECT RELATIVE TO OTHER OBJECTS.

MENT THAT AN OBJECT HAS AS
N COULD INCLUDE A REFERENCE

SEEN BY ANOTHER OBSERVER RELATIVE TO THE POSITION OF
TO ANOTHER OBJECT OR SYSTEM.

ON IN MOVIES OR FLIP-BOOK
NOTE CHANGES IN POSITION

PICTURES BY REPORTING DIFFERENTIAL SPEEDS OF OBJECTS
RELATIVE TO REFERENCE OBJECTS.

N OBJECT HAS MOVED RELATIVE TO ANOTHER OBJECT (I.E., A REFERENCE OBJECT).

OBJECTS OR SYSTEMS HAVING
D WHICH IS MOVING SLOWER.

DIFFERENT RATES OF MOTION, RECOGNIZE WHICH OBJECT OR
(RELATIVE MOTION CONCEPT).

N OBJECT AS SEEN BY ANOTHER PERSON.

0202610

REPRODUCTION

0202610001

CLASSIFY ANIMAL MOTHERS INTO THESE TWO GROUPS MOTHERS WHO HAVE T

0202610002

MATCH ANIMAL PARENTS TO THEIR OFFSPRING. AR

0202610003

IDENTIFY THE TERMS MALE, FEMALE, PARENT, AND OFFSPRING WHEN DISC AL

0205610

REPRODUCTION

0205610001

KNOW THAT ORGANISMS REPRODUCE OTHER ORGANISMS LIKE THEMSELVES E

0206610

REPRODUCTION

0206610001

KNOW THAT SOME PLANTS CAN REPRODUCE NEW PLANTS FROM A PART OF T PR

0206610002

KNOW THAT AN EMBRYO CONTAINS THE BEGINNING OF A NEW ORGANISM T

THESE TWO GROUPS MOTHERS WHO HAVE LIVING BABIES AND MOTHERS WHO LAY EGGS.

OR OFFSPRING.

MALE, PARENT, AND OFFSPRING WHEN DISCUSSING MEMBERS OF ANIMAL FAMILIES.

THE OTHER ORGANISMS LIKE THEMSELVES.

PRODUCE NEW PLANTS FROM A PART OF THEMSELVES.

THE BEGINNING OF A NEW ORGANISM.

0200615 REPTILES (EXTINCT)

0200615001 KNOW THAT DINOSAURS ARE NO LONGER IN EXISTENCE, BUT ARE STILL
GER

0200615002 DESCRIBE DINOSAURS BY OBSERVING PICTURES OR MODELS AND DRAWING P
PRESENT DAY REPTILES. DI G P

0203615 REPTILES (EXTINCT)

0203615001 TELL WHAT EXTINCT MEANS.

0203615002 TELL WHY DINOSAURS ARE EXTINCT.

0205615 REPTILES (EXTINCT)

0205615001 RESEARCH HOW CHANGES OF ENVIRONMENT AFFECTED DINOSAURS. NME

0205615002 KNOW THAT FURTHER ADAPTATIONS LED TO DOMINANCE BY THE DINOSAURS
DISAPPEARANCE. DI LED

GER IN EXISTENCE, BUT ARE SIMILAR TO PRESENT DAY REPTILES.

G PICTURES OR MODELS AND DISCUSSING THAT THEY NO LONGER EXIST, BUT ARE SIMILAR TO

WMENT AFFECTED DINOSAURS.

LED TO DOMINANCE BY THE DINOSAURS FAILURE TO ADAPY TO CHANGES LED TO THEIR

0201620	SCIENTIFIC METHOD	
0201620001	WITH SERIES OF EXPERIENCES RELATING TO OBSERVATION AND SITUATION.	INFERE
0202620	SCIENTIFIC METHOD	
0202620001	KEEP AN ACCURATE RECORD OF OBJECTS USED IN EXPERIMENT	AND TH
0202620002	AFTER COLLECTING INFORMATION ABOUT HOW ORGANISM OF LISTS, NOTES, OR PICTURES.	INTERA
0202620003	KEEP AN ACCURATE RECORD OF OBJECTS YOU HAVE OBSERVED	INTERA
0202620004	FOLLOWING A QUESTION AND ANSWER PERIOD DEFINING THE MAKE A LIST OF AT LEAST THREE DIFFERENCES BETWEEN AN	DIFFERE OBSERVA
0204620	SCIENTIFIC METHOD	
0204620001	KNOW THAT A HYPOTHESIS MUST BE TESTED WITH EVIDENCE.	
0204620002	KNOW THAT A HYPOTHESIS IS BASED ON OBSERVATION AND DESIGN OF THE INVESTIGATION.	ANALYS
0204620003	EXPLAIN THE MEANING OF THE WORD HYPOTHESIS.	
0204620004	IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.	
0204620005	PROVIDED WITH A SERIES OF EXPERIENCES RELATING TO EXAMPLES OF THOSE WHICH ARE OBSERVATIONS AND THOSE	OBSERV WHICH A
0204620006	UNDERS AND THE USEFULNESS OF THE CONCEPT OF CHANGE,	
0204620007	AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTR FOR THE CHANG.	PHYSICA

RELATING TO OBSERVATION AND INFERENCES MAKE OBSERVATION AND INFERENCE ABOUT A

SUBJECTS USED IN EXPERIMENT AND THE RESULTS OF EXPERIMENT.

ABOUT HOW ORGANISMS INTERACT WITH THEIR ENVIRONMENT, RECORD IT IN THE FORMS

SUBJECTS YOU HAVE OBSERVED INTERACTING AT A DISTANCE (MAGNETISM).

PERIOD DEFINING THE DIFFERENCE BETWEEN AN 'OBSERVATION' AND AN 'INFERENCE',
THE DIFFERENCES BETWEEN AN OBSERVATION AND AN INFERENCE WITH 100 PER CENT ACCURACY.

BE TESTED WITH EVIDENCE.

BASED ON OBSERVATION AND ANALYSIS OF OBJECTS AND EVENTS. IT DETERMINES THE

WORD HYPOTHESIS.

DO SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
IN A GIVEN PHENOMENON.

EXPERIENCES RELATING TO 'OBSERVATION' AND 'INFERENCES', SELECT FROM A LIST OF
OBSERVATIONS AND THOSE WHICH ARE INFERENCES WITH 100 PER CENT ACCURACY.

THE CONCEPT OF CHANGE.

AN OBJECT UNDER CONTROLLED PHYSICAL CONDITIONS, ANALYZE AND HYPOTHESIZE A REASON

0204620008	AFTER OBSERVING A CHANGE IN AN OBJECT UNDER CONTROLLED OBJECT UNDER UNCONTROLLED PHYSICAL CONDITION.	PHYSICAL	OBJ CAL
0204620009	DESIGN A SIMPLE EXPERIMENT WHICH DEMONSTRATES INERTIA).	APPLICA	H D
0204620010	DESIGN SIMPLF EXPERIMENT, WHICH DEMONSTRATES APPLICATION OF NEWT IT WITH VARIABLES, DRAW CONCLUSIONS AND MAKE	OF NEWT GENERAL	DE ION
0204620011	DESIGN THREE EXPERIMENTS WHICH DEMONSTRATE 1. INCREASE OR DECR FUNCTION OF TIME (V) (TERMINAL).	OR DECR	DEM
0204620012	DESIGN EXPERIMENT IN WHICH THESE PRINCIPLES OF LEARNING OBSERVATIONS, USING VARIABLES, KEEPING RECORDS, DRAWING	ARE DEMO CONCLUS	E P KEE
0204620013	DESIGN AN EXPERIMENT IN WHICH PRINCIPLES OF LEARNING ARE DEMONSTR FORGETTING, AND RELEARNING.	DEMONSTR	PRIN
0205620	SCIENTIFIC METHOD		
0205620001	APPRECIATE THE PROBLEMS THAT INTEREST A SCIENTIST AND	SOME OF	TER
0205620002	ASSOCIATE SCIENCE WITH EVIDENCE AND REASONING.		AN
0205620003	DESIGN EXPERIMENT SHOWING RELATIONSHIP BETWEEN TIME IT TEMPERATURE. USE THESE STEPS. 1. HYPOTHESIS, 2.	TAKES FO DESIGN,	ION 1.
0205620004	EXAMINE INFERENCES ON WHICH A THEORY IS BUILT AND	REALIZE	HEC
0205620005	IN RESPONSE TO A REQUEST TO DO SO, DESCRIBE DESIGNS THAT WOULD BE MODEL CAN BE USED TO EXPLAIN A GIVEN PHENOMENON.	WOULD BE	SO, GIV
0205620006	CONSTRUCT A DIAGRAM WITH LABELS TO DEMONSTRATE THAT GIVEN MODEL.	MORE THA	TO

OBJECT UNDER CONTROLLED PHYSICAL CONDITION, HYPOTHESIZE WHAT WILL HAPPEN TO THE
 CAL CONDITION.

H DEMONSTRATES APPLICATION OF NEWTON'S FIRST LAW OF MOTION (LAW OF

DEMONSTRATES APPLICATION OF NEWTON'S BASIC LAWS BY DEVELOPING HYPOTHESIS, TEST
 IONS AND MAKE GENERALIZATIONS.

DEMONSTRATE 1. INCREASE OR DECREASE OF SPEED OF AN OBJECT. 2. VELOCITY AS

THE PRINCIPLES OF LEARNING ARE DEMONSTRATED FORMULATING AN HYPOTHESIS FROM
 KEEPING RECORDS, DRAWING CONCLUSIONS AND MAKING GENERALIZATIONS.

PRINCIPLES OF LEARNING ARE DEMONSTRATED MEMORIZATION, REACTIVE INHIBITION,

INTEREST A SCIENTIST AND SOME OF THE METHODS HE USES IN TRYING TO SOLVE THEM.

AND REASONING.

RELATIONSHIP BETWEEN TIME IT TAKES FOR SUBSTANCE TO DISSOLVE IN WATER AND
 1. HYPOTHESIS, 2. DESIGN, 3. RECORD OF OBSERVATIONS, 4. CONCLUSIONS.

THEORY IS BUILT AND REALIZE THAT EVERY THEORY MUST BE TESTED BY EVIDENCE.

SO, DESCRIBE DESIGNS THAT WOULD BE APPROPRIATE TO ILLUSTRATE THAT MORE THAN ONE
 GIVEN PHENOMENON.

TO DEMONSTRATE THAT MORE THAN ONE MODEL CAN SOMETIMES BE USED TO EXPLAIN A

0206620

SCIENTIFIC METHOD

0206620001

KNOW THAT ACHIEVEMENT OF A GOAL INVOLVES INSIGHT AND

REQUIRE IN

0206620002

KNOW THAT DISCOVERY OF NEW PROCESSES AND PRODUCTS
EARLIER TECHNOLOGICAL ADVANCES.

DEPENDS ESS

0206620003

KNOW THAT INVENTION OF NEW MATERIALS DEPENDS ON

UNDERSTRIA

0206620004

KNOW THAT A CONCEPT IS ARRIVED AT ONLY AFTER CAREFUL AND EXTENSIVE

AT

0206620005

RECOGNIZE THAT THE HABIT OF SEEKING RELATIONSHIPS

BETWEEN KIN

0206620006

GAIN FURTHER INSIGHT INTO REFINING PLANS FOR

INVESTI INC

0206620007

KNOW THAT A SCIENTIST IN HIS INVESTIGATIONS USES THE

PROCESS VES

0206620008

KNOW THAT BY STUDYING AND APPLYING CONCEPTS, SCIENTISTS

HAVE FO INC

0206620009

KNOW THAT CONCEPTS ARE A BASE FOR DRAWING INFERENCE.

OR

0206620010

KNOW THAT SEARCHING FOR HIDDEN LIKENESSES LEADS TO

CONCEPT LI

0206620011

KNOW THAT TECHNOLOGISTS APPLY CONCEPTS.

ON

0206620012

DEMONSTRATE THE TESTING OF HYPOTHESIS, INDICATING
THE RESULTS.

WHETHER TH

INVOLVES INSIGHT AND REQUIRES MAKING OF DEFINITE PLANS.
PROCESSES AND PRODUCTS DEPENDS ON UNDERSTANDING CONCEPTS IN SCIENCE, AS WELL AS
MATERIALS DEPENDS ON UNDERSTANDING BASIC CONCEPTS OF SCIENCE.
NOT ONLY AFTER CAREFUL AND EXTENSIVE INVESTIGATIONS AND EXPERIMENTS.
MAKING RELATIONSHIPS BETWEEN CONCEPTS CAN LEAD TO NEW DISCOVERIES.
MAKING PLANS FOR INVESTIGATIONS.
INVESTIGATIONS USES THE PROCESSES OF LEARNING.
MAKING CONCEPTS, SCIENTISTS HAVE FOUND A MEANS FOR CONQUERING MANY DISEASES.
FOR DRAWING INFERENCES.
SIMILARITIES LEADS TO CONCEPTS.
CONCEPTS.
HYPOTHESIS, INDICATING WHETHER OR NOT HE ACCEPTS HIS OWN HYPOTHESIS, BASED ON

- 0202625 SOIL
- 0202625001 EXPLAIN DIFFRENT WAYS ROCK IS BROKEN DOWN TO BECOME SOIL.
- 0202625002 GIVEN A CROSS-SECTION OF SOILS, RECOGNIZE LAYERS AS TOPSOI
- 0202625003 DESCRIBE THE THINGS WE FIND IN DARK TOPSOIL THAT ARE NOT FOUND
- 0202625004 TELL THE THINGS SOIL MUST HAVE TO MAKE PLANTS GROW WELL.
- 0202625005 TELL HOW SOIL HELPS ANIMALS.
- 0202625006 TELL WAYS THAT ANIMALS HELP TO MAKE GOOD SOIL.
- 0202625007 TELL THE WAYS PLANTS HELP MAKE GOOD SOIL.
- 0203623 SOIL
- 0203625001 EXPLAIN 'THE EARTH'S GREATEST TREASURES ARE IN THE SOIL.
- 0203625002 DO RESEARCH IN LIBRARY AND IN COMMUNITY TO FIND OUT HOW TO CON
- 0203625003 KNOW THAT DIFFERENT KINDS OF SOILS HOLD VARYING AMOUNTS OF WAT
- 0203625004 DEMONSTRATE DIFFERENT KINDS OF SOILS HOLDING VARYING AMOUNT
POURING EQUAL AMOUNTS OF WATER OBSERVING DIFFERENT AMOUNT
- 0203625005 KNOW THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN SOIL AND TH
- 0203625006 IDENTIFY THAT HUMUS SOIL HOLDS MORE WATER THAN GARDEN SOIL A

CK IS BROKEN DOWN TO BECOME SOIL.

SOILS, RECOGNIZE LAYERS AS TOPSOIL, SUBSOIL, AND BEDROCK,

AND IN DARK TOPSOIL THAT ARE NOT FOUND IN SAND AND SUBSOIL.

HAVE TO MAKE PLANTS GROW WELL.

LS.

LP TO MAKE GOOD SOIL.

MAKE GOOD SOIL.

TEST TREASURES ARE IN THE SOIL.

GO IN COMMUNITY TO FIND OUT HOW TO CONSERVE SOIL.

DIFFERENT TYPES OF SOILS HOLD VARYING AMOUNTS OF WATER.

TESTS OF SOILS HOLDING VARYING AMOUNTS OF WATER BY PLACING DIFFERENT TYPES INTO TIN CANS
OBSERVING DIFFERENT AMOUNTS OF WATER PASSING THROUGH SOIL.

CLAY SOIL HOLDS MORE WATER THAN GARDEN SOIL AND THAT (SAND) SOIL HOLDS MORE WATER THAN SAND.

CLAY SOIL HOLDS MORE WATER THAN GARDEN SOIL AND THAT GARDEN SOIL HOLDS MORE WATER THAN SAND.

0203625007 KNOW THAT GARDEN SOIL CONTAINS WATER, A LIQUID.

0203625008 DEMONSTRATE THAT GARDEN SOIL CONTAINS A LIQUID (WATER) BY HEATING
DROPS OF LIQUID TO COLLECT ON THE INSIDE OF THE POT.

0203625009 KNOW THAT GARDEN SOIL CONTAINS AIR.

0203625010 DEMONSTRATE THAT GARDEN SOIL CONTAINS AIR, BY POURING WATER
FROM THE SOIL UP THROUGH THE WATER AND OUT INTO THE AIR.

0203625011 KNOW THAT GARDEN SOIL CONTAINS MATERIALS THAT WILL PASS THROUGH

0203625012 DEMONSTRATE THAT DISSOLVED MATERIALS IN WATER-SOIL MIXTURE
COLLECTED THROUGH FILTER INTO A SHALLOW GLASS PAN, ALLOWING

0203625013 KNOW THAT THE SUBSTANCES LEFT AFTER EVAPORATION OF WATER-

0203625014 NAME, AS MINERALS, THE SUBSTANCES LEFT FROM EVAPORATION OF THE

0203625015 KNOW THAT DISSOLVED MATERIALS IN THE WATER-SOIL MIXTURE CAN BE

0203625016 DEMONSTRATE THAT SOIL CONTAINS MATERIALS THAT WILL PASS THROUGH
POURING THE MIXTURE INTO A FILTER, CAUSING THE CLOUDY LIQUID

0204625 SOIL

0204625001 KNOW THAT MOVING WATER CONTAINS MANY PARTICLES OF SOIL.

0204625002 DEMONSTRATE SOME SOIL SUBSTANCES DISSOLVE IN WATER BY MIXING
EVAPORATING WATER THAT PASSES THROUGH LEAVING RESIDUE OF PARTICLES

0204625003 KNOW THAT WATER CAN CARRY SOIL OVER LONG DISTANCES.

TER, A LIQUID.

INS A LIQUID (WATER) BY HEATING SOIL IN A COVERED GLASS COOKING POT, CAUSING
INSIDE OF THE POT.

INS AIR, BY POURING WATER SLOWLY OVER SOIL IN A JAR, CAUSING BUBBLES TO RISE
AND OUT INTO THE AIR.

TERIALS THAT WILL PASS THROUGH A FILTER.

LS IN WATER-SOIL MIXTURE CAN BE RECOVERED, BY POURING CLOUDY WATER
ALLOW GLASS PAN, ALLOWING LIQUID TO EVAPORATE, LEAVING SUBSTANCES.

R EVAPORATION OF WATER-SOIL MIXTURE ARE CALLED MINERALS.

LEFT FROM EVAPORATION OF THE WATER-SOIL MIXTURE.

HE WATER-SOIL MIXTURE CAN BE RECOVERED.

TERIALS THAT WILL PASS THROUGH A FILTER, BY MIXING GARDEN SOIL AND WATER THEN
CAUSING THE CLOUDY LIQUID TO PASS THROUGH.

ANY PARTICLES OF SOIL.

DISSOLVE IN WATER BY MIXING SOIL AND DISTILLED WATER, FILTERING MIXTURE,
OUGH LEAVING RESIDUE OF PARTICLES.

ERIC DISTANCES.

- 0204625004 KNOW HOW SLOW-MOVING WATER CAN BUILD UP LAND.
- 0204625005 KNOW HOW FLOODING WATERS BUILD UP THE SOIL IN VALLEYS.
- 0204625006 KNOW THAT AS WATER SLOWS DOWN AT THE MOUTH OF A RIVER, IT
- 0204625007 KNOW HOW TREES HOLD SOIL WITH THEIR ROOTS AND THEY PRO
- 0204625008 DEMONSTRATE THAT PLANTS (ROOTS) HOLD SOIL.
- 0204625009 DEMONSTRATE THAT FALLEN LEAVES HELP TO HOLD SOIL BY PLAN
OVER LEAVES CAUSING SAND TO BE WASHED AWAY EXCEPT UNDER LEA

WATER CAN BUILD UP LAND.

PLANTS BUILD UP THE SOIL IN VALLEYS.

PLANTS GROW DOWN AT THE MOUTH OF A RIVER, . IT DEPOSITS SOIL.

PLANTS WITH THEIR ROOTS AND THEY PROVIDE COVER.

(ROOTS) HOLD SOIL.

PLANTS LEAVES HELP TO HOLD SOIL BY PLACING LEAVES ON THIN LAYER OF SAND SPRINKLING WATER
SO IT DOES NOT TO BE WASHED AWAY EXCEPT UNDER LEAVES.

0201630 SOLAR SYSTEM

0201630001 DEMONSTRATE THE SUN-MOON-EARTH LIGHT RELATIONSHIP, BY SHINING
CAUSING IT TO REFLECT-ONTO AN EARTH GLOBE.

0202630 SOLAR SYSTEM

0202630001 KNOW THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN.

0202630002 KNOW THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN.

0202630003 DEMONSTRATE THAT THE EARTH ROTATES AS IT REVOLVES AROUND THE SUN,
AND BY REVOLVING THE EARTH GLOBE AS IT IS MOVED AROUND THE LAMP

0202630004 DEMONSTRATE THAT THE EARTH REVOLVES IN AN ORBIT AROUND THE SUN,
THE SUN AND EARTH.

0202630005 KNOW THAT THE LIGHTED AREA OF THE MOON CHANGES SHAPE, IN RELATION

0202630006 DEMONSTRATE HOW THE LIGHTED AREA OF THE MOON CHANGES SHAPE, I
BY USING AN ORANGE AND A FLASHLIGHT.

0203630 SOLAR SYSTEM

0203630001 STATE THE 'BIG IDEA' OF THIS UNIT---ALL THE PLANETS AND THEIR MO

0203630002 USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, TELL WHI
THAN THE EARTH.

0203630003 NAME THE PLANETS IN ORDER OF THEIR DISTANCE FROM THE SUN.

0203630004 EXPLAIN WHY WE THINK THAT EARTH IS THE ONLY PLANET ON-- WHICH WE

0203630005 TELL WHICH PLANET HAS MANY GREEN PLANTS AND MANY ANIMALS.

LIGHT RELATIONSHIP, BY SHINING A FLASHLIGHT BEAM AGAINST WHITE PAPER AND
EARTH GLOBE.

AN ORBIT AROUND THE SUN.

IT REVOLVES AROUND THE SUN.

CHANGES AS IT REVOLVES AROUND THE SUN, BY USING AN EARTH GLOBE AND AN ELECTRIC LAMP,
AS IT IS MOVED AROUND THE LAMP.

MOVES IN AN ORBIT AROUND THE SUN, BY USING A LARGE AND SMALL BALL AS MODELS OF

THE MOON CHANGES SHAPE, IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS.

THE SHAPE OF THE MOON CHANGES AS IT MOVES IN RELATION TO THE SUN, EARTH, AND MOON POSITIONS
AND LIGHT.

IT---ALL THE PLANETS AND THEIR MOONS GET THEIR ENERGY FROM THE SUN.

KNOWING THE DISTANCES OF PLANETS AND THE SUN, TELL WHICH TWO PLANETS RECEIVE MORE HEAT FROM THE SUN

AND THEIR DISTANCE FROM THE SUN.

EARTH IS THE ONLY PLANET ON WHICH WE COULD LIVE.

IT HAS MANY PLANTS AND MANY ANIMALS.

- 0203630006 TELL DIFFERENCE BETWEEN ROTATION AND REVOLUTION OF THE EARTH
- 0203630007 RECOGNIZE HOW ROTATION AND REVOLUTION CAUSE CHANGES IN LENGTH OF DAY AND NIGHT ON EARTH.
- 0203630008 USE A PLANETARIUM AND KNOWLEDGE GAINED FROM INDIVIDUAL STUDY OF THE SUN, AND ITS REVOLUTION AND ROTATION DETERMINE WHAT SEASONS ARE CAUSED BY THE TILTING OF THE EARTH'S AXIS.
- 0203630009 USING A PICTURE SHOWING POSITION OF PLANETS AND THE SUN, TELL WHICH PLANETS RECEIVE THE MOST HEAT FROM THE SUN.
- 0203630010 DEMONSTRATE THE PATH OF THE MOON, BY USING PEOPLE AS MODELS OF THE MOON AROUND THE EARTH SO THAT THE STUDENT-MOON ALWAYS REMAINS BETWEEN THE EARTH AND THE SUN.
- 0203630011 KNOW THE PATH OF THE MOON IN RELATIONSHIP TO THE SUN AND THE EARTH.
- 0203630012 DESCRIBE THAT ONE SIDE OF THE MOON ALWAYS FACES THE EARTH. DEMONSTRATE THIS BY USING PEOPLE AS MODELS OF THE MOON.
- 0203630013 KNOW THAT ONE SIDE OF THE MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS REMAIN BETWEEN THE EARTH AND THE SUN.
- 0203630014 USE A PLANETARIUM AND SHOW HOW AND WHY THE MOON APPEARS TO CHANGE PHASES.
- 0203630015 DESCRIBE SIZE, SHAPE, COLOR, STATE OF MATTER, AND TEMPERATURE OF THE MOON.
- 0203630016 IF GIVEN ACCESS TO TELESCOPE, COMPARE HOW THE MOON LOOKS THROUGH A TELESCOPE WITH THE UNASSISTED EYE.
- 0203630017 USE MATHEMATICAL EQUATION TO SHOW HOW THE MASS OF MOON AFFECTS GRAVITY ON THE EARTH.

0204630 SOLAR SYSTEM

- 0204630001 GIVEN INFORMATION ON THE PLANETS OF OUR SOLAR SYSTEM ORALLY

ROTATION AND REVOLUTION OF THE EARTH.

REVOLUTION CAUSE CHANGES IN LENGTH OF DAYLIGHT AND TYPE OF SEASON ON GIVEN AREA OF

KNOWLEDGE GAINED FROM INDIVIDUAL STUDY TO DISCUSS HOW THE SIZE OF A PLANET, ITS POSITION
 REVOLUTION AND ROTATION DETERMINE WHAT IT IS LIKE.

POSITION OF PLANETS AND THE SUN, TELL WHICH PLANET HAS MOST NEARLY THE SAME AMOUNT OF

THE MOON, BY USING PEOPLE AS MODELS OF THE MOON, EARTH, AND SUN, AND BY MOVING THE
 THAT THE STUDENT-MOON ALWAYS FACES THE EARTH.

IN RELATIONSHIP TO THE SUN AND EARTH.

THE MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN, BY OBSERVING THE
 THE PATH OF THE MOON IS DEMONSTRATED.

MOON ALWAYS FACES THE EARTH BUT DOES NOT ALWAYS FACE THE SUN.

HOW AND WHY THE MOON APPEARS TO CHANGE.

OR, STATE OF MATTER, AND TEMPERATURE OF SUN AND EARTH.

HOPE, COMPARE HOW THE MOON LOOKS THROUGH A TELESCOPE WITH HOW IT LOOKS TO THE EYE.

TO SHOW HOW THE MASS OF MOON AFFECTS THE WEIGHT OF AN OBJECT ON THE MOON.

- 0204630002 GIVEN REFERENCE MATERIALS ABOUT PLANETS, TRANSLATE THE PLANET M
MODELS.
- 0204630003 KNOW THAT SINCE CHANGE IS CONSTANT ALL LIVING THINGS CHANGE.
SPACE ARE CONSTANTLY CHANGING.
- 0204630004 KNOW THAT AN OBJECT TENDS TO MOVE IN A STRAIGHT LINE.
- 0204630005 DEMONSTRATE THAT BALL ATTACHED TO SLACK THREAD WILL ROLL IN STRAI
TO TAUT THREAD WILL ROLL IN CURVED LINE WHEN PUSHED.
- 0204630006 KNOW THAT THE SHAPE OF ORBITS AND THE POSITION OF BODIES IN SPACE
- 0204630007 UNDERSTAND WHY THE MOTION AND PATH OF CELESTIAL BODIES ARE PRED
- 0204630008 KNOW THAT IT OCCURED TO NEWTON THAT THE PULL OF GRAVITAT
- 0204630009 KNOW THAT THE MOON IS MOVING IN AN ORBIT AROUND THE EARTH.
- 0204630010 KNOW THAT THE PULL OF GRAVITATION BETWEEN EARTH AND MOON SHAPES T
- 0204630011 KNOW THAT THE MOON TAKES ABOUT 28 DAYS TO MAKE ONE COMPLETE
- 0204630012 KNOW WHY THE CHANGING SHAPE OF THE MOON IS DUE TO ITS MOTION A
- 0204630013 DEMONSTRATE HOW MOON'S SHAPE SEEMS TO CHANGE BY HOLDING BALL AND
CAUSING LIGHTED PART OF BALL TO CHANGE SHAPE.
- 0204630014 GIVEN REMOTE LIGHT SOURCE, DESCRIBE THAT SHAPE OF LIGHTED P
THE BALL CIRCLES BUT DOES NOT APPEAR TO CHANGE TO ANY OTHER OBS
- 0204630015 PREDICT THE OBSERVABLE CHANGES IN THE MOON OVER A PERIOD OF 14 OR
ORBIT AND THE MOTION OF THE MOON.

ABOUT PLANETS, TRANSLATE THE PLANET MEASUREMENTS INTO SCALE TERMS AND CONSTRUCT
CONSTANT ALL LIVING THINGS CHANGE. THEREFORE EARTH AND ALL THE OTHER BODIES IN
NG.
D MOVE IN A STRAIGHT LINE.
HED TO SLACK THREAD WILL ROLL IN STRAIGHT LINE WHEN IT IS PUSHED AND THAT ONE ATTACHE
CURVED LINE WHEN PUSHED.
TS AND THE POSITION OF BODIES IN SPACE ARE PREDICTABLE.
ND PATH OF CELESTIAL BODIES ARE PREDICTABLE.
ON THAT THE PULL OF GRAVITATION EXTENDED BEYOND THE EARTH TO THE MOON,
S IN AN ORBIT AROUND THE EARTH.
TATION BETWEEN EARTH, AND MOON SHAPES THE MOON'S ORBIT AROUND THE EARTH,
OUT 28 DAYS TO MAKE ONE COMPLETE ORBIT AROUND THE EARTH.
OF THE MOON IS DUE TO ITS MOTION AROUND THE EARTH.
E SEEMS TO CHANGE BY HOLDING BALL AND TURNING IT SLOWLY WHILE FLASHLIGHT SHINES ON IT
TO CHANGE SHAPE.
DESCRIBE THAT SHAPE OF LIGHTED PART OF BALL APPEARS TO CHANGE TO OBSERVER WHOM
OT APPEAR TO CHANGE TO ANY OTHER OBSERVER.
SES IN THE MOON OVER A PERIOD OF 14 OR 28 NIGHTS RELATING THE CHANGES TO THE SHAPE OF
MOON.

- 0204630016 SHOW UNDERSTANDING OF THESE WORDS IN A MATCHING TEST ELLIPSE.
- 0204630017 KNOW THAT THE HEAD OF A COMET IS A MIXTURE OF ICE AND
- 0204630018 KNOW THAT A COMET, LIKE THE MOON, MAY TRAVEL IN A
- 0204630019 KNOW THAT THE GRAVITATIONAL PULL OF JUPITER MAY AFFECT
- 0204630020 KNOW THAT THE ORBIT OF HALLEY'S COMET IS AN ELLIPSE.
- HISTORY REASONING FOR SUCH PREDICTION.
- 0204630022 KNOW WHY SOME COMETS DO NOT RETURN.
- 0204630023 CONSTRUCT MODEL OF ORBIT OF COMET BY DRAWING ON FLOOR CHALK TO TRACE ORBIT LIKE THAT OF COMET.
- 0204630024 KNOW THAT METEORS MAY BE FRAGMENTS OF DISINTEGRATED
- 0204630025 KNOW THAT FRICTION OF A METEOR AGAINST THE ATMOSPHERE
- 0204630026 KNOW WHY METEORS DO NOT APPEAR AT REGULAR TIMES.
- 0204630027 IDENTIFY METEORS BY OBSERVING THE NIGHT SKY DURING
- 0204630028 DESCRIBE METEORS BY RECORDING THEIR CHARACTERISTICS AS

WORDS IN A MATCHING TEST FULL MOON, HALF MOON, METEOR, METEORITE, COMET, AND
 ET IS A MIXTURE OF ICE AND ROCK.
 MOON, MAY TRAVEL IN A PREDICTABLE ORBIT.
 PULL OF JUPITER MAY AFFECT HALLEY'S COMET.
 EY'S COMET IS AN ELLIPSE.
 PREDICTION. RELATING SHAPE OF ORBIT, MOTION AROUND THE SUN AND PAST
 RETURN.
 COMET BY DRAWING ON FLOOR SCALE MODEL OF PART OF SOLAR SYSTEM USING STRING AND
 HAT OF COMET.
 AGMENTS OF DISINTEGRATED COMETS.
 TEOR AGAINST THE ATMOSPHERE RESULTS IN HEAT AND LIGHT.
 PEAR AT REGULAR TIMES.
 ING THE NIGHT SKY DURING TIMES OF METEOR SHOWERS.
 ING THEIR CHARACTERISTICS AS BRIGHTNESS, COLOR, DIRECTION PATHS, AND LASTING TIME.

0205630 SOLAR SYSTEM

0205630001 CONSTRUCT MODEL OF SUN-EARTH-MOON SYSTEM.

0205630002 GIVEN THE PROPERTIES OF THE PLANETS OF OUR SOLAR SYSTEM, ORDER OR NUMBER OF MOONS.

0205630003 GIVEN THE PROPERTIES OF THE PLANETS, COMPARE THE KNOWN PHYSIC

0205630004 CONSTRUCT DIAGRAM OF ELLIPTICAL SHAPE OF EARTH'S ORBIT. USE PA ACCORDING TO ARRANGEMENT IN TEXT.

0205630005 DEMONSTRATE MOVING THUMB TACKS FARTHER APART CAUSES MORE ELONGA CIRCLE.

0205630006 CONSTRUCT HYPOTHESIS OF WHAT ELLIPSE WILL LOOK LIKE IF THUMB

0205630007 DESCRIBE THAT TIME IS LEAST FOR EARTH TO ROTATE, MORE FOR MO REVOLVE AROUND SUN.

0205630008 KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND ENERGY

0205630009 KNOW THAT THE EARTH IS IN CONSTANT MOTION.

0205630010 KNOW THAT BODIES IN SPACE, AS WELL AS THEIR MATTER AND ENERGY

0205630011 KNOW THAT TO ALTER THE PATH OF A BODY IN SPACE, ENERGY MUST B GRAVITATIONAL PULL AND INERTIAL MOTION.

0205630012 KNOW THAT INERTIA AND GRAVITATION AFFECT THE PATH OF BODIES

0205630013 KNOW THAT THE MASSES OF THE SUN AND THE PLANETS DIFFER HENCE,

0205630014 INFER THE NEWTON'S LAWS OF GRAVITATION AND MOTION HELP EXPLAIN

ON SYSTEM.

PLANETS OF OUR SOLAR SYSTEM, ORDER AT LEAST THREE PLANETS ACCORDING TO COLOR, SIZE,

PLANETS, COMPARE THE KNOWN PHYSICAL FEATURES OF TWO PLANETS.

SHAPE OF EARTH'S ORBIT. USE PAPER, PENCIL, RULER, 2 THUMB TACKS, STRING

MOVE THEM FARTHER APART CAUSES MORE ELONGATED ELLIPSE MOVE TOGETHER MAKES ORBIT MORE LIKE

CIRCLE. HOW THE ELLIPSE WILL LOOK LIKE IF THUMB TACKS ARE MOVED CLOSER OR FARTHER.

THE RATE OF EARTH TO ROTATE, MORE FOR MOON TO REVOLVE AROUND EARTH, GREATEST FOR EARTH TO

REvolve AS THEIR MATTER AND ENERGY, ARE IN CONSTANT CHANGE.

CONSTANT MOTION.

AS THEIR MATTER AND ENERGY, ARE IN CONSTANT CHANGE.

TO AFFECT THE MOTION OF A BODY IN SPACE, ENERGY MUST BE APPLIED TO AFFECT THE RELATIONSHIP BETWEEN

THE MOTION OF BODIES TRAVELING IN SPACE.

THE GRAVITATIONAL PULLS OF THE PLANETS DIFFER HENCE, THEIR GRAVITATIONAL PULLS DIFFER.

THE GRAVITATIONAL PULLS AND MOTION HELP EXPLAIN THE ORIGIN OF THE SOLAR SYSTEM.

- 0205630015 SENSE HOW SCIENTISTS AND ENGINEERS CAN PREDICT ORBITS.
- 0205630016 KNOW THAT THE POSITION AND MOTION OF THE MOON ARE AF
- 0205630017 KNOW THAT EXPLORATION OF THE MOON DEPENDS UPON UN
SPACE ARE AFFECTED BY GRAVITATION AND INFRTIAL MOTION.
- 0205630018 KNOW THAT ROTATION AND REVOLUTION DIFFER FOR DIFFERENT BC
- 0205630019 SENSE SOME RELATIONSHIPS BETWEEN DISTANCES AND TIME IN SF
- 0205630020 DISCOVER THAT ENORMOUS DISTANCES IN SPACE REQUIRE A NEW UN
- 0205630021 REASON OUT A METHOD FOR MEASURING THE DISTANCE TO DE
- 0205630022 RELATE THEIR KNOWLEDGE OF THE LAWS OF MOTION TO A MOON LA
- 0205630023 KNOW THAT THE FLIGHT OF A SPACECRAFT TO THE MOON IS AF
- 0205630024 FIGURE HIS WEIGHT IF ONE COULD GET COMPLFTELY AWAY FROM GF
- 0205630025 GIVE CORRECT ANSWERS ABOUT ONE'S MASS ON THE MOON.
- 0205630026 GIVE AN EXAMPLE OF HOW ONE WOULD FIGURE ONE'S WEIGHT ON TH

ENGINEERS CAN PREDICT ORBITS.
AND MOTION OF THE MOON ARE AFFECTED BY GRAVITATION AND INERTIAL MOTION.
THE MOON DEPENDS UPON UNDERSTANDING HOW THE POSITION AND MOTION OF BODIES IN
GRAVITATION AND INERTIAL MOTION. BODIES IN SPACE.
REVOLUTION DIFFER FOR DIFFERENT BODIES IN SPACE.
S BETWEEN DISTANCES AND TIME IN SPACE TRAVEL.
DISTANCES IN SPACE REQUIRE A NEW UNIT OF MEASUREMENT.
MEASURING THE DISTANCE TO OBJECTS IN SPACE.
OF THE LAWS OF MOTION TO A MOON LAUNCH AND LANDING.
A SPACECRAFT TO THE MOON IS AFFECTED BY GRAVITATION.
E COULD GET COMPLETELY AWAY FROM GRAVITATION.
OUT ONE'S MASS ON THE MOON.
ONE WOULD FIGURE ONE'S WEIGHT ON THE MOON.

0205635 SOLAR SYSTEM (STARS)

0205635001 BECOME AWARE OF THE ENORMOUS TEMPERATURES OF STARS.

0205635002 KNOW THAT THE STARS ARE CONTINUALLY CHANGING.

0205635003 EXPLAIN WHAT A SPECTROSCOPE TELLS US ABOUT THE

0205635004 DEMONSTRATE OR TELL HOW WE KNOW THAT THE STARS MOVE.

0205635005 DEMONSTRATE THAT A TELESCOPE MUST MOVE TO STAY POINTED AT NORTH STAR WITH SHUTTER OPEN THREE HOURS CAUSING

0206635 SOLAR SYSTEM (STARS)

0206635001 KNOW THAT NUCLEAR REACTIONS PRODUCE THE RADIANT ENERGY

0206635002 KNOW THAT NUCLEAR REACTIONS ARE THE SOURCE OF THE SUN'S

0206635003 KNOW THAT ANALYSIS OF LIGHT FROM A STAR HELPS US THROUGH THE DOPPLER EFFECT FOR LIGHT.

0206635004 KNOW THAT THE HEAT ENERGY OF A STAR IS A CLUE TO ITS

0206635005 KNOW THAT THE HEAT, TEMPERATURE, AND SIZE OF A STAR CAN

0206635006 KNOW THAT THE TOTAL HEAT AND LIGHT ENERGY OF A STAR IS A

0206635007 KNOW THAT THE MILKY WAY GALAXY IS VAST IN THE NUMBER OF

0206635008 KNOW THAT THE NUMBER OF STARS IS ESTIMATED BY SAMPLING

DIOUS TEMPERATURES OF STARS,

CONTINUALLY CHANGING.

PE TELLS US ABOUT THE

TEMPERATURE AND SUBSTANCES IN A STAR.

E KNOW THAT THE STARS MOVE.

PE MUST MOVE TO STAY POINTED
R OPEN THREE HOURS CAUSING

AT THE SAME STAR BY USING CAMERA REMAINING MOTIONLESS
CURVED TRACKS OF LIGHT ON FILM.

NS PRODUCE THE RADIANT ENERGY

OF STARS, AND CONSEQUENT CHANGE.

NS ARE THE SOURCE OF THE SUN'S

ENERGY.

HT FROM A STAR HELPS US
T FOR LIGHT.

DETERMINE ITS DIRECTION TOWARD OR AWAY FROM THE EARTH

OF A STAR IS A CLUE TO ITS

SIZE.

RATURE, AND SIZE OF A STAR CAN

BE DETERMINED BY ANALYSIS OF ITS LIGHT.

AND LIGHT ENERGY OF A STAR IS A FURTHER CLUE TO ITS SIZE.

GALAXY IS VAST IN THE NUMBER OF

ITS STARS AND THE DISTANCES BETWEEN THEM.

TARS IS ESTIMATED BY SAMPLING

REGIONS OF A GALAXY.

0206635009 KNOW THAT IN ORDER TO ESTIMATE THE TOTAL NUMBER OF STARS IN
DIMENSIONS. THE LIGHT-YEAR UNIT OF DISTANCE IS CON

0206635010 KNOW THAT WE SEE THE SOLAR SYSTEM AND OUR GALAXY AS IT WAS

0206635011 KNOW THAT STARS ARE CONTINUALLY CHANGING.

0206635012 KNOW THAT MOST STARS UNDERGO GRADUAL CHANGE.

0206635013 KNOW THAT SYSTEMS OF STARS MAY HAVE FORMED FROM SUP

0206635014 KNOW THAT THE POSITION OF THE STARS CHANGES IN A PRE

0206635015 KNOW THAT THE CHANGING POSITIONS OF BODIES IN SPACE CAN BE

THE TOTAL NUMBER OF STARS IN THE MILKY WAY, WE MUST DETERMINE THE GALAXY'S
DISTANCE IS CONVENIENT.

SYSTEM AND OUR GALAXY AS IT WAS IN THE PAST.

Y CHANGING.

GRADUAL CHANGE.

Y HAVE FORMED FROM SUPERNOVAS.

STARS CHANGES IN A PREDICTABLE AND ORDERLY WAY.

ONS OF BODIES IN SPACE CAN BE PLOTTED WITH ACCURACY.

- 0201640 SOUND
- 0201640001 RECOGNIZE OBJECTS THAT MAKE SOUNDS THAT YOU CAN HEAR.
- 0201640002 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH
- 0201640003 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH
- 0201640004 GIVEN ONE SOUND FOLLOWED BY ANOTHER SOUND, RECOGNIZE WHICH
- 0201640005 CLASSIFY OBJECTS BY THE SOUNDS THEY MAKE.
-
- 0202640 SOUND
- 0202640001 KNOW THAT SOUND IS A RESULT OF SOMETHING MOVING.
- 0202640002 DEMONSTRATE THAT SOUND IS A RESULT OF SOMETHING MOVING, BY USING
BANDS.
- 0202640003 KNOW THAT SOUND TRAVELS THROUGH VARIOUS SUBSTANCES, SUCH AS WATER
- 0202640004 DEMONSTRATE THAT SOUND TRAVELS THROUGH VARIOUS SUBSTANCES
SIMPLE SOUND MAKERS.
- 0202640005 KNOW THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY VARYING
- 0202640006 DEMONSTRATE THAT SOME SOUNDS ARE HIGH AND SOME ARE LOW, BY VARYING
MAKERS, SUCH AS DIFFERENT SIZE RUBBERBANDS ON A SOUND BOX.
- 0202640007 KNOW THAT THE PAPER HORN HELPS THE EAR COLLECT MORE SOUND
- 0202640008 CONSTRUCT A PAPER HORN FOR LISTENING, USING CONSTRUCTION PAPER

SOUNDS THAT YOU CAN HEAR.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS LOUDER.

ANOTHER SOUND, RECOGNIZE WHICH SOUND HAS HIGHER PITCH.

ANOTHER SOUND, RECOGNIZE WHICH SOUND IS MORE PLEASANT.

SOUNDS THEY MAKE.

SOUNDS OF SOMETHING MOVING.

SOUNDS AS A RESULT OF SOMETHING MOVING, BY USING SIMPLE MATERIALS SUCH AS SOUND BOXES AND RUBBER

STRINGS THROUGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR.

SOUNDS THROUGH VARIOUS SUBSTANCES, SUCH AS WOOD, WATER, AND AIR, BY USING

SOUNDS WHICH ARE HIGH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND MAKERS.

SOUNDS WHICH ARE HIGH AND SOME ARE LOW, BY VARYING DIMENSIONS AND VIBRATING SPEED OF SOUND BOXES.

HOW THE EAR COLLECTS SOUND.

HEARING, LISTENING, USING CONSTRUCTION PAPER AND PAPER FASTENERS.

0202640009 DEMONSTRATE THAT THE PAPER HORN HELPS THE EAR COLLECT MO
LISTENS TO SOUNDS.

0203640 SOUND

0203640001 DEMONSTRATE HOW SOUNDS WILL BE DIFFERENT WHEN MADE BY DI

0204640 SOUND

0204640001 EXPLAIN HOW SOUND AS A VIBRATION CREATES A TO-AND-FRO MO

0204640002 KNOW THAT SOUND IS CAUSED BY A VIBRATING OBJECT.

0204640003 EXPLAIN THE STATEMENT - WHERE THERE IS SOUND THERE IS MO

0204640004 DESCRIBE THAT THE RUBBER BAND AND RULER MOVE AS SOUND IS PR

0204640005 DEMONSTRATE THAT VIBRATION CAUSES SOUND.

0204640006 DEMONSTRATE MAKING OF SOUND, BY PLUCKING A RUBBER BAND ST
ONE END IS HELD AGAINST A TABLE.

0204640007 KNOW THAT SOUND TRAVELS IN WAVES, BY MOLECULAR MOTION.

0204640008 DEMONSTRATE A WAVE BY FLIPPING A LOOP ALONG A ROPE THAT IS
LENGTH OF THE ROPE.

0204640009 KNOW THAT SOUND TRAVELS BY THE MOTION OF MOLECULES,

0204640010 DISCOVER BY INVESTIGATION THAT WAVES TRANSMIT ENERGY IN AL

HORN HELPS THE EAR COLLECT MORE SOUND, BY HOLDING THE HORN AGAINST HIS EAR WHILE HE

BE DIFFERENT WHEN MADE BY DIFFERENT OBJECTS.

MOTION CREATES A TO-AND-FRO MOTION.

BY A VIBRATING OBJECT.

WHERE THERE IS SOUND THERE IS MOVEMENT.

THE RULER AND RULER MOVE AS SOUND IS PRODUCED.

THIS CAUSES SOUND.

BY PLUCKING A RUBBER BAND STRETCHED AROUND A PIE TIN AND BY PLUCKING A RULER WHILE

MOVING WAVES, BY MOLECULAR MOTION.

MOVING A LOOP ALONG A ROPE THAT IS TIED AT THE OTHER END, CAUSING THE LOOP TO TRAVEL THE

THE MOTION OF MOLECULES.

WAVES TRANSMIT ENERGY IN ALL DIRECTIONS.

- 0204640011 CONSTRUCT A STRING TELEPHONE, USING TEN FEET OF STRING AND TWO
- 0204640012 DESCRIBE THAT SOUNDS PASS BETTER THROUGH A SOLID THAN THROUGH
WITHOUT THE STRING TELEPHONE AND BY COMPARING SOUNDS TAPPED
- 0204640013 DEMONSTRATE THAT SOUND IN THE AIR PASSES THROUGH A SOLID,
- 0204640014 KNOW THAT SOUND TRAVELS APPROXIMATELY 1,100 FEET PER SECOND
- 0204640015 KNOW HOW SOUND CAN BE ABSORBED.
- 0204640016 KNOW THAT WHEN SOUND HITS A WALL IT CAN BOUNCE BACK.
- 0204640017 KNOW THAT AN ECHO IS CAUSED BY THE BOUNCE OF SOUND.
- 0204640018 KNOW THAT THE MOLECULAR THEORY EXPLAINS WHY SOUND TRAVELS
- 0204640019 KNOW THAT THE PITCH OF A SOUND DEPENDS ON THE RATE OF THE VIB
- 0204640020 DISCOVER THAT THE RATE OF VIBRATION CAN BE CHANGED IN DIFFERE
- 0204640021 STATE TWO WAYS TO CHANGE PITCH.
- 0204640022 DEMONSTRATE TO PUPILS THAT CHANGING THE RATE OF VIBRATI
- 0204640023 USE A RULER OR RUBBER BANDS TO DEMONSTRATE THE CHANGES IN PITC
- 0204640024 DEMONSTRATE HIGH AND LOW PITCH SOUNDS BY PULLING A PIECE OF STIF DIFFERENT SPEEDS.

USING TEN FEET OF STRING AND TWO PAPER CUPS.

TRAVEL THROUGH A SOLID THAN THROUGH AIR, BY COMPARING WHISPERS HEARD WITH AND WITHOUT EAR ON WALL.
AND BY COMPARING SOUNDS TAPPED ON WALL WITH AND WITHOUT EAR ON WALL.

THE AIR PASSES THROUGH A SOLID, BY USING THE STRING TELEPHONE.

APPROXIMATELY 1,100 FEET PER SECOND IN THE AIR.

ED.

WALL IT CAN BOUNCE BACK.

BY THE BOUNCE OF SOUND.

WHY EXPLAINS WHY SOUND TRAVELS BETTER IN A SOLID THAN IN A GAS.

AND DEPENDS ON THE RATE OF THE VIBRATION.

VIBRATION CAN BE CHANGED IN DIFFERENT WAYS.

CH.

CHANGING THE RATE OF VIBRATION CHANGES THE PITCH.

TO DEMONSTRATE THE CHANGES IN PITCH.

WHICH SOUNDS BY PULLING A PIECE OF STIFF CARDBOARD ACROSS THE TEETH OF A COMB, AT

0204640025	IDENTIFY HIGH PITCH WITH FAST VIBRATIONS OF THE	CARD
0204640026	IN A MATCHING TEST SHOW KNOWLEDGE OF HOW SOUND TRAVELS,	THE
0206640	SOUND	
0206640001	KNOW THAT SOUND IS THE VIBRATION OF MOLECULES IN A	WAVE
0206640002	USE MOLECULAR THEORY AND THE WAVE THEORY TO EXPLAIN HOW	SOUND
	PERSON WHO HEARS IT.	
0206640003	TELL WHAT CONDITIONS ARE NEEDED FOR MAKING AND HEARING	SOUND
0206640004	GIVEN EXPERIMENT WHICH PRODUCES DIFFERENT NUMBERS OF	WAVE
	PER SECOND (FREQUENCY) IS RELATED TO AMOUNT OF FORCE	REQU
0206640005	GIVEN EXPERIMENT AND DIAGRAM SHOWING RESULTS OF	EXPE
	(HEIGHT OR DEPTH) OF THE WAVES AND THE FORCE IT TOOK TO	MAKE
0206640006	DETERMINE THE DISTANCE TRAVELED BY A SOUND THROUGH THE	AIR
	FROM ITS SOURCE TO THE HEARER.	
0206640007	GIVEN LIST OF MATERIALS OR SUBSTANCES THAT TRANSMIT	SOUND
	THOSE WHICH ARE POOR CONDUCTORS.	
0206640008	GIVEN DESCRIPTION OF THE SURFACE OF A MATERIAL, TELL	WHET
	ECHO (REFLECT) IT.	
0206640009	DESIGN EXPERIMENT WHICH DEMONSTRATES RELATIONSHIP	BETW
	AMOUNT OF ENERGY TO VARY THE VOLUME OF SOUND PRODUCED).	
0206640010	RECOGNIZE RELATIVE VOLUME OF A SERIES OF SOUNDS (LOUDEST OR S	
	OR WHEN GIVEN DATA ABOUT THE AMPLITUDE OF VOLUME.	
0206640011	TELL HOW THE PITCH (FREQUENCY) OF A SOUND CAN BE RAISED OR L	
	VIBRATING OBJECT IS CHANGED.	

...ATIONS OF THE CARDBOARD AND COMB, AND LOW PITCH WITH SLOW VIBRATIONS.
 ...OF HOW SOUND TRAVELS, THE CAUSE OF ECHO, AND THE SPEED OF THE TRAVEL OF SOUND.



...OF MOLECULES IN A WAVELIKE PATTERN.

...THEORY TO EXPLAIN HOW SOUND TRAVELS FROM ITS SOURCE (OR BEGINNING) TO THE
 ...OR MAKING AND HEARING SOUNDS.

...DIFFERENT NUMBERS OF WAVES, DRAW DIAGRAM TO DEMONSTRATE THAT NUMBER OF WAVES
 ...TO AMOUNT OF FORCE REQUIRED TO MAKE THEM.

...ING RESULTS OF EXPERIMENT, RECOGNIZE RELATIONSHIP BETWEEN AMPLITUDE
 ...D THE FORCE IT TOOK TO MAKE THOSE WAVES.

...Y A SOUND THROUGH THE AIR GIVEN THE NUMBER OF SECONDS SOUND TAKES TO TRAVEL

...NCES THAT TRANSMIT SOUND, IDENTIFY THOSE WHICH CARRY SOUND WAVES WELL AND

...OF A MATERIAL, TELL WHETHER THE SURFACE WILL TAKE IN SOUND (ABSORB IT), OR

...ATES RELATIONSHIP BETWEEN EXPENDED ENERGY AND VOLUME OF SOUND. (CHANGE
 ...ME OF SOUND PRODUCED).

...RIES OF SOUNDS (LOUDEST OR SOFTEST) WHEN SHOWN GRAPHS PICTURING THEIR AMPLITUDE,
 ...ITUDE OF VOLUME.

...ND CAN BE RAISED OR LOWERED WHEN THE LENGTH, THICKNESS, OR TENSION OF THE

- 0202645 SYSTEMS (INTERACTIONS)
- 0202645001 FIND INFORMATION ABOUT HOW LIVING THINGS INTERACT WITH THEIR
- 0202645002 - EXPLAIN WHAT FACTORS WILL INFLUENCE THE GROWTH OF AN ORGAN
- 0202645003 DESCRIBE HOW THINGS IN AN AQUARIUM INTERACT TO KEEP IT BALANC
- 0202645004 TELL WHAT SHOULD BE ADDED TO THE CLASS AQUARIUM TO KEEP THE AC
- 0202645005 PRESENT ORALLY TO A GROUP FINDINGS ABOUT HOW ORGANISMS INTERA
EXAMPLES.
- 0202645006 DEMONSTRATE THROUGH DRAWING, WRITING, OR SEQUENCING PICTUR
ON THE SUN).
- 0202645007 CLASSIFY SYSTEMS OF OBJECTS ACCORDING TO WHETHER THEY SHOW B
- 0202645008 FIND EVIDENCE OF INTERACTION BY COMPARING SIMILAR EXPERI
- 0202645009 IDENTIFY INTERACTING OBJECTS IN DEMONSTRATIONS OR PICTUR
- 0202645010 RECOGNIZE EVIDENCE OF INTERACTION IN DEMONSTRATIONS OR PICTUR
- 0202645011 RECOGNIZE CONSERVATION WITHIN A SYSTEM IN WHICH OBJECTS CHANGE
- 0202645012 USING VARIOUS SENSES, FIND EVIDENCE OF INTERACTION.
- 0202645013 IDENTIFY THE SENSE OR SENSES USED TO OBSERVE INTERACTION AT A D

ING THINGS INTERACT WITH THEIR ENVIRONMENT. WRITE DOWN WHAT YOU FIND.

ENCE THE GROWTH OF AN ORGANISM.

RIUM INTERACT TO KEEP IT BALANCED.

HE CLASS AQUARIUM TO KEEP THE AQUARIUM BALANCED.

INGS ABOUT HOW ORGANISMS INTERACT IN THEIR ENVIRONMENT USING PICTURES OR REAL

ITING, OR SEQUENCING PICTURES THE MEANING OF FOOD CHAIN, (INCLUDE DEPENDENCE

ORDING TO WHETHER THEY SHOW EVIDENCE OF INTERACTION AT A DISTANCE.

Y COMPARING SIMILAR EXPERIMENTS.

IN DEMONSTRATIONS OR PICTURES.

ION IN DEMONSTRATIONS OR PICTURES.

A SYSTEM IN WHICH OBJECTS CHANGE IN APPEARANCE.

DENCE OF INTERACTION.

ED TO OBSERVE INTERACTION AT A DISTANCE. (MAGNETISM)

0201650 SYSTEMS AND SUBSYSTEMS

0201650001 KEEP AN ACCURATE RECORD OF OBJECTS BELONGING TO A SY

0201650002 CLASSIFY OBJECTS AND MATERIALS INTO SYSTEMS AND SUB

0202650 SYSTEMS AND SUBSYSTEMS

0202650001 RECOGNIZE SYSTEMS OF INTERACTING OBJECTS.

0202650002 IDENTIFY SYSTEMS OF OBJECTS THAT INTERACT AT A DISTANCE.

0202650003 USE THE WORD SYSTEM CORRECTLY BY RECOGNIZING COMMON ELE

0202650004 USE THE WORD SYSTEM TO REFER TO A GROUP OF RELATED OBJ

0203650 SYSTEMS AND SUBSYSTEMS

0203650001 IDENTIFY DEFINITIONS AND EXAMPLES OF SYSTEMS.

0203650002 NAME THE PARTS OF A SOLUTION THAT ARE SUBSYSTEMS OF THAT SOL

0203650003 NAME THE PARTS OF A FILTERING SYSTEM AND TELL WHAT THEY DO.

S BELONGING TO A SYSTEM.

TO SYSTEMS AND SUBSYSTEMS.

OBJECTS.

INTERACT AT A DISTANCE.

RECOGNIZING COMMON ELEMENTS OF OBJECTS WHICH MAKE THEM PART OF THE SAME

GROUP OF RELATED OBJECTS AND RECOGNIZE THE COMMON ELEMENTS OF OBJECTS
SYSTEM.

OF SYSTEMS.

ARE SUBSYSTEMS OF THAT SOLUTION.

STEM AND TELL WHAT THEY DO.

0205655 UNIVERSE

0205655001 KNOW THAT THE UNIVERSE IS IN CONSTANT CHANGE.

0205655002 KNOW THAT COMPONENT BODIES OF THE UNIVERSE ARE IN CONS

0205655003 GIVEN APPROPRIATE REFERENCE MATERIALS, MAKE AN OUTLINE OF T

0205655004 REPORT IN ORAL OR WRITTEN FORM ON THIS TOPIC, 'A RULER FOR DEMONSTRATIONS OR DRAWINGS.,

CONSTANT CHANGE.

THE UNIVERSE ARE IN CONSTANT MOTION.

ATERIALS, MAKE AN OUTLINE OF THE MANY COMPONENT PARTS OF THE UNIVERSE.

ON THIS TOPIC, 'A RULER FOR THE UNIVERSE,' AND SUPPORT THE REPORT WITH

- 0204660 WATER
- 0204660001 KNOW THAT THE WATER SUPPLY IS THE RESULT OF THE CYCLE OF
- 0204660002 DRAW AND EXPLAIN A DIAGRAM SHOWING THE WATER CYCLE.
- 0204660003 EXPLAIN THE WORK OF THE SUN IN THE WATER CYCLE.
- 0204660004 KNOW THAT WATER IS A COMPONENT OF ALL ORGANISMS.
- 0204660005 STATE THAT WATER IS A PART OF ALL LIVING THINGS.
- 0204660006 EXPLAIN HOW SAND CAN BE USED TO FILTER SOME MATERIALS
- 0204660007 CONSTRUCT A MODEL OF A WATER PURIFYING SYSTEM, BY
OVER THE COTTON, SO THAT Poured LIQUIDS WILL PASS
- 0204660008 DEMONSTRATE THE USE OF THE MODEL WATER-PURIFIER BY
FILTERING OUT SOIL PARTICLES, AND ALLOWING MUCH CLEARER
- 0204660009 DEMONSTRATE THAT SETTLING IS ONE WAY OF CLEANING WATER,
STAND FOR A WHILE, CAUSING PARTICLES TO SETTLE TO THE
- 0204660010 KNOW THAT WATER CONTAINING DISSOLVED SUBSTANCES IS
- 0204660011 KNOW THAT THE WATER TABLE MARKS THE WATER LEVEL IN SOIL
- 0204660012 DEMONSTRATE THERE IS A QUANTITY OF WATER IN AN APPLE BY
INTO SMALL PIECES ALLOWING THEM TO DRY FOR FEW DAYS AND
- 0204660013 DESCRIBE THE WEIGHT OF THE APPLE BEFORE AND AFTER
OF THE WATER LOST FROM THE APPLE.

THE RESULT OF THE CYCLE OF EVAPORATION AND CONDENSATION.

THE WATER CYCLE.

THE WATER CYCLE.

FOR ALL ORGANISMS.

FOR ALL LIVING THINGS. (DEMONSTRATING THAT THERE IS WATER IN FOOD).

TO FILTER SOME MATERIALS OUT OF WATER.

TO PURIFY A SYSTEM, BY PLACING COTTON IN A FUNNEL AND ADDING A LAYER OF SAND
LIQUIDS WILL PASS THROUGH THE FILTER INTO A JAR.

TO MAKE A WATER-PURIFIER BY POURING WATER FROM THE SETTLING JAR INTO THE FUNNEL
AND ALLOWING MUCH CLEARER WATER TO PASS THROUGH.

ONE WAY OF CLEANING WATER, BY MIXING WATER AND SOIL, THEN ALLOWING THE MIXTURE TO
LET PARTICLES SETTLE TO THE BOTTOM.

TO REMOVE DISSOLVED SUBSTANCES IS HEAVIER THAN PURE WATER.

TO DETERMINE THE WATER LEVEL IN SOIL.

TO DETERMINE THE AMOUNT OF WATER IN AN APPLE BY WEIGHING APPLE WITH SPRING SCALE. THEN CUTTING APPLE
AND DRYING FOR FEW DAYS AND WEIGHING PIECES AGAIN.

TO DETERMINE THE AMOUNT OF WATER BEFORE AND AFTER DRYING, THE WEIGHT LOST FROM THE APPLE, AND THE WEIGHT

0205665

WEATHER

0205665001

WHEN PRESENTED WITH A LIST OF TERMS CONCERNING WEATHER, CO
TERMS RELATING TO WEATHER AND WEATHER CONDITIONS.

0206665

WEATHER

0206665001

TELL THE DIFFERENCE BETWEEN WEATHER AND CLIMATE. TELL WHA

TERMS CONCERNING WEATHER, CORRECTLY DEFINE IN WRITING TEN OUT OF FIFTEEN OF THESE WEATHER CONDITIONS.

ATHER AND CLIMATE. TELL WHAT ATMOSPHERIC CONDITIONS ARE CHARACTERISTIC OF EACH.

0204670 WEATHER (CLOUDS)

0204670001 KNOW AS RISING AIR COOLS, WATER VAPOR CONDENSES TO FORM

0206670 WEATHER (CLOUDS)

0206670001 IDENTIFY BASIC CLOUD TYPES (CUMULUS, CIRRUS, AND CLOUD FORMATIONS.

ER VAPOR CONDENSES TO FORM A CLOUD.

UMULUS, CIRRUS, AND STRATUS) WHEN GIVEN A DRAWING OR DESCRIPTION OF THESE

5

0206675

WEATHER (FRONTS)

0206675001

RECOGNIZE THE FOUR KINDS OF WEATHER FRONTS (WARM, COLD, STA
EXAMPLE OF EACH.

HER FRONTS (WARM, COLD, STATIONARY, AND OCCLUDED) WHEN GIVEN A DESCRIPTION OR

0204680 WEATHER (PRECIPITATION)

0204680001 KNOW THAT RAIN FORMS AS CLOUD DROPLETS COME TOGETHER INTO

0204680002 UNDERSTAND THAT CLOUD DROPLETS ARE FORMED BY THE COOLING OF

0204680003 KNOW THAT CLOUD DROPLETS COLLIDE TO MAKE RAINDROPS.

0204680004 UNDERSTAND HOW ICE SPECKS MELT TO MAKE RAINDROPS.

0206680 WEATHER (PRECIPITATION)

0206680001 MATCH DIFFERENT FORMS OF PRECIPITATION (RAIN, SLEET, HAIL)

CLOUD DROPLETS COME TOGETHER INTO LARGER DROPS OF WATER.

DROPLETS ARE FORMED BY THE COOLING OF WATER VAPOR.

DROPLETS COLLIDE TO MAKE RAINDROPS.

ICE CRYSTALS MELT TO MAKE RAINDROPS.

PRECIPITATION (RAIN, SLEET, HAIL, SNOW) WITH DESCRIPTION OF HOW EACH IS FORMED.

0205685 WEATHER (PREDICTION)

0205685001 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN AN
WIND AT A GIVEN TIME.

0205685002 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE
GIVEN TIME.

0205685003 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN AN

0205685004 FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET INFOR

0206685 WEATHER (PREDICTION)

0206685001 GIVEN INFORMATION ABOUT FACTORS WHICH CAUSE MOVEMENT OF AIR M
TEMPERATURES AND OTHER FACTORS WHICH CAUSE UNEQUAL HEATI

0206685002 PREDICT CHANGES IN THE WEATHER WHEN GIVEN READINGS FROM RECOR
HYGROMETER).

0206685003 WHEN GIVEN DATA ON A WEATHER MAP, PREDICT THE PARTICULAR TYPES

0206685004 MATCH THE TOOLS USED BY METEOROLOGISTS (ELECTRONIC COMPUTE
SATELLITES) WITH THEIR FUNCTIONS IN PREDICTING WEATHER.

D ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE
D ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A
D ON THE DATA TAKEN FROM AN ANEMOMETER.

KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR A GRAPH.

S WHICH CAUSE MOVEMENT OF AIR MASSES (ANGLE OF SUN'S RAYS, NIGHT AND DAY
WHICH CAUSE UNEQUAL HEATING), PREDICT PROBABLE DIRECTION OF AIR MOVEMENT.

WHEN GIVEN READINGS FROM RECORDING INSTRUMENTS (THERMOMETER, BAROMETER, AND

AP, PREDICT THE PARTICULAR TYPES OF WEATHER CONDITIONS IN THAT AREA.

OLOGISTS (ELECTRONIC COMPUTERS, RADAR, RADIOSONDE, WEATHER BALLOONS AND
NS IN PREDICTING WEATHER.

0204690 WEATHER (RECORDING)

0204690001 KEEP DAILY RECORD OF YOUR OBSERVATIONS OF ELEMENTS OF WEATHER FOR RECORDING ANY INFORMATION YOU CANNOT OBSERVE YOUR

0204690002 USING A RAIN-GAUGE, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690003 USING A RAIN GAUGE, RECORD THE AMOUNT OF RAINFALL FOR A MONTH

0204690004 USING THE THERMOMETER, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690005 USING A WIND VANE, ACQUIRE DATA EACH DAY TO MAKE A LONG

0204690006 USING WEATHER INSTRUMENTS, OBSERVATIONS AND WEATHER KNOWLEDGE, CONSTRUCT A WEATHER TABLE OR GRAPH. KNOW

0204690007 CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM A WEATHER MAP

0204690008 FROM OBSERVATIONS AND WEATHER KNOWLEDGE, INTERPRET INFORMATION

0204690009 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN ANEMOMETER WIND AT A GIVEN TIME. AN A

0204690010 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM AN ANEMOMETER WIND AT A GIVEN TIME. AN A

0204690011 CONSTRUCT A WEATHER CHART BASED ON THE DATA TAKEN FROM A TIDE GAGE AT A GIVEN TIME. A TIDE

0206690 WEATHER (RECORDING)

0206690001 GIVEN DESCRIPTION OF A WEATHER CONDITION, IDENTIFY THE APPROXIMATE APPR

0206690002 CONSTRUCT A POINT GRAPH OR LINE GRAPH FROM THE WEATHER FORECAST

OBSERVATIONS OF ELEMENTS OF WEATHER FOR TWO WEEKS. USE REPORTS FROM WEATHER BUREAU
ON YOU CANNOT OBSERVE YOURSELF.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

THE AMOUNT OF RAINFALL FOR A MONTH AND GRAPH THIS INFORMATION ON A LINE GRAPH.

IRE DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

DATA EACH DAY TO MAKE A LONG-RANGE WEATHER CHART.

OBSERVATIONS AND WEATHER KNOWLEDGE, IDENTIFY AND NAME ALL INFORMATION SHOWN IN A
LINE GRAPH FROM A WEATHER MAP EACH DAY.

ER KNOWLEDGE, INTERPRET INFORMATION SHOWN IN A TABLE OR GRAPH.

ASED ON THE DATA TAKEN FROM AN AEROVANE TO SHOW THE VELOCITY AND DIRECTIONS OF THE

ASED ON THE DATA TAKEN FROM AN ANEMOMETER.

ASED ON THE DATA TAKEN FROM A TIDE GAUGE TO SHOW THE RISE AND FALL OF THE TIDES AT A

HER CONDITION, IDENTIFY THE APPROPRIATE RECORDING INSTRUMENT FOR THE MEASUREMENT OF

LINE GRAPH FROM THE WEATHER FORECAST EACH DAY.

0206695

WEATHER (STORMS)

0206695001

RECOGNIZE DEFINITIONS OF DESTRUCTIVE FORCES OF WEATHER (THUNDERSTORMS)
WHEN GIVEN A DESCRIPTION OR DIAGRAM OF EACH STORM.

FORCES OF WEATHER (THUNDERSTORM, CYCLONE, TYPHOON, HURRICANE, AND TORNADO
OF EACH STORM.



0201700

WEATHER (TEMPERATURE)

0201700001

KNOW THAT CHANGES IN TEMPERATURE CAN BE DISTINGUISHED BY USI

0201700002

DISTINGUISH BETWEEN CHANGES IN TEMPERATURF, AS INDICATED ON
UPWARD IN A WARMER ENVIRONMENT AND DOWNWARD IN A COLDER ENV

0201700003

READ THERMCMETER CORRECTLY 10 OUT OF 12 TIMES.

RE CAN BE DISTINGUISHED BY USING A THERMOMETER.

TEMPERATURE, AS INDICATED ON A THERMOMETER, BY OBSERVING THERMOMETER COLUMN MOVE AND DOWNWARD IN A COLDER ENVIRONMENT.

OUT OF 12 TIMES.