This publication contains curriculum materials and suggestions for teaching disease prevention and control in grades kindergarten through three. Objectives of this program include: (1) understanding that organisms too small to be seen can cause disease, and that many diseases can be transmitted from one person to another; (2) becoming familiar with the fundamental principles of disease prevention and transmission; (3) developing personal habits that will protect individuals and others from communicable diseases; (4) having a basic understanding of community efforts to minimize the communicable disease problem. The publication format is intended to provide teachers with a basic content in the first column, a listing of the major understandings and fundamental concepts which children may achieve, in the second column; and information specifically designed for classroom teachers which should provide them with resource materials, teaching aids, and supplementary information in the third and fourth columns. (KJ)
GRADES K-3

STRAND 1 PHYSICAL HEALTH
DISEASE PREVENTION AND CONTROL

SPECIAL EDITION FOR EVALUATION AND DISCUSSION
THE UNIVERSITY OF THE STATE OF NEW YORK

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HEALTH CURRICULUM MATERIALS
Grades K-3

STRAND 1, PHYSICAL HEALTH
DISEASE PREVENTION AND CONTROL

The University of the State of New York/The State Education Department
Bureau of Elementary Curriculum Development/Albany 12224
Children in the primary grades need to understand the basic principles of disease prevention and control because:

- The initial school years mark the first time that most children work, play, and share in close proximity to, and for extended periods of time with, a large and diverse group of age-mates.

- Many of their absences from school will be the direct or indirect result of communicable diseases.

- Their knowledge of disease transmission is limited.

- They are frequently preoccupied with self and need to be able to comprehend the relationships between the health of the individual and the health of his group.

- These early years are crucial to the development of positive health attitudes and practices that will protect the individual and his group from communicable diseases.
Pupils in grades K-3 should:

- understand that organisms too small to be seen can cause disease, and that many diseases can be transmitted from one person to another.

- be familiar with the fundamental principles of disease prevention and transmission.

- develop personal habits that will protect themselves and others from communicable diseases.

- have a basic understanding of community efforts to minimize the communicable disease problem.
I. Cause of Disease

A. "Germs"

<table>
<thead>
<tr>
<th>Illness is often caused by &quot;germs&quot; that are too small to be seen but are present almost everywhere.</th>
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</thead>
<tbody>
<tr>
<td>Touch various articles in the room while wearing white gloves. Observe how quickly the gloves become soiled, to demonstrate the necessity for washing hands and keeping them away from the face and mouth.</td>
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</tbody>
</table>

B. Reservoirs of Infections

<table>
<thead>
<tr>
<th>Man is the most frequent reservoir (or source) on which germs depend for survival.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inoculate culture media with dirty objects (such as dirty fingers) and with &quot;clean&quot; objects - that is, those that are visibly clean. Incubate and observe bacterial growth. The science teacher may help to prepare the nutrient.</td>
</tr>
</tbody>
</table>

C. How germs get to man:

1. Contact

<table>
<thead>
<tr>
<th>Germs must first be transmitted to a host, such as man, before illness can occur.</th>
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</thead>
<tbody>
<tr>
<td>Communicable diseases are transmitted by:</td>
</tr>
<tr>
<td>1. Contact</td>
</tr>
<tr>
<td>a. direct - actual touching of an infected person as in kissing.</td>
</tr>
<tr>
<td>b. indirect - contact with freshly-contaminated articles such as a contaminated handkerchief.</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Communicable or infectious diseases have specific causative agents, which are minute micro-organisms. These agents identify a disease and enable a physician to destroy the organism and to treat the person ill with the disease.</th>
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<tbody>
<tr>
<td>It is important not to perpetuate the misconception that disease is spread only through visible filth. &quot;Clean&quot; things may be just as contaminated as &quot;dirty&quot; things.</td>
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<td>REFERENCE</td>
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<tr>
<td>-----------</td>
</tr>
<tr>
<td>2. vehicle</td>
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<tr>
<td>3. vector</td>
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<td>4. airborne</td>
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</tbody>
</table>
b. dust - contaminated dust and soils in certain geographical areas may serve to spread diseases.

The occurrence of an infectious disease depends on the interaction of:

1. host - the individual (or animal) infected by the agent.
2. agent - biological, physical, or chemical factor which is necessary for the disease to occur.
3. environment - physical, biological (bacteria, viruses, and toxins), and social.

Children need to know how certain diseases are spread, how the body combats diseases, and the role of immunization in protecting one from disease. Health education relating to diseases helps children learn how they can help in disease prevention and gives them an appreciation of the work done by doctors and other health personnel.
### Reference

**D. How germs enter man's body (Portals of entry)**

1. mouth
2. nose
3. break in skin

**E. Relationship of ear infections to nose blowing**

Infections can spread to the ears from the nose and throat by sniffing and by incorrectly blowing the nose.

### Major Understandings and Fundamental Concepts

Illness can occur only after germs enter the body and find favorable conditions for living and growing.

Infections can spread to the ears from the nose and throat by sniffing and by incorrectly blowing the nose.

### Suggested Teaching Aids and Learning Activities

- **Films**: "Health families." Film Associates
- **Films**: "Kitty cleans up." McGraw-Hill.
- **Demonstrate the correct ways to blow the nose, gently with both nostrils open.**
- **Poster**: "To fight germs be sure to wash your hands." National Tuberculosis Association.
- **Filmstrips**: "Health habits." Educational Record Sales.

### Supplementary Information for Teachers

Blowing the nose too hard may force infections into the middle ear through the eustachian tube. Earaches should be treated promptly by a physician.

### II. Preventing Disease

**A. Personal actions**

We can do many things to avoid infectious diseases.

Demonstrate and practice hand washing before lunch, after play, and after toileting.

Good daily health habits can aid in increasing resistance to disease.

**1. Cleanliness**

Understanding that washing hands before eating, after play, and after using the toilet helps to keep one healthier.

Poster: "To fight germs be sure to wash your hands." National Tuberculosis Association.

Resistance to disease is generally influenced by race, inheritance, and other conditions, including physiological well-being.

**2. Nutrition and sleep**

It is important to eat nourishing foods in well-balanced meals and to get proper rest and sleep to help the body protect itself from disease.


Communicable disease control methods have changed with the changing times. The original emphasis was on environmental control; now the major emphasis is on personal and preventive measures.
### Major Understandings and Fundamental Concepts

3. Care in the use of personal items

Germs may spread from one person to another by sharing drinking glasses, toothbrushes, combs, towels, washcloths, etc.

4. Precautions when drinking and eating

Lips and mouth should not touch the fountain nozzle because germs may be harbored on these surfaces.

### Suggested Teaching Aids and Learning Activities

- **Filmstrip:** "Food for good health." Encyclopedia Britannica.
- **Films:** "Sleep for health" and "Eat for health." Encyclopedia Britannica.
- **Film:** "Eat well, grow well." Coronet Films.
- "Avoiding infection." Educational Record Sales.
- "Good health and you." Society for Visual Education.
- "Germs and what they do." Coronet Films.
- "How Billy keeps clean." Coronet Films.
- Have children clean out their desks and correctly dispose of the waste. Hands should be washed following this activity.
- Demonstrate and practice the proper use of drinking fountains.
- Visit the school lunch room and observe sanitary measures followed in food preparation and food storage.

### Supplementary Information for Teachers

The teacher is cautioned to select visual aids that are most appropriate to the kinds of problems being considered. Do not try to use all the aids listed. New materials are being developed in this area. Teachers should be ever alert to previewing and using the most desirable aids.
### MAJOR UNDERSTANDINGS AND FUNDAMENTAL CONCEPTS

5. Covering nose and mouth when sneezing; cover mouth when coughing

By covering the mouth when coughing or sneezing, the spread of disease via the air route may be prevented.

5. Proper disposal of paper tissues

Paper tissues should be thrown into the waste paper basket after using once.

6. Use of cloth handkerchiefs

Shaking or waving a soiled handkerchief may scatter germs in the air.

B. Community action

1. Sanitation

Special groups and individuals in the community work to protect people from diseases.

2. Public health department

Films: "I never catch cold," Coronet Films.

### SUGGESTED TEACHING AIDS AND LEARNING ACTIVITIES

Correlate with art. Have children make faces from paper plates and construction paper. Staple hand and paper tissue to mouth and nose of face. Caption: "Cover your coughs and sneezes."

Discuss the immunization record of the class with the school nurse-teacher.

The school nurse-teacher may be used as a resource person for pamphlet materials from insurance companies and health departments. These may be helpful in carrying out parent education.

Films: "Joan avoids a cold," Coronet Films.

### SUPPLEMENTARY INFORMATION FOR TEACHERS

Symptoms are important because they are forerunners of serious diseases as well as common colds. In children, the runny nose, watery eyes, sore throat, cough, and muscle aches may be the beginning of one of the other communicable diseases.

Communicable diseases affect the entire community. Control measures must, therefore, be part of the broad community health program. Legal requirements for the control of communicable diseases are established by public health law and the Sanitary Code.

The body forms substances called antibodies that counteract or neutralize the harmful effect of disease organisms. These antibodies are part of the defense against disease and provide natural immunity.

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<th>SUPPLEMENTARY INFORMATION FOR TEACHERS</th>
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<tbody>
<tr>
<td>3. Immunization</td>
<td>By having &quot;shots&quot; one can prevent certain diseases.</td>
<td>Filmstrip: &quot;We have you covered.&quot; Society for Visual Education.</td>
<td>The newborn have antibodies which they obtain from their mothers before birth. This protection, however, is of short duration. To give additional protection, immunizations for smallpox, diphtheria, whooping cough, tetanus, polio, and measles are usually given in infancy.</td>
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<td></td>
<td></td>
<td>Film or Filmstrip: &quot;How to catch a cold.&quot; Walt Disney Films.</td>
<td>Use caution in teaching specific symptoms to children. They should learn the general signs of when something is wrong with them and how to go for help (parents).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Posters: To complement &quot;How to catch a cold.&quot; Kimberly-Clark Corporation, Neenah, Wisconsin.</td>
<td>Many communicable diseases have similar signs and symptoms and it takes a thoroughly trained and skillful observer to diagnose them correctly. This is the family physician's responsibility. The services of a physician in a clinic also are available.</td>
</tr>
<tr>
<td>III. Some signs of Illness</td>
<td>Children and teachers should stay home from school when they are ill, so that they may get well faster and avoid passing germs to others in school.</td>
<td>Teacher reference: &quot;Common sense about common diseases.&quot; Equitable Life Assurance Company.</td>
<td>The teacher is not expected to diagnose specific diseases, but because of her strategic position she will recognize signs of illness such as rashes, nausea, weakness, etc.</td>
</tr>
<tr>
<td>A. Symptoms</td>
<td>Children should understand that there are some symptoms that are common to many diseases.</td>
<td>Discuss how being in school spreads germs. Why is it better, when ill, to stay home? - in bed? - follow the directions of the doctor and parents?</td>
<td></td>
</tr>
<tr>
<td>1. sore throat</td>
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<td></td>
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<td>2. headache</td>
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<td></td>
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<tr>
<td>3. stomachache</td>
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<td></td>
<td></td>
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<tr>
<td>4. vomiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. skin rashes</td>
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</table>
### IV. How Others Protect Us From Illness

<table>
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<tbody>
<tr>
<td><strong>A. Parents and other family members</strong></td>
<td>Parents try to keep their children healthy by protecting them from illness.</td>
<td>Discuss the responsibilities parents assume in the prevention of illness. Role-playing may be used.</td>
</tr>
<tr>
<td><strong>B. Teachers</strong></td>
<td>Teachers, parents, school nurses and physicians, and dental hygienists all work together to keep children well.</td>
<td>Have pupils list and discuss the roles of any health careers they know.</td>
</tr>
<tr>
<td><strong>C. Doctors</strong></td>
<td>Doctors and nurses take care of people when they are sick; they also help people stay well.</td>
<td>Coordinate with school health appraisals, annual physical examinations, vision and hearing screenings, and dental inspections. A regular periodic physical examination is advocated, preferably by the child's family physician. Vision and hearing screenings are done annually in the school health program and are not intended to supplant the private physician's examinations. They are, as implied, only screenings. Teachers should discuss</td>
</tr>
</tbody>
</table>
**Major Understandings and Fundamental Concepts**

Regular visits to the doctor when the individual is well.

Many people (e.g., dentists, druggists, public health workers) work to improve and maintain the health of everyone.

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**Suggested Teaching Aids and Learning Activities**

See Strand I - Health Status

Memling, Carl, *We went to the doctor*, Abelard - Schuman, Ltd.


Lerner, Marguerite, *Doctor's tools*, Learner Publication.

Greene, Carla, *Doctors and nurses, what do they do?*, Harper.

Film: "Your friend, the doctor." Coronet Films.


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**Supplementary Information for Teachers**

health problems which they detect in the classrooms with the school nurse-teacher.
DISEASE PREVENTION AND CONTROL

K-6

Multimedia Resources

Books (Teacher References):


Pamphlets

Equitable Life Assurance Company, 1285 Avenue of the Americas, New York, New York
"Common sense about common diseases"
"Protection against communicable disease"

Metropolitan Life Insurance Company, School Health Bureau, 1 Madison Avenue, New York, New York
"Parents...be wise - immunize!"
"To parents about immunization"
"Your personal health record"
National Tuberculosis Association, via local offices
"Drugs that fight TB"

New York State Department of Health, 84 Holland Avenue, Albany, New York 12206
"About germs"
"Infectious hepatitis"
"Measles"
"Mumps"
"Smallpox"
"The common cold"
"Triple vaccine"
"Typhoid fever"
"Whooping cough"

Prudential Insurance Company, Newark, New Jersey
"Childhood diseases"
"It's fun to be healthy"

National Association for Retarded Children, Inc. 420 Lexington Avenue, New York, New York 10017
"What you should know about measles and the measles vaccine"

Posters

"How to catch a cold." Series, Kimberly-Clark Corporation, Neenah, Wisconsin.

"Stop germs from spreading ... keep clean." local office, National TB Association.

"To fight germs, be sure to wash your hands." local office, National TB Association.

Filmstrips

"Avoiding infections." Educational Record Sales.

"Be healthy, be happy." Henk Newenhouse, Inc., 1825 Willow Road, Northfield, Illinois 60093.

"Community helpers." Stanley Bowman Films.

"Good health and you." Society for Visual Education.

"Health habits." Educational Record Sales.

"How to catch a cold." Walt Disney Films, 800 Sonora Avenue, Glendale, California 91201.


"We have you covered." Society for Visual Education.

Films

"A community keeps you healthy." Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025. (For quick information, see local Yellow Pages.)

"Eat for health." Encyclopedia Britannica.

"Eat well, grow well." Coronet Films, Coronet Building, Chicago, Illinois 60601.


"Healthy families." Film Associates, 11559 Santa Monica Boulevard, Los Angeles, California 90025, or Yellow Pages. (Also available through Syracuse University Film Library.)


"How to catch a cold." New York State Film Library, 84 Holland Avenue, Albany, New York 12206


"Joan avoids a cold." Coronet Films, Coronet Building, Chicago, Illinois 60601.


"Sleep for health." Encyclopedia Britannica Films.
"Your friend the doctor." Coronet Films, Coronet Building, Chicago, Illinois 60601.

Film for Teachers: "Things a teacher sees." International Film Bureau, Inc., 332 South Michigan Avenue, Chicago, Illinois 60604.