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ABSTRACT

This curriculum guide contains computer skills activities for the public schools of North Carolina; these lesson plans are designed specifically for grades 4-8 and focus on information access via databases. The lesson plans for each grade include a list of materials needed, lesson time, teacher preparation activities, outline of computer and non-computer activities, and instructional measure. Communication, computer and information skills objectives addressed by the lesson along with social studies, science or mathematics skills are outlined. (AEF)

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Databases

Computer Skills Curriculum

Terms

Database
File
Record
Field/Category
Sort/Arrange
Select/Search
Report

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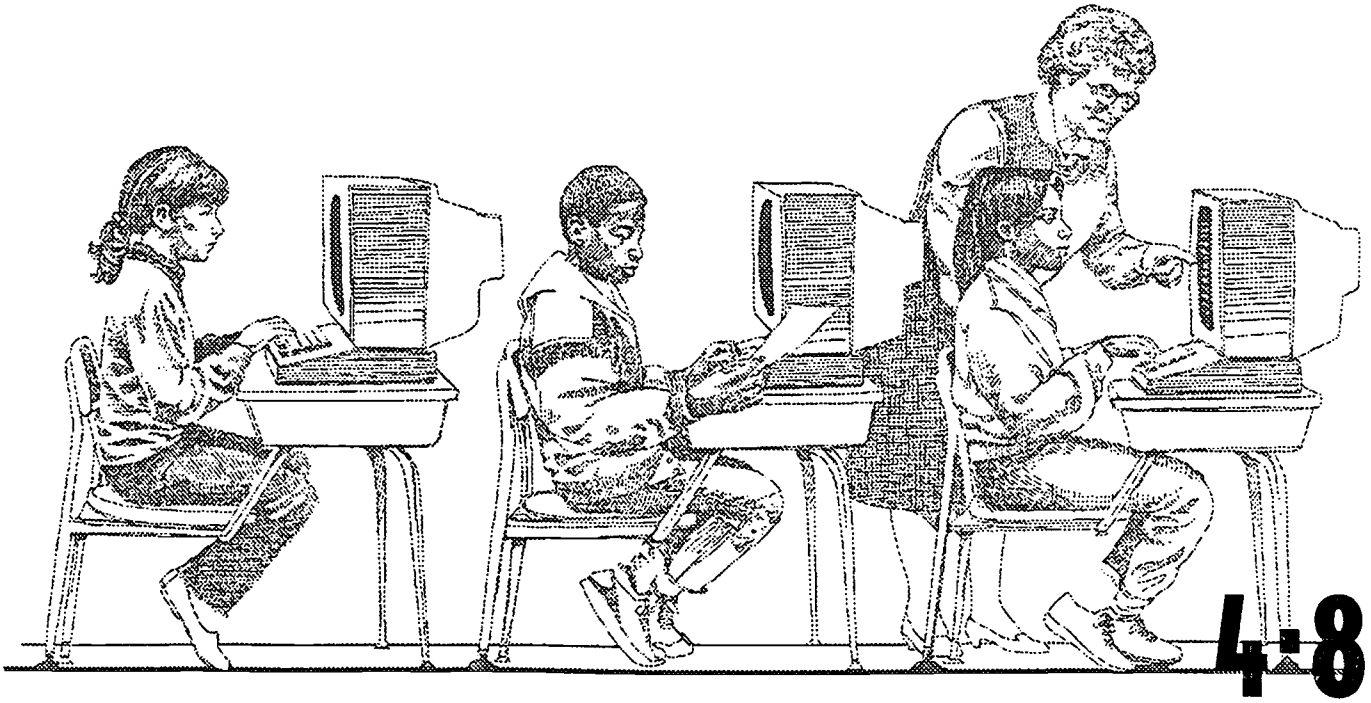

4-8

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PUBLIC SCHOOLS OF NORTH CAROLINA
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TITLE: NC Computer Skills Curriculum Lesson Plans

BY: Instructional Technology (formerly Computer Services Section)
Public Schools of North Carolina

DATE: 1994-1995

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

4

Title: Computers as Accessing Tools: In-school Tour
Grade: 4
Competency 1.2: Identify computers as tools for accessing information.
Measure 1.2.1: Describe examples of people using computers to access information in daily life (e.g., teachers looking up grades from office computers, bank customers getting information from bank machines, students finding books from online catalogs, travel agents reserving tickets).

Materials Needed: In-school examples of use of computers to access information; sketch of school floor plan; pictures of school staff or people in society using computers.

Time: One class session.

Activities

Pre-Activities:
With the School Staff

1. Tour the school to make a list of uses of computers to access information such as the attendance and schedule records by the office staff, budget records by the bookkeeper, CD-ROM encyclopedia or media center catalog by students, food inventory or lunch ticket totals by the cafeteria staff, textbook inventory or bus route information by a school administrator, or grades by teachers.
2. Decide on in-school sites to visit on the school field trip. Arrange for the class to tour the sites to see the use of the computers for accessing information.
3. For the sites selected, take pictures of the people at their computers. (Or, locate magazine pictures of people in similar situations.)

Activity:

1. Lead the class in a discussion of computers being used in society to access information. (e.g., travel agents to reserve airline tickets, bank customers to determine account information from an automated teller machine, phone clerks of mail order houses such as L.L. Bean to check availability of an item, librarians to determine location of a book.)
2. Divide the class into groups of 3 or more students. Give each group a sketch of the school floor plan with major areas labeled. Have the students brainstorm in their groups to mark with an "X" the places in the school where large amounts of products or information are located. (e.g., principal's office, attendance office, guidance office, media center, cafeteria, school store, gym, band room.)
3. Either with the entire class or with several groups at a time, tour the school to search for sources of large amounts of products or information. Have the students mark their findings on their group's school sketch as follows:
   circled "X" = site marked during brainstorming which did contain a computer being used for information accessing.
   ✔=site not marked during brainstorming which did contain a computer being

TERMS

Computer
Information Accessing

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 4)

11.1 Identify and describe changes which have occurred in ways of living in North Carolina.

11.3 Evaluate the effects of change on the lives of the people of North Carolina.

Computer Skills: (Gr. 4)

1.2 Identify computers as tools for accessing information.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

used for information accessing.
"X"=site marked during brainstorming but not a site with a computer used for information accessing.

4. After regrouping in the classroom, have each group share with the class their brainstorming sites that were information accessing sites and how the computer was being used to access information.
5. Discuss how using the computers to access information might have changed the work life of these individuals.

Measure

Fasten on the bulletin board photos you have taken of the school staff who use computers to access information and who were visited on the in-school tour (or pictures of people in various roles in society using computers to access information). Assign each student to study the pictures and to write a short paragraph about how an individual in one of the pictures uses computers to access information. Place the descriptions on the bulletin board under the pictures, changing descriptions to display each person's work.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

4

Title: Computers as Accessing Tools: Distant Databases
Grade: 4
Competency 1.2: Identify computers as tools for accessing information.
Measure 1.2.2: Describe two types of information from distant databases that you would like to access using a computer.

Materials Needed: Index card per student; examples of distant databases accessible by computer; weekly newspaper TV listings.

Time: Two class sessions.

Activities

Pre-Activities:
With the Media Professional

1. Discuss the types of databases available in the school media center and the community. Also identify the types of information in databases which can be accessed by computer, such as airline travel schedules to NC towns and local weather forecasts.
2. Arrange for the media professional to talk to the class about such databases.

Activity 1:

1. Discuss as an entire class the types of print and computerized collections of data (called databases) on North Carolina information that might exist across the state. Examples:
   1. location of state parks, rivers/lakes/sounds, amusement parks, native American groups, county seats of government, historic sites, airports, college ball teams, youth soccer leagues;
   2. names of NC sports teams, state beaches, state resources, mountain parks, and ski resorts;
   3. information on local weather, movies currently playing, TV shows, airline travel schedules to NC towns, and local weather.
2. Divide the class into pairs of students. Provide groups of 2-3 pairs of students a weekly TV listing from the newspaper. Ask them to find a particular program you have selected. After the first group has found the selected program, ask the students how a computer could have helped in the search.
3. Have each pair of students select two items of information from the examples discussed in class which they would like to access with a computer. Instruct them to write the phrase "I want to know if I can use a computer to find out" on each of two index cards and then complete each statement with the two examples they had selected.
4. Collect the cards and group them by like examples. Lead the class in a discussion of who might have that information and how a computer would be helpful in obtaining the information.

TERMS

Databases
Information Accessing

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 4)

11.1 Identify and describe changes which have occurred in ways of living in North Carolina.

11.3 Evaluate the effects of change on the lives of the people of North Carolina.

Computer Skills: (Gr. 4)

1.2 Identify computers as tools for accessing information.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

Activity 2:

1. Visit the media center or have the media professional come to the class to share with the students what databases are available in the school or in the community and which of their database examples might be accessible by a computer.

Measure

After the discussion of using a computer to access information in North Carolina, have each student select two types of information he would like to learn more about and, then, write a letter to "Whom It Might Concern:" to ask if the information is accessible by computer. Have the student explain in the letter how computer access would be helpful.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

4

Title: Introduction to Databases
Grade: 4
Competency 2.4: Describe the difference between a print database and a computer database.
Measure 2.4.1: After a visit to the media center, list examples of both print and computer databases (e.g., dictionary, on-line catalog, print encyclopedia, CD-ROM encyclopedia).

Materials Needed: Pre-activity: index card per student, student textbooks, other class objects. Activity: dictionary, encyclopedia, newspaper, card catalog; information or video on or a working example of an electronic version of a dictionary, CD-ROM encyclopedia, on-line newspaper, or automated card catalog.

Time: Two class sessions: one for pre-activities, one for activity.

Activities

Pre-Activities:

With the Students

1. Discuss the concept of a collection of items: the class is a collection of students, the classroom is a collection of desks and chairs, the class file cabinet or bookcase is a collection of papers or books, the teacher's gradebook is a collection of student names and grades.
2. Have the students make a collection of items by
   a. each student in one of four groups placing one of their textbooks in a group stack. Have the students discuss the number and type of items in their stack and then compare it to the stacks made by the other groups.
   b. each student completing an index card with the following information: name, age, eye color, number of siblings, favorite pizza topping. List the items on the board or overhead. Have the students suggest sub-collections for the siblings and pizza topping categories. Have them raise their hands for the sub-group they have on their index card and record on the board or overhead the number of hands for each sub-group. Lead the class in discussing collections within collections (i.e., pizza topping collections within the class group of information on the cards).
3. Introduce the term database as the name for a collection of items.

With the Media Professional

1. Review the pre-activities for the students.
2. Identify the examples of print and computer databases available in the media center. Plan to obtain information or videotapes on computer databases of the selected print examples of dictionary, encyclopedia, newspaper, and card catalog. Discuss any other computer databases available in the media center.
3. Discuss the activity to be conducted in the media center to introduce the students to the examples of both print and computer databases.

Activity:

1. (In the media center with the Media Professional) With an example of a dictionary, encyclopedia,

TERMS

Database
Print Database
Computer Database

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 4)

2.4 Describe the difference between a print database and a computer database.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

newspaper, and group of card catalog file cards on a table, discuss the concept that each is a collection of items. Have the students compare how these collections differ from the collections they made in pre-activities. Lead the students in recalling the term "database" for these collections.

2. Show the students examples (pictures, videotapes, or actual products) of the computer database for each of these print databases. Discuss how each can be used; demonstrate any actual products available. Example: Ask the students for a topic they would like to look up in the encyclopedia. Have two students find the topic in the print encyclopedia. Use a CD-ROM encyclopedia to look up the same topic. Discuss the difference in the information found.
3. Ask the students what other collections in the media center they think should be made into computer databases. Discuss their ideas and show pictures of or demonstrate any other computer databases available.

Measure

After the visit to the media center, have the students list examples of both print and computer databases. This could be a list on a paper handout with two columns, a labeling of paper cut-outs of a book and of a computer, or a labeling on a printed handout. For example, on a handout, label with example name the print databases on the spines of a shelf of books and label with example name the computer databases on the screens of computers.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

4

Title: Track Meet Activity
Grade: 4
Competency 2.4: Describe the difference between a print database and a computer database.
Measure 2.4.2: After a demonstration and discussion of print and computer databases, identify the advantages of each.

Materials Needed: Pre-activity: typical class objects. Activity: both a print and computer database version of a dictionary, encyclopedia, automated card catalog, or special topic (Examples: books on dinosaurs and a database on dinosaurs; materials on NC history and a database of NC history). Copies of the Database Track Meet Activity for each group; Database Track Meet display (bulletin board, poster or felt board, overhead transparency).

Time: One class session.

Activities

Pre-Activities:
With the Students
1. Discuss the concept of a database as a collection of items and review examples from the lesson for Measure 2.4.1. (Examples: the class is a collection of students, the classroom is a collection of desks and chairs, the class file cabinet or bookcase is a collection of papers or books, the teacher's gradebook is a collection of student names and grades. Items such as a dictionary, encyclopedia, newspaper, and card catalog can be both print and computer databases.)
2. Initiate a discussion of whether print or computer databases are "better." Direct the discussion to the idea that there are advantages to both types.

With the Media Professional
1. Review the pre-activities for the students.
2. Discuss the activity to be conducted in the media center for the students to explore the advantages of both print and computer databases.
3. Practice the Database Track Meet Activity.

Activity:
1. (In the media center with the Media Professional) With both a print and a computer database format of a collection such as a dictionary, encyclopedia, card catalog or special topic on a table in the media center, review the concept that each is a collection of items.
2. Show the students how to look up, in each resource, a topic they select. Have two students practice finding a second topic in each resource. For example: Use both a print and a CD-ROM encyclopedia to look up the topics: snakes, Columbus, hurricanes.
3. Ask the students what they think was "best" about the print database and about the computer database. Discuss their ideas.
4. Introduce the students to the Database Track Meet Activity: the track meet consists of different events in which the winner is the contestant with the most advantages. The contestants are the print database and the computer database

TERMS

Database
Print Database
Computer Database

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 4)

2.4 Describe the difference between a print database and a computer database.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

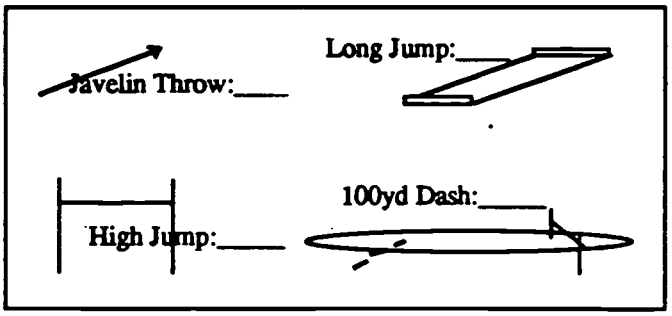
Notes:

of one of the resources in your media center or classroom.

a. Divide the students into two groups. One group to be the scorer for the print database and the other group the scorer for the computer database. Have the groups select two students per group as group leaders.
b. Distribute an activity sheet, similar to the one below, to the group leaders. Instruct the groups to complete 2 of the track meet events (or more if time allows).

> Database Track Meet Activity
> Topic: North Carolina
>
> Javelin Throw Event: Number of pictures or sketches
> High Jump Event: Number of references to other articles or terms
> Long Jump Event: Number of lines of text
> 100-yard Dash Event: Number of words with pronunciation or definitions

c. On the Database Track Meet display (bulletin board, poster or felt board, overhead transparency), record the scores from the two groups for the selected events. Discuss the "winners" (those with the highest number for the event) in terms of the most advantages for particular assignments; i.e., that students might use one of the databases instead of the other depending on the assignment.



EXTRA:

Hold a "final" Track Meet event in which the teacher, using either the print encyclopedia or the CD-ROM encyclopedia and the media professional using the other format, look up one topic and record the following: number of pictures, number of other references given, number of words with pronunciation given, time it takes to find the topic. Have the students write a short paragraph on the outcome of the "final" event in terms of which source had the most advantages and what the advantages were.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Title: How New is the News?
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.1: Describe the advantages of obtaining news by telecomputing from a computer accessible news service vs. from a daily newspaper.

Materials Needed: Pre-activity: typical class objects. Activity: Several complete editions of a local newspaper, phone call or letters to the newspaper office, information and videotapes on computer accessing news sources, paper for posting findings.

Time: One class session.

Activities

Pre-Activities:
With the Students

1. Discuss the concept of a database as a collection of items and review examples. (Examples: the class is a collection of students, the classroom is a collection of desks and chairs, the class file cabinet or bookcase is a collection of papers or books, the teacher's gradebook is a collection of student names and grades. Items such as a dictionary, encyclopedia, newspaper, and card catalog can be both print and computer databases.)
2. Initiate a discussion of how current are computer databases. Direct the discussion to the advantages of a computer database of current information.

Activity:

1. Divide the class into two groups and each group into 3 subgroups of "front page news," "weather," and "sports."
2. Provide each large group with a complete newspaper (need not be the same day) and ask each subgroup to remove their assigned section for use in the activity.
3. Ask each group to study their section and discuss how current the news is in comparison to the date of the newspaper: day before, midnight of the day before, same day as date, days before, etc.
4. Have one member of each subgroup join an investigative team to place a call to the local newspaper office to determine if they produce early and late issues of the paper and the distribution destinations for those issues. Have the team report to their subgroup for a total subgroup discussion on how that information affects how current is the news. (If no local paper exists, have students write letters to the newspaper office of the most widely distributed area paper.)
5. Discuss computer accessible news sources such as X-Press X-Change and computer on-line newspapers from services such as Dow Jones News Retrieval and CompuServe.
6. Show the students a videotape or an actual example of a computer accessible

TERMS

Database
Computer Accessible News Sources

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies

Skill Goal I: The learner will acquire information from a variety of sources (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 5)

2.4 Identify computers as tools for accessing current information.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

news service. (See below for sources of information.)

7. Have each subgroup identify the advantages of computer accessible news services versus the daily printed newspaper and list these advantages on the board or on sheets of paper to post on the walls or bulletin board.

(Optional: Have a representative of the local newspaper talk to the class about how current the news is on the front page, weather section, and sports section and if the newspaper uses computer accessible sources to obtain the most current news.)

Measure

Have each student design an ad for a computer accessible news service which claims a specific advantage of the computer format over the print newspaper. Have the students identify standards for evaluating the ads, group the ads by like "claims" and critique the ads for correct information and audience appeal.

Computer Accessible News Sources

X-Press X-Change: 1-800-772-6397

Dow Jones News Retrieval: 1-800-522-3567 for Membership and Information Services; 609-452-1511 for Information and Customer Service.

CompuServe: 614-457-8600

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Title: Computer Databases on the Job
Grade: 5
Competency 1.2: Identify computers as tools for accessing current information.
Measure 1.2.2: Discuss and write a paragraph on how accessing current database information with a computer improves the work of a pharmacist, home supply clerk, motel manager, or agriculture extension agent.

Materials Needed: Survey pages for each student.

Time: Two class sessions.

Activities

Pre-Activity:

1. Ask students to name places they have seen workers using computers to put in information. (e.g., video store, drug store or pharmacist, library, motel or hotel registration desk)
2. Have students make a list of the different workers to use in surveying family, other teachers, students, and neighbors. The survey question to ask is "Have you ever seen this worker use a computer to record or look up information?"
3. Have students record the total of the number of people responding "yes" for each worker and the total number of people they surveyed. A suggested Survey Page is provided at the end of this lesson.

Activity:

1. After students have completed their survey, have each student report the total number of people who had seen each worker use a computer and the total number of people surveyed.
2. Discuss the concept of a database as the collection of records that each of these workers is using.
3. Ask students to suggest how each of these workers can do his job better using the computer database than he could with the same information on sheets of papers or on index cards.
4. Group the students into the same number of groups as the number of workers on the survey. Assign each group one worker type. Have the students decide how best to complete the statement "I use a computer database to ....." Place these statements with the name of the worker on a class display or bulletin board entitled COMPUTER DATABASES ON THE JOB!
5. (Optional) Invite a person who is one of the worker types studied to speak to the class to tell how he uses the computer database.

Measure

Write a paragraph on how accessing current database information with a computer improves the work of one of the following types of workers:

a pharmacist,
home supply clerk,
motel manager, or
agriculture extension agent.

TERMS

Database
Current Database

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 5)

1.2 Identify computers as tools for accessing current information.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

Computer Databases on the Job Survey

Have you ever seen this worker use a computer to record or look up information?

Total per Worker

1. Pharmacist
2. Librarian
3. Motel Manager
4. Home Supply Store Clerk
5. Agriculture Extension Agent
6. Video Rental Store Clerk
7. Car Parts Store Employee
8. Airline Reservationist
9. Bank Teller
10. Car Rental Employee

Total Number of People Surveyed:_____

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 5)

1.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Title: **Databases Alive!**
Grade: **5**
Competency 2.2: **Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).**
Measure 2.2.1: **Given a list of database terms and definitions, match the term to the correct definition.**

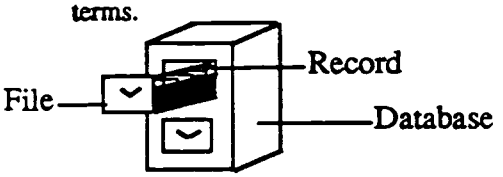
Materials Needed: Classroom file cabinet with one file folder containing several similar pages such as a form or pages containing fields of student name, address, age; telephone books (optional); index cards or slips of paper printed as Figure 1 for each student; hole punchers (optional); knitting needle or skewer.

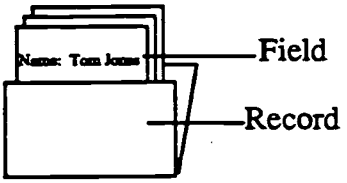
Time: Two class sessions.

Activities

Activity 1:

1. Divide the class into groups of three students each.
2. Provide each group a handout with the database management terms of
   database: collection of data organized for search and retrieval
   file: a collection of related records
   record: a collection or listing of related fields or categories
   field/category: an item of information
   sort/arrange: process of organizing the records in a database in a specific order, either alphabetically from A to Z or reverse alphabetically from Z to A or numerically from 0 to 9 or reverse numerically from 9 to 0.
   select/search: process of choosing all records that meet or satisfy a statement, rule or criterion. A search may be based on a combination of statements, rules or criteria.
   report: a display (on the screen or printed onto paper) of the records or parts of the records of a database that satisfy a particular search or sort.
3. Use the classroom file cabinet as a visual as you discuss each of the first four terms.





4. Have the groups discuss how a telephone directory is a database and match the following parts of the telephone book with the database terms on their handout: yellow pages, listings beginning with the letter A, the name Mark R. Jones, the number 704-992-0010, and the listing of restaurants in the yellow pages.

TERMS

Database
File
Record
Field/Category
Sort/Arrange
Select/Search
Report

Activity 2:

1. Provide each student an index card printed as shown in Figure 1.
2. Have each student write his/her name on the line in the center of the card.
3. As you ask each of the three questions below,

DATABASES

Notes:

have the students circle, in only one of the boxes, the word that is their answer to that question:

a. Are you a boy or a girl?
b. Which season of the year do you prefer? winter, spring, summer, fall
c. Of the four pizza toppings--cheese, pepperoni, hamburger, and mushrooms--which do you like the best?

4. Provide the students hole punchers to punch out EACH circle. Suggestion: If this will create a problem or take too much time, punch the holes prior to the activity.
5. Instruct the students to punch out the square below all the options they did NOT circle.
6. Collect the cards from the students. Stack the cards in the same direction.
7. As you ask each of the following questions, have the students stand beside their desks. For each question, place a knitting needle or skewer through the holes in the cards for that response.

Questions:

1. Who are the boys in the class?
2. Who are the girls in the class?
3. Which students like summer best?
4. Which students like winter best?
5. Which students like pepperoni topping best?
6. Which students like hamburger best?

8. Shake the pile to remove all other cards that do not satisfy the question. The only cards left on the skewer should belong to the students standing.
9. Compare the cards with the group of standing students and discuss any differences. Ask the students to name this process. (sort or search?).
10. Discuss how to select the cards to illustrate what does NOT satisfy a statement. (Examples: "Who are not boys"? would be all those not on the skewer (or those seated) when "boys" is the category selected. "Who does not like mushrooms best?" would be all those not on the skewer (or those seated) when you ask "Who likes mushrooms best?")
11. Repeat the activity in #6 but insert NOT in each statement. Remind the students that this is still a select or search process.

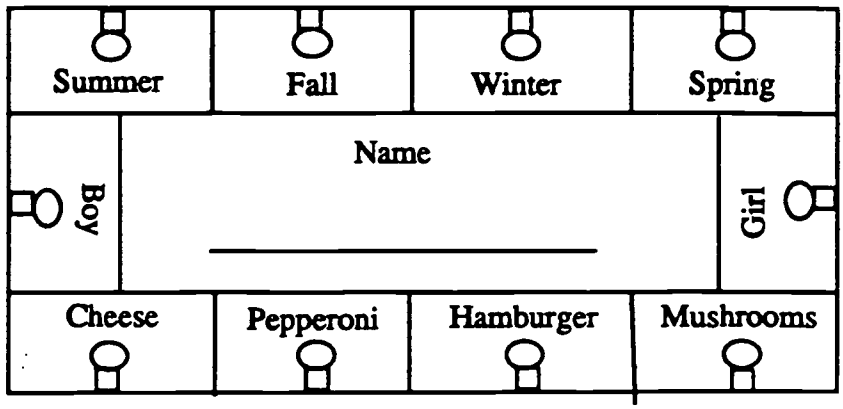


Figure 1

Notes:

Activity 3:

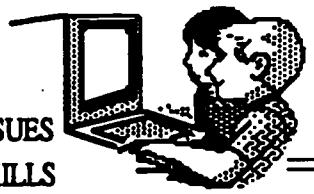
1. Have the students describe the sort process of a database and state how that process is different from the search or select process they just did.
2. Appoint a student to be the SORTER. Have the students stand beside their desk for the SORTER to arrange the students in the front of the room by height.
3. Discuss if this sort was in numerical ascending order or descending order.
4. Ask the students to identify differences between sort and select (i.e., use all students in a sort, fewer ways to sort (alphabetically or numerically)).
5. Conclude the lesson by asking students to match the database terms with the following: student name, student, class, school population.

Measure

Use the database terms listed to write a paragraph starting with the *story starter* below:

We can use our school as an example of a database with the entire school population being .....

Terms to use: database, record, file, field, sort, and select.



ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

5

Title: Database — USA
Grade: 5
Competency 2.3: Use a prepared database to enter and edit data.
Measure 2.3.1: In class groups, research facts on the United States to enter and edit the findings into a prepared United States database.

Materials Needed: Pre-activity: Classroom examples of a database; prepared database on 50 states of the U.S. Activity: 50 index cards or slips of paper printed with the State B-I-G Card data, variety of resources containing information on the U.S., and prepared database of 50 states (Database--USA).

Time: One class session with pre- and post-activities.

Activities

Pre-Activities:

Teacher Preparation:

1. Review the pre-activities for the students. If the students will be using the resources in the media center to complete the State B-I-G Card activity, discuss the activity and the possible resources with the media coordinator and plan the time in the media center.
2. Practice entering and editing data in a prepared database on the 50 U.S. states.

With the Students:

1. Discuss the concept of a database and review examples of databases. (Examples: the class is a collection of students, the classroom is a collection of desks and chairs, the class file cabinet or bookcase is a collection of papers or books, the teacher's gradebook is a collection of student names and grades. Items such as a dictionary, encyclopedia, newspaper, and card catalog can be both print and computer databases.)
2. Discuss the production of a database in terms of a person organizing a collection of information in such a way that the information can be found in a variety of ways; that a person has to type in (enter) the information; that often a person will need to change (edit) some of the information, and that a person needs to be consistent in entering and editing the data in order to be able to find information easily from the database.
3. Use the prepared database for the lesson to show students how to find and open the database file for the lesson, how to enter and edit data, how to move from one field to another as well as from one record to the next, and how to save their work.

TERMS
Database
File
Record
Field
Entering
Editing

Activity:

Non-computer Portion

1. Divide the class into groups of five students. Give each group five State B-I-G Cards (index cards with state facts relating to size and space to complete the data on the card.) See Figure 1.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 5)

4.2 Compare the physical and cultural characteristics of regions within the Western Hemisphere and within the United States, Canada, and Latin America.

11.1 Identify and describe changes which have occurred in ways of living in the United States, Canada, and Latin America.

Computer Skills: (Gr. 5)

2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

2.3 Use a prepared database to enter and edit data.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

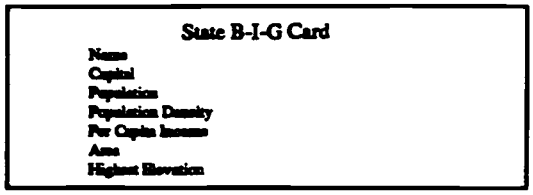


Figure 1

2. Have the students research the information to complete their cards. They might use their textbooks, an atlas, an almanac, and resources in the media center.
3. After the cards are completed, have the student groups use their cards to identify the terms: *database, file, record, field.* Suggestion: Use cooperative learning strategies of "Turn to Your Partner" or "Stand and Share."
4. Discuss the types of information that they can obtain from this database (e.g., state with the greatest area, state with the highest elevation)
5. Ask the student groups to arrange the cards from biggest to smallest for

   a. state area b. highest elevation c. population

6. Have the groups read the names of the states for each grouping. Review the terms *record* and *field* as each B-I-G group is discussed.

Computer Portion

1. Demonstrate how to open the database file, move among records and fields, and enter and edit data in fields.
2. Have the student groups enter the data from their State B-I-G Cards into the corresponding database record. Note: Some of the information for each state will already be entered. Since different reference sources may contain slightly differing information, have the students to edit any fields of given information for which they found other values. In addition to correcting (editing) their typing mistakes, making these changes in data will be additional practice in editing. Remind them to save their work.
3. Have the students combine all of their B-I-G cards into one group. Compare this database of cards to the computer database by asking two pairs of students (one using the B-I-G cards and the other using the computer database) to find the records for the state with the "biggest" .....(select fields of your choice).
4. Ask the students to compare the information to make sure the same state was chosen from both databases. Make a sufficient number of comparisons for the students to find the information as easily in the computer database as in the card database. Review the database terms as necessary.

Measure

With a prepared database file loaded into a computer, have the student open the file, find a selected record, enter given data for one field, edit data as directed in another field, and save his work.

Suggestion: Use the State B-I-G Card database with cards for states not entered by students. Complete (or have the students do so) the missing information on the card. Provide the card to the student, identify which field information is to be entered, and which field information already entered is to be edited per the information on the B-I-G card.

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ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: European Elevation Sort
Grade: 6
Competency 3.1: Use a database to sort records.
Measure 3.1.1: Given a prepared database of European countries, sort the countries in ascending order by elevation and identify the five countries with the highest elevations.

Materials Needed: Pre-activity: Index card per student. Activity: Prepared database, resources on current European countries, map of European countries, red/orange/brown markers. (Database--Europe)

Time: One class session with pre-activities.

Activities

Pre-Activities:

Teacher Preparation

1. Review the European countries and the database fields listed in the prepared database.
2. Practice sorting each field.

Teacher Preparation with Media Professional

1. Locate the media center or class resources which contain geographical information on the current countries of Europe. Specifically: maps, atlases, and almanacs which contain data on area, highest point, and boundaries of seas and oceans. Other characteristics needed for each country are population and major/official language.
2. Locate the most current map of Europe showing as many countries as possible that are listed in the prepared database file.

TERMS
Database
File
Record
Field
Sort

With the Students

1. Discuss the process of sorting: arranging information in alphabetical order from A to Z or Z to A or in numerical order from largest to smallest (9 to 0) or smallest to largest (0 to 9).
2. Provide an index card for each student to print their last name on one side and their height in inches on the other side.
3. Divide the class into two groups. Have each group select two students as "sorters" for their group.
4. With each group lined up randomly along opposing walls of the classroom, instruct the students to hold their cards to show their height and the "sorters" to be ready to numerically sort their group from tallest to shortest.
5. Give the signal for the "sorters" to begin the sorting. When each group has completed, acknowledge the group who finished first and check each team's arrangement.
6. Now, have the two groups sort themselves together to complete a sort of the entire class from tallest to shortest.
7. For further understanding of database sorting, repeat the activity to sort the students alphabeticaly by last name from Z to A.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

1.1 Identify and describe major groups of people, past and present, in Europe and the Soviet Union.

1.2 Describe similarities and differences among the peoples of Europe and the Soviet Union.

3.1 Describe the absolute and relative location of major landforms, bodies of water, and natural resources in Europe and the Soviet Union.

4.1 Define region and identify various regions within Europe and the Soviet Union.

4.2 Compare the physical and cultural characteristics of regions within Europe and the Soviet Union.

9.1 Identify economic resources found in Europe and the Soviet Union and explain relationships between the location of natural resources and economic activities.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

Gr. 6/2.3 Use a database to sort records.

Information Skills

1.3 The learner will critique

DATABASES

information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

Non-computer Activity:

1. Have the students participate in a Think-Pair-Share activity. Given a map of European counries, each student thinks indivdually, then collaborates with a partner to research in collected resources to shade the three countries with the largest area. (Largest in red, the next largest in orange, and the third in brown.) The pairs, then, share their maps with the rest of the class.
2. After students examine the maps, discuss questions such as
   - Is there class agreement on the largest countries?
   - Which countries were definitely not the largest?
   - What are the five European countries with the greatest areas?
3. List on the board or overhead the first five countries the class thinks have the largest areas.

Computer Activity:

1. As a class, review the contents of the prepared database on European countries and the database field names.
2. Demonstrate the sort operation of your database by sorting the countries
   - alphabetically by name.
   - from smallest area to largest area.
   - from largest population to smallest population.
3. Now sort the field for area from largest to smallest area.
4. Compare the top five countries located with this computer sort to those the class selected in the Think-Pair-Share non-computer activity. Discuss any differences in the two lists.

Measure

With a prepared database file of European countries loaded into a computer, open the file and sort the countries to identify the five countries with the highest elevation. Extra: Determine if any of the five largest countries in square miles also have one of the top five elevation points. (Possible action: Two sorts with a comparison of the two lists.)

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: Planet Profile
Grade: 6
Competency 3.1: Use a database to sort records.
Measure 3.1.2: Sort a prepared database of the planets of the solar system to identify the planet with the greatest gravitational pull.

Materials Needed: Pre-activity: Media Center resources, copies of the Planet Profile Page Activity: Prepared database of the solar system. (Database--Planets)

Time: One class period with pre- and post-activities.

Activities

Pre-Activities:

Teacher Preparation

1. Review the fields of the prepared database on the solar system.
2. Practice sorting each field.

Teacher Preparation with Media Professional

1. Locate the media center or class materials which contain current information on the solar system. Determine if information on all fields of the prepared database can be found in the collection of materials. If not, then those fields should not be used in the non-computer activity.
2. Plan for the students to use the materials in the media center to locate the answers to the Planet Profile Page.

TERMS

Database
File
Record
Field
Sort

Non-computer Activity:

1. Discuss the process of sorting: arranging information in alphabetical order from A to Z or Z to A or in numerical order from largest to smallest (9 to 0) or smallest to largest (0 to 9).
2. Divide the class into nine groups and assign each group one planet.
3. Provide each group a Planet Profile Page to complete using the media center or class resources.

Planet Profile Page

Planet
Average Distance from Sun
Probable Temperature in F
Number of Moons
Length of Year
Atmosphere
Gravity at Surface

4. Using their completed Planet Profile Page, have the groups transfer each category/ field name and information to an index card with the name of the planet on the top edge.
5. Within each group, decide which 3 students will represent the planet by holding the index card for that category. Another group member will be the group sorter.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Science (Gr. 6)

3.3 Demonstrate the ability to use scientific materials and equipment.

5.2 Demonstrate knowledge of the interaction of the sun, earth, moon, and planets.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.1 Use a database to sort records.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

6. As a category/field is called, have each group sorter direct their group's planet representative to join the other planet representatives for that category and stand in the correct position at the front of the class to illustrate the sort. Example of sorts:
   a. from most moons to none.
   b. from smallest distance from the sun to largest.
   c. from highest probable temperature (in F) to lowest.
   d. from shortest year to longest.

Computer Activity:

1. As a class, review the contents of the prepared database on the solar system and field names.
2. Demonstrate the sort operation of your database by sorting the planets
   - alphabetically by name.
   - from largest gravity at surface to smallest.
   - from longest year to shortest.
3. Now sort the field for number of moons from the fewest to the most.
4. Compare the information from the computer sorts to those in the non-computer activity. Discuss if there is any advantage in using a computer for sorting.

Measure

With a prepared database file of the planets of the solar system loaded into a computer, open the file and sort the planets to identify the planet with the greatest gravitational pull. Extra: Determine which planets with more moons than Earth would be suited for exploration by a non-manned space craft that can not withstand temperatures lower than 300F. (Action: Two sorts with a comparison of the two lists.)

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: Parlez-vous Français?
Grade: 6
Competency 3.2: Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or" connectors where necessary).
Measure 3.2.1: Search a prepared database of European countries to identify the countries whose official language is French.

Materials Needed: Pre-activity: Prepared database file. Activities: 3 jars or see-through containers; 3 sets of colored objects (plastic eggs, candy, blocks, etc.) such that the third set is a combination of the other 2 colors; map of European countries; prepared database, index cards. (Database--Europe)

Time: One class session.

Activities

Pre-Activities:

Teacher Preparation

1. Review the fields of the prepared database file on the European countries.
2. Practice searching each field using different relationships of equal to, greater than, less than, etc.
3. Study the difference in the connectors "and" and "or."
4. Collect the necessary supplies for the non-computer activity.

Non-computer Activity:

1. Define the database function search: a process of selecting all database records that satisfy a statement, rule, or criterion.
2. Ask the students to stand beside their seat if they satisfy the criterion you call out (e.g., rode a bus to school that morning, have brown eyes, have a sister, brought their lunch today). Identify this search relationship as "equal to." Discuss other relationships provided as selection choices by your database program.
3. Introduce the concept of selecting records using the connector "or": all records that satisfy either one criterion or both criteria. Use three see-through containers. Fill one with one color of objects and a second with objects of another color. Mix some of the third set (ones with a combination of the 2 colors) into each container. (Object examples: orange candy, white candy, orange/white candy corn.)
4. Place the third container labeled "or" between the other two containers.
5. Ask students to decide what objects should go in the "or" container if it is the collection of all objects satisfying one container or the other. (Answer: all objects.)
6. Introduce the concept of selecting records using the connector "and": all records that satisfy both criteria. Use the same three see-through containers of step 3 but label the third container "and."

TERMS
File
Record
Field
Search
And
Or

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

1.1 Identify and describe major groups of people, past and present, in Europe and the Soviet Union.

1.2 Describe similarities and differences among the peoples of Europe and the Soviet Union.

3.1 Describe the absolute and relative location of major landforms, bodies of water, and natural resources in Europe and the Soviet Union.

4.1 Define region and identify various regions within Europe and the Soviet Union.

4.2 Compare the physical and cultural characteristics of regions within Europe and the Soviet Union.

9.1 Identify economic resources found in Europe and the Soviet Union and explain relationships between the location of natural resources and economic activities.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

Gr. 6/3.2 Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

7. Ask the students to decide what objects should go in the "and" container if it is the collection of all objects satisfying both containers. (Answer: only the objects with both colors.)

Computer Activity:

1. Select a student to be the "travel agent" and one to be the computer database "searcher." Provide the travel agent a map of European countries and the searcher a prepared database of European countries.
2. Place the database fields of the prepared European countries file on the overhead. Ask the students to select a field to search to answer the question:
   • If I want to visit a country or countries that _(criterion)_. (e.g., speak French, have a population ≥ (no.), does not border a body of water.)
3. Call on selected students to ask the "travel agent" and "searcher" to work together to search for a country to visit based on the selected criterion.
4. As the travel agent and the searcher use the maps and database file to find the answer, have the students prepare an index card with the question of step #2 and place the database search answer on the card once the "travel agent" has identified the country to visit.
5. Discuss what non-computer resources could have been used to find the same answer and if the computer provided any benefits.
6. (Optional: Have students read about or interview a travel agent or have a travel agent talk to the class--in person or via a phone call. Have the students ask how a travel agent uses a computer to determine travel locations.)

Measure

With a prepared database file of European countries loaded into a computer, find the countries that have

- a population greater than 500,000.
- an area of 11, 781 square miles.
- only French as a major language.

Shade a map of Europe to indicate your findings for each search and supply a legend matching color and search criterion.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: Land or Sea?
Grade: 6
Competency 3.2: Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or" connectors where necessary).
Measure 3.2.2: Choose a connector and search a prepared database of European countries to locate which countries border the Mediterranean Sea or are landlocked.

Materials Needed: Pre-activity: Prepared database file of European countries. Activities: 3 jars or see-through containers; 3 sets of colored objects (plastic eggs, candy, blocks, etc.) such that the third set is a combination of the other 2 colors; prepared database of European countries; map of current countries of Europe, signs labeled each with a different European country. (Database--Europe)

Time: One class session.

Activities

Pre-Activities:

Teacher Preparation

1. Review the fields of the prepared database file on European countries.
2. Practice searching each field using different relationships of equal to, greater than, less than, etc.
2. Study the difference in the connectors "and" and "or."
3. Collect the necessary supplies for the non-computer activity.

Non-computer Activity:

1. Define the database function search: a process of selecting all database records that satisfy a statement, rule, or criterion.
2. Ask the students to stand beside their seat if they satisfy the criterion you call out (e.g., rode a bus to school that morning, have brown eyes, have a sister, brought their lunch today). Identify this search relationship as "equal to." Discuss other relationshps provided as selection choices by your database program.
3. Introduce the concept of selecting records using the connector "or": all records that satisfy either one criterion or both criteria. Use three see-through containers. Fill one with one color of object and a second with objects of another color. Mix some of the third set (ones with a combination of the 2 colors) into each container. (Object examples: orange candy, white candy, orange/white candy corn.)
4. Place the third container labeled "or" between the other two containers.
5. Ask students to decide what objects should go in the "or" container if it is the collection of all objects satisfying one container or the other. (Answer: all objects.)
6. Introduce the concept of selecting records using the connector "and": all records that satisfy both criteria. Use the same three see-through containers of step 3 but label the third container "and."
7. Ask the students to decide what objects should

TERMS

File
Record
Field
Search
And
Or

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 6)

1.1 Identify and describe major groups of people, past and present, in Europe and the Soviet Union.

1.2 Describe similarities and differences among the peoples of Europe and the Soviet Union.

3.1 Describe the absolute and relative location of major landforms, bodies of water, and natural resources in Europe and the Soviet Union.

4.1 Define region and identify various regions within Europe and the Soviet Union.

4.2 Compare the physical and cultural characteristics of regions within Europe and the Soviet Union.

9.1 Identify economic resources found in Europe and the Soviet Union and explain relationships between the location of natural resources and economic activities.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.2 Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or"

DATABASES

connectors where necessary).

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

go in the "and" container if it is the collection of all objects satisfying both containers. (Answer: only the objects with both colors.)

Computer Activity:

1. After students review the location of the countries of Europe using a current map, have the students identify those countries that are landlocked, those that border the Atlantic Ocean, those that border the Mediterranean Sea, and those that border another body of water.
2. Assign each European country to one student, providing each student with a sign with the country's name.
3. Ask the remaining students to search a prepared database of European countries to identify the countries satisfying each criterion of step 1. As countries are selected in one of the searches, have the students representing those countries group together at the front of the room with a sign for that criterion. If a country belongs to more than one group, have another student represent the country in the second group. (Note: You will need additional signs for some countries.)
4. Divide the remaining students into two groups: one to operate the computer database and one to arrange the student database.
5. Have the computer database team search the database using the connector "and" with pairs of the the four criteria: landlocked, border the Atlantic Ocean, border the Mediterranean Sea, and border another body of water. As each selection based on two criteria is made, have the student database team direct the movement of the students representing the countries to a new group area. Record on the board or overhead the name of the countries satisfying the selection. After each search, the students should return to their original group.
6. Repeat the process using the connector "or."
7. Lead the class in discussing the difference in the results of using the connectors "and" and "or."

Measure

Using a prepared database file of European countries loaded into a computer, select all records of countries that are landlocked or that border the Mediterranean Sea. Identify the connector used and explain how the selection process would have been different with the other possible connector.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: And the Planet Is.....
Grade: 6
Competency 3.2: Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or" connectors where necessary).
Measure 3.2.3: Use a prepared solar system database to search for planets with moons and with oxygen.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Science: (Gr. 6)

3.3 Demonstrate the ability to use scientific materials and equipment.

5.2 Demonstrate knowledge of the interaction of the sun, earth, moon, and planets.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.2 Use a database to search for desired information, given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Materials Needed: Pre-activity: Prepared database file of solar system. Activities: 3 jars or see-through containers; 3 sets of colored objects (plastic eggs, candy, blocks, etc.) such that the third set is a combination of the other 2 colors; prepared database file of solar system; media center or class material; index cards labeled with search criteria, connectors, relationship phrases, and the words "no connector." (Database--Planets)

Time: One class session.

Activities

Pre-Activities:

Teacher Preparation

1. Review the fields of the prepared database file on the solar system.
2. Practice searching each field using different relationships of equal to, greater than, less than, etc.
3. Study the difference in the connectors "and" and "or."
4. Collect the necessary supplies for the non-computer activity.

Teacher Preparation with Media Professional

1. Locate the media center resources that contain the information needed for the database fields.
2. Plan for the students to use the resources in the media center or in the classroom.

Non-computer Activity:

1. Define the database function search: a process of selecting all database records that satisfy a statement, rule, or criterion.
2. Ask the students to stand beside their seat if they satisfy the criterion you call out (e.g., rode a bus to school that morning, have brown eyes, have a sister, brought their lunch today). Identify this search relationship as "equal to." Discuss other relationships provided as selection choices by your database program.
3. Introduce the concept of selecting records using the connector "or": all records that satisfy either one criterion or both criteria. Use three see-through containers. Fill one with one color of objects and a second with objects of another color. Mix some of the third set (ones with a combination of the 2 colors) into each container. (Object examples: orange candy, white candy, orange/white candy corn.)
4. Place the third container labeled "or" between the other two containers.
5. Ask students to decide what objects should go in

TERMS

File
Record
Field
Search
And
Or

DATABASES

Notes:

the "or" container if it is the collection of all objects satisfying one container or the other. (Answer: all objects.)

6. Introduce the concept of selecting records using the connector "and": all records that satisfy both criteria. Use the same three see-through containers of step 3 but label the third container "and."
7. Ask the students to decide what objects should go in the "and" container if it is the collection of all objects satisfying both containers. (Answer: only the objects with both colors.)

Computer Activity:

1. Assign each student to research information on each planet using 4 of the fields in the prepared database: number of moons, amount of gravitational pull, type of atmosphere, and distance from sun. Provide time in the media center or with classroom materials to locate the information.

Planet
No. of Moons
Amount of Gravity
Atmosphere
Distance from Sun

2. As a class, discuss the search connectors of "and" and "or."
3. Ask students what the two criteria are in the statements: Which planets have gravitational pull and moons? Which planets have an atmosphere and their year is greater than 5 Earth years?
4. Divide the class into two groups: the computer database searchers to use the prepared database on the solar system and the paper database searchers to use the completed form from their assignment in step #1.
5. Place 3 containers on the table. Label one "Criteria," one "Relationship," and one "Connector."
6. Place in the Criteria container an index card labeled with each of the 4 criteria of the solar system that were researched in step #1. Place a set of 15 "search connector" cards--five with the connector "and," five with the connector "or," five with the phrase "no connector"--in the Connector container. In the Relationship container, place two cards for each of the relationship phrases: equal to, not equal to, greater than and less than.
7. Select one card from the Connector container, one card from the Criteria container, and one from the Relationship container. If the connector card "and" or the card "or" is drawn, select a second criterion card.
8. Have the two groups search their respective databases according to the cards drawn and report their finds.
9. Ask the two groups to compare their results. Discuss any differences in searching by computer and in searching using information on paper. Replace all cards after each draw.

Measure

(Pair students to test their database searching skills.) Given a prepared database of the solar system and a stack of cards or a cube marked "and," "or," or "no connector," draw a card (or roll the cube) to determine the type of search to complete for planets with more than one moon; use planets with oxygen if a second criterion is needed. Record your search criteria, connector, and resulting data.

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

6

Title: Which Graph is Best?
Grade: 6
Competency 3.3: Use commercial software to organize and visually display data to draw conclusions.
Measure 3.3.1: Use graphing software to create several types of graphs illustrating the number of each color of M&M's in one bag. Decide which graph best represents the data.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Mathematics: (Gr. 6)

5.4 Select an appropriate method for solving problems including estimation, observation, formulas, mental math, paper and pencil calculation, calculator and computers.

6.1 Create and evaluate graphic representations of data, including circle graphs.

6.3 Display data using computer software and explore the use of spreadsheets.

6.5 Estimate the likelihood of certain events from experiments or graphical data.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.2 Use commercial software to organize and visually display data to draw conclusions.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore

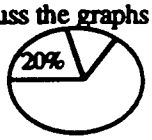
Materials Needed: Activity: Bags of M&M's candy, paper for drawing graphs, computer graphing program.

Time: One class session.

Activities

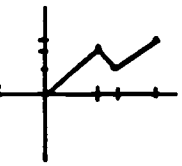
Pre-computer Activity:

1. Place on the board or overhead an illustration of three different types of graphs--such as a pie graph, a bar graph, and a line graph. Discuss the graphs in terms of what each shows:
   - pie graph shows relationship of parts to the whole



   - bar graph shows comparison of parts

   - line graph shows change in relationship of two sets of values



2. Divide the class into groups and provide each group with a bag of M&M's.
3. Ask the students to separate and count the M&M's by color.
4. Have each group make a paper graph for each type of graph and graph the data from the M&M's:
   - pie graph: number of each color compared to the total number.
   - bar graph: the comparison of the number of each color.
   - line graph: the color (x-axis) compared to the number for that color.
5. After each group shares their graphs with the class, discuss which type of graph shows best:
   a. Which color is the greatest in number in each bag?
   b. Which colors had almost the same number in the bag?
   c. Does any color comprise half or more of those in its bag?
   d. What is the average number for one color in the bag?

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Database
Sort
Search
Report

Computer Activity:

1. Provide a graphing program for each group to generate several different graphs with the data they collected from their bag of M&M's.
2. Ask each group to discuss the information each graph best illustrates.

DATABASES

research processes that meet information needs.

2.2 The learner will engage in a research process to meet infomation needs.

Notes:

Measure

Select one example of each type of graph generated in the class activity by using the computer graphing progam. Display these for the class to examine. Ask each student to select the graph that can be used best to determine what colors comprise between half and three-fourths of the entire bag illustrated in that graph.

ISSUES
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APPLICATION

Computer Skills Curriculum

6

Title: Graphing Data for Nutritional Comparisons
Grade: 6
Competency 3.3: Use commercial software to organize and visually display data to draw conclusions.
Measure 3.3.2: Use a graphing program to enter data for nutritional comparisons of snack foods (e.g., fat content, caloric value, sodium content). Display results and determine the most nutritional snack foods.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Mathematics: (Gr. 6)

5.4 Select an appropriate method for solving problems including estimation, observation, formulas, mental math, paper and pencil calculation, calculator and computers.

6.1 Create and evaluate graphic representations of data, including circle graphs.

6.3 Display data using computer software and explore the use of spreadsheets.

6.5 Estimate the likelihood of certain events from experiments or graphical data.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.3 Use commercial software to organize and visually display data to draw conclusions.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

Materials Needed: Pre-Activity: Two sets of content panels from the box of each of 3 different dry cereals. Activity: Computer graphing program; two charts per Figure 1; two sets of content panels from the packaging of 4 snack foods.

Time: One class session.

Activities

Pre-computer Activity:

1. Divide the class into two groups and provide each group with a set of the dry cereal content panels.
2. Have the students make bar graphs to compare the content amounts of the different cereals. (One graph for each content group such as calories, comparing that content group for all 3 cereals.)
3. Discuss what type of conclusions or observations are easier to make using the graphs than could have been drawn by reading the content panels.

Computer Activity:

1. Set up a computer system with a graphing program and printer as a "check station" for each group of the pre-computer activity.
2. Have each group use the graphs made in the pre-computer activity to enter data in the graphing program and print the resulting bar graph. Display on the bulletin board the graphs of similar content types generated by the two groups.

TERMS
Database
Sort
Search
Report

3. Provide each group with a chart to complete to determine which is the most nutritional cereal. Label the columns "Cereal," "Fat," "Calories," "Cholesterol," and "Carbohydrates." Have the students in each group complete the chart.

Cereal	Fat	Choles-terol	Carbo-hydrates	Calories

Figure 1

4. Ask each group to decide which cereal they think is the most nutritional.
5. Have the two groups report their decison on the most nutritional cereal and the entire class discuss how the information from the graphs helped them make their decision.

DATABASES

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

Measure

List 4 snack food names on the board or overhead. Have the students in two large groups agree on and write down their hypothesis as to the most nutritional of the four snack foods. Give each group a copy of the content panel from each of the 4 snack foods. Have them use the computer system to enter and print a graph to compare the fat content in the four snack foods. Ask the students to compare the graphed data to their hypothesis and decide if the graph supports their hypothesis. If time allows, or for extra credit, have the students graph all the contents to determine if their hypothesis was correct.

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Computer Skills Curriculum

6

Title: The Highs and Lows of Temperature Recording
Grade: 6
Competency 3.3: Use commercial software to organize and visually display data to draw conclusions.
Measure 3.3.3: Use probeware and a computer program to collect and graph temperature readings from different locations in your classroom to identify factors affecting the temperature.

Materials Needed: Pre-Activity: Thermometers. Activity: Temperature probeware program; two outside influences (fan, heater, lamp, hand fan), computer system on mobile cart, extension cable for temperature probe, graph paper, classroom display.

Time: Two class sessions: one class session with two or three daily checks and a second session for group discussions and final reports.

Activities

Pre-computer Activity:

1. Have students identify five areas of the room and discuss which area may have the lowest temperature and which the highest.
2. Provide thermometers to each pair of students for them to record the temperature in two of the five areas.
3. As the areas of the room are named, have the pairs of students state their temperature readings. Ask the class why the readings for the same area may vary.

Computer Activity:

1. Set up a computer system with a temperature probeware program and printer as a "temperature check station." If possible, place the system on a mobile cart and use the longest cable possible to attach the temperature probe to the computer system.
2. Introduce the students to the program and assign temperature readers for the five points in the room used in the non-computer activity.
3. Have the readers sign up to "read with the probeware" their area at the beginning and at the end of each class period for two to three days.
4. At the end of the temperature reading days, print the results of the temperatures recorded. (Or print at the end of each day if more appropriate for the software programs.)
5. Have the readers for each area meet to examine the data for their area and discuss why any differences may have occurred during any one day and from one day to the next. Each group should report their findings and conclusions to the class.
6. Provide each "area" group graph paper and have them graph the findings to post on a classroom chart with the print-out from the probeware program.
7. Have each group discuss and write a paragraph stating their conclusion for the variation or static state in the area's temperature and the benefit of using a computer for data collection.

TERMS
Database
Sort
Search
Report

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Mathematics: (Gr. 6)

5.4 Select an appropriate method for solving problems including estimation, observation, formulas, mental math, paper and pencil calculation, calculator and computers.

6.1 Create and evaluate graphic representations of data, including circle graphs.

6.3 Display data using computer software and explore the use of spreadsheets.

6.5 Estimate the likelihood of certain events from experiments or graphical data.

Science: (Gr. 6)

2.7 Demonstrate the ability to predict.

2.9 Demonstrate the ability to interpret data.

2.11 Demonstrate the ability to experiment.

2.12 Demonstrate the ability to control variables.

3.3 Demonstrate the ability to use scientific materials and equipment.

Computer Skills: (Gr. 5, 6)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

DATABASES

Gr. 6/3.3 Use commercial software to organize and visually display data to draw conclusions.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

(Optional) On the second day of the temperature readings, introduce "outside influences" (such as an electric fan in one area of the room and a lamp in another area). Remove the two "outside influences" after three class periods, noting when the influences were entered and removed. The existence of the influences should be noted in the class report and on the class display.

Measure

Have each student mark on a sketch of the classroom the

1. hotest area of the room
2. coolest area of the room
3. sources of any heat
4. sources of any cool air

and write a short paragraph to justify why the area identified as the hotest overall for the recording period had the highest temperature.

ISSUES
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Computer Skills Curriculum

7

Title: Database Problem Solving: Dressing for Travel
Grade: 7
Competency 3.1: Given a prepared database, use sorting and searching techniques to solve a specific problem.
Measure 3.1.1: Given a prepared database of weather data for a number of travel destinations, identify the sites that would require both an umbrella and clothing heavier than what would be worn at home that day.

Materials Needed: Activity: Daily weather forecast, daily newspaper copies, U.S. map marked with travel destinations of database file, computer with database program and prepared weather database file.

Time: One class session.

Activities

Non-computer Activity:

1. Have students bring the local daily weather forecast from radio, TV, or the daily paper.
2. Discuss any variation in the forecasts and any advantages of the three different formats.

Computer Activity:

1. Review the database operations of search and sort.
2. Introduce the question of "What ways could a traveller staying in a hotel determine what type of clothing would be needed on a trip to the day's destination?" (e.g., TV, radio, cable weather channel, daily newspaper, USA Today weather map, airline information service, hotel front desk)
3. Discuss the need for the traveller to dress appropriately for the local weather as well as for the destination. Ask the students to describe the local weather while two students study the daily newspaper to report the local forecast. Post the local forecast on the board or overhead.
4. Select two students to operate the computer database and divide the remaining students into two groups.
5. Identify one group as the "traveller." Provide the group with a map of the United States with destinations listed in the computer database clearly marked. (See list at the end of the lesson.)
6. Identify the other group as the "hotel staff." Their job will be
   a. to instruct the two computer operators on how to use the database (whether to search or sort) to determine the weather at the traveller's selected location.
   b. to respond to the traveller's inquiry with suggestions on attire for the local weather and the travel destination weather.
7. Once the groups understand their assignment, give each five minutes to organize: the travellers to pick their destinations; the hotel staff to review when they might want to search the database and when they should sort the database; the two database operators to practice sorting and searching. Note: The information in the database represents yearly totals, highs, and lows. Use the data to "make" a forecast for the day in question. For example:
   a. Destination is Milwaukee, Wisconsin. Search for the information and compare to the local forecast.

TERMS

Database
Sort
Search

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 7)

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

Computer Skills: (Gr. 5, 6, 7)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

Gr. 6/3.1 Use a database to sort records.

Gr. 6/3.2 Use a database to search for desired information: given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Gr. 7/3.1 Given a prepared database, use sorting and searching techniques to solve a specific problem.

Information Skills

1.3 The learner will critique information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

DATABASES

Notes:

b. Destination is Dallas, Texas for the day and on to Portland, Oregon for the night. Search for both records to gather information or sort selected fields of high temperature (for daytime), low temperature (for nighttime), and days clear/cloudy/ precipitation to compare the cities with the local forecast.

8. Have the "travellers" request 3-4 destinations and the hotel staff respond. For example:
   a. Travel to Columbus, OH.
   b. Travel to sites with cloudy skies over half of the year (days cloudy ≥ 182).
   c. Travel to all sites needing an umbrella (days with precipitation ≥ 200).
   d. Travel to sites with a low temperature lower than the low of the local forecast.
9. Provide the "travellers" one or two "challenge" destinations to request. For example:
   a. Travel to Pittsburgh, PA for a noon meeting, then on to Salt Lake City, Utah for the evening.
   b. Travel to Denver, CO for a 10am-2pm meeting, then to Los Angeles, CA for a three-hour layover before travelling to Honolulu, HI.
   c. Travel in January to a city without an airport but easily accessible from one of the 3 cities of Boston (MA), Burlington (VT), and Portland (ME) which most likely would not be closed due to snow.
10. Discuss the advantages of obtaining travel forecasts from a hotel staff using a computer database rather than using other weather forecast sources such as radio, TV, local newspaper, etc.

Measure

Provide students a prepared database file of weather data for a number of travel destinations. Ask them to identify the sites that would require both an umbrella and clothing heavier than what would be worn at home that day and describe the database operations used to find the response. (Directions: Have students decide on the database strategy in small groups of 3-4 students but have each student do his own database search and write his own response to submit.)

Notes:

Travel Destinations:

1. Albany, NY
2. Albuquerque, NM
3. Anchorage, AL
4. Asheville, NC
5. Atlanta, Ga
6. Baltimore, MD
7. Barrow, AL
8. Bismarck, ND
9. Boise, ID
10. Boston, MA
11. Buffalo, NY
12. Burlington, VT
13. Charleston, SC
14. Charleston, W. VA
15. Chicago, IL
16. Cincinnati, OH
17. Cleveland, OH
18. Columbus, OH
19. Concord, NH
20. Dallas, TX
21. Denver, CO
22. Des Moines, IA
23. Detroit, MI
24. Dodge City, KA
25. Duluth, MN
26. Fairbanks, AL
27. Fresno, CA
28. Grand Rapids, MI
29. Hartford, CT
30. Helena, MT
31. Honolulu, HI
32. Houston, TX
33. Huron, SD
34. Indianapolis, IN
35. Jackson, MI
36. Jacksonville, FL
37. Kansas City, MO
38. Lander, WY
39. Los Angeles, CA
40. Louisville, KY
41. Memphis, TN
42. Miami, FL
43. Milwaukee, WI
44. Minneapolis, MN
45. Mobile, AL
46. Moline, Il
47. Nashville, TN
48. Newark, NJ
49. New Orleans, LA
50. New York, NY
51. Norfolk, VA
52. Oklahoma City, OK
53. Omaha, NE
54. Philadelphia, PA
55. Phoenix, AZ
56. Pittsburgh, PA
57. Portland, ME
58. Portland, OR
59. Providence, RI
60. Raleigh, NC
61. Rapid City, SD
62. Reno, NV
63. Richmond, VA
64. Rochester, NY
65. St. Louis, MO
66. Salt Lake City, UT
67. San Antonio, TX
68. San Diego, CA
69. San Francisco, CA
70. Savannah, GA
71. Seattle, WA
72. Shreveport, LA
73. Sioux City, IA
74. Spokane, WA
75. Springfield, MO
76. Syracuse, NY
77. Tampa, FL
78. Washington, DC
79. Wilmington, DE

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

7

Title: Database Problem Solving: World Work Organization
Grade: 7
Competency 3.1: Given a prepared database, use sorting and searching techniques to solve a specific problem.
Measure 3.1.2: Given a database of the countries of Africa, identify the countries that would most benefit from medical assistance.

Materials Needed: Pre-Activity: Current map of Africa, information on each country. Activity: Computer with database program and Africa file, index card per student, sign for computer station, set of World Work Organization placement cards, container for index cards.

Time: Two class sessions.

Activities

Pre-Activities:

Teacher Preparation

1. Review a list or map of the current countries of Africa.
2. Practice searching and sorting the prepared database file (Africa) of countries of Africa.

With the Students

1. Review a map of the current countries of Africa, either with the class as a whole using a computer program or map on the overhead or allow time for small groups of students to study the map.
2. Discuss facts already studied about each country.

Computer Activity:

TERMS

Database
Sort
Search

1. Designate the computer station as the WORLD WORK ORGANIZATION headquarters (international, work placement bureau specializing in placing professional workers and in sending aid to African counries).
2. Provide each student an index card to label with a professional worker (e.g., pediatrician, general physician, dentist, teacher, elder care social worker). The type of profession on the cards should vary but several cards could have the same profession.
3. Place the cards in a container.
4. Draw a card from the container and lead the class in identifying which countries might need workers of that profession and why.
5. Simultaneously, have pairs of students take turns (or for a less-time consuming class demonstration, have one pair use the database for all questions) as World Work Organization employees to search the database file or sort the records to find the African countries most in need of that worker. Students will need to sort, search, and analyze fields such as percentage of population, life expectancy, people per doctor, infant mortality, etc. to determine countries with a need of the worker type selected.
6. Have the World Work Organization employees complete a "worker placement" card based on their search and present it to the class. (See sample idea for worker placement card.)

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 7)

Skill Goal I: The learner will acquire information from a variety of sources. (Example: database)

Skill Goal II: The learner will use information for problem-solving, decision-making, and planning.

2.3 Analyze economic, social, and political situations which involve ethical and moral dilemmas.

3.2 Analyze the impact of the absolute and relative location of places within Africa and Asia.

6.1 Analyze the movement of people, goods, and ideas within, between, and among nations in Africa and Asia and other world areas.

Computer Skills: (Gr. 5, 6, 7)

Gr. 5/2.2 Identify database management terms (e.g., database, file, record, field/category, sort/arrange, select/search, report).

Gr. 6/3.1 Use a database to sort records.

Gr. 6/3.2 Use a database to search for desired information: given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Gr. 7/3.1 Given a prepared database, use sorting and searching techniques to solve a specific problem.

Information Skills

1.3 The learner will critique

DATABASES

information sources and formats.

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

7. Compare the opinion of the class (step 4) with the results of the database search (step 5) and have the two groups defend their decision and suggest why any differences have occurred.

Measure

Provide students a prepared database file of countries of Africa. Ask them to identify the countries that would most benefit from medical assistance and explain what field(s) they considered in making their decision and why. (Directions: Have students decide on the database strategy in small groups of 3-4 students but have each student do his own search and write his own response to submit.)

World Work Organization	
Worker Placement	
Profession:	Country:

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

8

Title: NC County Hunters, Inc.
Grade: 8
Competency 3.1: Given a prepared database, use sorting and searching techniques to solve a specific problem.
Measure 3.1.1: Given a prepared database of counties of North Carolina, identify counties in the coastal region that would be desirable for opening a pediatric clinic.

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 8)

1.2 Describe the physical and cultural aspects of North Carolina places.

11.1 Describe the various ways that social change and racial and ethnic diversity affect individuals and groups living in North Carolina.

11.2 Evaluate the importance of technological innovations and advances on quality of life in North Carolina and the nation.

Computer Skills: (Gr. 5, 6, 8)

Gr.5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.1 Use a database to sort records.

Gr. 6/3.2 Use a database to search for desired information: given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Gr. 8/3.1 Given a prepared database, use sorting and searching techniques to solve a specific problem.

Information Skills

1.4 The learner will relate ideas and information to life experiences.

Materials Needed: Prepared database, sample letters, maps of NC, word processing software (optional), poster paper or desktop publishing software to make a want-ad listing to post.
Time: Three class sessions.

Activities

Activity 1:

1. Review the database operations of search and sort.
2. Provide computer stations with the prepared NC counties database file, maps of NC, and access to a printer or set up one station for one pair of students to operate for the class.
3. Designate the class as the relocation agency known as NC County Hunters, Inc. and the students as "relocation specialists."
4. Present the students or the class with a letter to NC County Hunters, Inc. from a Californian seeking relocation to an area of NC near the coast and with opportunities to meet other folks over 65 years of age. (See Sample 1.)
5. Have students work in pairs to search the NC counties file or sort the records and write a response from NC County Hunters, Inc. They may need to use the NC map in finalizing their answer. Have them use word processing software (optional) to publish their response.
6. Ask for volunteers to report the suggestions they offered in their reply. Discuss any differences in responses.

TERMS

Database
Sort
Search

Activity 2:

1. Divide the class into groups of 3-4 students to form a County Hunters office.
2. Present each group with one of the sample letters (Samples 2-4) to NC County Hunters, Inc.
3. Have the groups search the NC counties file or sort the records, use the NC map, and write a response from NC County Hunters, Inc. using word processing software (optional) to publish their response.
4. Have the groups with the same letter compare their responses and discuss any differences in responses.
5. Ask those groups with the same letter to report to the entire class how alike or different the responses were and state what database processes were used that might have created the differences.

Measure

Given a prepared database of NC counties and a map of NC, determine the counties in the coastal region that would be desirable for opening a pediatric clinic and incorporate

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

your findings into a want ad that might be published in a national magazine.

Sample 1:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

I will be retiring from a company in the San Francisco area soon and want to move to North Carolina. I understand your company can suggest several places that would fit my desires. I want to be near the coast but in an area with a lot of opportunity to meet other retirees.

Sincerely,

Sam Sampson
10 Ocean View
San Francisco, California 92101

Sample 2:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

I would like to move to the piedmont area of North Carolina where there is a large population of young adults (under 25 years). I will be starting a sales company and want to recruit young adults for sales jobs. I am also interested in an area of high density in order to have more contacts in a smaller area.

Please send me two or three counties you would recommend.

Sincerely,

J. A. West
100 S. Broad Street
Portland, Oregon 76345

Notes:

Sample 3:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

I represent a musical rock group who would like to set up a studio and performance center in North Carolina. They want to be in an area with lots of folks under 25 and in a high income area.....the more likely to have an audience with money to spend! An added feature would be if the area had a high population growth rate; then, we would always have a new group of folks to hear our music.

Where would you suggest we locate the studio? Please send me two or three selections from which to choose.

Sincerely,

Casey Jones
45 North Lane
Chicago, Il 30056

Sample 4:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

My family is looking for a location in North Carolina that has a lot of doctors for the population of the area and a low elevation. Two of our sons have breathing problems and need to be at a low elevation.

Where would you suggest we relocate? Please send me two or three selections from which to choose.

Sincerely,

Nancy Falls
10003 East Sands
Providence, Rhode Island 03785

ISSUES
SKILLS
APPLICATION

Computer Skills Curriculum

8

Title: NC County Hunters, Inc.
Grade: 8
Competency 3.1: Given a prepared database, use sorting and searching techniques to solve a specific problem.
Measure 3.1.2: Given a prepared database of counties of North Carolina, identify counties in the mountain region that would be preferable for retirement.

Materials Needed: Prepared database, sample letters, maps of NC, word processing software (optional), poster paper or desktop publishing software to make a want-ad listing to post.
Time: Three class sessions.

Activities

Activity 1:

1. Review the database operations of search and sort.
2. Provide computer stations with the prepared NC counties database file, maps of NC, and access to a printer or set up one station for one pair of students to operate for the class.
3. Designate the class as the relocation agency known as NC County Hunters, Inc. and the students as "relocation specialists."
4. Present the students or the class with a letter to NC County Hunters, Inc. from a gentleman from Ohio seeking relocation to an area of NC with an ample number of doctors and opportunities to meet other folks over 65 years of age. (See Sample 1.)
5. Have students work in pairs to search the NC counties file or sort the records and write a response from NC County Hunters, Inc. They may need to use the NC map in finalizing their answer. Have them use word processing software (optional) to publish their response.
6. Ask for volunteers to report the suggestions they offered in their reply. Discuss any differences in responses.

TERMS

Database
Sort
Search

Activity 2:

1. Divide the class into groups of 3-4 students to form a County Hunters office.
2. Present each group with one of the sample letters (samples 2-4) to NC County Hunters, Inc.
3. Have the groups search the NC counties file or sort the records, use the NC map, and write a response from NC County Hunters, Inc. using word processing software (optional) to publish their response.
4. Have the groups with the same letter compare their responses and discuss any differences in responses.
5. Ask those groups with the same letter to report to the entire class how alike or different the responses were and state what database processes were used that might have created the differences.

Measure

Given a prepared database of NC counties and a map of NC, determine the counties in

Objectives Addressed by This Lesson

Communication Skills

2.1 The learner will identify, collect, or select information and ideas.

2.2 The learner will apply, extend, and expand on information and concepts.

4.1 The learner will respond to personal situations and events in selections and to personal situations and events.

Social Studies: (Gr. 8)

1.2 Describe the physical and cultural aspects of North Carolina places.

11.1 Describe the various ways that social change and racial and ethnic diversity affect individuals and groups living in North Carolina.

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Computer Skills: (Gr. 5, 6, 8)

Gr.5/2.2 Identify database management terms (e.g., database, file, record, field/ category, sort/arrange, select/ search, report).

Gr. 6/3.1 Use a database to sort records.

Gr. 6/3.2 Use a database to search for desired information: given one criterion and given two criteria (using "and" or "or" connectors where necessary).

Gr. 8/3.1 Given a prepared database, use sorting and searching techniques to solve a specific problem.

Information Skills

1.4 The learner will relate ideas and information to life experiences.

DATABASES

1.4 The learner will relate ideas and information to life experiences.

1.5 The learner will communicate reading, listening, and viewing experiences.

2.1 The learner will explore research processes that meet information needs.

2.2 The learner will engage in a research process to meet information needs.

Notes:

the mountain region that would be preferable for retirement and incorporate your findings into a want ad that might be published in a national magazine.

Sample 1:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

My wife and I would like to relocate in an area of North Carolina with a large population of retired folks and an ample number of doctors. My wife is ill and doctor services are vital on a day-to-day basis. I would like to be involved in activities for senior citizens.

Please send us two or three selections from which to choose.

Cordially,

Tom Watson
33 South Wynde
Columbus, Ohio 34156

Sample 2:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

My husband and I would like to relocate to North Carolina for peace and quiet--to a place with a low population density. However, we have been very active in the Republican Party in Minneapolis and would like to live in an area with a large number of registered Republicans.

Please send us two or three selections from which to choose.

Cordially,

Clara Moose
324 S. Lake Circle
Minneapolis, Minnesota 66012

Notes:

Sample 3:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

I would like to move to an area in the mountains of North Carolina with a large population of retired folks and a high elevation. I am a mountain climber and enjoy hiking with other senior citizens.

Please send me two or three selections from which to choose.

Sincerely,

Ken Waters
P.O. Box 5
Boulder, Colorado 67411

Sample 4:

County Hunters, Inc.
1 Old North State Drive
Raleigh, NC 27000

Gentlemen:

I would like to move to an area near the coast of North Carolina which is not in a high population growth section. I am tired of bulldozers and new people moving in around me. However, I enjoy being in a group of people who have valued education and continued their schooling past high school.

Where would you suggest I move? Please send me two or three selections from which to choose.

Sincerely,

Amy Snyder
6 Toms Drive
Boston, Massachusetts 02345

Databases, Gr. 4-8

and: A connector/term used in searching databases which indicates that for two statements/rules/criteria only records satisfying both statements/rules/criteria should be selected.

arrange (sort) : A process of organizing the records in a database in a specific order, either alphabetically (from A to Z or reverse alphabetically from Z to A) or numerically (from 0 to 9 or reverse numerically from 9 to 0).

computer accessible news sources: A computer database of news and information which is updated frequently, usually daily, and available to be searched by dates and keywords.

connectors: A term used in searching databases which indicates which records satisfying one statement/rule/criterion or both should be selected. The two most common connectors are "and" and "or."

data: A general term for pieces of information that a computer processes.

database (computer, current, print): A collection of data organized for search and retrieval. Computer databases are accessed by computer; print databases are available in printed format. A current database is a collection of data updated frequently (hourly, daily, weekly, etc.) and is usually a compute database.

edit/editing: To make any change to the contents of a database.

enter/entering: To type an item of information into a field in a database.

field/category: An item of information in a record of a file in a database.

file: A collection of related records in a database.

information accessing: Process of searching for information, usually located in a database. Most commonly used when a computer database is to be searched.

or: A connector/term used in searching databases which indicates that for two statements/rules/criteria all records satisfying either one statement/rule criterion or both statements; rules/criteria should be selected.

record: A collection or listing of related fields or categories in a database file.

report: A display (on the screen or printed onto paper) of the records or parts of the records of a database that satisfy a particular search or sort.

select/search: A process of choosing all records of a database that meet or satisfy a statement, rule or criterion. A search may be base don a single statement, rule or criterion or a combination of statements, rules, or criteria joined by a connector of "and" or "or." This process is called *find, match,* or *query* in some database software.

sort (arrange) : A process of organizing the records in a database in a specific order, either alphabetically (from A to Z or reverse alphabetically from Z to A) or numerically (from 0 to 9 or reverse numerically from 9 to 0).

Primary source of definitions: Understanding Computers Through Applications (Student's Book and Teacher's Guide); Glencoe, Macmillan/McGraw-Hill.

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