



Interdisciplinary Education

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Elementary Geography and Ecology: If Earth Were a Cookie

Ecology and population studies are among the most important curriculum standards of the NCSS. Population Connection has aligned its various lessons with NCSS national standards. The NCSS standard "People, Places, and Environments" aligns with the state standards of history and geography. Both the state and NCSS provide K-12 grade alignment. Social studies teachers nationwide are able to use the NCSS standards that Population Connection has provided to align the many lessons with NCSS national standards and state standards. Each of the following three lessons is designed for the elementary classroom teachers to integrate social studies with other elementary content. All three lessons have been field-tested and provide an overview, procedures, objectives, standards, skills and materials, discussion questions, and extension activities.



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Introduction

The author is a teacher of ecology and population studies for forty-plus years and is presenting lessons about ecology and population and ecology studies at various state, regional, and national conferences. *Population Connection* (<http://www.populationconnection.org/>) provided a grant to the author to participate at a national population studies institute in order to prepare numerous population and ecology seminars and national conference presentations for a K-20 audience as well as for teacher preparation institutions. Population Connection provides the following information: "Although it [the United States] has only 4.5% of the world's population, it consumes more than 29% of the world's annual output of renewable

resources.” Because non-renewable resources are limited, U.S. students are eager to learn conservation techniques and to practice alternative energy consumption behaviors.

The following position statement is from the Social Studies for Early Childhood and Elementary School Children Preparing for the 21st Century: A Report from the National Council for Social Studies (NCSS) Task Force on Early Childhood/Elementary Social Studies (Approved by NCSS Board of Directors, June 1988):

The social studies are the study of political, economic, cultural, and environmental aspects of societies in the past, present, and future. For elementary school children, as well as for all age groups, social studies have several purposes. The social studies equip them with the knowledge and understanding of the past necessary for coping with the present and planning for the future, enable them to understand and participate effectively in their world, and explain their relationship to other people and to social, economic, and political institutions. Social studies can provide students with the skills for productive problem solving and decision making, as well as for assessing issues and making thoughtful value judgments. Above all, the social studies help students to integrate these skills and understandings into a framework for responsible citizen participation, whether in their playgroup, the school, the community, or the world. (<http://www.socialstudies.org/positions/elementary>)

National Council for Social Studies Standards

Ecology and population studies are among the most important curriculum standards of the NCSS. Population Connection has aligned its

various lessons with NCSS national standards. Many states provide an alignment chart that aligns state social studies standard with the NCSS national standards, for example, the 2003 publication of the Ohio Department of Education’s Academic content standards K- 12 Social studies. Columbus, Ohio, provides a chart on page 16 that aligns the Ohio social studies standards with the NCSS standards. The NCSS standard “People, Places, and Environments” aligns with the Ohio standards history and geography. Both the state and NCSS provide K-12 grade alignment. Social studies teachers nationwide are able to use the NCSS standards that Population Connection has provided to align the many lessons with NCSS national standards and state standards.

The NCSS national standards provide “that National Council for the Social Studies (NCSS) has long supported civic competence as the goal of social studies.” K-12 social studies programs integrate knowledge, skills, and attitudes within and across disciplines. Integrated social studies programs across the nation take many forms, varying in the amount and form of disciplinary integration:

At primary levels, children often learn social studies through learning opportunities that are highly integrated across several disciplines. These often take the form of units constructed around themes. For example, teachers using the theme “time, continuity, and change” will likely engage young learners in studies using history, science, and language arts. (<http://www.socialstudies.org/standards/introduction>)

Social studies programs should include experiences that provide for the study of people, places, and environments.

Technological advances connect students at all levels to the world beyond their personal locations. The study of people, places, and human-environment interactions assists learn-

ers as they create their spatial views and geographic perspectives of the world. Today's social, cultural, economic, and civic demands on individuals mean that students will need the knowledge, skills, and understanding to ask and answer questions such as follows: (a) Where are things located? (b) Why are they located where they are? (c) What patterns are reflected in the groupings of things? (d) What do we mean by region? (e) How do landforms change? (f) What implications do these changes have for people? This area of study helps learners make informed and critical decisions about the relationship between human beings and their environment. In schools, these themes typically appear in units and courses dealing with area studies and geography.

In the early grades, young learners draw upon immediate personal experiences as a basis for exploring geographic concepts and skills. They also express interest in things distant and unfamiliar and have concern for the use and abuse of the physical environment. During the middle school years, students relate their personal experiences to happenings in other environmental contexts. Appropriate experiences will encourage increasingly abstract thought as students use data and apply skills in analyzing human behavior in relation to its physical and cultural environment. Students in high school are able to apply geographic understanding across a broad range of fields, including the fine arts, sciences, and humanities. Geographic concepts become central to learners' comprehension of global connections as they expand their knowledge of diverse cultures, both historical and contemporary. The importance of core geographic themes to public policy is recognized and should be explored as students address issues of domestic and international significance (<http://www.socialstudies.org/standards/introduction>).

Ecology and Population Studies Literature

Because Population Connection has been central to many of the author's national and state presentations, it is critical to obtain publishing permission from Population Connection. All lessons and pictures published in this article are printed by permission of Population Connection. The author is neither a representative of Population Connection, nor has he received compensation as a consultant for Population Connection.

The seven-minute DVD *World Population* (Population Connection, 2007) is a dramatic initial activity for students at all grade levels. Depending upon the grade level, the extent of the classroom discussion will open for modification by the grade level teacher.

Following 200-plus conference presentations, it is always difficult to predict participant numbers. Smaller audiences or classes will profit from experiencing the Population Connection activities. Having an audience of 200-plus enthusiastic educators proved to be a real challenge in San Diego; however, Population Connection had provided a website at <http://www.populationconnection.org/> which continues to offer excellent teaching materials.

Authors Shively and Helms have published a 2008 text entitled *Ohio Social Studies Standards: Annotated Books* which provides the elementary teacher with 30-40 social studies/literacy fiction and non-fiction grade level books aligned with geography standards:

Ohio Benchmarks:

By the end of the K-2 program, students will be able to

- A. Identify the location of the state of Ohio, the United States, the continents and oceans on maps, globes and other geographic representations.
- B. Identify physical and human features of places.
- C. Explain how environmental processes influence human activity and

ways humans depend on and adapt to the environment.

By the end of the 3-5 program, students will be able to

- A. Use map elements or coordinates to locate physical and human features of North America.
- B. Identify the physical and human characteristics of places and regions in North America.
- C. Identify and explain ways people have affected the physical environment of North America and analyze the positive and negative consequences.
- D. Analyze ways that transportation and communication relate to patterns of settlement and economic activity.

Examples of these books include the following:

All the Places to Love by Patricia MacLachlan (1994). Harper Collins Publishers.

Summary: On the day Eli is born, his grandmother holds him up to the window so that the first thing he hears is the wind, and what he sees first are all the places to love: the valley, the river, the hilltop where blueberries grow. Everyone in Eli's family has a favorite place, and Eli will grow up knowing that no matter where his life takes him, all the places to love are right here, connected to a way of life that has time for love, affection and simple pleasures. This is an excellent resource for teaching the concept of place. (K-2, 3-5)

Around the World: Who's Been Here? by George Lindsay Barrett (1999). Greenwillow Books.

Summary: A teacher, Miss Lewis, travels around the world aboard the ship *Explorer* and views animals in their natural habitats. From Antarctica to Kenya, China, to Alaska, there

are natural wonders to observe and logical clues to piece together. She reports her findings and experiences in photographs and sketches and sends these along with letters back to the students in her classroom. (K-2, 3-5)

Blast Off to Earth!: A Look at Geography by Loreen Leedy (1992). Holiday House.

Summary: Mr. Quark takes his class, which are all aliens, aboard a spaceship on a field trip to earth to learn about geography. The students learn about the surface, the poles, the equator and the continents. The class visits each continent and learns about the area, the people, and the animals. (K-2, 3-5)

The use of children's literature to assist in the teaching of social studies content has a long-established history. Social studies methods books have advocated the use of such books to supplement textbooks for over forty years (Sandmann & Ahern, 2002). DeAn Krey, in the Bulletin for the National Council of the Social Studies, *Children's Literature in Social Studies: Teaching to the Standards* (1998), summarizes many of these benefits. She asserts that by using children's literature, teachers are better able to create lessons that accomplish the following: (a) expand a learner's knowledge of human events by transporting the reader to places, times, and cultures not otherwise possible; (b) provide an insider's perspective to the emotions of a human event; (c) offer more of a holistic picture of events than the typical survey approach provided by most textbooks; (d) offer a better balance between the facts of a particular occurrence and the human characteristics of the people involved; (e) provide learners with the opportunity to connect events and characters to their own personal experiences (Krey, 1998).

Sunal and Haas (2008) found that "many primary-grade teachers read trade books with settings in other nations" (p. 424). Increasingly, elementary children are becoming fami-

liar with a variety of social, ecological, and geographic issues. Sunal and Haas (2008) continue, "By linking these books to the study of geography through a focus on the locations of environment, students are encouraged to use skills in reading and listening while gaining greater understanding of the world in which they live" (p. 424).

Friedman, (2005) in *The World is Flat*, considers American education. Some of his commentary is reserved for parents: "There comes a time when you've got to put away the Game Boys, turn off the television set, put away the iPod, and get your kids down to work" (p. 303). Friedman is not a critic of the public schools; indeed, Friedman writes several pages on the achievements of public schools. "Public education is producing remarkable students ..." (p. 303). Friedman and others agree that there is much that is laudable concerning U.S. education.

The general field of ecology and population studies is an area that U.S. students have been serious about for nearly half a century. Social studies educators have state and national standards that promote ecology and population studies.

Population Connection Lessons

Each of the following three lessons is designed for the elementary classroom teachers to integrate social studies with other elementary content. All three lessons have been field-tested and provide an overview, procedures, objectives, standards, skills and materials, discussion questions, and extension activities.

Earth Cookie

The lesson and picture are provided by permission from the Population Connection.

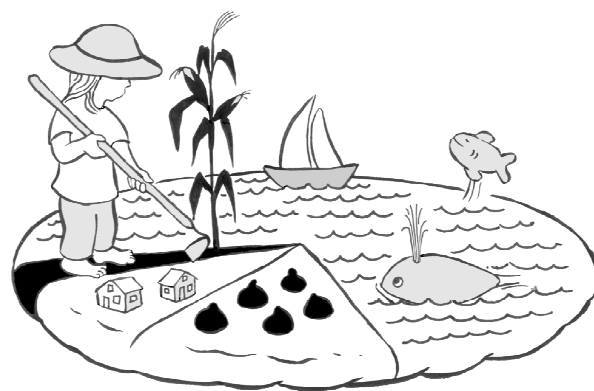
Overview

Only a small part of the earth's land is availa-

ble to grow crops to feed the world's people. Personal decisions and actions can help conserve farmland. In this activity, students will help decorate a cookie that represents the basic geographic portions of the earth and develop an appreciation for the limited amount of farmland available on the planet.

Grade Level

- Pre-K-5



Objectives

- Describe which makes up more of the earth's surface: land or water?
- List three food products that come from farms.
- Name two things that people can do to preserve farmland/soil.

Standards

- Social Studies: people, places, and environments.
- Social Studies: global connections and interdependence.

Skills

- Observing
- Dividing
- Imagining
- Simulating

- Classifying and categorizing
- Ordering and arranging
- Representing

Duration

- Preparation: 30–60 minutes depending on materials used
- Activity: 30 minutes (approximately)

Materials

- A large, pizza-sized sugar cookie (bake at home or purchase in advance)
- An assortment of cookie toppings: raisins, dried fruit, sliced berries, miniature marshmallows, small candies, and sugar sprinkles
- Icing or cream cheese
- Food coloring in assorted colors
- A globe or map of the world (as an alternative, you can use a beach ball or small pillow decorated as a globe)
- A plastic knife
- A round baking pan (e.g., pizza pan)

Accommodations for special needs students

Some students may require hearing and sight assistance. These students will be asked to move (or assisted to move to an area of the classroom for greater participation.) This lesson is an activity-orientated instruction. Appropriate linguistic and conceptual social studies may need to be addressed. If an intervention specialist is available, he or she will assist the student with special needs. Include special needs students in designing the “earth cookie.” Include special needs students in lesson extensions and in answering questions.

NOTE: If you would rather not use real food products, you could use modeling clay to make the cookie instead.

Procedure

1. Be sure you and the students wash your hands before this activity.
2. Introduce the concept of the activity and show the students the large, plain cookie:

Today we are going to decorate a special cookie. Let's pretend that this big, round cookie represents the whole earth. This cookie will show us how much land is available to grow food for all of the world's people.

3. Cut the cookie into quarters.
4. Explain that most of the earth is water. Point to $\frac{3}{4}$ of the cookie and ask a group of students to add blue-colored icing to the part of the cookie which represents the world's water.

Ask the students to name some things that live in the water. Then they can add colored candies or fruits (or goldfish crackers!) to represent the living things that are in the oceans, lakes, and rivers.

5. The remaining $\frac{1}{4}$ of the cookie represents the earth's land. Cut that section in half (you will have two $\frac{1}{8}$ pieces).

Explain to the class that you are going to pretend that these two pieces of the cookie represent the land on the earth.

6. Ask a different group of students to add marshmallows or white icing to $\frac{1}{8}$ of the cookie.

Explain to them that this section represents areas of the earth where people cannot normally live, such as very icy regions, deserts, and very high and rocky mountains.

7. Take a moment to show the globe to the students and identify examples of the following types of regions: areas able to grow crops (farmland); areas densely populated where there is limited space to grow food (cities, coasts); areas with moderate climates where people can live; and areas where people cannot live (deserts, high mountains, swamps, icy regions).

8. Carefully cut the remaining $\frac{1}{8}$ section of the cookie into four small pieces ($\frac{4}{32}$). Ask the students to spread icing and assorted toppings in a variety of colors on three of these pieces ($\frac{3}{32}$).

Explain that these three pieces represent all the areas where people live: where we build our homes, roads, schools, shopping malls, factories, and cities. We also have to share this area with other living things — all the plants and animals that need homes too.

Finally, ask the students to put green colored icing on the last uncovered piece ($\frac{1}{32}$). Explain that this little piece represents all the farmland on Earth — this proportion of area produces all the (land-based) food for the world's people.

9. Discuss ways to keep the sections of the earth that we live and farm on clean and healthy. Suggestions include planting trees to prevent soil erosion, keeping the ground and water clear of pollution by disposing of chemicals properly, conserving energy to help reduce pollution that leads to acid rain, and buying produce from local farmers.
10. Cut the cookie in small pieces so that everyone may get a bite of it to eat.

Discussion Questions

1. What are some foods you eat every day that come from the earth? (possible answers include *grains like rice, wheat for bread, and corn for cereal; apples and other fruits that grow on trees; carrots and other vegetables; spinach and other green leafy plants*)
2. Does all our food come from the land? (answer: *no*) What do we eat that comes from the ocean? (possible answers: *fish, clams, shrimp, and shellfish*)
3. Were you surprised at what a small portion of our cookie represents farmland? Why or why not?

Exploration and Extension

1. Help your students discover soil, an important part of gardens and farms. See *Under the Ground* by Joan Westley (Creative Publications, 1991) for ideas on how to introduce young learners to the plants and creatures that live in the soil and how they can protect soil from erosion.

Arrange a class field trip to a local farm or dairy. The students can learn what foods come from the farm they are visiting. They can ask the farmer to discuss how his or her farm has changed over the years and to tell them more about conserving farmland.

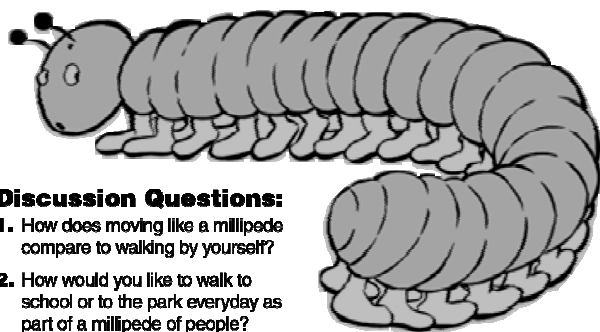
Sample diagram of completed cookie

- $\frac{3}{4}$ oceans
- $\frac{1}{4}$ land
- $\frac{1}{8}$ land where people cannot live
- $\frac{3}{32}$ land where people live but which cannot support crops
- $\frac{1}{32}$ land that can grow crops (and on which people can live)

This activity was adapted from *Enviro-Cookie*, published by the North Carolina Zoo, Education Division, 1-800-488-0444.

Enviro-Cookie was based on *Earth: The Apple of Our Eye*, published in *Counting on People: Elementary Population and Environmental Activities*, Population Connection, 1994.

Creatures in Motion



Discussion Questions:

1. How does moving like a millipede compare to walking by yourself?
2. How would you like to walk to school or to the park everyday as part of a millipede of people?

This lesson and picture is provided by permission from the Population Connection.

Part I: Millipede Stampede

Overview

A millipede is one creature with several parts; whereas, the group the students are imitating represents many parts working together. By presenting the picture of the millipede, the children will see one individual with several parts working together. The teacher and a teacher's aide may lead or follow as the students walk through the school hall as well as encourage the students to behave as one unit. When working as a group, cooperation may be necessary to achieve common goals. Some activities work better with just a few people, while others work better with lots of people. In the first part of this activity, students participate in a physical but noncompetitive game in which they demonstrate the problem-solving and cooperative skills needed to work

in large groups. In the second part of this activity, students will demonstrate coordination as a team in creating a four-person "creature" that can move together as a unit.

Grade Level

- Part 1: K-3
- Part 2: 1-3

Objectives

The student will be able to

- Name two activities that are easier to do with many people.
- Identify two activities that work better with fewer people.
- Work cooperatively in a small group.

Standards

- Social Studies: interactions among individuals, groups, and institutions.
- Social Studies: study of how people create and change structures of power, authority, and governance.
- Social Studies: study of global connections and interdependence.

Skills

- Following instructions
- Cooperating
- Organizing
- Critical thinking
- Problem solving as a group
- Simulating
- Role playing
- Brainstorming
- Imaging

Duration

- Preparation
 - Part 1—none
 - Part 2—none
- Activity
 - Part 1—15 minutes
 - Part 2—25 minutes

Materials

- Image of millipede
- Clock or wrist watch with a second hand
- Whistle
- Optional — measuring tape

Accommodations for special needs students

Because this is a mobile exercise, a student with mobile disability may participate with the use of a mobile chair and/or an I.S. teacher. Because this is a mobile exercise, a student with a mobile disability will contribute significantly in terms of all the “millipede” parts co-operating. Some students may require hearing and sight assistance. These students will be asked to move (or assisted to move to an area of the classroom for greater participation.) This lesson is an activity-orientated instruction. Appropriate linguistic and conceptual social studies may need to be addressed. If an intervention specialist is available, the I.S. teacher will assist the student with special needs. Include special needs students in lesson extensions and in answering questions.

Procedure

The challenge of this activity is for the group to move like a millipede for a few moments. This will take both cooperation and coordination from every student. Begin by asking the class if they know what a millipede is (a description follows and an image is provided).

1. Direct the students to form a line (the longer the line, the more fun and challenging the activity). Each person in the line should put his/her hands on the shoulders of the person in front of him/her, keeping arms straight, so each student is one arm’s length apart. Everyone becomes part of the millipede. The leader of the group will be the head of the millipede:

A millipede is a long bug-like creature with lots of legs, sometimes as many as 100! All those legs have to move the same way at the same time. We’re going to try and do that together to find out what it is like to work together in this way.

2. Explain that at your signal, the millipede should begin to walk as instructed by the first person in the line (the head of the millipede). The segments (children) should remain one arm’s length apart, and no more. If any segment separates, the rhythm and the millipede will be broken.
3. Give the signal for the millipede to start walking. One to three minutes of the activity should be enough to demonstrate the millipede’s ability to work together.

Discussion Questions

1. How does moving like a millipede compare to walking by yourself?
2. How would you like to walk to school or to the park everyday as part of a millipede of people?
3. Imagine if your whole school had to move together like that. Would it be hard to do with that many people?
4. When are some things easier, or maybe even only possible, if you have a small group of people? What activities are more

appropriate for a large group of people? (In advance, think about population density and how it relates to young students' lives at home and at school. Feel free to add other examples to the following list. Use the list to stimulate group discussion.)

- A. grocery shopping
- B. standing in the lunch line
- C. swimming in the pool
- D. working in class
- E. riding the bus
- F. eating a snack
- G. napping
- H. playing tug-of-war
- I. celebrating at birthday parties
- J. watching a parade (or marching in a parade)
- K. playing at the playground

Part Two: Create-a-Creature

Procedure

1. Divide the class into teams of four students each.
2. Inform the teams that each group will become a single, moving creature of its own creation. The movement of the creature will only work if everyone is cooperating and working together. Each member of the group must be in contact with the person next to him or her, and all four students must move together so that all parts of the creature function as one unit.

Students must decide how their creature will move (e.g., hopping like a frog or wiggling like a snake). Students can name their creatures, describe where they live, and what they eat.

3. Allow 10-15 minutes for each team to create its creature. During the brainstorming period, each group will test its crea-

ture's ability to move a pre-determined distance (a few feet or the length of a hallway, for example) successfully.

4. Finally, each group will present its creature to the class and demonstrate how it moves.

Discussion Questions

1. What problems did you have walking as a team?
2. Why did the creatures have to move together in the same motion and at the same time?
3. Was it hard to do exactly what the person next to you or in front of you was doing? Why? Did you choose a leader?
4. What are other occasions when do groups of people need to cooperate? (relate question to the larger concept that doing anything as a group requires teamwork)
5. What insects or animals have to move and work together to survive? (Possible answers: *ants*, *bees*)

This activity is based on *Popumonsters in Counting on People: Elementary Population and Environmental Activities*, Population Connection, 1994.

Crowding Can Be Seedy

This lesson and picture is provided by permission from the Population Connection.

Overview

Different plants and animals need different amounts of space to grow well and to be healthy. In this activity, students will first simulate seeds sprouting together in a crowded pot and then plant real seeds in a gardening lab

to determine how space makes a difference in their growth.

Grade Level

- Pre-K–5



Objectives

The student will be able to

- Describe two effects of crowding on the growth of living things.
- Name two resources plants need to grow well.

Standards

- Social Studies: experiences that provide for the study of individual development and identity.

Skills

- Observing
- Collecting and analyzing data
- Basic gardening
- Understanding cause and effect
- Doubling numbers
- Role playing
- Simulating

Duration

- Preparation
 - Part 1—5 minutes
 - Part 2—15 minutes
- Activity
 - Part 1—30 minutes
 - Part 2—30 minutes initially and then seeds grow for about one week

Materials

- Part 1
 - Yarn or tape to show borders of a 5' x 5' (1.5 m x 1.5 m) area in the classroom
- Part 2
 - Package of radish seeds (or other fast-germinating seeds)
 - Many children may have experienced radish seeds (or other fast-germinating seeds) and may draw on the experience. Because U.S. education is very diverse today, the teacher may need to have the students reflect on the relationship of fast-germinating seeds and high population areas in towns, cities, and other areas. The teacher may ask some questions and solicit ideas from students about parallels between growing seeds and growing children.
 - Potting soil (or other planting medium) and sunlight
 - Scissors
 - Half-pint milk cartons, rinsed (one per student)
 - Water-catch basins (plastic ids, aluminum pans, etc.)
 - Labels

Accommodations for special needs students

Because this is a mobile exercise, a student with mobile disability may participate with the

use of a mobile chair and or an I.S. teacher. Because this is a mobile exercise, a student with mobile disability will contribute significance in terms of all the “plant growth.” Some students may require hearing and sight assistance. These students will be asked to move (or assisted to move to an area of the classroom for greater participation). This lesson is an activity-orientated instruction. Appropriate linguistic and conceptual social studies may need to be addressed. If an intervention specialist is available, the I.S. teacher will assist the student with special needs. Include special needs students in lesson extensions and in answering questions.

Part One: The Sprouts Game

Procedure

1. Mark off a 5' x 5' (1.5 m x 1.5 m) area.
2. Ask someone to assume the role of a seed.
The seed is “planted” inside the square and remains dormant (person should be sitting with head tucked). You can use the following rhyme to signal the seed to start “growing”:

*The sun shines,
the wind blows,
the rain falls and
the little seed grows!*

(Original author unknown — several songs and rhymes can be found at <http://www.preschool education.com/sgarden.shtml>)

Given a signal to sprout, the seed slowly becomes active and finally becomes a mature plant, standing and slowly waving its stem and branches (using arms and upper body).

3. Now plant more and more seeds (students) in the same area and (try to) repeat the growth process each time.

Part Two: The Gardening Activity

Procedure

1. Make planting pots by cutting off the tops of empty, rinsed milk cartons and using the bottoms.
2. Punch a few holes in the bottom of the cartons for drainage.
3. Fill the pots with potting soil to about 1/4” below the rim.
4. Distribute the seeds as follows: Give 1/3 of the class (Group 1) one seed each; give 1/3 of the class (Group 2) two seeds each; give 1/3 of the class (Group 3) six to ten seeds each.
5. Plant seeds at the depth recommended on the seed package. Each student should plant all of his or her seeds in a single hole in the middle of the carton. Students should label their cartons with their names, the number of seeds planted, and the date.
6. Set the pots in a lighted spot and keep them moist. Seeds should germinate in about one week. Maintain the plants during the growth period and make notes on growth observed in each group.
7. Harvest the radishes when foliage appears thick and mature. Compare size.

Discussion Questions

1. What happened to some of the seeds?
2. How did you feel if you did not have enough room to sprout and grow?
3. Think of your own home and the people you share it with. What would it be like if there were two or three times as many of

you living there? What things might there be too much or not enough of? (possible answers: *too much noise, trash; not enough beds, food, hot water, space, privacy, quiet, etc.*) How do you think you and the people you live with would like that?

4. Which student grew the largest radish? The smallest?
5. Which group grew the largest, most healthy-looking radishes? Why?

This activity first appeared in *Counting on People: Elementary Population and Environmental Activities*, Population Connection, 1994.

Summary

In summary, the K-12 social studies classroom is the appropriate classroom to teach about ecology and population studies. Population Connection has given permission to print the three elementary classroom lessons and pictures to the readership of *Social Studies Research and Practice Journal*. These three lessons and other materials are excellent lessons for the study of ecology and population studies.

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