

## Production Lessons Using a Series of Photo Essays

### Books Used

The “Changes” Series

Using more than one book for this lesson will reinforce the concepts through learning about more products, but fewer books may be used if necessary.

*From Wax to Crayon* by Michael H. Forman (Children’s Press, 1997, ISBN 0-516-20708-3)

*From Metal to Music* by Wendy Davis (Children’s Press, 1997, ISBN 0-516-20707-5)

*From Plant to Blue Jeans* by Arthur John L’Hommedieu (Children’s Press, 1997, ISBN 0-516-20738-5)

*From Cow to Ice Cream* by Bertram T. Knight (Children’s Press, 1997, ISBN 0-516-20706-7)

*From Mud to House* by Bertram T. Knight (Children’s Press, 1997, ISBN 0-516-20737-7)

*From Wheat to Pasta* by Robert Egan (Children’s Press, 1997, ISBN 0-516-20709-1)

### Literature Annotation

Each of these books follows the production of a product from the natural resources to the finished product. Any of the books may be used to follow the steps of this lesson plan.

**Grade Level:** 3

**Duration:** two 45-minute class periods

**Economic Concepts:** Economic Resources, Production, Consumption, Choices

### Maryland State Curriculum

**Economics Standard:** Students will identify the economic principles and processes that are helpful to producers and consumers when making good decisions.

- 4.A.2.a Identify the natural, capital and human resources used in the production of a good or service
- 4A.2.a Explain how producers make choices because of limited natural, human, and capital resources.
- 4.A.2.c Describe steps in the production process to produce a simple product
- 4.A.2.d. Explain how specialized work results in increased production.

**Reading Standard:** Students will read, comprehend, interpret, analyze, and evaluate informational text.

- 2.A.1.a Read and recognize nonfiction materials to gain information and content knowledge
- 2.A.2.b Use graphic aids
- 2.A.3.a Identify and analyze the organization of texts

**Objectives:** Students will be able to...

- participate in a production line and identify the economic resources used in the production process of an Apple Smiley Face.
- create a mural to show the sequence of steps in a production line.
- identify and label the economic resources used in the production of a product.

## Vocabulary

**economic resources:** the natural, human, and capital resources that are used to produce goods and services: also call factors of production.

**natural resources:** the renewable, and nonrenewable gifts of nature that can be used to produce goods and services, including but not limited to land, water, animals, minerals, tress, climate, soil, fire, seeds, grain and fruits.

**human resources:** the health, strength, talents, education and skills that humans can use to produce goods and services.

**capital resources:** the goods that are manufactured and constructed by people and used to produce other goods and services, including but not limited to factories, warehouses, roads, bridges, machinery, ports, dams, and tools. (money is not a capital resource.)

**production:** the act of creating goods and services by combining economic resources.

**producer:** an individual or group who combine economic resources to make goods and/or services

**specialized work:** the narrower range of defined skills or labor used to produce a part of a product; involves the division of tasks and dependence on other workers to complete the production of the good or service.

**Interdependent:** people depending on one another for resources, goods, and services. When people and businesses specialize, they become interdependent.

## Teacher Materials

- Transparency of Resource Sheet #1: *Economic Resources*

*NOTE: Before class, core several apples and cut into wedges. The class will be divided into 2 groups: A--assembly line group, which will be divided into teams of 5 workers*

*B-artisan, individual workers*

*\*An alternate activity not using food is given at the end of the lesson.*

## Student Materials

For each of the assembly line teams:

- 5 apple wedges, small box of raisins, small container of peanut butter or alternate spread, spreading knife, napkins, small plate, miniature marshmallows

For each artisan worker in Group B:

- 1 apple wedge, 5 raisins, small container of peanut butter or alternate spread, spreading knife, napkin, small plate, 2 miniature marshmallows

*Note: Some students may have allergies and sensitivities to peanuts and peanut butter.*

*Caution is urged when bringing either peanuts or peanut butter into the classroom. You may wish to substitute colored icing or cream cheese, or caramel spread for the peanut butter.*

For each group of 3-4 students:

- One of the books about production of a product
- 1 long strip of mural size paper for each type of production studied
- Crayons, construction paper, glue, scissors
- 3 Charts, each labeled with an economic resource: Natural Resources, Human Resources, Capital Resources

For each student:

- 1 copy of Resource Sheet 2: *Production Activity Sheet*

## Motivation

*Prior to the following activity, have all students wash their hands.*

- Explain the production activities to the class. Tell students that half of the class will be making an Apple Smiley Face using the production assembly line, and that the other half will be each making their own individual Apple Smile Face.
- Divide the class into 2 groups, A and B. Assign Group A to be the Production Assembly line.
- Divide the Production Assembly line group into teams of 5 that will be a production line to produce 5 "Apple Smiley Faces" for their team members.
- Assign Group B to be the artisans, each individually making their own Apple Smiley Face. Establish a signal for letting everyone know when to begin their production.
- For the production assembly line:
  1. Arrange 5 desks in a row to make the assembly line. Have the 5 students each stand behind a desk.
  2. On a pre-determined signal, have the teams begin making the Apple Smiley Faces.
  3. Worker 1: places one apple slice onto a napkin and passes it to worker 2.
  4. Worker 2: spreads peanut butter onto the slice.
  5. Worker 3: places two miniature marshmallows onto the apple slice for eyes.
  6. Worker 4: places raisin for the nose and mouth.
  7. Worker 5: puts the Apple Smiley Face on a plate, ready to deliver the product to the market (their group of workers)

Continue the assembly line production until all 5 Apple Smiley Faces are completed for their team. Have students sit down when they have finished producing all five faces.

- Artisan workers from other half of class
  1. Have each student place a paper towel on their desk.
  2. Give each student an apple slice, a small container of peanut butter, 2 small marshmallows, and 5 raisins.
  3. On a pre-determined signal, have each student make their own Apple Smiley Face.
  4. When they have finished making their Apple Smiley Face, they should sit down.

Note: Students may eat their product now or at the end of the lesson.

## Development

1. Have one of the students who made their own product tell about the production of their face. Have a one of the students in the assembly line group discuss their production experience. Ask students what would happen in an assembly line if one worker did not do their job.
2. Introduce the economic vocabulary term **specialized work**. Explain that the workers in the assembly line were **interdependent** and depended on each other to do their job correctly in order to complete the production of the Apple Smiley Face. Discuss the advantages of having specialized workers. Ask students to describe the differences between a worker who had to do all the work to make the product and a worker who only did one part of the job. Discuss the positive and negative aspects of each type of production. Ask students to think about how a producer would decide whether to have teams of specialized workers or have just one worker do all the work.
3. Introduce or review the economic vocabulary terms, **natural resources**, **capital resources**, and **human resources**. Have the students identify the economic resources used in the production of the Apple Smiley Faces. Possible answers include:

**Natural Resources:** apples, grapes for raisins, sugar cane for the marshmallows or caramel, peanuts, cow for the cream cheese, sun, soil, air, water

**Capital Resources:** knife, peanut butter jar, napkins, desks

**Human Resources:** students, apple grower, raisin maker, peanut farmer, marshmallow maker, truck drivers, salespeople at the grocery store

4. Explain to students that the class will be working in small groups of 3-4 people. Each group will be reading a book about the production process producers use to make a good. Tell students that they will then create a mural that illustrates the steps in the production process of that good, from the natural resources to the finished product. Ask students to think about how an author would organize the information so that readers would understand the order of the steps needed to produce that good.
5. Distribute the "Changes" books to the groups. Have students read their book about the production of the product. Have students take notes on the sequence of the production process while they are reading. Students may find a sequence chain organizer helpful.
6. Distribute the mural paper, crayons, construction paper, glue, and scissors. Students may cut the construction paper into the shapes of some of the machinery used in the production process, i.e. the dump truck that carries the copper ore to the factory or the big vats where the liquid wax is dyed to make crayon colors. Then students will add the workers and other details with crayon.
7. After students finish their mural, have students also create posters to illustrate the three kinds of economic resources used in the production of that product. Have the various groups share their mural and posters with the whole class.

### **Conclusion**

1. In what ways were all of the production processes similar? different? (Production always involves the combination of the productive resources, but those resources are specific to the product.)
2. Were the products produced by artisans or in an assembly line production? (Accept all correct answers based on the books used.)
3. How is the assembly line type of production different from one artisan making a product to sell? (Each worker in the assembly line specializes in one aspect of the job. An artisan does all of the steps by himself.)
4. How would a shortage of resources affect the production processes you read about? (The shortage of a resource might necessitate a choice to produce less of a product or a need to change the product in some way.)

### **Assessment Choices**

Choice 1: Use the production sequence mural and the economic resources posters as an assessment.

Choice 2: Have students complete "Production Activity Sheet," Resource Sheet 2.

**\*Alternate activity to replace Apple Smiley Face**

Production Group A

- Materials: a rubber stamp with a design, 1 pair of scissors, 1 red and 1 blue crayon, 1 ruler,  
Note: The assembly line production can involve the use of a computer and a program like Kid-Pix. The direction sheets would need to be changed so that each worker on the assembly line would take a turn on the computer doing his part of the production. Workers might rotate down a row of computers in the lab, always doing the same job.

Production Group B

- Materials: each student will need a ruler, crayons, pencil, and scissors

Directions: Divide the students into two groups. Have students make a get well or birthday card that can be used later. Have students in the assembly line group discuss what each worker will be going doing. Each student in the artisan group can make their own decision.

# *Economic Resources*

Used to Produce \_\_\_\_\_

Natural Resource



Capital Resource



Human Resource



**Production Activity Worksheet**

1. Identify 3 economic resources you used to produce the good. Next to the resource circle N if it is a Natural Resource, C if it is a Capital Resource, and H if it is a Human Resource.

	N	C	H
	N	C	H
	N	C	H

2. Explain how a good is produced by someone in the artisan group.

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3. Explain how a good is produced by an assembly production line.

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4. What is a specialized worker? \_\_\_\_\_

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5. Would you rather be an assembly line worker or an artisan producing a good?

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What are some positives (advantages) and negatives (disadvantages) of that kind of production?

+ Positives	-- Negatives