

# Growing Money

*Wyoming Mathematics, Social Studies,  
& Science*

## Objectives:

- Understand the many aspects involved in building a business.
- Know what the term “capital” means.
- Show an understanding of vegetative propagation.

## Background:

This lesson allows your class to build a business of selling plants from cuttings. The following information about economies, business, and plants will be helpful.

Ancient Greeks invented the word “economy.” An economy is a system where things are bought and sold. The condition of our country’s economy depends on how well services, goods, materials, and wealth are produced, distributed, and consumed. The state of our economy is important to everyone in the world. It affects almost every part of our lives. People work to earn a living. We all need food to eat, clothes to wear, and a place to live.

In order to start a business, one needs capital. Capital is the money and materials put into a business to make a product(s) or provide a service(s). When the students build their businesses to sell plants, their capital is all of the supplies used to propagate the plants, grow the plants, and sell the plants.

Two more factors that affect the business are supply and demand. Is there a demand for the product or service that the business will offer? How well is the business going to be supplied? Is the business going to supply enough products or services to meet the needs of customers in the city the business is in, the regional area, the state, or the entire country? It is important to note that when a person starts a business they need to make sure their product or service is something that will be in demand. If nobody wants the product or service being produced, the business may not make money. Plus, a business needs to be located where competition will not keep the business from making a profit.

Vegetative propagation uses a plant part other than the seed to produce a new plant. These plant parts are called clones. African violets, jade plants, ivy, geraniums, philodendron, and coleus are good choices for vegetative propagation. To propagate, sections of stems are cut off at a slant with a knife because the stem section contains the tip of the shoot, or branching part of the plant. Plants used for



## Standards

### Mathematics

*3rd Grade:*

Number Operations & Concepts:

1.1 1.2, 1.3, 1.4, 1.8

Data Analysis and Probability:

5.1, 5.2

*4th Grade:*

Number Operations & Concepts:

1.1 1.2, 1.4, 1.6,

Data Analysis and Probability:

5.1, 5.2

### Social Studies

Production, Consumption,  
& Distribution: 3.1

### Science

Life Systems: 1.2, 1.3

## Materials

- Worksheet  
“Building a Business”
- Flowerpots
- Rooting mixture (1/2 sand and 1/2 peat moss)
- Plants for cuttings  
(geraniums, etc.)
- **Continued on page #2**

## Estimated Time

3 - 40 Minute Sections

## Grades 3-4

## Materials

(continued from pg. #1)

- Potting soil
- Poster board
- Markers/crayons
- Construction paper
- Scissors
- Rubber cement/glue
- Rooting compound
- Knife
- Water
- 1-2 boxes to start cuttings

propagation should not be so young that the stems are weak. The geranium, for example, will produce strong new shoots that have several leaves and make good cuttings in three weeks or less. Plants from which stem sections are taken should not be so old that they are tough and woody. The leaves should be removed from the end of the stem that is cut. Four or five leaves should be left at the tip end.

### Activity Procedures:

Before the teacher starts this lesson he or she should select a type of plant from those mentioned in the introduction and bring it to the classroom. Depending on the size of the plant and how many cuttings one could get from it, it may be a good idea to buy more than one plant. Each group needs to get at least four cuttings. **(One per student)**

**\* When handling peat moss, use rubber gloves.**

1. Have a discussion with the students about what types of things people need to start their own business. Write these things on the board. If the students are having trouble thinking of things, suggest money, people (workers), time, and a place to run the business, a name for the business, possibly a logo, and supplies.
2. Discuss the term “capital” and ask students what it means to them. Explain to them that capital means the money and materials that one puts into the business to make a product or provide a service to be sold.
3. Tell the students they will be inventing a business of their own that will grow plants and then sell them. In order to run their business they will need to understand characteristics of a business and the economy. Discuss the term “economy.”
4. Explain vegetative propagation to the students. Do they know about taking cuttings from a plant? Explain to the students that in their business they will be propagating plants to make more plants. They will then make a profit by selling the new plants.
5. Split the class into groups of three to four students each. Hand out the “Building a Business” worksheet to every student.
6. First, have the students select a name for their business. Talk about how the name for their business should reflect what the business is about. Ask the students why this is a good idea. How would it help their business?
7. Next, have the students apply for a loan from the teacher for their business. Explain to the students that this is a pretend loan and that they will not actually get the money.

Let each group of students borrow \$100 (of pretend money) to start their business. (You may want to explain to your students that loans for businesses are often for thousands of dollars.)

8. Now the groups need to buy supplies. Write this supply list on the chalkboard so the students know how much each item will cost. Explain to the students that each group has to buy a plant, four flowerpots, enough potting soil for four flowerpots, and one piece of poster board. Each group will get four cuttings, one for each person in the group. The amount of decorations, markers/crayons, and construction paper they buy is up to the group.
  - Plant — \$5.00
  - Potting Soil — \$1.00 per pot
  - Flowerpots - \$3.00 each
  - Decorations for flower pots — \$.50 per item
  - Poster board — \$1.00 each
  - Markers/Crayons — \$.25 each
  - Construction Paper — \$. 10 a sheet
  - Rubber Cement/Glue - \$.20 a container
9. Have the students design an advertisement on their poster board. Discuss how creativity and neatness of advertising helps promote a business.
10. While the groups design their advertisements, the teacher should make a rooting box for the cuttings in a clean plastic box with a tight-fitting lid. Create a mixture of half milled peat moss and half builder's sand and fill the box halfway.
11. Make cuttings about 15.5 cm long by cutting stems at a slant with a knife. Cut off the leaves of the cutting about 8 to 10 cm from where the cut was made and leave four or five leaves at the tip of the cutting.
12. Dip the cut end of the cutting into a rooting compound. (This is optional.)
13. Plant the cuttings in the rooting box so 6 cm of the cuttings are left above the soil surface.
14. Keep track of the growth of the cuttings and set them in a warm area with indirect sunlight. Water as needed to keep the soil moist to the touch. You may want to teach topics such as phototropism, geotropism, photosynthesis, transpiration, diseases, etc at this time. Make sure students understand that it will take some time for the cuttings to grow to a size big enough to sell.
15. When the cuttings have strong roots that are about 16 cm long, transplant them to flower pots with all purpose potting soil. (The students may choose to decorate the flower pots before transplanting.)
16. Ask the students to determine the business details of selling their plants such as: where to sell the plants, what

### *vocabulary:*

- *capital*
- *economy*
- *goods*
- *services*
- *product*
- *propagate*
- *distribution*
- *advertisement*
- *cuttings*
- *business*

## *notes:*

the hours of the plant store will be, and how else they can advertise. Then move on to the next step in the worksheet. The groups need to decide how much the plants will cost. Make sure the students consider the cost involved in creating the potted plants when determining a cost for a buyer. The teacher may want to write each group on the board and write what it costs each group to make one plant. Help the groups determine the cost of one plant. (Remember to figure out the cost for one plant and not all four plants combined!)

17. Have the students complete the worksheet to find out how much money they could make by selling their plants at their determined cost.

### **Additional Activities:**

- Invite owners of small businesses, especially horticulturists or greenhouse operators, into the classroom to discuss economy and how they run their businesses.
- Write letters to businesses to learn more about them.
- Talk to greenhouse owners/operators or horticulture teachers to learn more about plant propagation.
- Visit advertising companies or invite them into the classroom to discuss how advertising impacts a business.

### **Questions for Investigation:**

1. What is capital?
2. How do most businesses get money to build their business?
3. How does the name of the business and advertising help the business to succeed?
4. What types of expenses do businesses have?
5. What is vegetative propagation?
6. What types of problems might occur in a business?
7. How do the various things one does in a business affect the profit of the business?



*Materials Adapted from Illinois Agriculture in the Classroom.*

# Building a Business

There are many steps in building a business. Use this worksheet as a guideline to get your business started.

1. Decide on a name for your business. Keep in mind the name should reflect what type of business it is. As an example, a good name for an Italian restaurant might be "Mama Rosa's Italian Cuisine."

*What is the name of your business?* \_\_\_\_\_

2. Now you need to get some money to build your business. Your group doesn't have any money saved so you have to apply for a loan from your teacher. This is a pretend loan so you will not actually get the money.

*Write the amount of money your teacher will let you borrow here:* \$ \_\_\_\_\_

3. In order to build your business you need supplies. The supplies available and their prices are written on the chalkboard. You need to buy these supplies from the teacher. Write down each item that you purchase, the quantity, and the cost. Then add up the cost of your items, figure out the tax, and then figure the total cost.
4. After the plants have been propagated and have grown, decide how much you are going to sell the new plants for. When making this decision, think about how much you spent for the plants, flower pots, soil, and other supplies. Figure out what one plant cost to grow. Your teacher will help you with his step. Then write the price you decide upon below. Keep in mind; it needs to be a price that consumers are willing to pay for a plant!

*You are going to sell the plants for \$ \_\_\_\_\_ each.*

*If you sell all four plants at \$ \_\_\_\_\_ each, how much money would you make with the total in sales? \$ \_\_\_\_\_*

Item	Quantity	Cost
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
	Subtotal	_____
	Tax ( ____%)	_____
	Total	_____