

# ***The Advantages of Comparative Advantage***

## **The Lord of the Rings (The Hobbit, The Fellowship of the Ring, The Two Towers, The Return of the King)**

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This lesson does not require specific readings from LOTR.

Lesson by Helen Roberts

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**Economics:** Opportunity Cost, Absolute Advantage, Comparative Advantage, Specialization, Terms of Trade

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**Language Arts:** Fluency, Comprehension, Writing, Word Knowledge

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**Objectives:** Students will

- ?? Realize that comparative advantage is a reason for trade
- ?? Experience a comparative advantage simulation
- ?? Analyze the simulation to see the benefits of specialization
- ?? Predict the consequences of the decisions of individuals

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**Time:** 2 to 3 class periods (2 periods if Visuals 1-5 are assigned as homework)

**Materials:** Transparencies

- ?? Visual 1: Comparative Advantage Unveiled
- ?? Visual 2: Hobbits and Men – Absolute Advantage
- ?? Visual 3: Specialization
- ?? Visual 4: Hobbits and Men – Comparative Advantage
- ?? Visual 5: Country Productivity Scores
- ?? Visual 6: Middle Earth Peoples and Productivity

### **Materials**

- ?? 4 boxes (shoe box/empty tissues), bowls, or hats
- ?? Copies of Visuals 1-6 for each student
- ?? Copies of Activity 1 for each student
- ?? Copies of Activity 2 for each student
- ?? Copies of Activity 3 for each student
- ?? Copies of Activity 4 for each student
- ?? Copy of Activity 3 Answers for tester
- ?? Copy of Activity 4 Answers for tester

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## **Procedure: Summary**

Period 1: Students read and discuss why nations trade with examples from LOTR peoples and nations. Period 2: The class is divided into 4 groups, each representing a different people. The simulation measures the different skills of the 4 countries and each country decides on a skill area for specialization. Period 3: Class discusses the decisions of the 4 countries and the economic benefits and costs of those decisions.

### **Period 1**

1. Distribute Visual 1 to class and allow sufficient time to read (or read aloud). Display the transparency.
2. Display the transparency and distribute Visual 2.
3. Display the transparency and distribute Visual 3.
4. Display the transparency and distribute Visual 4.

### **Period 2**

5. Set up classroom as describe in Activity 1: 4 Skills Corners.  
Corner #1: Service Skills
6. Assign someone to be Bureaucratic Skills Tester (Corner #3) and Numerical Skills Tester (Corner #4)
7. Divide remaining students into 4 equal groups.
8. Distribute Activity 1 to students. Have groups meet to decide what to do. When they are ready, begin testing. Signal after 5, 10, and 15 minutes. Remind them after each signal to move to another testing area. After 20 minutes of testing, signal to stop and have groups meet to complete rest of Activity 1.

### **Period 3**

9. Display Visual 5 and distribute to class. Fill in the information from each country. Ask each country what it decided to produce and the reasoning behind that decision.
10. Display Visual 6 and distribute to class. Consider 4 peoples: Hobbits, Dwarves, Elves, Men. Discuss whether they should specialize and trade.

### **Evaluation**

11. Have each student write a page explaining
  - ?? Should their country (assign class either “country” from class simulation, LOTR peoples/countries, or actual world countries) specialize and trade? Why or why not?
  - ?? What are the relevant opportunity costs?
  - ?? Who are the likely trading partners?

## Visual 1

### **Comparative Advantage Unveiled**

Why do the Elves and Men trade with each other? Even when they can both produce what they want themselves, people often choose to specialize and trade. Think about the following questions and answer them after reading the text below.

1. Why do peoples and countries choose to specialize and trade?
2. Why do peoples and countries choose not to specialize and trade?
3. What does comparative advantage mean for you and your future?

### **Absolute Advantage**

Definition: If one country can make more of a good than another country, with the same resources, the first country has an *absolute advantage* in production of that good.

Example: Men, who are bigger and stronger than Hobbits, can produce more cloth with the same resources (hours of work) than Hobbits. So Men have an absolute advantage in the production of cloth.

### **Opportunity Cost**

Definition: What is given up (the next-best alternative) when a choice is made.

Example: If Hobbits produce one more pound of food, they will give up 1 yard of cloth. The *opportunity cost* of food, for Hobbits, is 1 yard of cloth. If Men produce one more pound of food, they will give up 2 yards of cloth. The *opportunity cost* of food, for Men, is 2 yards of cloth.

### **Comparative Advantage**

Definition: If one country has a lower opportunity cost in production of a good than another country, the first country has a *comparative advantage* in production of that good.

Visual 1, Page 2

## **Comparative Advantage Unveiled**

Example: Hobbits have a lower opportunity cost in the production of food (1 yard of cloth, versus 2 yards of cloth opportunity cost for Men). Hobbits have a *comparative advantage* in the production of food.

Even though Men have an absolute advantage in the production of food, their opportunity cost is higher. Hobbits have a comparative advantage in the production of food.

### **Terms of Trade**

Definition: The amount of one good accepted in trade per unit of the other good.

Example: If the Hobbits traded 7 pounds of food for 10 yards of cloth, the terms of trade of food for cloth are  $7/10$ . This is the way Men will view trade. Men will not accept lower terms of trade than 1 pound of food for 2 pounds of cloth. Since  $7/10 > 1/2$ , Men benefit from trading with Hobbits.

The terms of trade of cloth for food are the inverse – 10 yards of cloth per 7 pounds of food. Hobbits will not accept lower terms of trade than 1 yard of cloth per 1 pound of food. Since  $10/7 > 1$ , Hobbits benefit from trading with Men.

Name \_\_\_\_\_

## Visual 2: **Absolute Advantage – Hobbits and Men**

Pretend that there are only Hobbits and Men in the world. Pretend that there are 100 each of Men and Hobbits and that they only produce 2 goods: food and cloth. The resources of the Shire (country of the Hobbits) can be used to produce either food or cloth, and the same for Bree (country of Men). Both the Shire and Bree produce food and cloth, and each spends half of their working hours on each good. Hobbits make the same amount of food as cloth, and Men make more cloth than food. We can summarize their production in a table:

### **Daily Production in The Shire and Bree Before Trade**

|              | <b>Food (in pounds)</b> | <b>Cloth (in yards)</b> |
|--------------|-------------------------|-------------------------|
| 100 Hobbits  | 100                     | 100                     |
| 100 Men      | 80                      | 160                     |
| <b>Total</b> | <b>180</b>              | <b>260</b>              |

100 Hobbits divide the work equally, 50 Hobbits on Food and 50 Hobbits on cloth. 50 Hobbits make 100 pounds of food a day. 50 Hobbits make 100 yards of cloth a day. 50 Men make 80 pounds of food a day. 50 Men make 160 pounds of food a day.

**Men have an absolute advantage in the production of cloth.**

### Visual 3: **Specialization**

If Hobbits and Men specialize, each produces only one good. It would make sense for Hobbits to make only food and Men to make only cloth. Then we would have all Hobbits producing food, making twice as much food as the Hobbits produced before specialization. All Men would make cloth, and they would make twice as much cloth as they produced before specialization.

#### **Daily Production in The Shire and Bree After Specialization**

|              | <b>Food (in pounds)</b> | <b>Cloth (in yards)</b> |
|--------------|-------------------------|-------------------------|
| 100 Hobbits  | 200                     | 0                       |
| 100 Men      | 0                       | 320                     |
| <b>Total</b> | <b>200</b>              | <b>320</b>              |

Now the Hobbits can trade food for the 100 units of cloth they used to make. If they trade 80 units of food for the 100 units of cloth that they used to produce, then they will have more food (one of their main loves in life) than before specialization.

**With specialization, there are more goods available.  
Both countries can benefit from trade.**

Name \_\_\_\_\_

## Visual 4: **Comparative Advantage – Elves and Men**

Now consider a region populated only by Elves and Men, Rivendell and Dale. Elves have an absolute advantage in both products, cloth and food. Is trade a good idea between Elves and Men?

### **Daily Production in Rivendell and Dale Before Trade**

|              | <b>Food (in pounds)</b> | <b>Cloth (in yards)</b> |
|--------------|-------------------------|-------------------------|
| 100 Elves    | 200                     | 200                     |
| 100 Men      | 80                      | 160                     |
| <b>Total</b> | <b>280</b>              | <b>360</b>              |

What is the opportunity cost of producing food for the Elves?

What is the opportunity cost of producing food for the Men?

If Elves and Men specialize, then Elves would make only food (why?) and Men would make only cloth. Then we would have all Elves producing food, making twice as much food as the Elves produced before trade. All Men would make cloth, and they would make twice as much cloth as they produced before trade.

### **Daily Production in Rivendell and Dale After Specialization**

|              | <b>Food (in pounds)</b> | <b>Cloth (in yards)</b> |
|--------------|-------------------------|-------------------------|
| 100 Elves    | 400                     | 0                       |
| 100 Men      | 0                       | 320                     |
| <b>Total</b> | <b>400</b>              | <b>320</b>              |

Now this region has 400 pounds of food but only 320 yards of cloth, down from 360 yards before trade. How can we make up the extra 40 yards of cloth?

If Elves produce the extra 40 pounds of cloth, they give up 40 pounds of food. Then the region has 360 pounds of food and 360 pounds of cloth. Are both countries better off?

## Activity 1: **Human Capital and Comparative Advantage**

**Human capital** is the skills, education, training, talent, and motivation that make you more productive in the work world.

We can apply the insights from **comparative advantage** to people as well as to countries. For people, comparative advantage insights tell us that each person should specialize in what he or she does best. If you are a talented musician, that is what you should do. If you are a computer wizard, that is what you should specialize in.

Sometimes people have more than one talent or skill. You might be very good at fixing machines and also very good at art. Then you may have to choose which of those skills is your comparative advantage. This will depend both on other people's strengths and on the value of your skills to society. Which of the things you can produce will be worth more in trade?

This activity uses the human capital of a country to find its comparative advantage.

1. The class is divided into 4 countries. Each country must decide which of its resources to develop for trade. Your own abilities are the resources your country can develop. We will test your abilities in this activity.
2. Skills that have been predicted to be in great demand are:
  - a. Service Skills
    - i. Your service ability will be measured by what kind of person you appear to be.
    - ii. Introduce yourself to someone else in the Service Skills corner and convince that person that you can be trusted.
    - iii. That person must decide how much you might be able to help and rate you on a scale of 1 to 10 (10 highest possible grade).
  - b. Sales Skills
    - i. Your sales ability will be measured by how effective a 30-second sales pitch you can make up and deliver.
    - ii. Go up to a person in this corner. That person randomly chooses a product. You deliver your sales pitch.
    - iii. The listener rates you on a scale of 1 to 10 (10 highest possible grade) on how well your effectiveness at making that product desirable to buy.



Name \_\_\_\_\_

c. Bureaucratic Skills

- i. Your bureaucratic ability will be measured by your score on the Bureaucratic Skills test. You will be tested on alphabetization and how well you can apply a rule in different cases.
- ii. The Tester will administer the test to you and grade it.
- iii. You will receive  $\frac{1}{2}$  point for each correctly-alphabetized word and 2 points for each correctly-answered question.

d. Number Skills

- i. Your number skills will be measured by how well you perform on a mathematics test.
- ii. The Tester will administer the test to you and grade it.
- iii. You will receive 1 point for each correct answer.

3. There will be 4 sessions, 5 minutes each, so you can go to all 4 skill areas to test your skills. If you finish any test early, you may go to another area. You must test at least 2 skills. If you decide not to take the other skills tests, spend the rest of the testing time in the center of the classroom. While there, you must create your own job category, test, and rating scale.
4. After you have taken the 4 ability tests, fill out Activity 2: Your Ability Score anonymously and drop it into your country's box. If you did not take a given test, your score on that test is 0.
5. Compute a productivity score for each country by adding up the individual scores for each skill area and enter the results Activity 2: Your Country's Productivity Score.
6. Based on the productivity scores, decide what your country should concentrate on developing.
7. Answer the following questions for your country:

## Country Questions

1. Should you do only what you do best, following your absolute advantage? Why or why not?

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2. Should you do only what you can do better than everyone else, following your comparative advantage? Why or why not?

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3. Should you try to be self-sufficient, producing everything? Why or why not?

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Name \_\_\_\_\_

### Visual 5: **Your Country's Productivity Score**

**Directions: Cut or tear off the bottom half, and deposit in your country's box. Chart of your ability scores does not have your name.**

#### **Your Country's Productivity Score**

| Country Name: | YOUR COUNTRY'S PRODUCTIVITY SCORE |
|---------------|-----------------------------------|
| Service       |                                   |
| Sales         |                                   |
| Numbers       |                                   |
| Bureaucratic  |                                   |
| Other         |                                   |

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#### **Your Ability Score**

|              | YOUR ABILITY SCORE |
|--------------|--------------------|
| Service      |                    |
| Sales        |                    |
| Numbers      |                    |
| Bureaucratic |                    |
| Other        |                    |

## Visual 6: **World Productivity Scores**

|              | PRODUCTIVITY SCORES |   |   |   |
|--------------|---------------------|---|---|---|
|              | A                   | B | C | D |
| Service      |                     |   |   |   |
| Sales        |                     |   |   |   |
| Numbers      |                     |   |   |   |
| Bureaucratic |                     |   |   |   |
| Other        |                     |   |   |   |

Name \_\_\_\_\_

## Activity 2: **Bureaucratic Skills Test**

1. List the following eight words in alphabetical order:

|               |       |
|---------------|-------|
| Diadelphous   | _____ |
| Diacope       | _____ |
| Diactinic     | _____ |
| Diacritical   | _____ |
| Diactinal     | _____ |
| Diacoustic    | _____ |
| Diadelphia    | _____ |
| Diacranterian | _____ |

2. The following is a provision from the standard apartment lease form:

“The Tenant will obtain written permission from the Landlord before doing any of the following:

- a. applying adhesive materials, or inserting nails or hooks in walls or ceilings other than two small picture hooks per wall;
- b. painting, wallpapering, redecorating or in any way significantly altering the appearance of the Premises;
- c. removing or adding walls, or performing any structural alterations;
- d. installing a waterbed(s);
- e. changing the amount of heat or power normally used on the Premises as well as installing additional electrical wiring or heating units;
- f. placing or exposing or allowing to be placed or exposed anywhere inside or outside the Premises any placard, notice or sign for advertising or any other purpose; or
- g. affixing to or erecting upon or near the Premises any radio or TV antenna or tower.”

According to the rule, are these actions permissible?

- a. Tape posters advertising a yard sale on neighborhood trees.
- b. Hang 3 posters in the living room.
- c. Display Neighborhood Watch signs in a front window.

### Activity 3: Number Skills Test

#### You may use a calculator.

1. A flea is at the bottom of a 40-foot pipe. It jumps 3 feet up but slides back 2 feet every minute. How long will it take to reach the top? (     minutes)
2. What is 26 (base 10) in base 2 ? (                     )
3.  $1000101$  (base 2) minus  $11101$  (base 2) = ?
4.  $(5 \times 10^4) \times (4.0 \times 10^3) = 2 \times 10^?$  (     )
5. Luis is 7 inches taller than Dan and Luis is 3 inches shorter than Carol. The shortest person is \_\_\_\_\_? \_\_\_\_\_, who is \_\_\_\_\_? \_\_\_\_\_ inches shorter than \_\_\_\_\_? \_\_\_\_\_ and \_\_\_\_\_? \_\_\_\_\_ shorter than \_\_\_\_\_? \_\_\_\_\_.
6.  $2.4846$  divided by  $12.3 = ?$
7. 48 is \_\_\_\_\_? \_\_\_\_\_ percent of 300.
8. If  $4(x-2) + 7y + 3 = 21$  and  $y = 2$ , then  $x = ?$
9. Find the average of the following numbers: 2,4,8,11,14,18,20
10. Sue works 20 hours a week and earns \$5 per hour. For every dollar she earns, she pays 6 cents in taxes. She can calculate her take-home pay in dollars by: Dividing 6 by \_\_\_\_\_? \_\_\_\_\_, multiplying the answer by \_\_\_\_\_? \_\_\_\_\_, subtracting that answer from \_\_\_\_\_? \_\_\_\_\_, and then multiplying by \_\_\_\_\_? \_\_\_\_\_.

Name \_\_\_\_\_

## Answers for Activity 2

1.

Diacope  
Diacoustic  
Diacranterian  
Diacritical  
Diactinal  
Diactinic  
Diadelphia  
Diadelphous

2. Yes, yes, no.

## Answers for Activity 3

1. 38 minutes
2. 11010
3. 1000
4. 8
5. Dan, 7, Luis, 10, Carol
6. .202
7. 16
8. 3
9. 11
10. 100,5,5,20