

---

---

# Lesson 6 - Joining Together That Which Has Drifted Apart

---

## OVERVIEW

In this lesson, the students learn about the physical forces that move people on different continents further apart and the economic forces that bring them together. They read about the formation and breakup of two great continents, Laurasia and Gondwana, over 150 million years ago. They learn that continents are still moving today. They take the role of workers on these two continents who are producing pizzas and rugs. The students discover through their own calculations that even though the workers of Laurasia (representing more-developed countries) are more productive than those of Gondwana (representing less-developed countries), the workers on both continents can benefit from trade.

**Geography:** The movement of continents based on tectonic plates is the process that led to the development of mountain ranges, rifts and fault lines along which earthquakes and volcanoes may occur.

**Economics:** The production of goods is limited by the amount of natural resources, human resources and capital goods (resources) a worker or country has. The concept of opportunity cost determines which goods people should produce themselves and which they should acquire through trade with others. People's choices as consumers increase as a result of trade.

## CONCEPTS

### Geography

Tectonic plates  
Continental drift  
Comparative advantage

### Economics

Productivity  
Production possibilities  
Opportunity cost  
Absolute advantage  
Comparative advantage  
Specialization

## CONTENT STANDARDS

### Geography

7. The physical processes that shape the patterns of Earth's surface
11. The patterns and networks of economic interdependence on Earth's surface

### Economics

1. Scarcity: Productive resources are limited. Therefore, people cannot have all the goods and services they want; as a result, they must choose some things and give up others.
5. Gains from Trade: Voluntary exchange occurs only when all participating parties expect to gain.
6. Specialization and Trade: When individuals, regions, and nations specialize in what they can produce at the lowest cost and then trade with others, both production and consumption increase.

## OBJECTIVES

The students will:

1. Describe the movement of continents and explain that this movement can lead to the formation of geographic features.

2. Construct a production possibilities table.
3. Determine the opportunity cost of producing a good.
4. Determine when a person or country has an absolute and/or comparative advantage in producing a good.
5. Explain that trade increases people's choices.

### TIME REQUIRED

60 minutes

### MATERIALS

1. Visuals 6.1 and 6.2 (**NOTE:** Visual 6.1 is the same as Activity 6.1.)
2. One copy of Activities 6.1 and 6.6 for each of the students
3. One copy of Activities 6.2 and 6.4 for each student in half the class
4. One copy of Activities 6.3 and 6.5 for each student in the other half of the class
5. Scissors and a stapler, glue stick or glue for each student
6. Chalk or masking tape

### PROCEDURE

1. Ask if the students would like to visit Europe or Africa. Explain they had better hurry: These continents are getting further away from the United States every day!
2. Tell them that this lesson is about the physical forces that move people on different continents apart and the economic forces that bring them together.
3. Distribute a copy of Activity 6.1 to each student, and display Visual 6.1. Explain that the maps shows the major **tectonic plates**. Tell the students these plates are

sections of the Earth's crust that move as distinct units over the Earth's mantle.

4. Read the text that goes with the maps, and make the following points when appropriate, drawing the students' attention to the visual indicating the location, movements and features formed:
  - The east coast of South America appears to fit like a puzzle piece into the west coast of Africa. This is where geographers hypothesize it was attached when Gondwana was still intact.
  - The Himalayan mountain range was created when the Indian plate broke away from Africa and crashed into the Eurasian plate.
  - The Great Rift Valley runs from Syria to Mozambique between the African plate and the Arabian plate.
  - The midocean ridge in the Atlantic Ocean is between the African plate and the North and South American plates.
  - There is earthquake and volcanic activity around the Pacific Rim or the border of the Pacific plate (where it rubs against other plates).
  - Current activity has Africa moving north toward Europe, Australia heading north toward Asia, and North and South America moving away from Europe and Africa.
5. Tell the students they are going to participate in an activity that involves people on two different continents. Divide the classroom in half by drawing a chalk line (or using masking tape) on the floor between desks. Half the students should be on one side of the line and half on the other.
6. Tell the students they are now on two different continents: Laurasia and Gondwana. Explain that Laurasia and Gondwana are on two great tectonic plates that have separated along the chalk line drawn on the floor. Have the students move their desks across the floor away from the line toward the sides of the room to simulate this movement.

7. Read the following story to the students: Imagine that Laurasia and Gondwana drifted apart and developed very differently. Laurasia drifted into colder climates, so the people of Laurasia had to develop energy sources to keep warm. Later they used this energy to fuel machines to help them produce the goods they wanted. Gondwana drifted into warmer climates, so its people didn't need energy sources for heat. They never really developed machines and tend to produce most goods by hand.
  - Laurasians, as you turn over your production cards to the rug side, one at a time, what are the combinations of pizzas and rugs you can produce? *24 pizzas-0 rugs, 20-2, 16-4, 12-6, 8-8, 4-10, 0-12*
  - Gondwanans, as you turn over your production cards to the pizza side, one at a time, what are the combinations of rugs and pizzas you can produce? *6 rugs-0 pizzas, 5-0.5, 4-1, 3-1.5, 2-2, 1-2.5 and 0-3*
8. Distribute a copy of Activity 6.2 to each Laurasian and a copy of Activity 6.3 to each Gondwanan. Distribute scissors and a stapler, glue stick or glue to each student. Have the students follow the instructions on their activities to cut out and make their production cards.
9. Distribute a copy of Activity 6.4 to each Laurasian and a copy of Activity 6.5 to each Gondwanan.
10. Have the students complete Part 1 of their activity. When they have completed their work, discuss the following:
  - Laurasians, what is the total number of pizzas you could produce in six hours? If you produced this many pizzas, how many rugs could you produce? *24 pizzas and 0 rugs*
  - Gondwanans, what is the total number of rugs you could produce in six hours? If you produced this many rugs, how many pizzas could you produce? *6 rugs and 0 pizzas*
  - How does the number of rugs you can produce change as you produce more pizzas? *It decreases.*
  - How does the number of pizzas you can produce change as you produce more rugs? *It decreases.*
  - Why does this happen? *It takes time to produce each good. Because time is limited, spending more time producing one good means less time is available to produce the other good.*
11. Tell the students that the table they made shows the various combinations of pizzas and rugs it is possible for them to produce in six hours. This is a **production possibilities table**.
12. Have the students complete Part 2 of Activity 6.4 (Laurasians) and Activity 6.5 (Gondwanans). When they have completed the work, discuss the following:
  - Which combinations of pizzas and rugs are possible for you to produce in the time allowed? *Combinations D, G and I are possible for both countries.* (NOTE: The combinations on the two worksheets are not the same, but the letters of the answers are the same.)
  - Which combinations of pizzas and rugs are impossible for you to produce in the time allowed? *Combinations E, F and H are impossible for both countries to produce in the time allowed.*
  - What would make it possible to produce the combinations of pizzas and rugs that are now impossible to produce? *If more time were allowed or the workers were more productive – that is, each worker were able to produce more pizzas and rugs each hour*
13. Explain that the **productivity** of workers is measured by how much of a good they can produce in a given amount of time. On Laurasia, each worker can produce either four pizzas or two rugs in an hour. On Gondwana, each worker can produce either one-half of a pizza or one rug in an hour. Discuss the following:
  - On which continent are workers

more productive pizza producers? *On Laurasia, where they are able to produce eight times more pizza an hour than workers in Gondwana*

- On which continent are workers more productive rug producers? *Again on Laurasia, where they are able to produce two times more rugs than workers in Gondwana*

14. Explain that when workers in one region are able to produce more of a good than workers in another region, the workers in the first region are said to have an **absolute advantage** in producing that good. Since Laurasian workers are more productive than Gondwanans, Laurasians spend fewer hours making each pizza or rug. This means Laurasians have an absolute advantage in producing both goods. Ask the students if they think it is worthwhile in this case for the people of Laurasia to trade with the people of Gondwana. They will probably say no, but tell them things aren't always as they appear.
15. Have the students complete Part 3 of Activities 6.4 and 6.5. When they have finished their work, ask them "What is the **opportunity cost** of doing something?" *The highest-valued alternative you give up to do it*
16. For Laurasians, what is the opportunity cost of producing
  - J. four pizzas? *Two rugs*
  - K. one pizza? *Half a rug*
  - L. two rugs? *Four pizzas*
  - M. one rug? *Two pizzas*
17. For Gondwanans, what is the opportunity cost of producing
  - J. half a pizza? *One rug*
  - K. one pizza? *Two rugs*
  - L. one rug? *Half a pizza*
18. Display Visual 6.2 to show these opportunity costs. Discuss the following:
  - On which continent is the opportunity cost of producing pizzas lower? *Laurasia*

- On which continent is the opportunity cost of producing rugs lower? *Gondwana*

19. Explain that when the opportunity cost of producing a good is lower in one region than in another, the people in the first region are said to have a **comparative advantage** in producing that good. Note that while Laurasians are eight times more productive in producing pizzas, they are only twice as productive in producing rugs when compared with the Gondwanans. Thus the Gondwanans have less of an absolute disadvantage in producing rugs when compared with the Laurasians. The Gondwanans have a lower opportunity cost for producing rugs, which gives them a comparative advantage in producing rugs. Because the opportunity cost of producing pizzas is lower in Laurasia than in Gondwana, Laurasians have a comparative advantage in producing pizzas.
20. Explain that when people have a comparative advantage in producing a good, they can end up with more total goods by producing that good and trading some of it for goods in which other people have a comparative advantage. Concentrating production on one, or a few, goods is called **specialization**. Discuss the following:
  - Who should specialize in producing pizzas? Why? *Laurasians, they have a lower opportunity cost*
  - Who should specialize in producing rugs? Why? *Gondwanans, they have a lower opportunity cost*
21. Ask the Laurasians to turn all their production cards to the pizza side and the Gondwanans to turn all their production cards to the rug side to simulate this specialization.
22. Refer the students to Visual 6.2, and ask if trading one rug for one pizza is desirable for Laurasians. *Yes*
23. Explain that if the Laurasians produce the



rug themselves, it costs them two pizzas because they give up producing two pizzas. If the Laurasians trade for the rug, they give up only one pizza.

24. Ask the students if trading one rug for one pizza would be desirable for the Gondwanans. Why? **Yes. If the Gondwanans produced the pizza themselves, it would cost them two rugs. If they trade for the pizza it costs them only one rug.**
25. Have the students complete Part 4 of Activities 6.4 and 6.5, and then discuss their answers to Questions N (Laurasians) and M (Gondwanans). **For Laurasians the amounts of rugs that are possible with trade are 0, 4, 8, 12, 16, 20 and 24. For Gondwanans the amounts of pizzas possible with trade are 0, 1, 2, 3, 4, 5 and 6.**
26. Now discuss their answers to Questions O (Laurasians) and N (Gondwanans).
  - For Laurasians and Gondwanans, which combinations of pizzas and rugs is it now possible for you to have that were not possible before trading? **Combinations B and C are now possible for both countries.**

**Note:** The letters of the answers are the same, but the combinations specified are different.

  - Which combination of pizzas and rugs would still be impossible to have? **Combination E for both countries**
  - How has trade affected the number of combinations from which you can choose? **It has increased the number.**
  - Suppose you wanted to have the amount of pizzas and rugs in Combination C, what trade would you need to make? **Laurasians would need to give up four pizzas in exchange for four rugs, while Gondwanans would need to trade four rugs to get four pizzas.**
27. Have each Laurasian take one production card and each Gondwanan take four pro-

duction cards and line up along the border between the two continents.

28. Have each Laurasian trade with one Gondwanan, and then have them all pose as they shake hands on the deal. Tell them trading has once again joined these two great continents for the benefit of both!
29. Note that the continents of the former Laurasian continent – North America, Europe, and Asia – have developed economies, or more goods available per person, based on a high volume of trade among themselves. Meanwhile the main continents of the former Gondwanan continent – South America and Africa – have less-developed economies, or fewer goods per person, with only limited amounts of trade. However, as this lesson demonstrates, all economies could gain by increasing trade where a comparative advantage exists. (**NOTE:** See Lesson 5 for activities on more-developed and less-developed countries.)

## CLOSURE

30. Use the following questions to review the key points of the lesson:
  - A. What causes continents to drift or move slowly? **The continents are on tectonic plates that move across the Earth's mantle.**
  - B. What geographic features can result from the movement of tectonic plates? **Mountains, rifts, fault lines along which earthquakes and volcanoes are likely to occur**
  - C. What movement is a result of trade? **The movement of goods among people, countries and continents**
  - D. Why do people want to trade? **Because trade gives them greater choices and more goods**
  - E. Which goods should people produce and trade for other goods? **They should produce and trade goods in which they have a comparative advantage.**
  - F. When does a person or country have a comparative advantage in producing

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：<https://d.book118.com/418014136102006120>