

Name:

Date:

Calculating Comparative Advantage

Background: one key economic principle that most economists agree upon is that free trade benefits all. Specifically, trade is defined as the voluntary exchange of goods and services among individuals, businesses, or countries (as we will examine in this activity). Now why would individuals, businesses or countries trade to begin with? In order to answer that question we must understand comparative advantage. **Comparative advantage** is the ability to produce a good or service at the *lowest opportunity cost* compared to another producer (which can be an individual, business, or country). And recall from our previous lesson that *opportunity cost* is whatever you must give up in order to obtain some item.

So as long as the opportunity cost differs between 2 producers, both can gain from specialization and trade. Remember, if the opportunity cost of producing the products are the same for both producers then there is no incentive to trade. The principle of comparative advantage suggests that each good should be produced by the individual/business/country with a comparative advantage (smaller opportunity cost) in producing that good.

Who Should Produce What?

Step #1: Assume the following scenario and calculate the opportunity cost for producing the two different goods below for each of the countries.

Country	Airplanes	Ships
France	12	6
Germany	36	9

- France's opportunity cost of producing 12 airplanes is _____ ships. Therefore, France's opportunity cost of producing 1 airplane is _____ of a ship.
- France's opportunity cost of producing 6 ships is _____ airplanes. Therefore, France's opportunity cost of producing 1 ship is _____ airplanes.
- Germany's opportunity cost of producing 36 airplanes is _____ ships. Therefore, Germany's opportunity cost of producing 1 airplane is _____ of a ship.
- Germany's opportunity cost of producing 9 ships is _____ airplanes. Therefore, Germany's opportunity cost of producing 1 ship is _____ airplanes.

Step #2: Based on your answers for step 1, decide which country has comparative advantage.

- Which country has the lower opportunity cost for producing airplanes? _____
- Which country has the lower opportunity cost for producing ships? _____
- Who has the comparative advantage in producing airplanes? _____ Ships? _____
- How will specialization affect each of these two countries?

Answer Key to Comparative Advantage Activity

Step 1:

Country	Airplanes	O.C. of 1 Airplane	Ships	O.C. of 1 Ship
France	12	$\frac{1}{2}$ ship	6	2 airplanes
Germany	36	$\frac{1}{4}$ ship	9	4 airplanes

Note: I teach my students to edit the chart above and create the two additional columns that I have highlighted in yellow. In doing so students can refer to their calculations at one glance rather than calculating and solving the problem as they move along, which may increase chances for miscalculations. Also, remind students to always label with appropriate units for each good.

Lastly, have students analyze their calculations for opportunity cost for each of the two goods and see if they notice any relationship that may exist. *Specifically, the opportunity costs are reciprocals of each other.*

Step 2:

- Which country has the lower opportunity cost for producing airplanes? **Germany**
- Which country has the lower opportunity cost for producing ships? **France**
- Who has the comparative advantage in producing airplanes? **Germany** Ships? **France**
- How will specialization affect each of these two countries? **In these two countries were to trade then → Germany will specialize in airplanes and export airplanes and import ships. France will specialize in ships and export ships and import airplanes.**