

Concept 5 – Marginal Cost/Benefit Companion Activity

**Teacher Instructions**

1. Distribute one copy of the worksheet below (page 2) to each student.
2. Navigate to econexpress.org, scroll down and click Concept 5 – Marginal Benefit and Marginal Cost.
3. Explain the concept of “marginal” to students (or have them read the beginner reading from the site or their handout).
4. Explain that you are going to model the practice activity in class. Scroll down to the practice activity and click “Hiring Employees.” State that you are Rosalie and you are hiring for your assembly line. Right now the assembly line has 0 workers and you are losing money because you still have to pay rent and other fixed costs. You will pay $25 for a worker. Have a student volunteer come to the front of the room (or select someone).
5. You now have 1 employee. Have the student pretend to do something on an assembly line for 5 seconds (any action is fine). When finished, announce that you can sell what they produced for $500. Record $25 as the marginal cost of the first worker and $500 as the marginal benefit. Ask the class what was the marginal profit (not included on the practice activity). ($500-$25 = $475). Ask the class should you hire this worker? (YES).
6. Ask if you should hire another worker? (YES). Since the assumption is the next worker ALSO costs you $25, you enter that on the worker 2 line. Have another student come down and repeat the pretend assembly line procedure. When finished, state that since the first employee was so good, the second employee added to production, but wasn’t able to do quite as much so the benefit was only $450 (click Add 1 employee on the Econ Express practice activity) and record the numbers.
7. Continue this process for workers 3 – 5.
8. After worker 5, ask if you should hire another employee? (NO.) Why not? (Because at five employees, the marginal cost equals the marginal benefit and, therefore adding additional workers will incur a loss. You can click “add employee” on the practice activity to show this to students.
9. Have students answer the practice questions and discuss their answers.

**KEY**

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Number | Marginal Cost | Marginal Benefit | Marginal Profit |
| 1 | *$25* | *$500* | *$475* |
| 2 | *$25* | *$450* | *$425* |
| 3 | *$25* | *$300* | *$275* |
| 4 | *$25* | *$150* | *$125* |
| 5 | *$25* | *$25* | *0* |

1. *5 because that is where the marginal cost equals marginal benefit. Rational decisions occur when the marginal benefit is greater than or equal to the marginal cost. At greater than 5 employees, each employee is losing money.*
2. *Marginal benefits decrease over time in all cases. With a fixed set of resources (workspace, raw materials, time, consumer demand, etc.) each additional employee eventually will contribute less to the work. In the worst case, adding more employees will cause you to lose money. Imagine a car manufacturing assembly line with 9 people trying to put on 4 tires on a car. Someone (or several people) would be standing around waiting.*
3. *Answers will vary, but look for students to identify the cost/benefit of their story and explain how continuing to do whatever it is they are describing would have eventually been negative for them. At that point, the marginal benefit outweighs the marginal cost.*



Concept 5 – Marginal Cost/Benefit Companion Activity

The word **marginal** in economics is synonymous with additional; specifically, one more. Think about a car manufacturer that has already produced 100 vehicles. They have their assembly line in operation, the resources needed to make cars, and workers available. Should they make one more car? To answer that question, the company must analyze the **marginal cost** and **marginal benefit**. How much will one more car cost to produce? How much revenue will one more car generate? In economic terms, a **rational decision** is made when the marginal benefit of an action is greater than or equal to the marginal cost.

Classroom activity: Rosalie is hiring people for her assembly line. For simplicity's sake, assume every worker costs her $25. The marginal benefit represents how much new output that worker will provide for the company. This information will come from the activity from Econ Express as your teacher works through it, fill in the chart below.

|  |  |  |  |
| --- | --- | --- | --- |
| Employee Number | Marginal Cost | Marginal Benefit | Marginal Profit |
| 1 | $25 | $500 |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |

1. If Rosalie is acting rationally, how many employees should she hire? Why?
2. Why does the marginal benefit of each additional employee decrease over time?
3. Describe a decision you have made recently based on marginal analysis. Think about time spent doing an activity, a decision regarding how much to eat, whether or not to drive somewhere, etc. What was the cost and what was the benefit? Why did you stop when you did?