

UNIT 1 - ABOUT DECISIONS (10 Days)

Students face many choices every day. Is playing video games the best use of their time? Is working at a fast-food restaurant better than the best alternative job or some other use of their time? Identifying and systematically comparing alternatives enables people to make more informed decisions and to recognize often overlooked relevant consequences of choices they or others make. Some students believe that they can have all the goods and services they want from their family or from the government because goods provided by family or by governments are free. But this view is mistaken. Resources have alternative uses, even if parents or governments own them. For example, if a city uses land to build a football stadium, the best alternative use of that land must be given up. If additional funds are budgeted for police patrols, less money is available to hire more teachers. Explicitly comparing the value of alternative opportunities that are sacrificed in any choice enables citizens and their political representatives to weigh the alternatives in order to make better economic decisions. This analysis also makes people aware of the consequences of their actions for themselves and others, and could lead to a heightened sense of responsibility and accountability.²

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by

a) describing how consumers, businesses and government face scarcity of resources, make trade-offs and incur opportunity costs

(BUS6120.034)

Day 1 What is scarcity and why does it exist?

Day 2 What's the trade-off? What's my opportunity cost?

Day 3 Decision making

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by

c) describing how effective decision-making requires comparing the additional costs (marginal costs) and additional benefits (marginal benefits)

(BUS6120.036)

Day 1 What's in it for me? What is this going to cost me?

Day 2 Applying marginal thinking in the real world

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by

b) explaining that choices often have long-term unintended consequences

(BUS6120.035)

Day 1 "I didn't mean for that to happen."

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by

d) identifying the factors of production.

EPF.2 The student will demonstrate knowledge of the role of producers and consumers in a market economy by

c) identifying the role of entrepreneurs

(BUS6120.037 and .042)

Day 1 Resources for production

Day 2 What do entrepreneurs do?

Day 3 What's the difference between real capital and human capital?

Evaluation day

Day 1 - What is scarcity and why does it exist?

Content Knowledge

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by
a) describing how consumers, businesses and government face scarcity of resources, make trade-offs and incur opportunity costs

Scarcity is the central economic problem—unlimited wants vs limited resources. The goods and services we want exceed our ability to produce them. Everyone faces scarcity. Because of scarcity, consumers, businesses, and government decision-makers are forced to make choices.

Vocabulary

Choice – The condition that arises from unlimited wants and limited resources;

Decision – A conclusion reached after considering alternatives and their results.

Resources – Things that we have that are in limited supply and which may include personal resources (financial, skill, time) or productive resources (capital resources, human resources, natural resources and entrepreneurship).

Scarcity - The condition of not being able to have all the goods and services one wants. It exists because human wants for goods and services exceed the quantity of goods and services that can be produced from all available resources.

Wants – Desires that can be satisfied by consuming or using a good or service. Economists do not differentiate between wants and needs.

Virginia Board of Education Framework

Scarcity is the condition of not being able to have all the goods and services one wants. It exists because human wants for goods and services exceed the quantity of goods and services that can be produced from all available resources.

The opportunity cost of a choice is the value of the best alternative given up.

Consumers face scarcity and must make choices and incur opportunity costs. For example, a consumer with two hours of free time cannot go ice skating for two hours and see a movie. Whatever choice is made, the alternative given up is the opportunity cost.

Businesses face scarcity and must make choices and incur opportunity costs. Suppose a grocery is deciding whether to add a café or a pharmacy. It only has space for one. It makes a choice; the one not selected is the opportunity cost.

Governments face scarcity and must make choices and incur opportunity costs. For example, money spent on roads cannot be spent on education—or whatever would be the next best alternative.

A tradeoff is not an all-or-nothing decision. For example, government could choose to trade off some money for roads to spend more on education.¹

Teaching Tips

- 1) Before class, set up a scarcity situation---e.g. remove a few chairs so there are not enough for all. Ask students to define the problem. (*Not enough chairs.*) Explain it is a situation of scarcity—not enough of something for everyone who wants one. How did they allocate the scarce resource? (*First-come-first-served.*) What are some other possibilities? (*Fight over chairs, take turns, share, pay to use the chairs, lottery, girls sit, boys sit.*)
- 2) Introduce the idea of time being scarce. Discuss many options for time after school. (Work, sports, theater, musical instrument practice, homework, hangout, read, video games.) Can you do all of the things in one afternoon? (*No, you have to choose.*) Put students in groups. Tell them to make two columns on a sheet of paper. In column one, write a situation where they had to make a choice. In column two, write what was scarce. (Keep these sheets for the next class period.)
- 3) What about businesses? Have students list businesses and decide what scarcity they face. For example, what is scarce for a grocery? (*Floor space, shelf space, number of employees working at one time.*) What choices do they have to make? (*How much space to give organic food, magazines, soft drinks, produce; whether to have employees on cash registers or carrying out groceries; which cereals to carry—there are too many for a grocery to carry all*). If the students work, perhaps they can give examples of other choices businesses make. (Keep these sheets for the next class period.)
- 4) What about government? Have students list choices the local, state or federal government must make and what is scarce. For example: FEMA may have several disasters occurring at the same time. What might be scarce? (*Workers, supplies, equipment.*) What about schools? What might be scarce? (Keep these sheets for the next class period.)
- 5) Discuss. Do even wealthy people experience scarcity? (*Yes. They can't do everything they want. They must make choices.*) Everyone faces scarcity everyday. Economics is about using your scarce resources to get or do the things that are most important to you.

Lessons and Resources

Choices & Changes: In Life, School, and Work - Grades 9-10 Lesson 1: Making Choices

Financial Fitness for Life: 9-12 Lesson 2: The Economic Way of Thinking

Capstone Lesson 2: Scarcity and Abundance

Economics In Action Lesson 2: Economic Decision Making

Video

[Scarcity and Choice \(4:35\)](#)

http://www.youtube.com/watch?v=yoVc_S_gd_0

What is economics about? (1:32)

<https://www.youtube.com/watch?v=nWPrMmv1Tis>

Intro to Economics: Crash Course (12:09)

https://www.youtube.com/watch?v=3ez10ADR_gM&t=5s

Robert Frost reading poem “The Less Travelled” (1:04)

<http://www.youtube.com/watch?v=ie2Mspukx14>

Music

I Want It All by Queen (unlimited wants)

In the End by Linkin Park (scarcity)

You Can't Always Get What You Want by The Rolling Stones (scarcity)

Day 2 - What's the trade-off? What's my opportunity cost?

Content Knowledge

To evaluate the opportunity cost associated with making a choice, identify what would have been gained if the best alternative use of the resources, including time, had been undertaken. When a student chooses to attend a theatrical event, the student not only gives up the use of the money spent to purchase the admission ticket but the student also gives up the time spent at the play. If that time would have been spent babysitting, the opportunity cost is the price of the ticket and the money not earned in babysitting. The alternative use for resources also depends on the context in which the choice is being made. For example, a choice to attend school may have an opportunity cost of the wages that would be earned if a student entered the workforce instead. But, in a period of high unemployment (when students may have little else to do), the choice to attend school may have an opportunity cost of spending time with friends.²

Vocabulary

Opportunity cost – The second-best alternative (or the value of that alternative) that must be given up when making a choice.

Trade-offs – The giving up of one benefit or advantage in order to gain another regarded as more favorable.

Virginia Board of Education Framework

All choices have opportunity costs. Choices involve trading off the expected value of one opportunity against the expected value of its best alternative.

The opportunity cost of a choice is the value of the best alternative given up.

Consumers face scarcity and must make choices and incur opportunity costs. For example, a consumer with two hours of free time cannot go ice skating for two hours and see a movie. Whatever choice is made, the alternative given up is the opportunity cost.

Businesses face scarcity and must make choices and incur opportunity costs. Suppose a grocery is deciding whether to add a café or a pharmacy. It only has space for one. It makes a choice; the one not selected is the opportunity cost.

Governments face scarcity and must make choices and incur opportunity costs. For example, money spent on roads cannot be spent on education—or whatever would be the next best alternative.

A tradeoff is not an all-or-nothing decision. For example, government could choose to trade off some money for roads to spend more on education.

Teaching Tips

1) Explain that all choices have costs. When you choose something, the real cost is what you have to give up to get it. That is called the opportunity cost.

Example: Suppose someone has two hours available. Let's say he is choosing between participating in a two hour bike race, going to a movie or spending the two hours studying for an exam. If he picks the movie, and studying is his second choice, studying is the opportunity cost. Studying is the “real” cost because it's what he gave up to go to the movies. (Students often think their opportunity cost is all of the choices they might have had. In this scenario, in the two hour period it wasn't a choice between going to the movie OR participating in a two hour bike race AND studying for two hours. His opportunity cost was the option he would have chosen—his next best choice—if he hadn't chosen to go to the movie.)

2) Tell students to look at the list of choices they made in the last class period. In each case they decided what was scarce. Now, tell students to look at each choice and determine the opportunity cost. What was given up in each case?

3) Remind students that businesses experience opportunity costs as well. Suppose Burger Whoopee can only afford to add one more restaurant in a community. If they build it in one location, the opportunity cost is their second choice location. If they can only afford to hire one more worker, their opportunity cost is the next best applicant.

4) Governments experience opportunity costs. \$1 million spent on tanks cannot be spent on medical research. \$1 million allocated to cancer research cannot also be spent on Alzheimer's research, or research on diabetes. Land used for a public baseball park cannot also be used for a library or school

5) Optional end of class activity:

Prepare a variety of items such as pencils and/or pieces of candy—enough for each student to have one. Have one volunteer choose two things she would like to have. Tell her that she can only have one. Have her choose. Tell her to tell you which is her choice and which is her opportunity cost. She will keep her choice—the cost will be the thing she gave up. Then have all students make the same choice.

Lessons and Resources

Focus High School Economics Lesson 1: Choice, Opportunity Costs, and Decisions

Online

Paul Solman on Opportunity Cost and costs and benefits (4:49)

<https://vimeo.com/199326365>

Reading: Getting the Most Out of Life: The Concept of Opportunity Cost

<http://www.econlib.org/library/Columns/y2007/Robertsopportunitycost.html>

Video

Saving Private Ryan – DVD – Chapter 9

Captain Miller discusses the cost of saving Ryan in terms of lives lost.

Cartoons

<http://www.gocomics.com/bc/2010/12/08> (trade-offs)

<http://www.gocomics.com/frankandernest/2010/12/08> (opportunity cost, trade-offs)

<http://www.gocomics.com/calvinandhobbes/2010/09/06/> (opportunity cost)

Music

Did You Ever Have to Make Up Your Mind? by the Lovin' Spoonful (opportunity cost, trade-offs)

The Road Not Taken by Bruce Hornsby and the Range (opportunity cost, trade-offs)

Big Yellow Taxi by Counting Crows, et al. (trade-offs)

Poem

The Road not Taken by Robert Frost

<http://www.youtube.com/watch?v=ie2Mspukx14>

Day 3 - Decision making

Content Knowledge

People make decisions many times daily. Both individuals and groups make decisions. Sometimes the outcomes are good—and sometimes not so good. There are tools that can help clarify choices and alternatives and improve decision making. The PACED decision model is a tool that can be used in a variety of situations. While it doesn't guarantee a good outcome, it does a good job of clarifying one's alternatives and criteria.

Vocabulary

PACED decision-making process – A decision-making process designed to help people solve problems in a rational, systematic way. It includes the following steps: State the Problem, List Alternatives, Identify Criteria, Evaluate Alternatives, and Make a Decision.

Virginia Board of Education Framework

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Teaching Tips

1) Explain that there are tools to help make decisions. Demonstrate using the PACED model on something of interest to them, perhaps buying a used car. A PACED decision grid is attached at the end of this unit.

Step 1

Problem: The first step is to state the problem. What car should I buy?

Step 2

Alternatives: List some likely alternatives.

Step 3

Criteria: The next step is to establish criteria—what is most important to you. (These criteria need to be stated in positive terms, i.e., stated as what you want.) For example: costs less than \$4,000; gets at least 25 mpg; seats at least 4; has AC; no more than 6 years old; reliable—based on Consumer Reports; looks good; good sound system.

Step 4

Evaluate: Assess each alternative by comparing it to each criterion. If an alternative meets a criterion, put a + in that box—if not put in a -. At the end look to see which alternative meets your most important criteria. (Some criteria will be more important than others. Those may be given greater weight. And, if an alternative costs more than \$4000, it probably won't matter if there is a + in all of the other boxes.

Step 5

Decide: Based on the insights gained, make a choice. Be sure to explain that it won't always be the one with the most "+"s—since some criteria count more than others.

Looking at the results, have the class vote on the best choice. The one with the most votes will be the official "choice." The runner up will be the opportunity cost (the one they gave up when choosing the first).

2) This tool can be used for many decisions. Its strength lies in the ability of each student to determine their own criteria for evaluation, as well as the easy recognition of a "second" choice or opportunity cost. Have students work in groups to solve a problem using the PACED grid.

For example:

Someone is giving our class \$500 to donate to a charity. Use the PACED model to decide which charity to give it to.

3) Possible homework: assign students a problem to work on using the PACED model.

Examples of "problems" might be: "Which car to buy?" "Which college to attend?" "What career path to pursue?" "Which cell phone to buy?"

Lessons and Resources

Personal Decision Making: Focus on Economics Lesson 2: Applying a Decision Making Model

Financial Fitness for Life 9-12 Lesson 3: Decision Making

Capstone Lesson 2: Economic Decision Making

EconEdLink lesson: College: Where am I going to go? Students will use a PACED decision making grid to help them decide where they would like to attend college.

<http://www.econedlink.org/lessons/index.php?lid=463&type=educator>

Federal Reserve Bank of Richmond: [Invest In What's Next](#) This interactive mini-course provides information and tools to help students explore options, budget for the future, and build a plan that's right for each individual and their family.

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by

c) describing how effective decision-making requires comparing the additional costs (marginal costs) and additional benefits (marginal benefits)

DAY 1 - “What’s in it for me? What is this going to cost me?”

Content Knowledge

To make decisions that provide the greatest possible return (output or return on investment) from the resources available, people and organizations must weigh the benefits and costs of using their resources to do more of some things, and less of others. For example, to use their time effectively, students must weigh the additional benefits and costs of spending another hour studying economics rather than listening to music or talking with friends. School officials must decide whether to use some of their funds to buy more books for the library, more helmets for the football team, or more equipment for teachers to use in their classrooms. Company managers and directors must choose which products to make and whether to increase or decrease the amount they produce. The President, Congress, and other government officials must decide which public spending programs to increase, and which to decrease. Focusing on changes in benefits and comparing them to changes in costs is a way of thinking that distinguishes economics from most social sciences. In applying this approach, students should realize that it is impossible to alter how resources were used in the past. Instead, past decisions only establish the starting points for current decisions about whether to increase, decrease, or leave unchanged resource levels devoted to different activities.

Vocabulary

Benefits – Monetary or non-monetary gain received because of an action taken or a decision made

Costs – What must be given up to obtain something. The effort, loss or sacrifice necessary to achieve or obtain something.

Cost-benefit analysis – A process of examining the benefits (positive results) and costs (what is given up – lost benefits) of each available alternative in arriving at a decision.

Diminishing marginal utility – A widely observed relationship in which the additional satisfaction (marginal utility) associated with consuming additional units of the same product in a given amount of time eventually declines.

Marginal analysis – A decision-making tool for comparing the additional or marginal benefits of a course of action to the additional or marginal costs.

Marginal benefit – The additional gain from consuming or producing one more unit of a good or service; can be measured in dollars or satisfaction. The benefit gained by consuming one more of something.

Marginal cost – The increase in a producer's total cost when it increases its output by one unit. The cost incurred by consuming one more of something.

Virginia Board of Education Framework

Marginal benefits are the additional benefits of consuming one more of something. Marginal costs are the additional costs (i.e., what one must give up) of getting one more. For example, the marginal benefit of buying one more pair of jeans might be the time saved by having to wash jeans less frequently. The marginal cost of one more pair of jeans might be giving up buying a new shirt or pair of shoes.

Teaching Tips

1) When people decide how to use their personal or productive resources, they want to get the most satisfaction (benefits) possible. One way to do this is to ask the question “What are the costs and benefits of this choice?” For example: It’s midnight. You’ve been studying for 4 hours. Should you study one more hour or go to sleep? Make two columns on the board, one titled Benefits and the other titled Costs. If you choose to study, what are the benefits? Write that under benefits. Under costs, write down what you gave up, the benefits of an extra hour of sleep.

Have students work in groups. Each group should draw a line down the center of a page. Write benefits at the top of one column and costs at the top of the other, remembering to include both monetary costs and opportunity costs. Title it at the top, "Deciding whether to go to college." Under benefits, write the benefits of going to college. Under costs, write the costs of going to college—what is given up (the things you might have bought with the money you spent on tuition, books, dormitory etc. and lost income from working at a job or, if not working, lost time hanging out.) Discuss. Turn the page over and title it, "Deciding whether to go directly to work after high school," and do the costs and benefits of taking a job instead of going to college.

2) Have students think about other current and historical examples of weighing costs and benefits. Possible examples: At the time of the revolution, colonists weighed the costs and benefits of becoming patriots or loyalists. More recently, in Libya, citizens weighed the costs and benefits of being loyal to Khadafi or being loyal to the freedom fighters. In consumer choices, one might weigh the costs and benefits of buying a new car vs. a used car.

3) Sometimes the choice is about whether you want more of something. Students should then be asked if more is always better? Newspaper boxes allow a person to put in money, open the door and take a newspaper from the stack. Why don’t people take two or three newspapers? (Answer: The marginal utility (additional benefit) of an extra newspaper is pretty low.)

4) Ask for a student who likes bubble gum. Bring that student to the front, ask him/her to chew a piece of gum and give a number on a scale of 1 – 5, measuring the satisfaction. Write that number on the board. Then give the student another piece to chew and give a rating. Repeat until the number begins falling. This is called diminishing marginal utility (benefit). As we consume more and more of something, such as newspapers or chewing gum, the amount of excitement/benefit we get with each additional unit goes down.

Why does this matter? Assume you are buying a slice of pizza in a food court. The first slice is likely to produce satisfaction. As you eat more and more pizza, each slice is likely to produce lower and lower extra satisfaction (marginal utility). Again, this is called diminishing marginal

utility. The marginal cost of each slice is its price. The real cost is whatever else one might be doing with that money. At some point the extra satisfaction (marginal utility) of one more slice will fall to the point that you would rather do something else with your money...maybe buy a cookie.

5) Imagine you are buying a concert ticket. Tickets up front are \$75 while those halfway back are \$50. What is the marginal cost of having a front row seat? \$25. You are giving up the benefits of whatever else you could do with the extra \$25. What is the marginal benefit? Being able to see better, etc. For some, it would be worth the marginal cost, but not for others.

Lessons and Resources

Capstone Lesson 4: To Choose or Not to Choose – That is Not the Question

Economics In Action Lesson 6: The Economic Way of Thinking - Three Activities to Demonstrate Marginal Analysis

Online

Paul Solman on marginal thinking: How long should I pick berries? (6:37)

https://www.youtube.com/watch?v=y8gt_1beAmw

Video

The Chicken Roaster (benefits, costs, cost-benefit analysis) (8:16)

<http://www.yadayadayadaecon.com/clip/84/>

Nobody Can Eat 50 Eggs from Cool Hand Luke (diminishing utility, marginal analysis) (1:30)

<https://www.youtube.com/watch?v=Ct3CcR3c4oM>

A Civil Action (DVD) – (0:30 to 1:20 and 7:10 to 11:25 cost-benefit analysis)

Music

Stuff by Diamond Rio (cost-benefit analysis, diminishing marginal utility)

Day 2 - Applying marginal thinking in the real world

Content Knowledge

Few choices are all-or-nothing decisions. Most choices involve doing a little more or less of something.

How can marginal benefit and marginal cost be used to improve decision-making?¹

Vocabulary

Cost - what you give up when you decide to do something.

Benefit - what satisfies your wants.

Marginal benefit - the change in total benefit resulting from an action.

Marginal cost - the change in total cost resulting from an action.

Virginia Board of Education Framework

Marginal benefits are the additional benefits of consuming one more of something. Marginal costs are the additional costs (i.e., what one must give up) of getting one more. For example, the marginal benefit of buying one more pair of jeans might be the time saved by having to wash jeans less frequently. The marginal cost of one more pair of jeans might be giving up buying a new shirt or pair of shoes.

As long as the marginal benefit of an activity exceeds the marginal cost, people are better off doing more of it; when the marginal cost exceeds the marginal benefit, they are better off doing less of it. For example, what is the marginal benefit of one more hour of exercise? Suppose the marginal cost is one more hour of study?

Teaching Tips

1) Explain that individuals, businesses and governments make choices about whether to choose more of something they are already buying or whether the benefits would be higher if they started spending on something else. Thinking along those lines, have students solve the following problem: Your grandmother gives you \$50 for your birthday and you are trying to decide how to spend it. You are considering buying t-shirts (\$15 each), going to the movies (\$10 per ticket), or taking some friends out for pizza (\$7.50 per person). You do not have to spend all your money on one thing. You can use some money for one thing, and some for another. How would you spend your money to get the greatest satisfaction? After student decisions are made, explain that the satisfaction of buying one more is called the marginal benefit (or marginal utility). What one gives up to get the additional unit is the marginal cost. As one consumes more and more of something the marginal benefit tends to fall with each additional unit. For example, as one consumes more and more pizza, each additional slice provides less satisfaction than the one before.

2) Apply the concepts of marginal benefit and marginal cost to reducing pollution. An activity in lesson 6 of Economics in Action can help demonstrate this.

3) Decide how many workers to hire for a profit maximizing car wash by comparing the cost of hiring each additional worker to the additional revenues derived from hiring each additional worker.

Lessons and Resources

Economics in Action: 14 Greatest Hits for Teaching High School Economics Lesson 6: The Economic Way of Thinking: Three activities to demonstrate marginal analysis

Focus: High School Economics Lesson 15: Until the Last Unit Equals

EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by
b) explaining that choices often have long-term unintended consequences

Day 1 - “I didn’t mean for that to happen.”

Content Knowledge

Choices made by individuals, firms, or government officials often have long run unintended consequences that can partially or entirely offset or supplement the initial effects of the decision.²

Vocabulary

Unintended consequences – The unexpected and unplanned results of a decision or action.

Virginia Board of Education Framework

People make decisions and governments make policies which sometimes have completely unexpected results, called unintended consequences. For example, off the coast of Florida, old tires were used to build reefs to attract fish; unfortunately, over time, the tires began to disintegrate, polluting the water, and the tires had to be removed.

Teaching Tips

1) Ask students “Do you ever make a bad decision on purpose?” Does anyone buy a stock expecting the price to go down? Ask students if they ever made a choice that turned out badly? Did they ever make a decision that turned out better than they expected?

2) Tell students that consumers, businesses and government make choices that sometimes have unintended consequences. For example:

Energy companies build more wind turbines to increase the production of renewable, green energy. After the turbines have been in use for a couple of months, there is a noticeable increase in the number of dead birds found near the structures.

Student on spring break in Florida decides to stay until the last minute. Her flight is cancelled due to bad weather and she misses an exam the following day.

3) Give students a scenario and ask them to work in groups trying to determine possible unintended consequences. Here are two options:

A high school senior decides to work 20 hours per week during the school year. How might working reduce her lifetime income?

A city is experiencing extreme traffic congestion on an important highway, and decides to add lanes to reduce the congestion. Why might it not reduce congestion?

Lessons and Resources

Focus: International Economics Lesson 9: Ripples - Trade Barriers and Unintended Consequences

Economics in Action Lesson 3: Using Economic Reasoning to Solve Mysteries

US History: Focus on Economics Lesson 15: What Can Yesterday's Choices Tell Us About Tomorrow?

Online

EconEdLink, Cost/Benefit Analysis: Three Gorges Dam

<https://www.econedlink.org/resources/cost-benefit-analysisthree-gorges-dam/>

Video

Great Moments in Unintended Consequences (3:04)

http://www.youtube.com/watch?v=pSwMEtuL-GQ&feature=results_video&playnext=1&list=PL8C2278851B42541A

<p>EPF.1 The student will demonstrate knowledge of basic economic concepts and structures by <i>d) identifying the factors of production</i></p>
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Day 1 - Resources for production

Content Knowledge

Productive resources are the natural resources, human resources, capital goods and entrepreneurial skills available to make goods and services. Consumers, businesses and government want to make decisions that provide the greatest possible return (output or return on investment) from the resources they have available. Economics is about using the resources you have to get the most of what you want.

Virginia Board of Education Framework

The **factors of production** are the productive resources used to produce goods and services. They include natural resources, human resources, capital resources, and entrepreneurship. These are the four factors of production.

Natural resources are “gifts of nature” and exist without human intervention.

Human resources refer to the effort of people which is applied to the production of goods and services.

There are two types of **capital resources**. Physical capital refers to man-made goods, such as tools, which are used to produce other goods. Human capital refers to the skills and knowledge a person has acquired through experience and/or education.

Entrepreneurs are individuals who are willing to take risks, to bring the other resources together and develop new products, and start new businesses. They recognize opportunities, like working for themselves, and accept challenges. Entrepreneurs accept the risks in organizing resources to produce goods and services because they expect to earn a profit.

Teaching Tips

1) Ask students to write down the word that comes to mind when someone says “economics.” Display their answers. Then give this definition of economics: “Economics is about how to use what you have to get the most of what you want.”

Tell students to draw a line down the center of a page. In the left column, write “What you have” in the right column write “What you want.”

Tell students to list in the right column things they want: Things they want for themselves, their families, friends, community, country world, in the present or in the future. They can be material/tangible things or intangible (fun, fitness, world peace). Give them about 3 minutes.

Then ask them what they use to get the things they want. What can they write in the column of “What you have”? (*Answer resources: natural, capital, human, entrepreneurship*)

2) Define and give examples of natural resources. (*Land, trees, rivers, fish*) Do you know anyone who produces any of the things they want from natural resources they own? Do some people grow some of their own food? Do you know anyone who gets income from natural resources? (*Fishermen, farmers*) When they sell what they produce, they can buy some of the things they want. Ask for examples of natural resources. (Sugar, flour, chocolate chips, for example are NOT natural resources because they do not exist in nature. They are goods which have been produced by people.)

Define and give examples of capital goods. Explain that when economists use the term capital, they mean man-made things used to produce other things. Examples might be tools, factories. Be sure they understand that a capital good is used over and over in production, and is not incorporated into the products that the capital good is used to produce. Do you know anyone who invested in capital goods and earns money? (*Guitar for band member. Snowplow for clearing parking lots. Ladder and brushes for a housepainter.*) People spend their money investing in capital goods because tools make workers more productive—able to get their work done faster. Capital helps them produce more and earn more money to buy the things they want. Students need to clearly understand that money is neither capital nor a resource in the context of considering productive resources used to make goods and services.

Define human resources. Do you know anyone who sells their labor? Do any of you have a job? Most people earn their income by selling their labor. (Later lessons will cover why people earn different income for their labor.) When people have a job and earn money, they can use that money to buy things they want.

Define entrepreneurship. Note that entrepreneurship has its own category separate from labor because of the entrepreneur's special role. Distinguish between inventors and entrepreneurs. Inventors come up with something new—but may not bring it to market. Entrepreneurs bring new things to market or bring old things to market in new ways. McDonalds did not invent hamburgers. Ray Kroc brought hamburgers to market in a new way. Do you know of any entrepreneurs? (*founders of Google, founder of Facebook*) Do you know anyone local who started their own business? When entrepreneurs are successful, they earn a profit. They can use that money to buy things they want.

Conclusion: Economics is about using the resources we have (factors of production) to get the most of what we want. Can we have everything we want? (*No.*) Why not? (*Our resources are limited.*) We have a limited amount of time for labor, a limited amount of natural resources and capital resources, a limited amount of entrepreneurial skill. Resources are limited and wants are unlimited. That is scarcity.

Why do we categorize resources? We put resources in different categories in order to compare countries/regions and consider the quality and quantity of the resources they have. Do different countries have different amounts/kinds of resources? Compare the US and Haiti—natural resources? Human resources—are they skilled or unskilled? Capital resources—do they have lots of factories?

Do available resources affect what is produced in a country or region? (*Oranges or apples in Virginia?*)

Can products be made different ways—using different resources? Lace can be made by hand in countries where labor is cheap, but is made by machine in countries where labor is expensive.

3) In groups have students list examples of each of the types of resources in their region in one column and in the other column how that influences what is produced in that region. (Example—Northern Neck has rivers and access to the Chesapeake Bay. Over the years, many in the area have derived their income working as watermen. The Winchester area has many apple growers.)

Lessons and Resources

Middle School World Geography: Focus on Economics Lesson 1: What Are Productive Resources?

Music

Workin' for a Livin' featuring Huey Lewis

<http://www.youtube.com/watch?v=zOVRxizfqxM> (labor)

EPF.2 The student will demonstrate knowledge of the role of producers and consumers in a market economy by
c) identifying the role of entrepreneurs

Day 2 - What do entrepreneurs do?

Content Knowledge

Entrepreneurs create the new businesses in our economy. They take on the challenge of creating or identifying a product, assessing the market for the product, determining a price for the product, creating a strategy for the business, obtaining funding for the new enterprise, hiring and managing employees, and assuming the risk associated with the new venture. Entrepreneurs are often motivated by the potential for financial rewards, as well as an interest in working for themselves. If they are successful, entrepreneurs receive the profit that remains after they pay salaries for employees, taxes to the government, and all other costs associated with the business. Starting any new business involves some risk. Entrepreneurs must invest their own time and resources before making products available in the market. The vast majority of entrepreneurs create new businesses similar to those around them, such as a new grocery store or a new dry cleaning business. These businesses may create jobs and often provide important products and services for their communities. Other entrepreneurs take on an even greater challenge by innovating or bringing a new invention to the market. In addition to accepting the risks entailed in starting a new business, these innovative entrepreneurs must have the vision, originality, and daring to seek out opportunities for a new product or service and introduce it to the public. Innovative entrepreneurs are responsible for much of the growth in our economy. Bringing us innovations such as the radio, airplane, and personal computer, these individuals change the way people live their lives, often fostering a more productive and efficient economy. Because entrepreneurship plays an important role in economic growth, public policies that affect the returns to entrepreneurship — from intellectual property rights to taxes to immigration regulations — often have a significant effect on consumers.²

Vocabulary

Entrepreneurs are people who take calculated risks in order to start new businesses and develop innovative products and processes.

Virginia Board of Education Framework

Entrepreneurs accept the risk of organizing resources to produce goods and services, and they expect to earn profits.

Entrepreneurs earn profits when buyers purchase the products they sell at prices higher than the costs of production. Entrepreneurs incur losses when buyers do not purchase the products they sell at prices high enough to cover the costs of production.

Profit is an important incentive that leads entrepreneurs to accept the risks of business failure. Independence in decision-making is another incentive important to entrepreneurs.

Entrepreneurs increase competition by bringing new goods and services to market or delivering products in innovative ways. They often foster technological progress and economic growth.

Teaching Tips

- 1) In groups, have students think of examples of products or services entrepreneurs have brought us in each category.
- 2) Ask students if they can identify any firms that have gone out of business and discuss how this might have occurred.
- 3) Identify a local entrepreneur and describe how the entrepreneur's decisions affect job opportunities.
- 4) Entrepreneurs are risk-takers—but they try to anticipate and prepare for risks. Assign students to read short biographies of entrepreneurs and identify the risks each faced. Examine how the entrepreneur analyzed the risks and the entrepreneur's incentive(s) for accepting the risk.
- 5) Read short biographies of several entrepreneurs, list the pertinent characteristics of each entrepreneur, and make a generalization about the non-financial incentives that motivate entrepreneurs and the risks or disincentives entrepreneurs face.

Lessons and Resources

Entrepreneurship in the U.S. Economy: Teacher Resource Manual Lesson 29: The Innovative Process: How Entrepreneurs Develop New Ideas

Financial Fitness for Life: 9-12 Lesson 5: Making Your Own Job

Entrepreneurship Economics Lesson 2: The Role of the Entrepreneur in the Economy

Online

EconEdLink: The Entrepreneur in You? <https://www.econedlink.org/resources/the-entrepreneur-in-you/>

EconEdLink: Inventors and Entrepreneurs in the Industrial Age

<https://www.econedlink.org/resources/economic-spotter-inventors-and-entrepreneurs-in-the-industrial-age/>

Comics

<http://www.gocomics.com/bc/2010/04/13> (business combination)

Video

– DVD – The last 30 minutes. (role of the entrepreneur)

New in Town

The Entrepreneur (1:50)

<https://www.youtube.com/watch?v=q7K9RXqAK6s>

Day 3 - What's the difference between real capital and human capital?

Content Knowledge

Human resources are the people who do the mental and physical work to produce goods and services. Capital goods are goods that are produced and used to make other goods and services. Human capital refers to the quality of labor resources, which can be improved through investments in education, training, and health.

There are **two types of capital resources**. Physical capital refers to man made goods, such as tools, which are used to produce other goods. Human capital refers to the skills and knowledge a person has acquired through experience and/or education. People invest in their human capital through education, training, and experience.¹ Investment in human capital can improve one's productivity and thus increase one's income. Investment in physical capital (tools etc.) can improve worker productivity (output per hour) and increase a nation's growth (output per year) and thus its standard of living.

Vocabulary

Human resources - the effort of people which is applied to the production of goods and services.

Human capital - the skills and knowledge a person has acquired through experience and/or education.

Capital (sometimes called real capital or physical capital) - man made goods, such as tools, which are used to produce other goods.

Teaching Tips

1) Have students look up job listings—in the newspaper, online, or in the Occupational Outlook Handbook. Note the pay and the requirements. Occupational Outlook Handbook

<https://www.bls.gov/ooh/>

In class, divide the students into groups according to pay. Discuss why some jobs are paying more than others. Help students understand that jobs requiring more skill tend to pay more, and that when there are many openings and few people with the skills to do the job, the pay tends to be higher. Discuss how people get skills. (School—high school, college or technical school—internships, practice, apprenticeship)

Use statistics on incomes for various professions to show that those which require more training are likely to be paid more. Use statistics to show that people with little education are much more likely to be unemployed.

2) Have students list the human capital they already have. (e.g. reading, writing, math, computer skills, web design, PowerPoint , accounting skills, understanding of how the government works, understanding of how the economy works, speaking a foreign language, cooking, playing a musical instrument, public speaking, communication skills, working with a team, organizational skills, athletic skills, singing, dancing) Compile a list.

Ask students to look at the skills they have and think about what types of jobs they would be qualified to do.

3) Ask students to select a couple of skills they would like to have, but don't have at present. Tell them to make a plan for how they might develop those skills.

4) Have students write a paragraph explaining to a younger sibling the definition of human capital and how it might affect their future income.

5) Have students investigate a profession of interest to them to determine the skills required and the path to acquiring those skills and the average income in that field.

6) Show Steve Jobs Graduation Speech--What kind of human capital did he have? How did he acquire his human skill?

7) Show the segment about Byron Pitts. How did he overcome his obstacles to gain the human capital he needed?

Lessons and Resources

Learning, Earning, and Investing Lesson 3: Invest in Yourself

Capstone Lesson 15: Why Do Some People Earn More than Others?

Occupational Outlook Handbook
<https://www.bls.gov/ooh/>

Videos

Steve Jobs Graduation Speech at Stanford 2005 (15:04)
http://www.youtube.com/watch?v=IeqlN0I_ZB0&feature=related

60 Minutes' Byron Pitts talks about overcoming illiteracy (2:34)
<http://www.youtube.com/watch?v=HMZIOAbZRiE>

What is human capital? (2:51)
<https://www.youtube.com/watch?v=unQwnHmV7UE>

EVALUATION DAY

PACED Five Step Decision Model

Steps for using the five step decision model:

P – State the Problem.

A – List the Alternatives.

C - List your Criteria.

E – Evaluate .

D – Make a Decision.

What is the problem? _____

Your Criteria:

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Your Alternatives:

Your Alternatives:

1.					

Decision:

Opportunity Cost: _____