

# **The Economics of Decision Making**

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## **Academic Setting**

### School Setting

Cleveland Middle School is a member of the Coalition of Essential Schools. This teaching philosophy focuses on student-centered learning and encourages the teacher to integrate curriculum into all subject areas. Cleveland's philosophy centers on the concepts developed in 1984 by TheodoreSizer, known as the Ten Essential Educational Principles.

1. Focus: Schools help students learn to use their minds well.
2. Simple Goals: Each student masters a limited number of centrally important goals.
3. Universal Goals: The school goals should be universal, while the means to these goals will vary as the students themselves vary.
4. Personalization: Smaller class size allows teachers to know each student.
5. Student as a Worker: Student is active in his or her own learning; no sage-on-stage imparting knowledge.
6. Demonstration of Mastery: Students will exhibit their mastery and knowledge of a subject matter.
7. Tone: The tone of the school should be safe and child centered.
8. Teacher as a Generalist: Teacher is a facilitator.
9. Budget: The budget is the concern of the administration.
10. Cultural Diversity: Students and staff recognize and respect the diversity of all people.

The demographics of Cleveland are diverse. Economically the families range from lower fixed incomes, to middle and upper middle incomes. The student population is 55% Anglo, 38% Hispanic, 5% Native American, and 2% African American. Thirty three percent of the student population receive free or reduced breakfast and lunch. The total student population is approximately 1000 students.

### Class Setting

The class this curriculum will be taught to is a special education, self-contained classroom. All subjects (linguistics, literature, math, science, and social studies) are taught by the same teacher to the same students everyday. The students have a wide range of abilities and disabilities. Many have significant oral and written language deficits, read below grade level, and have a hard time staying on task. They are often frustrated in school and are not likely to take chances in the academic environment. There are often discipline problems, and the students frequently make inappropriate and unproductive choices. On average, the students in this class will be suspended (in-school and out) two-three times per year. The violations range from fighting and skipping school to disrupting class.

### Unit Goals

- Students will demonstrate an understanding of basic economics.
- Students will demonstrate an understanding of basic decision making theories, obstacles, and strategies.
- Students will read a novel focused on decision making.
- Students will examine how decisions are made in novels, poetry, and movies.
- Students will be able to understand economic and decision making vocabulary.
- Students will be able to analyze and discuss their own decision making strategies and obstacles.
- Students will be able to use a decision tree and choice set in making a decision.

## **Narrative**

### Rationale

The topic for this curriculum is decision making strategies and obstacles. Students with learning disabilities are already at a disadvantage when it comes to their education. Low reading skills, distractibility, processing problems are hard enough to overcome for an already frustrated learner, but when time out of the classroom is added because of behavior problems, the learning task becomes even harder. This curriculum was designed to help students understand why and how they make the decisions they do.

The curriculum will be taught as a humanities (literature and social studies) block. It will hopefully help the students better understand themselves and gain more control and confidence in their lives.

## Background

Economics is a social science that analyzes the utilization and allocation of available resources among competing uses. One main concern addressed by economics is how goods and services are produced and how they are distributed. *Goods and services* are everything that can be bought and sold. *Produced* is the processing and making of good and services. *Distributed* is the way goods and services are divided among the people. Economists study how the things people want and need are made and brought to them.

Economics involves choices. These choices could determine what a household will consume, what a firm will produce, and how people will spend their time on work, education, and leisure. Economists focus on the varied problems involving choices that are made difficult because of a scarcity of resources. Scarcity occurs when society's limited resources are inadequate to satisfy its unlimited wants. Scarcity encourages both buyers and sellers not to be wasteful and to try and make the best of their limited resources.

Another aspect of basic economics is decision making. People have incentive to get ahead by making good decisions. The biggest economic decision a person can make is choosing a career. What am I willing to do? What am I willing to give up in order to do that career? What am I willing to accept as a wage? What is my value? In making decisions, the person must consider the *opportunity cost*, *tradeoff* and *projected cost* of that decision. *Opportunity cost* is the value of the best alternative sacrificed when taking an action. In other words, what I am giving up in order to make this decision. Every decision we make uses up money, time, or both. If I choose to go to college, then I am sacrificing starting a career. The opportunity cost of any choice, then, is the next most attractive alternative (starting a career now) that must be sacrificed. A *tradeoff* is giving up some of one thing in order to get some of another thing. I will have to give up one hour of work time in order to gain one hour of leisure time. A *projected cost* is what will I have to give up in the future for the decision I make now. If I decide to go to college instead of getting a job right out of high school, I am giving up four years of a potential income to get the college education.

As talked about in basic economic theory, economics involves choices. Decisions can be categorized in one of these ways: heroic, threshold, or incremental. In addition, some decisions involve the use of strategies.

### *Heroic Decisions*

"A heroic decision is essentially a giant leap in the dark: requiring one to make a bold, daring, and largely irreversible choice, often on the basis of very little information" (Giesbrecht). Decisions to jump in the pool and save a drowning child, to get something pierced, or to elope are examples of a heroic decision.

Heroic decisions, while often glamorous and exciting, are based on very little rational analysis of the information. These decisions are often very risky and are difficult to go back on. They are mostly outside the scope of economic thinking because they do not take into account the pros and cons of the decision. They are not the best way to make everyday decisions.

### *Threshold Decisions*

Threshold decisions are a more rational type of decision. We test a small portion of something before we make a final decision. For example, you test drive a car before you buy it, you sip your drink to see if you like it before you take a big drink, or you smell the milk in the carton before you pour it in the glass.

The concern with threshold decisions are that they may not have the flexibility to take into account the ever-changing environment. The decision might work for today, but will it work for tomorrow? "The nature of the threshold decision is that a lot of future action (or inaction) takes place on the basis of a single decision made today" (Giesbrecht).

### *Incremental Decisions*

Another useful type of decision making is called an incremental, or marginal decision. Economists tend to focus on this kind of decision making. Incremental decisions are made by gathering information and analyzing it. The information gathered is used to make small, incremental decisions so that if the decision is bad, it can be reversed without too much loss. If the decision is good, it can be repeated. The small incremental steps are also important to leave options open for alternative decisions. Whereas the "heroic decision" would be to elope, the "incremental decision" would be to have a long engagement and live together before marriage.

Another aspect of the incremental model is "forward-looking" decision making. Looking forward and evaluating the next step can help avoid some cognitive errors. When you are in a store trying to decide if you want to buy a pair of shoes or not, "looking forward" to see if you can really picture yourself wearing the shoes might help you make a better decision. You might realize that you don't have an outfit that would go with the shoes, and you would save yourself time and money by not having to return them later.

Economists argue that incremental decisions "are the best kind because they emphasize useful information and, by not taking a larger leap into the future than necessary, the direction of the decisions can be changed" (Giesbrecht).

### *Strategies*

Strategies are used when "we encounter situations that develop over a period of time, that produce a flow of new information during that time, and that, therefore, require a series of sequential decisions, each based on the outcomes of the preceding decisions and on the new information available" (Giesbrecht). We need strategies because of the uncertainty of the developing situation. We can't make a decision about the future because we don't know what the future will bring.

There are varying strategies from having a thought out plan for every situation that arises, to the "let's cross that bridge when we come to it" strategy. Most real-life decision making strategies lie somewhere in between.

There are many ways to make these strategies practical and useful. First, many dynamic decision making situations are similar to situations that have already been experienced. The decision maker may choose the same decision that has already been used successfully. Coaches use the same play that helped them score a touchdown before. Salespeople use the same pitch that helped them make a sale before. By using these tried-and-true strategies the decision maker saves cognitive time and energy. The obvious thought-savers are habits, when a course of action is no longer a conscious decision.

Secondly, as information is gathered in the dynamic situation, some uncertainties will disappear. "As the decision situation for which a strategy has been created nears its conclusion, less and less of it remains in the uncertain future" (Giesbrecht). The delay to make a decision increases information and may also reduce the risk.

After looking at how we make decisions, we must also look at what we have identified as some of the obstacles we face in reaching our optimal decision. After all, the price of freedom is the possibility of making a wrong choice.

### *Procrastination*

Procrastination can be defined as putting off, or delay in, doing something until later. The cost of doing what you need to do today outweighs the cost of doing it later. A familiar consequence is having to work all night to get a term paper done on time. Until the last minute (at which point the choice to delay is no longer available) the immediate cost of writing the paper seems worse than the projected cost of doing it later. If there is no obvious reward to starting a project, costly procrastination can result. Another example would be I need to mow the lawn today before I have people over for a backyard party tomorrow. But if I mow the yard today, then I won't be able to go to a movie. If I wait to mow until tomorrow, I might not have enough time to get everything done before the guests arrive. The present cost is not seeing the movie. The future cost is not having enough time to mow the yard at all. A procrastinator will place more value on the movie and hope that there is time tomorrow to mow the lawn. The present cost is unduly salient in comparison with the future cost.

George Akerlof, a famous economist, views procrastination in this way. The first time you decide that the present costs outweigh the future costs - it's a slip up or mistake. But as you continue year after year to choose the present costs over the future costs, it becomes a "time inconsistency problem." You always think things will be easier in the future so you put them off. For example, in the eighth grade you chose not to work hard in your math class because you know the low grade will not go on your transcript. You have decided that you will push yourself for a good math grade when you get to the tenth grade because that is when it will "count." You put off something today (hard work) for something you think you will do in the future. The class in the tenth grade will go on your transcript, so you think that will motivate you to work harder. The time inconsistency problem is if you are unwilling to do it today, what makes you think you will do it tomorrow?

### *Signaling*

Signals are a way to send a message in order to gain a response. You can both send and receive signals. A signal can be a way for you to express your value. For example, telling an employer that you have eight years post high school education signals that you are a hard worker. Higher education is a classic positive signal. A college education (no matter what the degree) is a signal about hard work and being able to finish something. In business, warranties can be a signal of a good product. A salesperson would not offer a money back guarantee on a bad product because the company would not make a profit.

Signals need to be sent in a way that is credible. For a signal to be credible, it must be hard to fake. You couldn't tell your potential employer that you are a hard worker if you never finished high school.

Some signals can lose their value over time. A classic example is "boy who cried wolf." The first time the boy said there was a wolf, everyone came running. They had no reason not to believe the signal he was sending. By the end of

the story, he had cried wolf so many times without there actually being a wolf, that his signal had lost its value.

A very common kind of signal is called "conspicuous consumption." Conspicuous consumption is when the person who can least afford to send a signal, wants to send it the most. A person with very little money who wears expensive clothes is sending a signal of conspicuous consumption. I'm not rich, but I want everyone to think I am, so I will wear expensive clothes.

Another aspect of signaling is trust. If there is not a strong signal, then there is a lack of trust. Lack of trust can drive decisions because we don't want to be taken advantage of. A person who seems nervous or looks away when we talk to you is not sending a signal that he can be trusted.

Trust also affects whether we are willing to work in groups or not. If you are going to be working in a cooperative group, you need to trust that everyone is going to do their fair share of the work. If everyone does their fair share, the project will be completed on time and will probably be more successful. Unfortunately, many people will not volunteer to help because they think others will just sit back and enjoy the benefits of what has been accomplished. In a "clean up the neighborhood" campaign, some people will not join because they don't trust that the others will "clean up as much as I would." So not cleaning at all is better than cleaning more than my fair share and having people who don't clean at all benefit.

Trust also comes into play when we try to make our decision based on what we think someone else will do. Since we do not want to be taken advantage of, sometimes we will pick something based on what we think someone else will pick no matter how irrational that is. For example, when someone offers you a choice of two different drinks, you will often pick the one that you think they want you to pick instead of the drink that you want to pick.

#### *Discount Rate*

People who have high discount rates devalue the future. They tend to be high risk takers, more apt to take a high interest loan, and have less education. These persons would be more likely to take a job right out of high school rather than wait until after college to get a job. The money they would miss out on going to school is not worth the possibility of a higher salary in the future. They are more interested in the here and now. Another example of someone with a high discount rate is someone who is willing to make a purchase with a high interest credit card rather than waiting until they have enough cash to make the purchase.

#### *Bounded Rationality*

Traditional rational decisionmaking theory implies that we sit down and figure everything out before we make a decision. But thinking too much can itself be a cost. Sometimes the energy spent making the decision isn't worth the benefits of that decision. Bounded rationality suggests that people do not "waste" cognitive energy and time making decisions for which the costs of gathering information exceeds the value in terms of a marginally better decision. Therefore, they develop rules of thumb and decision shortcuts that result in "good enough" (as opposed to "best") decisions.

People are also guilty of doing irrational things (setting your watch 10 minutes fast to help yourself be on time) to try and make us rational. Do these tricks really help us?

#### *Risk*

All decisions entail some uncertainty about the outcomes. Do the benefits outweigh the costs and how do we assess the value of costs and benefits of decisions that aren't one hundred percent certain.

#### *Statistical Risk -*

Being able to assess a value to the risk.  
There is a 20% chance it will rain.

#### *Objective Risk Making Decision -*

Being able to use the statistics and logic to make a decision.  
I will go play golf because there is only a 20% chance of rain.

#### *Subjective Risk Making Decision -*

Using personal knowledge or experience to make a decision.  
There was a 20% chance of rain yesterday and it didn't rain. I can see that there aren't any rain clouds, so I will go play golf.

#### *Risk Aversion -*

Risk aversion suggests that a person likes a certain outcome better than a risky one of the same "expected value." Expected value is what you think you will get out of something.

I will take \$450 rather than taking a 50/50 risk of getting \$1000, which has an expected value of \$500 (50% x 1000).

### Risk Analysis -

The purpose is to determine whether taking an opportunity is worthwhile or not.

"A criminal act of burglary nets \$1000 in cash, with only a twenty percent chance of getting caught, would seem like a good bet, but only if the cost - twenty percent times its incurred loss (fines, jail time, or both) - is comfortably less than the benefit - eighty percent times \$1000" (Giesbrecht).

### *Cognitive Dissonance*

We don't want two thoughts in our heads that conflict. So if you are presented with two forms of evidence, the evidence that agrees with what you already think is more powerful than the evidence that disagrees with what you already think. "Once people have made decisions, they avoid information that does not support that decision because it is psychologically painful" (Akerlof).

Decision making obstacles can keep us from making optimal decisions. There are some decision making tools that can help us avoid some of those obstacles.

### *Choice Sets*

A choice set is a list of all the alternatives within a decision. If I have two spare hours or \$20.00, I could use a choice set to help me see all of my options.

With my two spare hours I could:

- clean the house
- go for a walk
- take a nap
- watch a movie

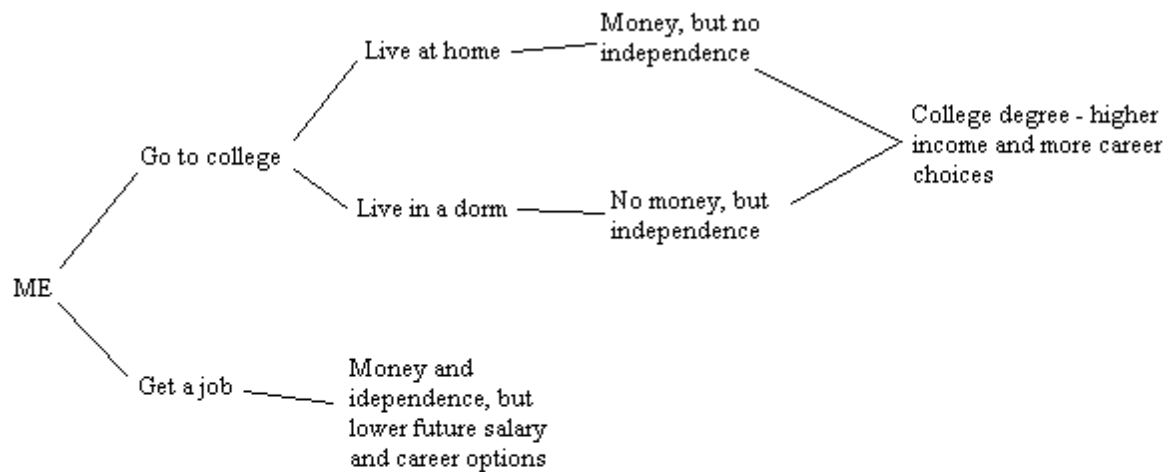
I have \$20.00 to spend on:

- a round of golf
- dinner and a movie
- a new book
- gas for my car

Having all my options in front of me helps me better assess which decision to make.

### *Decision Trees*

A decision tree is like a road map with the options at each junction emerging. This strategy is good when the need is to be able to look ahead and reason back. Being able to see the possible end results and work your way backward to find out how to get to that result is called "backward induction".



The payoffs to attending college shown in this decision tree are having more career options with a higher paying job, but not having a car or extra spending money now. The payoffs of getting a job right away are having a car and some money, but not a very satisfying job. By using the decision tree, I can see what my future options might be and use the backward induction to see how I can get there.

## Vocabulary

*Backward Induction* - in decision trees, going to the end node to select the payoff or outcome you want and moving backwards through the "tree" to see how to get there.

*Bounded Rationality* - the idea that we don't use up cognitive energy in making a perfectly rational choice, but that we employ mental shortcuts and tricks in making decisions.

*Choice Set* - listing all the alternatives within a decision.

*Conspicuous Consumption* - the practice of buying lots of stuff to signal wealth.

*Decision Tree* - a way to diagram decision choices with options emerging at different "branches".

*Discount Rate* - the present value of the future.

*Distribution* - how goods and services are divided among people.

*Expected Value* - the statistical average value of a risky, or uncertain, outcome.

*Forward Looking* - looking toward the future to see what can happen.

*Goods and Services* - things that can be bought and sold.

*Heroic Decision* - a bold, daring, and often irreversible choice, made often on the basis of very little information.

*Incremental/Marginal Decision* - decisions made by gathering and analyzing information in small steps.

*Opportunity Cost* - the value of the best alternative sacrificed when taking an action. What is given up when making a decision.

*Procrastination* - to put off doing something until later.

*Production* - the processing and making of goods and services.

*Projected Cost* - something that is given up in the future for a decision made today.

*Risk Analysis* - to determine whether taking an opportunity is worthwhile or not.

*Risk Aversion* - to prefer a certain outcome rather than a risky one.

*Scarcity* - a situation in which the amount of something available is insufficient to satisfy everyone's desire for it.

*Signaling* - a way to send a message in order to gain a response or create an impression.

*Threshold Decision* - testing small portions of something before making a final decision.

*Time Inconsistency Problem* - an incorrect prediction of how you will feel or behave in the future.

*Trade Off* - giving up some of one thing in order to gain some of another thing.

## Implementation

The students will need a spiral notebook and folder that will be turned in at the end of each lesson and the end of the unit. The "Economic Notebook" will serve as the final assessment. The lessons will take 1-4 days each depending on student pace.

### Lesson 1 - Basic Economics

Purpose: To better understand the basic economic theory and the choices and decision making that go along with it. This lesson meets Performance Standards 3-A, 5-D, 10-C, 10-D, 10-J.

Materials: Student notebook, coins (nickels or dimes), and small candy bars.

Vocabulary: Goods and services, production, distribution, scarcity, opportunity cost, tradeoff, projected cost.

Procedure:

1. Read "Destiny"(hand out 1) poem with class.
2. Have students write in their economic notebook what they think the poem means.
3. Give each student 3 coins (nickels or dimes).
4. Give them a choice to trade all the coins for a candy bar or keep the coins.
5. Have the students write in their notebook about why they chose what they did.
6. Introduce basic economic theory, choice and decision making.
7. Discuss and define lesson vocabulary
8. Students will have a definitions section in notebook.
9. "Tradeoff" Experiment (Exp-1).
10. "Opportunity Cost" Experiment (Exp-2).

Assessment: The students will turn in economic notebook after every class period for participation and note taking grade.

### Lesson 2 - Decision Making Theories

Purpose: To better understand the basic decision making theories. This lesson meets Performance Standards 3-A, 6-B, 6-C, 6-D.

Materials: Student notebook, glass of drinkable liquid, a maze.

Vocabulary: Heroic decision, threshold decision, incremental decision, forward looking.

Procedure:

1. Discuss heroic decisions and have students come up with examples for the board.
2. Discuss threshold decisions and have students come up with examples for the board.
3. Have a student taste an unknown liquid from a glass.
4. Discuss whether the student took a sip or gulped the liquid.
5. Discuss incremental decisions.
6. Have the students solve a maze.
7. Discuss whether they could do it all at once or if they had to do it in small steps.
8. Discuss strategy habits.

Assessment: Students will turn in notebook after every class period for participation and note taking grade. Students will turn in the maze.

### Lesson 3 - Decision Making Obstacles

Purpose: To better understand and personally recognize procrastination and discount rate as decision making obstacles. This lesson meets Performance Standards 3-A, 5-D, 6-B, 6-C, 6-D.

Materials: Student notebook, *Cheaters* video, candy.

Vocabulary: Procrastination, discount rate, time inconsistency problem.

Procedure:

1. Discount rate experiment. Offer the students either a piece of candy today/now or three pieces three days from now.
2. Have the students write about their choice. Did they want candy now or were they willing to have more in the

future?

3. Discuss and define vocabulary.
4. Watch "Cheaters," focusing on the characters procrastination, low discount rate, and time inconsistency problems.
5. Have the students write how they saw these issues within the characters.

Assessment: Students will turn in notebook at the end of each class period for participation and note taking grade. The teacher will also give a grade for the student's character evaluation.

#### Lesson 4 - Decision Making Obstacles

Purpose: To understand how we use signaling to send and receive messages. This lesson meets Performance Standards 3-A, 6-B, 6-C, 6-D, 10-C.

Materials: Economic notebook, video clip from *Clueless*.

Vocabulary: Signaling, conspicuous consumption.

Procedure:

1. Define and discuss signaling.
2. Show movie clips from *Clueless*.
3. Have the students write in their notebook how the main character was signaling and what she was signaling.
4. Define and discuss conspicuous consumption.
5. List on the board student examples of conspicuous consumption.
6. Discuss the signaling of trust.
7. "Centipede Game" Experiment (Exp-3).

Assessment: Students will turn in notebook for participation grade. Students will receive a grade for their interpretation of "Clueless" character's use of signaling.

#### Lesson 5 - Decision Making Obstacles

Purpose: To understand how bounded rationality and cognitive dissonance affect decisions. This lesson meets Performance Standards 3-A, 6-C, 6-D, 6-F.

Materials: Economic notebook.

Vocabulary: Bounded rationality, cognitive dissonance.

Procedure:

1. Define and discuss bounded rationality and cognitive dissonance.
2. Show movie clip from *Clueless*.
3. Have the students write in their notebooks how the main character was having "cognitive dissonance" with her decision.

Assessment: Students will turn in notebook for participation and note taking grade.

#### Lesson 6 - Decision Making Obstacles

Purpose: To better understand risk in decision making. This lesson meets Performance Standards 3-A, 6-C.

Materials: Economic notebook, poem "The Road Not Taken," a coin, a deck of cards (ace through 10).

Vocabulary: Risk, risk analysis, risk aversion.

Procedure:

1. Define and discuss risk.
2. Read Robert Frost's "The Road Not Taken."
3. The students will answer the following questions in their notebook:
  - Why did he risk and take the road not taken?
  - What was the outcome?
1. Define and discuss risk analysis and risk aversion.
2. "Risk, Uncertainty and Gambling" Experiment (Exp-4).

Assessment: Students will turn in notebook for participation and note taking grade. Students will also receive a grade for "The Road Not Taken" questions.

### Lesson 7 - Decision Making Strategies

Purpose: To understand how to use choice sets in making decisions. This lesson meets Performance Standards 3-A, 10-I.

Materials: Economic notebook.

Vocabulary: Choice set.

Procedure:

1. Discuss, define and give examples of choice sets.
2. Diagram a choice set together with the class.
3. Have students make their own choice set with a personal decision.

Assessment: Students will turn in notebook for participation and note taking grade. Students will turn in their personal choice set.

### Lesson 8 - Decision Making Strategies

Purpose: To show students how to use decision trees to help make decisions. This lesson meets Performance Standards 3-A, 10-I.

Materials: Economic notebook.

Vocabulary: Decision tree, backward induction.

Procedure:

1. Discuss, define and give examples of decision trees.
2. Have students do a personal decision tree for their future.

Assessment: Students will turn in notebook for participation and note taking grade. Students will turn in their personal decision tree.

### Lesson 9 - Unit Wrap Up

Purpose: To check for understanding of unit concepts and vocabulary.

Materials: Economic notebook, "Destiny" poem.

Procedure:

1. Students will define and give examples of decision making vocabulary and concepts.
2. Students will answer the following questions in their notebooks:
  - How do you make decisions?
  - What are your personal decision making obstacles?
3. Revisit "Destiny" poem and see if students have discovered a new meaning.

Assessment: Students will turn in vocabulary definitions and examples for a grade. Students will turn in their notebook and receive a grade for the questions answered.

## **Performance Standards**

Social Studies Content Standard 3-A

- Students will use social studies vocabulary and concepts.

Social Studies Content Standard 5-D

- Students will investigate the historical, political, economic and social developments of various cultural groups in the world to better understand the present and to prepare for the future.

Social Studies Content Standard 6-B

- Students will evaluate ways regional, ethnic and national cultures influence

individuals' daily lives.

Social Studies Content Standard 6-C

- Students will identify attitudes, values and beliefs that influence personal identity.

Social Studies Content Standard 6-D

- Students will analyze how media images affect personal identity and choice; analyze groups' and institutional influences on people, events and elements of culture.

Social Studies Content Standard 6-F

- Students will illustrate how conflicts can occur between and individual and/or communities' belief system, traditions, government policies and laws; and examine concepts such as role, status, and social class in the interaction of individuals with social groups.

Social Studies Content Standard 10-C

- Students will define exchange systems of goods and services to include monetary systems.

Social Studies Content Standard 10-D

- Students will illustrate the role of supply and demand in the market place.

Social Studies Content Standard 10-I

- Students will explore options and requirements of potential career choices.

Social Studies Content Standard 10-J

- Students will practice responsible money management as a consumer of goods and services.

## Bibliography

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- Basic Game Theory models, including decision trees, are described.

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- The author argues for a broader definition of self-interest in economic models so that kindness, fairness, honesty and other "emotional" responses can be explained.

Giesbrecht, Martin Gerhard, and Gary E. Clayton. *A Guide To Everyday Economic Thinking*. Irwin/McGraw Hill, 1997.

- A short book that describes the economic approach to decision making.

Hall, Robert E. and Marc Lieberman. *Microeconomics: principals and applications*. Cincinnati, Ohio. South-Western College Publishing, 1998.

- A college-level introductory textbook that sets out the basic economic decision making assumptions and models.

## Teacher Resources

*Cheaters. HBO, May 2000.*

- The story of a low income school verses the wealthy school in the state debate decathlon. The low income school students feel they have no choice but to cheat in order to "even the playing field".
- The movie illustrates low discount rate, procrastination, cognitive dissonance, group influences, and attempt to rationalize behavior that might conflict with our values.

*Clueless. Produced by Robert Lawrence and Scott Rudin. Videocassette. Paramount Pictures, 1995.*

- Scene 1 - Cher sends herself flowers, candy, and cards to make herself seem more desirable to the boy she wants to date.
- Scene 2 - Cher chooses her sensible outfit to make her seem more responsible when taking her driving test.
- Both scenes show signaling.
- Scene 3 - Cher is talking to herself about her feelings for Josh. He is her brother by marriage, but she thinks she is in love with him.
- This scene represents cognitive dissonance. Cher is struggling with two conflicting thoughts.

Frost, Robert. "A Road Not Taken".

- Was the less-traveled path "better" inherently, or just because it was different? Kids sometimes intentionally pick the unusual thing to do, just to make a point.

*Fast Times At Ridgemont High. Directed by Amy Heckerling. Videocassette. Universal, 1982.*

- Scene 1 - Spicoli doesn't go to class or do his work so at the end of the school year, his teacher, Mr. Hand comes to his house to have him make up all his wasted class time.
- The scene illustrates procrastination, low discount rate, and time inconsistency problem.

Unknown Author. "Destiny".

- I researched and was unable to find author.

## **Student Hand outs**

"Destiny"

Destiny is not a matter of chance.

It is a matter of choice.

To be a success, or a failure:

To stay in school, or drop out;

To study hard, or be lazy;

To graduate and go on to college,  
or commit crimes and go to jail.

Destiny is not a privilege

reserved for the rich people;

Rather, it is a human expectation

waiting to be achieved.

## **Experiments**

*Experiment - 1, "Trade-offs"*

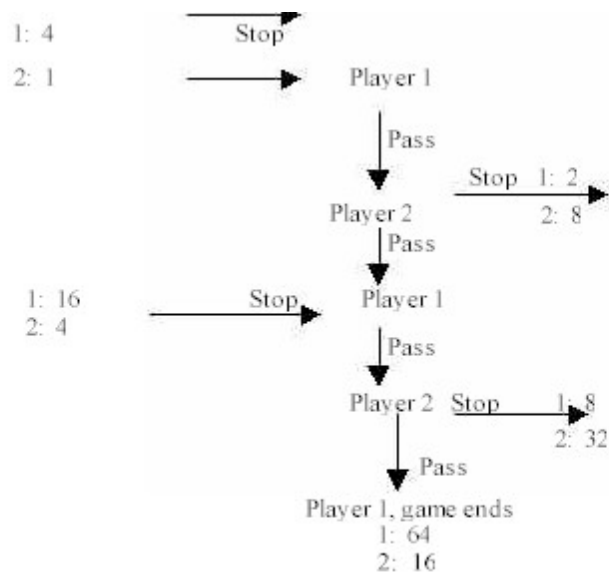
Your grandmother gave you \$30 for your birthday and you are trying to decide how to spend it. You are considering buying CD's (price = \$12 each), or going to the movies (ticket price = \$3.50 each time you go), or taking some friends out for pizza (\$7.50 for each person you take, including yourself). You do not have to spend all your money on one thing; you can chose some of one thing and some of another. How would you spend your money so as to get the greatest satisfaction from your grandmother's present? Why would your choices satisfy you more than the things you gave up?

*Experiment - 2, "Opportunity Cost"*

You are a member of your state's legislature, and there is a \$500,000 surplus in the state budget. How much of that \$500,000 would you spend on each of the following programs: aid to the homeless, money to retain unemployed workers, aid to schools in poor neighborhoods, improvement of state roads or money for the state society for the prevention of cruelty to animals? Explain why you chose to support certain programs and to spend no money on others. What is the opportunity cost of the choices that you made?

*Experiment - 3, "Centipede Game"*

- This experiment is used to illustrate trust and backward induction. You will need 2 players per game. Randomly pick who will be player 1 and who will be player 2. At the start of the game, player 1 has 4 points, and player 2 has 1 point. Player one can either "stop" the game (at which point the players would end the game with those points) or "pass" to player 2. If player one chooses to pass, then player 1 has 2 points and player 2 has 8 points. Now it is player 2 who can choose to stop or pass to the next level. The game continues until one of the two players chooses stop or they get to the end of the game.



*Experiment - 4, "Risks, Uncertainty and Gambling"*

For each of the following gambles, decide which one you would rather take:

<u>Gamble # 1</u>	<u>Gamble # 2</u>	<u>Your Pick</u>	<u>Winnings</u>
1. heads: 1000 points tails: 0 points	450 points for sure		
2. 80% chance of 4000 points 20% chance of 0 points	3000 points for sure		
3. 20% chance of 4000 points 80% chance of 0 points	25% chance of 3000 points 75% chance of 0 points		
<b>4. For this gamble you get 1000 new points before deciding.</b> heads: 1000 points tails: no more points for either	500 points for sure		
<b>5. For this gamble, you get 2000 new points before deciding.</b> heads: lose 1000 points tails: no change in points	loss of 500 for sure		

**Total  
Winnings:**

- To do gambles # 2- 4, use playing cards Ace - 10. Randomly select a card. For the 80% chance you need to have selected one of the cards 3-10. For the 20% chance you need to have selected one of the cards Ace or 2. For the 25/75% gamble you will need cards Ace - 8. For the 25% gamble you will need to have selected one of the cards Ace or 2. For the 75% gamble you will need to have selected one of the cards 3-8. For each gamble you will need to start over using all the possible cards.

Other Experiments

### *Fool's Auction - Incremental Decision Making*

The students will bid to get a prize. The catch is that you have to pay your bid even if you don't get the prize. So if four kids bid, one will get the prize and the other three have to pay what they last bid.

The prize up for bid is a dollar. Start the bidding (someone will usually bid low - 10 cents) and see how high the bids will go. Eventually the bids will probably get into the 90's. The kid who bids 97 cents is out the 97 no matter what since they have to pay what they bid. He doesn't want to get out bid so he goes ahead and bids a dollar so he'll break even. Here is where, if they get it, it can get interesting. Now the kid who had the second to last bid of 98 cents can either walk away 98 cents poorer or can bid 1.01 for the dollar bill (and be only one cent poorer). Then the bidding will start to go up the other way as students see they can lose less money by bidding over.