

Risks and Rewards: Dealing with Uncertainty

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SUBJECT(S): Economics, Personal Finance

GRADE LEVEL(S): 9, 10, 11, 12

≡ OVERVIEW:

In this lesson, we will add the concept of uncertainty to our previous discussions of utility and opportunity costs. Using the article “Driver Alert: Car Insurance Will Cost You,” students will look at how economists model risk. In particular, students will consider risk by taking on the role of a small business owner, cataloguing potential business risks and enumerating ways to manage those risks.

≡ NBEA STANDARD(S):

- Economics, I. Allocation of Resources
- Personal Finance, I. Personal Decision Making

≡ RELATED ARTICLES:

- “The Economics of the Refugee Crisis: Paying Off Debts and Launching Startups”
- “Driver Alert: Car Insurance Will Cost You”

Objectives/Purposes: The purpose of this lesson is to get students thinking about uncertainty and risk in concrete terms.

- Students will be able to explain *risk* in terms of probability and chance
- Students will be able to conduct simple *risk management*

Video Glossary: Opportunity Cost

Other Resources/Materials:

For Teachers:

- Internet Access (Outside of the Classroom)
- Printer/Copier

Tying It All Together:

The lesson is divided into five parts: (1) Introduction, (2) Guided Reading, (3) Class Discussion, (4) Exploration Activity and finally (5) Closing

Introduction (5-10 mins)

Begin the lesson by asking students, “What do people mean when they say something is risky?” Encourage students to try and define the word *risk*. Provide students with different scenarios, and ask them to compare the risks involved; for example: “Which is riskier, driving a car or flying in an airplane? Why?”

With the students help, provide a concrete definition of risk. Risk refers to the probability of loss associated with a specific choice.

Rephrase the original scenario in terms of this definition: “What is the potential loss associated with driving in a car? With flying in a plane? How probable is each?”

Provide students with actual data for both driving and flying. According to the [U.S. Bureau of Travel Statistics](#) (BTS), there were 37,627 motor vehicle deaths in 2009, and 52 U.S. commercial airline deaths. Ask students to think about this comparison. Which activity is riskier? How do you know?

Why might this be an unfair comparison? Ask students what would be a better comparison. Again, provide actual data. According to the BTS, in 2009 there were 1.3 deaths for every 100-million miles driven, and .69 deaths for every 100-million miles flown.

Guided Reading (5-10 mins)

After this short class discussion, students should read through the article “[Driver Alert: Car Insurance Will Cost You.](#)” As they read, students should think about the relationship between risk and insurance rates.

Class Discussion (5-10 mins)

Once students have finished, ask them to briefly summarize the article. Ask students: What is the purpose of car insurance? Why do some people pay more for insurance than others?

Next, ask students to think about owning a small business (e.g. a clothing shop). What kinds of risks does this business face? Will they need insurance? Why? Are there other ways of managing risk besides insurance?

Exploration Activity (5-10 mins)

Have the students break into small groups. Each group will choose a company that they want to manage (e.g. a construction company, a restaurant, etc.). Ask the students to think carefully about what products or services their company will offer. Then have the group list all the risks involved in their business. Have small groups report back with their strategies. (About 5 mins)

Next, have the groups reconvene and start strategizing how to manage these risks. What steps can they take in order to mitigate the risk involved in conducting business?

Closing (1-5 mins)

Remind students of key takeaways: although we often make choices that we think will maximize our utility, we aren't always sure what the outcome will be. Uncertainty leads to risk. Businesses face a variety of risks, and managing risk is complex.

Assessment & Extension

This lesson can easily be extended by incorporating probability and statistics. Although the opening activity deals briefly with probabilities of airline and motor vehicles, teachers can use the WGYP article to introduce more concrete probability content. For example, students could compare the cost of car insurance to the cost (and probability) of a major accident. If you have a 5% chance of getting into an accident that will cause \$5000 worth of damage, how much are you willing to pay for car insurance? When does insurance become a bad deal?

Practice Outside of the Classroom:

Ask students to do some research on car insurance. What factors influence the amount someone pays for insurance? Why do students think that this is the case?

What Worked and What I Would Do Differently:

My group of students really liked the section dealing with odds and statistics. I would encourage teachers to bring even more examples than cars and planes. The CDC has official statistics for all recorded deaths in the U.S. Although it seems a little morbid, my class was extremely engaged and excited during this part of the lesson.

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