Introduction to Risk and Insurance

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GUIDE: Risk

Pre-/Post-Quiz:

Before launching this unit, print the “Risk” quiz from the “Lessons & Worksheets” section of the site, or send students to www.scholastic.com/NextGeneration/Students to take an interactive version of the quiz and print their answers. Explain to your class that the quiz is meant to be a benchmark to assess their prior knowledge of the topic and will help you organize class discussions. The quiz can also be used as a post-assessment tool after students have completed the unit lessons.

QUIZ ANSWERS

1. Which statement(s) describe the relationship between risk and insurance?
   - A. Insurance can help protect a policyholder from losses that can come from risk
   - B. Risk levels can impact a person’s insurability
   - C. Only people who take risks need insurance
   - D. Both A and B
   - E. Both B and C

2. Which of the following factors do insurance companies use to determine the potential risk of an applicant?
   - A. Age, gender, and health
   - B. Gender, health, and income
   - C. Age, health, and income
   - D. Age, health, and geographic location

3. Which insurance professional calculates risk based on loss percentage and determines insurance rates and premiums?
   - A. Accountant
   - B. Actuary
   - C. Insurance agent
   - D. Underwriter

4. The most effective way for insurers to employ risk pooling is to:
   - A. Keep the risk pool as small as possible
   - B. Separate the riskiest people into their own risk pool
   - C. Group as many people as possible into the same risk pool
   - D. Keep every risk pool the same size

5. In general, an insurance company will charge more for “high-risk” cases than “low-risk” cases.
   - A. True
   - B. False

6. Who would you expect to pay more for a new term life insurance policy?
   - A. A 25-year-old who smokes
   - B. A healthy 25-year-old who earns a lot of money
   - C. A 25-year-old who owns a house
   - D. They would all pay the same amount

7. Twins, age 18, apply for car insurance. The insurance company could charge them different rates based on gender.
   - A. True
   - B. False

8. A 45-year-old warehouse worker injures his back cleaning his gutters and can’t work for eight weeks. Which of his insurance policies will help him make ends meet by paying him a percentage of his income while he is out of work recovering?
   - A. Life insurance
   - B. Health insurance
   - C. Disability insurance
   - D. Homeowners insurance

9. A couple with a young baby purchases a life insurance policy. What is the payment that they will make monthly or annually to the insurance company for coverage called?
   - A. Premium
   - B. Co-payment
   - C. Principle
   - D. Dividend

10. Why might the couple be investing in life insurance?
    - A. To have income to travel and enjoy life when they retire
    - B. To earn interest in the short term
    - C. To save on taxes
    - D. To help cover their family’s financial needs and obligations if one of them dies
Lesson 1: The 411 on Insurance—Introduction to Insurance and Risk

Estimated Time: 45 minutes

Type: Discussion and share, research project, report, take-home activity, calculation

Learning Standards:
Financial Literacy: Risk Management and Insurance
Overall Competency: Use appropriate and cost-effective risk management strategies.
Standard 3: Explain the purpose and importance of health, disability, and life insurance protection.

Common Core State Standards for English Language Arts
Reading: Informational Text: CCSS.ELA-Literacy.RI.9-12.1–Key Ideas and Details: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
Speaking and Listening: CCSS.ELA-Literacy.SL.9-12.1–Comprehension and Collaboration: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

Learning Objective: Students learn the basics of insurance and begin to understand the role insurance can play in the various stages of their lives.

Educator Resources/Materials Needed:
Optional: An insurance professional, actuary, underwriter, or agent, to help students understand and appreciate how familiar math concepts are used in insurance. (Look within the school community: a parent or relative of one of your students or a parent of a student in another class.) Talking About Risk video.

Related Activities/Student Worksheets:
• The 411 on Insurance

Subject/Skill Focus: Math, problem-solving

Lesson Script/Teaching Steps:
Before you begin the lesson, you may want to show your students Talking About Risk, the video segment that introduces the concept of risk and insurance. (See Video Guide, page 6.)

Then use The 411 on Insurance to begin a discussion on how insurance works.

Talk about the importance of a safety net or a plan B in life. It is great to have a plan, but sometimes things don’t go exactly as you thought they would. That’s when you need to make sure you have a safety net or a backup plan. For example:

• You plan to go to a concert with a friend who has volunteered to drive. Your friend’s notoriously unreliable car breaks down. Backup plan(s): Have bus or train schedules in case the car ends up in the shop; ask a parent or another friend to drive. Have students share backup plans they use or have used in the past.

Explain that insurance is the safety-net part of a financial plan. For example:

• You may assume you will have a good job someday with a salary that will be enough to provide for your family. But that plan would change if you were to die prematurely. Having life insurance offers a financial safety net to support your family when you’re gone.

• You may plan to work as a nurse. But that plan would change, and fast, if you hurt your back or legs, and could no longer be on your feet for 12-hour shifts. Having disability insurance provides a safety net to replace lost income if you are unable to work for a period of time.

Assessment:
Have student teams quiz one another on the 411 sheet basics, posing questions or problems such as demonstrating the concept of probability or explaining the law of large numbers.
Lesson 2:
Risk Review

Estimated Time: 45 minutes

Type: Discussion and share, research project, report, take-home activity, calculation

Learning Standards:
Financial Literacy: Financial Responsibility and Decision Making
Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.
Standard 1: Take responsibility for personal financial decisions.
Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Financial Literacy: Risk Management and Insurance
Overall Competency: Use appropriate and cost-effective risk management strategies.
Standard 1: Identify common types of risks and basic risk management methods.

Common Core State Standards for English Language Arts
Reading: Informational Text: CCSS.ELA-Literacy.RI.9-12.1–Key Ideas and Details: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
Speaking and Listening: CCSS.ELA-Literacy.SL.9-12.1–Comprehension and Collaboration: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

Learning Objective: To understand the concept of risk, how it relates to your life, and how you can protect yourself from the losses that can come with risk.

Educator Resources/Materials Needed:
Familiarity with concepts of What’s Risk Got to Do With It? activity sheet for discussion purposes

Related Activities/Student Worksheets:
• What’s Risk Got to Do With It?

Subject/Skill Focus: Critical thinking, analysis of written material, oral and written communication skills

Lesson Script/Teaching Steps:
Risk is a fundamental part of life and an underlying principle of insurance. Risk is something students deal with every day, although they probably don’t think about it or even realize it.

What’s Risk Got to Do With It? Activity:
Distribute the What’s Risk Got to Do With It? activity sheet and discuss the concept of risk to help students recognize how they protect themselves from the losses that can come from risk.

Discuss the following:

• How can you alter your actions to reduce or eliminate risks? People have to analyze potentially risky situations and then take necessary precautions. For example, skateboarders and bikers wear helmets, which help reduce the risk of a head injury.
• Can risks or hazards be anticipated? Sometimes it can be difficult to predict whether you are putting yourself in a potentially harmful situation—especially when it comes to athletics.
• From the time you woke up this morning until you arrived at class, did any of your actions reduce your risk of something unexpected happening? If yes, provide an example or two. Students might say they wore seat belts in the car or they crossed the street at the crosswalk. It could even be something as simple as chewing their breakfast instead of rushing out of the house while jamming it down their throats, which could increase the risk of choking.
• Did any of your actions increase your risk? If yes, provide an example or two. Students might say they decided to go biking without a helmet or drove through a stop sign (and risked getting in an accident or getting a ticket).

Assessment:
Use a post-activity discussion to determine student comprehension. Ask: Are there any factors in your life—your hobbies, your job, your lifestyle, your health habits—that might make you a higher risk for an insurance company? Some students might answer that they have had traffic violations, like to scuba dive, or work in a high-risk job, such as construction or as a bike courier. All of these factors expose students to a higher level of risk.
Lesson 3:
Risk Pooling

Estimated Time: 45 minutes

Type: Discussion and activity involving math calculation

Description: Insurance is nothing new. In ancient Rome, they understood the concept of shared risk when the soldiers in the Roman Legion went to war. In those days, soldiers pledged to take care of the families of their fellow warriors who died in battle.

If each soldier put in a little bit of money, there would be enough to help a family that suffered a loss. These soldiers were practicing risk pooling.

Learning Standards:
Financial Literacy: Risk Management and Insurance
Overall Competency: Use appropriate and cost-effective risk management strategies.
Standard 1: Identify common types of risks and basic risk management methods.

Social Studies
Theme I. Culture. The study of culture prepares students to ask and answer questions such as: What are the common characteristics of different cultures? How do belief systems, such as religion or political ideals of the culture, influence the other parts of the culture? How does the culture change to accommodate different ideas and beliefs?

Math Learning Standards for Grades 9–12 (National Council of Teachers of Mathematics)
Problem Solving: Instructional programs should enable all students to: build new mathematical knowledge through problem solving; solve problems that arise in mathematics and in other contexts; apply and adapt a variety of appropriate strategies to solve problems; monitor and reflect on the process of mathematical problem solving.

Connections: Instructional programs should enable all students to: recognize and use connections among mathematical ideas; understand how mathematical ideas interconnect and build on one another to produce a coherent whole; recognize and apply mathematics in contexts outside of mathematics.

Common Core State Standards for English Language Arts
Reading: Informational Text: CCSS.ELA-Literacy.RI.9-12.1–Key Ideas and Details: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
Speaking and Listening: CCSS.ELA-Literacy.SL.9-12.1–Comprehension and Collaboration: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

Common Core State Standards for Mathematics
Number and Quantity: CCSS.Math.Content.HSN-Q.A.1: Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

Learning Objective: Understand the concept of risk pooling—or shared risk—a process whereby many individuals contribute to a “pool” of money so funds will be available to cover large losses that some members of the group may incur.

Educator Resources/Materials Needed:
Risk Pooling in Ancient Rome activity sheet answers

Related Activities/Student Worksheets:
• Risk Pooling in Ancient Rome

Subject/Skill Focus: Critical thinking, application of concepts learned to real situations, math and history

Lesson Script/Teaching Steps:
Use this activity after you have discussed risk pooling and other basic insurance principles. Explain to students:

• We have talked about the insurance principle of risk pooling. Did you know that it has been around for thousands of years? In ancient Rome, soldiers used this concept to help families of soldiers killed in battle. They may not have called it risk pooling, but that is exactly what it was.
Risk Pooling in Ancient Rome Activity:
Hand out the activity sheet. Have students work individually or in small groups to complete the page. Tell students to read the brief description of risk pooling in Rome on the activity sheet, and do the math calculations to determine how much each soldier contributed.

Ask students or student groups to give the answers and briefly discuss what they’ve learned. Make sure everyone writes in the correct answers and understands how to do the math.

Educator Answers:
How many men does the group lose per year in this scenario? How many of those men are covered under the requirement? (Only 2% are eligible; the fund only covers soldiers who die from battle-related causes. The other 3% died from illness not related to battle.)
(10 x 10 men) x .05 = 5 men die per year
(10 x 10 men) x .02 = 2 men die per year who are covered under the requirement

In any given year, how much money do the men have to place in the fund to cover the burials and two years of lost income for their fellow warriors who will die in battle?
2 x ((225 x 2) + 50) = 1,000 denarii

How much does each soldier have to put into the fund each year?
1,000 denarii/100 men = 10-denarii premium per soldier per year

What do you think would happen to these numbers if the Legion was called to the front line? What does this do to the risk pool? More casualties; higher risk of death; more money would have to be contributed per soldier.

What kind of insurance were the soldiers providing for one another?
Life insurance

Assessment:
Use a post-activity discussion and share to determine how well students have learned the lesson.

Ask the following questions:
- Do you see how risk pooling works?
- Could any of the families afford 1,000 denarii by themselves?
- Could they afford 10 denarii per year if they knew they would be protected when they needed it? (The Romans figured out that families could be protected if everyone shared the risk.)
Lesson 4: What’s the Risk?

Estimated Time: 45 minutes

Type: In-class activity, brainstorming, group discussion, analysis

Description: Students will examine profiles of a group of people and explore the potential risks an insurance company may associate with each person based on the criteria described. Students will also debate the concept of risk.

Learning Standards:

Financial Literacy: Risk Management and Insurance
Overall Competency: Use appropriate and cost-effective risk management strategies.
Standard 1: Identify common types of risks and basic risk management methods.
Standard 3: Explain the purpose and importance of health, disability, and life insurance protection.

Life Skills: Thinking and Reasoning
Standard 6: Applies decision-making techniques.
Benchmark 6: Analyzes the impact of decisions on self and others and takes responsibility for consequences and outcomes of decisions.

Common Core State Standards for English Language Arts
Reading: Informational Text: CCSS.ELA-Literacy.R1.9-12.1-Key Ideas and Details: Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.
Speaking and Listening: CCSS.ELA-Literacy.SL.9-12.1-Comprehension and Collaboration: Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–12 topics, texts, and issues, building on others’ ideas and expressing their own clearly and persuasively.

Learning Objective: To understand how risk affects daily life and the role risk plays in the insurance application process.

Subject/Skill Focus: Communication skills, critical thinking, reasoning

Educator Resources/Materials Needed: Copies of The 411 on Insurance for reference

Related Activities/Student Worksheets:
- What’s the Risk?

Lesson Script/Teaching Steps:
To begin, explain the role of age, gender, and health in assessing risk for insurance purposes. These three criteria are primary factors used by the insurance industry to evaluate policy applicants and classify risk. This assessment is made by an underwriter—a professional at an insurance company who evaluates various risk factors in order to determine the rate or premium an applicant should be charged for a particular type of insurance.

Ask why students think age, gender, and health are key criteria for judging risk. To help students understand the role these factors play in the realm of insurance, provide the following examples:

- **Age**: Younger people are usually charged less than older people for life insurance because they are statistically less likely to die.
- **Gender**: Life insurance premiums for males are usually higher than for females because women live an average of six years longer than men. Young men pay more for automobile insurance than young women because they are statistically more likely to have an accident.
- **Health**: A person with a preexisting medical condition may be charged higher premiums if the insurance company feels the condition poses a risk. A person may not qualify for a policy because of a serious or incurable health condition, and an insurance company may not want to assume the risk.

> What’s the Risk? Activity:

Distribute the student worksheet What’s the Risk? Instruct students to work in small groups to complete Part A. Students brainstorm and assess potential risks for five people based on the basic information provided, and then rate each person’s risk level using a score of 1 (low) to 5 (high).

When students are done, gather as a class and ask students to compare their evaluations and discuss how they think the ratings might impact each person if they apply for life insurance. For example, ask students which applicants they expect to be charged higher premiums than the others. (The retired teacher, salesclerk, and baseball player would likely be charged higher premiums than the computer programmer and lawyer.)

For Part B, students assess why some people purchase insurance and others do not. Once they’re done, have students share their responses. In their discussions, students should consider pros and cons and what role insurance plays in risk management.