



The Rule of 72

Students can quickly figure how long it would take to double their money by using the Rule of 72. Divide 72 by the interest rate to determine the number of years savers need for their money to grow. Savers also can divide 72 by the number of years to determine the interest rate they need to double their money.

$72 \text{ divided by interest rate} = \text{the number of years to double money}$

For example, with a 6 percent interest rate, savers should divide 72 by 6, which equals 12 ($72/6 = 12$ years). It will take 12 years for savings to double.

Compound Interest Activity Steps

Review the Student Worksheets for this activity.

Assignment Options:

- » **Option One:** Have students use an online compound interest calculator (one can be found at the U.S. Securities and Exchange Commission site*) and see how different investment types grow with varying interest rates and time horizons. Have students fill in Page 43 in their Workbooks.

*Go to www.investor.gov and scroll down to Financial Planning Tools. Click on Go to Calculator. Use the following link to get to the page directly:

<https://investor.gov/additional-resources/free-financial-planning-tools/compound-interest-calculator>.

- » **Option Two:** Using a pencil and paper and the information in the table provided on Page 42 of the Student Workbook, have students graph Kristie's data, using units of one year for age and \$500 for the balance. Students will prepare a graph and share it with the class. (A copy of the table is on Page 46 of this guide.)
- » **Option Three:** Working in teams, have students use a graphing calculator and enter Kristie's data using the same units as above. Have one member of the team share his or her results with the class.

Digging Deeper

Ask students, "What do these visual results tell us about compound interest? What kind of function is this? (quadratic) Why? (The principal keeps increasing.)"

Summary and Review

Students examined the way varying savings amounts and interest rates can increase personal wealth over a long time period. Have students create a graphic organizer showing what they learned about compound interest or the Rule of 72 and post it on the class bulletin board.

Compound Interest Calculator
 Saving, Investing, and Risk Management
 Extension Activity
 Student Worksheet, Page 42

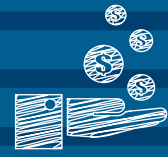


Compound Interest Calculator
 Extension Activity

Compound interest is interest paid on a starting amount, called the principal, plus prior interest. This differs from simple interest in which interest is calculated on the original amount only. With compound interest, you earn interest on the interest that your savings earns. Over time, even a small amount can grow.

Kristie and Josh want to start a savings plan. At age 25, Kristie invests \$10,000 at a 5% interest rate that is compounded once a year. Josh also invests \$10,000 at 5%, but he waits until he is 35 to start saving. As the table below shows, by giving her investment more time to grow, Kristie accumulates more money by age 45. How much more? What do these results tell us about compound interest?

Investment Amount	\$10,000	Kristie		Josh	
Interest Rate	5.00%	Age	Balance	Age	Balance
		25	\$10,000.00		
		26	\$10,500.00		
		27	\$11,025.00		
		28	\$11,576.25		
		29	\$12,155.06		
		30	\$12,762.82		
		31	\$13,400.96		
		32	\$14,071.00		
		33	\$14,774.55		
		34	\$15,513.28		
		35	\$16,288.95	35	\$10,000.00
		36	\$17,103.39	36	\$10,500.00
		37	\$17,958.56	37	\$11,025.00
		38	\$18,856.49	38	\$11,576.25
		39	\$19,799.32	39	\$12,155.06
		40	\$20,789.28	40	\$12,762.82
		41	\$21,828.75	41	\$13,400.96
		42	\$22,920.18	42	\$14,071.00
		43	\$24,066.19	43	\$14,774.55
		44	\$25,269.50	44	\$15,513.28
		45	\$26,532.98	45	\$16,288.95



Compound Interest Calculator
 Saving, Investing, and Risk Management
 Extension Activity
 Student Worksheet, Page 43

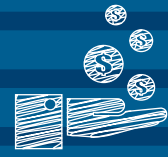


Compound Interest Calculator
 Extension Activity

Assignment: Go to www.investor.gov and scroll down to Financial Planning Tools. Click on Go to Calculator. You will need to determine the amount you want to save each month. Place the amount on your worksheet in the first shaded column. Use the information on your worksheet to fill in the boxes online. Be sure to determine if you want interest compounded once, twice, or three times a year before calculating your totals online.

Watch Your Money Grow

Type	Principal	Monthly Addition	Years to Grow	Interest Rate	Total
ABB Stock	\$1,000		1 year	5%	
Money Market	\$5,000		4 years	.50%	
EFG Stock	\$500		5 years	7%	
Index Mutual Fund (stocks and bonds)	\$2,000		20 years	5%	
Global Stock Fund	\$10,000		3 years	8%	



Junior Achievement \$ave, USA “Risk and Insurance” Online Lesson Extension Activity

Overview

This interactive online lesson will help students understand risk, insurance terms, and types of insurance.

Activity Time:
30 minutes

Teacher Introduction

Why do you need insurance? What kinds should you have? Everyone has different insurance needs. Students learn key insurance definitions and the benefits of certain kinds of insurances. They also see they can reduce risk by making smart choices.

Materials and Preparation

- Access to computers and the Internet
- Student Workbooks, Page 44



JA \$ave, USA
Worksheet

Junior Achievement \$ave, USA Online Activity Steps

Have students log on to www.juniorachievement.org/web/ja-usa/junior-achievement-save-usa.

- Assignment: Scroll down to the Upper Elementary/Lower Middle Grades “Risk & Insurance” lesson. Click on **Play Online Now**.
 - Students view five modules on insurance. A check mark will appear on each icon once the module has been read and/or completed.
 - Module 1: Click on **Introduction: Risk!** to view the short video, “Life Comes with Risk.”
 - Module 2: Click on **Risk & Insurance** and rate the activity risks from highest to lowest. Read about consequences and what you can do to lessen risk.
 - Module 3: Insurance is something you buy just in case you need it. Click on **Learning About Insurance**. View the need for insurance and an insurance example. Learn common insurance terms: *beneficiary, claim, deductible, insurance, insurance agent, policy, premium, risk*. **Take the Test Your Knowledge quiz**.
 - Module 4: Click on **Types of Insurance**. Read about an extended warranty and three types of insurance: vehicle, renters, and health.
 - Module 5: Congratulations! You’ve completed the “Risk & Insurance” lesson.

Summary and Review

Students observed that risk is a part of life that can be reduced with responsible behavior and insurance. If time permits, ask students to sequence a life event such as a mild illness that may have required insurance to help pay costs and then diagram the sequence. For example:

