

It's Your Paycheck!

Lesson 1:

Invest in Yourself

Standards and Benchmarks (see page 1.10)

Lesson Description

Students are put into four groups to produce name tents. Each group produces name tents in a different way to highlight different levels of human capital. Students identify ways in which people invest in their human capital. Students use the Bureau of Labor Statistics Occupational Outlook Handbook to analyze unemployment, educational attainment, and median weekly income data. They work with a partner to create a graphical representation of the data and share their examples with the class. As an assessment, they write several sentences that describe the unemployment, educational attainment, and median weekly income data and explain the likely impact of investment in human capital on potential earnings and unemployment. A second assessment asks students to use the Occupational Outlook Handbook to select an occupation of interest and outline the investments in human capital they must make to obtain that occupation.

Grade Level

6-12

Concepts

Human capital

Investment in human capital

Compelling Question

How do people benefit from investing in themselves?

Objectives

Students will be able to

- define human capital and investment in human capital;
- give examples of investment in human capital;

- describe the relationship between a person's level of education and income-earning potential; and
 - describe the relationship between educational attainment and unemployment.
-

Time Required

60 minutes

Materials

- PowerPoint slide deck for "It's Your Paycheck! Lesson 1: Invest in Yourself"
 - Handout 1.1, one copy for each student
 - Two sheets of light-colored construction paper for each student, plus one sheet for the teacher
 - One sheet of chart paper for each pair of students
 - One dark-colored marker for each student
 - Markers for each pair of students
 - Masking or painter's tape
-

Procedure

1. Explain that students will participate in the personal finance unit "It's Your Paycheck!" to learn more about earning income, paying taxes, managing income, and using credit.
 2. Tell students that the first activity involves creating name tents for display on their desks for the class and for guest speakers.
 3. Display Slides 1-3 and demonstrate how to produce a name tent as listed below. Tell students that they should only observe the process and not make name tents at this time.
 - Fold the sheet of construction paper in half, shorter edges ($8\frac{1}{2}$ ") together. Crease the center fold. The folded paper should measure $8\frac{1}{2}$ " \times $5\frac{1}{2}$ ".
 - Open the paper to $8\frac{1}{2}$ " \times 11".
 - Fold the bottom $8\frac{1}{2}$ " edge to the middle crease. Crease the fold.
 - Open the paper to $8\frac{1}{2}$ " \times 11".
 - Fold the top $8\frac{1}{2}$ " edge to the middle crease. Crease the fold.
 - The paper should now have four sections, each measuring approximately $2\frac{3}{4}$ " \times $8\frac{1}{2}$ ".
-

- Starting from one end of the paper, count down three rectangles. Print your first name in large letters in the rectangle.
 - Turn the paper upside down. Again count down three rectangles and print your first name in large letters in the rectangle.
 - Fold the paper to create a tent with your name displayed on both sides.
4. Select one student who will help you time the activity. Divide the remainder of the class into four groups. Explain that the students will now make their own name tents and that each group will have different rules they must follow. Display Slides 4-8 and explain the rules as follows:
- Group 1:** Each of you will remain seated to produce your own name tent, using only one hand, your nondominant hand—that is, the hand with which you do not write—to produce the name tent. You must keep your dominant hand behind your back. You may not assist one another.
 - Group 2:** Each of you will remain seated to produce your own name tent, using only one hand, your dominant hand—that is, the hand with which you write—to produce the name tent. You must keep your nondominant hand behind your back. You may not assist one another.
 - Group 3:** Each of you will remain seated to produce your own name tent, using both hands. You may not assist one another.
 - Group 4:** Each of you will produce your own name tent while standing and using only one hand—your nondominant hand—to produce the name tent. You must keep your dominant hand behind your back. You may not use the desk, table, floor, walls, or chair. You may not assist one another.
 - None of the groups may begin producing name tents until the class is told to begin.
 - When you finish producing your name tent, raise your hand.
 - You will be timed and will have a maximum of two minutes to make your name tent.
 - None of you may help one another produce name tents in any way.
5. Display Slide 9 or draw the following table on the board and use this to tally students as they raise their hands upon completing the name tent.

	Group 1	Group 2	Group 3	Group 4
30 seconds				
60 seconds				
90 seconds				
120 seconds				

6. Distribute a sheet of construction paper to each student. Remind the students that members of each group must fold their name tents according to the rules described.
7. Explain that the student who is keeping time will indicate when the groups should start. The student will also announce when 30 seconds, 60 seconds, 90 seconds, and 120 seconds have been reached and will call “stop” at 120 seconds. Tell students that they are to raise their hands when they have finished their own name tent.
8. Have timer start the exercise. As students raise their hands, record tallies on the board or slide in the table cell for the appropriate group number and time segment.
9. After two minutes, timer should say “stop.” Ask everyone to stop producing name tents and if standing to sit down. Discuss the following:
 - Who found it very difficult to produce name tents? (*Students in Group 4*) Why? (*Standing and folding with one hand—the nondominant hand—made it nearly impossible.*)
 - What difficulties did those in other groups encounter making the name tents? (*Likely responses include the following: Group 1—hard to fold with one hand, very hard to fold using only nondominant hand, difficult to write with nondominant hand; Group 2—hard to fold with one hand; Group 3—likely few or no difficulties.*)
 - In general, which group of students finished most quickly? (*Group 3*) Why? (*Students in this group were able to use both hands and were able to remain seated.*)
 - In general, which group of students took the longest time to finish? (*Group 4*) Why? (*Students in this group had to use only their nondominant hands and had to stand.*)
10. Point out that those who had fewer constraints or limits when producing name tents in the activity represent those with more human capital.
11. Display Slide 10 and define **human capital** as the knowledge and skills that people obtain through education, experience, and training. Point out that people are able to invest in their human capital by going to school, pursuing additional training, and developing skills through practice.
12. Explain that people with more skills, education, and training tend to have more options available to them. They are less constrained in the labor market. They tend to be more productive and, as a result, earn higher incomes. In the name-tent activity, Group 4 represents those with the smallest investment in human capital—high school dropouts; Group 1 represents high school graduates; Group 2 represents high school graduates with additional training—associate degrees, bachelor’s degrees, or trade school; and Group 3 represents those who pursue advanced degrees.

13. Explain that the process of managing income includes saving and investing for the future. An important investment that students make in their future is their **investment in human capital**. Define investment in human capital as the efforts people put forth to acquire and improve human capital. These efforts include education, experience, and training.
14. Explain that people develop human capital throughout life. Learning to read and compute are examples. Display Slides 11-14 and discuss the following, recording student examples on the board:
 - What are examples of human capital you possess—that is, the knowledge and skills that you have now from your education, experience, and training? *(Answers will vary but may include the ability to read, write, compute, play the piano, play chess, draw, use various wood-working tools, use a computer, or work well with others.)*
 - What investments have you made or will you make to develop and maintain your human capital? *(Answers will vary but may include reading, completing homework, practicing the piano, joining the chess club, attending a special art class, attending a computer class, or making furniture and other wood items.)*
 - If you want to run your own business in the future, what human capital might you need? *(Answers will vary but may include management skills, accounting skills, computer skills, or communication skills.)*
 - What investments might you make to develop this human capital? *(Answers will vary but may include pursuing a college degree in business or accounting, reading professional journals, or shadowing someone who owns a business.)*
15. Visit <https://www.bls.gov/ooh/a-z-index.htm> as a class. (NOTE: This link is also on Slide 15.) Explain that the Bureau of Labor Statistics (BLS) developed the Occupational Outlook Handbook website to provide information about careers. Ask a student to name an occupation in which he or she is interested. Use the alphabetical search to find that occupation in the Handbook. Point out that the site provides the following information:
 - Median income for the occupation
 - The amount of education required to enter this field
 - Whether or not work experience is required
 - How much, if any, on-the-job training is required
 - The number of jobs available in the field in the previous year
 - The expected growth rate of jobs in this field
 - The projected numeric change in the number of jobs available in this field over the next decade
 - A description of what people in this field do

- A description of the type of environment in which people in this occupation work
 - A link to a list of similar occupations
 - A link to a site that provides key characteristics of occupations and workers
16. Pair the students. Display Slide 16 and distribute a copy of *Handout 1.1: Educational Attainment, Income, and Unemployment Data*, a sheet of chart paper, and markers to each pair. Review the directions.
17. Allow time for students to complete the task and then ask the pairs to share their illustrations. (*Answers will vary.*) Use masking or painter's tape to display illustrations if possible.
18. Display Slides 17-18 and discuss the following:
- What type of relationship exists between education and median income? (*A positive [direct] relationship exists—as the level of education increases, the median income increases.*)
 - Why does this relationship exist? (*Education is an investment in human capital. People with more human capital are likely to be more productive. Businesses are willing to pay more-productive workers more.*)
 - What type of relationship exists between education and unemployment? (*A negative [indirect] relationship exists—as the level of education increases, the unemployment rate decreases.*)
 - Why does this relationship exist? (*People with more education have more skills and are generally more productive. As a result, in general they have less difficulty and spend less time finding a job, and businesses are less likely to lay them off.*)
19. Point out that the income data on Handout 1.1 and on the BLS website are given as median income rather than mean (or average) income. Discuss the following:
- What is the difference between mean and median? (*Students should explain that the mean is the average. All terms are added, and the sum is divided by the number of terms. Median is the middle number. It is found by arranging data from the lowest value to the highest value, then finding the middle value.*)
 - Why might it be beneficial to report a median instead of a mean? (*A mean [average] can be substantially skewed by a single number, while a median is not as dramatically affected.*) Note that economists generally favor using a median when looking at groups of numbers, particularly income, where a small number of high earners can skew the mean upward.

20. (Optional) Display Slides 19-21 and explain the following to clarify the difference between mean and median:
- Say you want to calculate the average and median incomes for seven full-time high school students with incomes that are fairly low and vary widely.
 - The students' incomes range in \$1,000 increments from \$1,000 to \$7,000. To calculate the mean (or average), you must add the incomes of all the students and divide by the number of students in the group: $\$1,000 + \$2,000 + \$3,000 + \$4,000 + \$5,000 + \$6,000 + \$7,000 = \$28,000$; $\$28,000 \div 7 = \$4,000$. So, in this case, the mean is \$4,000.
 - To find the median, you put the incomes in order of value from lowest to highest and find the middle number: \$1,000, \$2,000, \$3,000, **\$4,000**, \$5,000, \$6,000, \$7,000. In this case, the median is \$4,000.
 - In this example, \$4,000 is both the mean and median, so it doesn't seem to matter which measure is used. However, let's add one more student to the group—a student entrepreneur who earns \$150,000 per year.
 - The new mean is calculated as follows: $\$1,000 + \$2,000 + \$3,000 + \$4,000 + \$5,000 + \$6,000 + \$7,000 + \$150,000 = \$178,000$; $\$178,000 \div 8 = \$22,250$.
 - With the addition of one student, the average income of the group increased from \$4,000 to \$22,250. Although \$22,250 is the mathematically correct average, it might seem misleading to say that the average income of people in the group is \$22,250 since everyone in the group except the entrepreneur earns far less than that.
 - Because there are now two middle numbers, to calculate the median, you need to find the average of the two middle numbers: \$1,000, \$2,000, \$3,000, **\$4,000**, **\$5,000**, \$6,000, \$7,000, \$150,000. The new median is \$4,500.
 - The median income for the group increased from \$4,000 to \$4,500. Thus, the median income for the group—\$4,500—better reflects the actual earnings of the people in the group than the mean.
21. Explain that part of planning for your financial future includes making a strong investment in your own human capital. Learning about earnings and managing income is an investment in human capital.
22. Distribute new sheets of construction paper to students who were not able to complete their name tents or to students whose name tents were illegible and allow them time to create new tents.

Closure

23. Display Slides 22-26 and review the key points of the lesson by discussing the following:

- What is human capital? (*The knowledge and skills that people obtain through education, experience, and training*)
- What is investment in human capital? (*Efforts people put forth to acquire and improve human capital*)
- How do people invest in human capital? (*Through education, experience, and training*)
- In general, how does investment in human capital through education affect income? (*In general, there is a positive [direct] relationship between the amount of education people have and the amount of income they earn; that is, the more education people have, the greater income they earn.*)
- Why is this the case? (*In general, those with more investment in human capital have more skills and are likely to be more productive. Businesses are willing to pay more-productive workers more.*)
- In general, how does investment in human capital through education affect the likelihood of being unemployed? (*In general, there is a negative [indirect] relationship between the amount of education people have and the likelihood that they will be unemployed; that is, the more education people have, the less likely they will become unemployed.*)
- Why is this the case? (*In general, those with more investment in human capital have more skills and are likely to be more productive. In general, they spend less time looking for a job and are less likely to be laid off.*)

Assessment

24. Ask students to write a paragraph explaining the relationship between educational attainment and income, the relationship between educational attainment and unemployment, and the impact of human capital on earning income and unemployment.

Sample Answer:

The relationship between how much education people have and the income they earn is a positive or direct relationship. The more education and training people have, the higher their incomes are likely to be. The relationship between income and unemployment is an inverse or negative one. The more education and training people have, the less likely they are to be unemployed. Investment in human capital can help people earn more income and help them remain employed—avoid unemployment.

25. Have students review the Occupational Outlook Handbook at <http://www.bls.gov/ooh/>. Have them select an occupation in which they are interested, identify the human capital that they currently possess that would be important for this occupation (reading, mathematics, people skills, writing, and so on), and identify investments in human capital that they must make to attain this occupation (additional training and education, computer skills, and so on).

Handout 1.1: Educational Attainment, Income, and Unemployment Data

Unemployment rate in 2020 (%)	Educational attainment	Median weekly earnings in 2020
2.5	Doctoral degree	\$1,885
3.1	Professional degree	\$1,893
4.1	Master's degree	\$1,545
5.5	Bachelor's degree	\$1,305
7.1	Associate degree	\$938
8.3	Some college, no degree	\$877
9.0	High school diploma	\$781
11.7	Less than a high school diploma	\$619

NOTE: Data are for persons 25 years old and older. Earnings are for full-time wage and salary workers.

SOURCE: Bureau of Labor Statistics, Current Population Survey. For the most recent data, go to <https://www.bls.gov/emp/chart-unemployment-earnings-education.htm>.

Directions: Working with a partner, use the chart paper and markers provided to illustrate the relationships between median income and educational attainment and between unemployment and educational attainment by creating a graph or chart (line, bar, or pie).

Standards and Benchmarks

National Standards for Personal Finance Education

Standard I: Earning Income

- **Benchmarks: Grade 8**
 1. Careers are based on working at jobs in the same occupation or profession for many years. Careers vary in their education and training requirements.
 2. People make many decisions over a lifetime about their education, jobs, and careers that affect their incomes and opportunities.
 3. Getting more education, training, and experience can increase a person's human capital, productivity, and income-earning potential.
- **Benchmarks: Grade 12**
 4. Employers generally pay higher wages or salaries to more educated, skilled, and productive workers than to less educated, skilled, and productive workers.

Voluntary National Content Standards in Economics

Standard 13: Income

Income for most people is determined by the market value of the productive resources they sell. What workers earn primarily depends on the market value of what they produce.

- **Benchmarks: Grade 8**
 4. More productive workers are likely to be of greater value to employers and earn higher wages than less productive workers.
 5. People's incomes, in part, reflect choices they have made about education, training, skill development, and careers. People with few skills are more likely to be poor.

Standard 15: Economic Growth

Investment in factories, machinery, new technology, and the health, education, and training of people stimulates economic growth and can raise future standards of living.

- **Benchmarks: Grade 4**
 1. When workers learn and practice new skills, they improve their productivity by improving their human capital.
- **Benchmarks: Grade 8**
 4. Increases in productivity can result from advances in technology or increases in physical or human capital.