

## Unit 3

# Earning Income

### Lesson 3A:

## Investing in Yourself

### Rule 3: Invest in Yourself.

The most important investment you will make in your life has nothing to do with buying a house, a share of stock, or even gold. The most important investment you can make is in yourself. You will most likely earn income by working for someone else or by running your own business. In either case, you will need education, training, skills, experience, determination, and a positive attitude on an ongoing basis to earn a good wage or make a good profit. Without first investing in yourself, your ability to earn income falls, making budgeting, saving, investing, and reaching financial goals far more difficult. These lessons look at the importance of building your human capital and explore personal attributes likely to affect the career you choose.

### Lesson Description

Students perform calculations—with half the class given information to make the task easier—to demonstrate the importance of human capital in increasing a person's productivity. They then look at the wages for various occupations and consider the role of human capital in explaining the differences in those wages.

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### Standards and Benchmarks (see page 62)

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### Grade Level

9-12

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### Concepts

Human capital  
Income  
Productivity  
Wages

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### Making Personal Finance Decisions

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## Compelling Question

How are knowledge and skills related to income and unemployment?

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## Objectives

Students will be able to

- define human capital and describe ways to increase it and
  - explain the relationship among human capital, wages, and the likelihood of being unemployed.
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## Time Required

45 minutes

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## Materials

- Visual 3A.1: Wages by Occupation
  - Visual 3A.2: Earnings and Unemployment by Education Level
  - Handout 3A.1: Dividing by 9, one copy each for half the students in the class
  - Handout 3A.2: Dividing by 9, one copy each for half the students in the class
  - Handout 3A.3: Assessment, one copy for each student
  - Internet access and computers for students to access the *Occupational Outlook Handbook* at <http://www.bls.gov/ooh/> or provide one copy per student of several occupations from that website along with the median annual wage for all workers (To find the median annual wage for all workers, click the question mark by “Median Pay” on any occupation page.)
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## Procedure

1. Begin the lesson by discussing the following:
    - Why do people work? (*Answers will vary but will likely include to earn money or to buy things.*)
    - Why do people want money? (*Answers will vary but will likely include to buy things they want, to save to buy things they want in the future, or simply to survive.*)
  2. Point out that people desire goods and services to satisfy their wants. Because goods and services are scarce, they have prices, making it necessary to earn income to pay
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for them. **Income** is the payment people earn for providing resources in the marketplace.

3. Explain that when people work, they provide human resources—labor—and in exchange earn income in the form of **wages** (and salaries). Wages are the price producers pay to use human resources. In the United States, 70 to 75 percent of all income earned is in the form of wages.
4. Display *Visual 3A.1: Wages by Occupation*. Note the wide range of wages for different occupations. Tell the class you are going to conduct a little competition that will help explain these differences.
5. Distribute *facedown* a copy of *Handout 3A.1: Dividing by 9* (the harder version) to students in the back half of the classroom and a copy of *Handout 3A.2: Dividing by 9* (the easier version) to students in the front half of the classroom. Although these two activities are different, act as if everyone in the class is getting the exact same activity. Give the following instructions:
  - You may not turn over the handouts until I say “go.”
  - When I say “go,” turn over the handout, read the directions, and then answer as many of the questions as you can.
  - You must work independently and may not discuss the handout or share answers.
  - When I say “stop,” immediately turn the handout facedown again.
  - Finally, if you complete all of the problems before I say “stop,” turn the activity over and stand up at your seat.
6. Say “go” to start the activity. Allow the students to work until about one-half of the students with Handout 3A.2 (those in the front of the classroom with the easier version) are standing and then say “stop.” Have the class note which students are standing before asking them to sit down. (Most of the students standing will be in the front half of the class, but there may also be some students standing in the other group.) Discuss the following:
  - Why do you think some students were able to complete the questions faster than others? (*Answers will vary but may include that the students have different math abilities or that some students might not have been motivated to work hard.*)
7. Tell the students that the two handouts were different—the students in the front half of the class were given information that made it easier for them to answer the questions. Read the directions on Handout 3A.2 (the easier version) to the class.
8. Have students exchange activities with each other for grading. (They may grade either handout—the answers are the same for both.) Tell the students to record the correct

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answers as they are announced. Announce the answers and then instruct the students to pass the handouts back to the original owners.

**Handouts 3A.1 and 3A.2: Dividing by 9—Answer Key**

- |        |         |
|--------|---------|
| 1. Yes | 6. Yes  |
| 2. No  | 7. Yes  |
| 3. Yes | 8. No   |
| 4. No  | 9. No   |
| 5. No  | 10. Yes |

9. Have the students with Handout 3A.1 report their scores and write them on the board. Repeat for the students with Handout 3A.2. Calculate an average score for each group.

*(Teacher note: The expected result is that those with Handout 3A.2 will have completed more questions correctly—with typical results averaging about 5 for Handout 3A.1 and 8 for Handout 3A.2. It is also likely that more students with Handout 3A.2 stood up. Note that it is possible, however, that students without the extra information did as well because they either knew the extra information beforehand or were simply very good at long division. It is also possible that students with the extra information did not do as well because they had trouble understanding it or were not motivated to work quickly).*

10. Explain that people’s ability to perform a task depends on their **human capital**. Define human capital as the knowledge and skills that people obtain through education, experience, and training. Human capital is also influenced by your natural talents, the physical and mental shape of your body and mind, and your attitude toward work. Discuss the following:
- What effect does your human capital have on the wage you will be paid for working? *(Answers will vary, but students should recognize that greater human capital will likely lead to higher wages.)*
11. Remind students that wages are the income earned for providing human resources (labor) in the market. Wages are determined by supply and demand. As demonstrated by the activity, those students with more human capital—the extra knowledge—were able to produce more correct calculations in the time allowed than those with less human capital. Thus, increases in people’s human capital increase their **productivity**, or the amount of output that can be produced by those workers in a given amount of time.
12. Refer to the average number of correct responses for each group. Explain that if correct answers were sold for \$10 each, students in the group with greater human capital would be able to generate more correct answers, and thus more revenue, for a firm that hires them.

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13. Multiply the averages for each group (calculated in Step 9) by \$10 to show the revenue generated. (For example, if the averages were 8 and 5 correct answers, the average revenue generated would be \$80 and \$50, respectively.) Explain that firms would thus be willing and able to pay more for the more productive workers. Or, in other words, the demand for these workers would be greater. Discuss the following:
  - As you acquire more human capital, are there fewer or more other people who are able to offer similar abilities and skills? Why? (*Fewer. There are fewer people with those skills and abilities because acquiring the human capital requires time, effort, and often money. Some people are willing and able to make the investment of time, effort, and money, others are not.*)
  - If there are fewer people with particular skills and abilities, what is likely to happen to the wages of those people? (*The wages of those with particular human capital are likely to be higher.*)
14. Return to Visual 3A.1. Note that being a waitress or a cashier does not require a high level of human capital, so many people have these skills. A large supply of potential workers contributes to a lower wage. Meanwhile, the human capital required to be a physician or engineer is much greater, so fewer people have these skills. A relatively small supply of potential workers contributes to a higher wage.
15. Display *Visual 3A.2: and Unemployment by Education Level*. Explain the following:
  - A principal component of human capital is education. As would be expected, higher levels of education lead to greater human capital and thus higher wages.
  - More human capital also leads to a lower likelihood of being unemployed.
  - It is important to remember, however, that a college education is only one way to increase your human capital. Skills may also be acquired through specialized vocational training (plumbing, welding, computer programming, and so on), developing and practicing a skill (art, music, sports, and so on), and/or acquiring work experience.

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## Closure

16. Explain the following:
  - Personal finance is about making decisions.
  - Most personal finance decisions have to do with choosing how much to save, how to budget spending, what investments to make, and what insurance to buy.
  - The starting point for all these decisions depends on how much income you are able to earn. The most important decision then is to decide how to invest in yourself by developing your human capital—you need to “learn to earn.”

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## Assessment

17. Distribute a copy of *Handout 3A.3: Assessment* to each student. If Internet access is not available, provide copies of occupations as noted in the Materials section. Review the directions and allow students time to complete the handout (or assign as homework).

### ***Handout 3A.3: Assessment—Answer Key***

Direction: Pick an occupation that interests you from the *Occupational Outlook Handbook* at <http://www.bls.gov/ooh/> (or the handout) and review the information for that occupation. If using the website, click the question mark next to "Median Pay" to see the median annual wage for all workers. Answer the following questions:

1. Which occupation did you choose?
2. What are the education requirements for that occupation?
3. What is the annual income of the occupation?
4. Is the pay for the occupation higher or lower than the median annual wage of all workers?
5. Does the typical amount of training and education help explain why the wage is high or low?
6. Based on the pay and education requirements, would you expect people in this occupation to experience more or less unemployment?

*Answers will vary based on the occupation chosen. In general, workers in occupations with higher education requirements have higher median pay and are less likely to be unemployed. And, in general, workers in occupations with lower education requirements have lower median pay and higher unemployment rates.*

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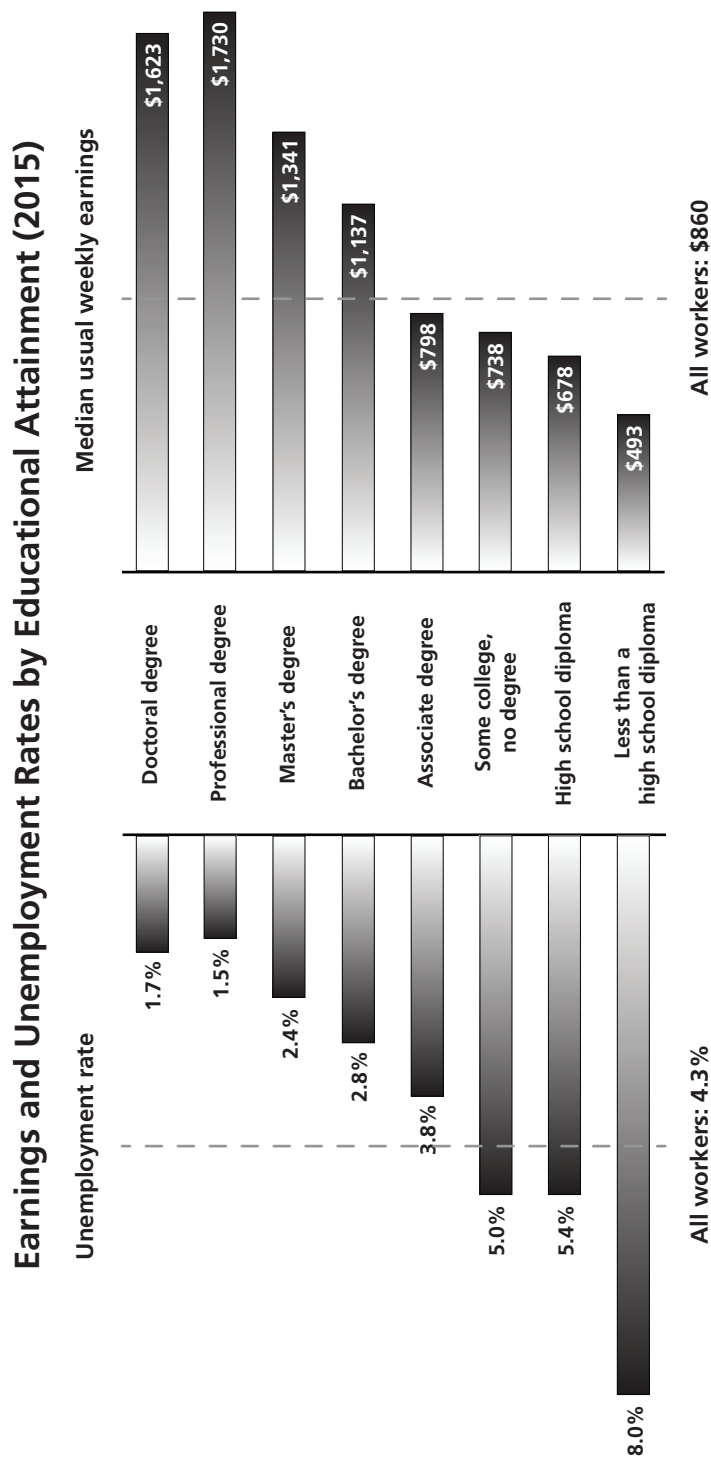
**Visual 3A.1: Wages by Occupation (2015 Median Pay)**

Occupation	Median hourly wage	Median annual income*
Physician	\$90.00	\$187,200
Dentist	76.11	158,310
Pharmacist	58.41	121,500
Lawyer	55.69	115,820
Mechanical engineer	40.19	83,590
Physical therapist	40.40	84,020
Computer programmer	38.24	79,530
High school teacher	35.75**	57,200
Registered nurse	32.45	67,490
Accountant/auditor	32.30	67,190
Librarian	27.35	56,880
Electrician	24.94	51,880
Plumber/pipefitter	24.34	50,620
Firefighter	22.53	46,870
Carpenter	20.24	42,090
Truck driver	19.36	40,260
Actor	18.80	37,600*
Welder	18.34	38,150
Automotive technician/mechanic	18.20	37,850
Secretary/administrative assistant	17.55	36,500
Construction laborer/helper	14.85	30,890
Bank teller	12.70	26,410
Barber/hairdresser/cosmetologist	11.40	23,710
Janitor	11.27	23,440
Food preparer	9.70	20,180
Bartender	9.39	19,530
Cashier	9.28	19,310
Waiter/waitress	9.25	19,250
NOTE: *Based on 2,000 hours (50 weeks @ 40 hours/week). **Based on 1,600 hours (40 weeks @ 40 hours/week). SOURCE: Bureau of Labor Statistics <i>Occupational Outlook Handbook</i> ; <a href="http://www.bls.gov/ooh/">http://www.bls.gov/ooh/</a> ;		

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## Visual 3A.2: Earnings and Unemployment by Education Level



NOTE: Data are for persons 25 years of age and older. Earnings are for full-time wage and salary workers.  
 SOURCE: Bureau of Labor Statistics Current Population Survey, accessed June 1, 2016.

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**Handout 3A.1: Dividing by 9**

Name: \_\_\_\_\_

Directions: Determine whether or not each of the following numbers is evenly divisible by 9. If there is no remainder after dividing by 9, then the number is evenly divisible by 9. For example,  $2,349/9 = 261$  exactly, so there is no remainder.

Number	Evenly divisible by 9?	
1. 20,016	Yes _____	No _____
2. 52,333	Yes _____	No _____
3. 81,054	Yes _____	No _____
4. 100,232	Yes _____	No _____
5. 222,222	Yes _____	No _____
6. 693,693	Yes _____	No _____
7. 1,036,017	Yes _____	No _____
8. 4,444,444	Yes _____	No _____
9. 7,002,032	Yes _____	No _____
10. 10,555,848	Yes _____	No _____

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**Handout 3A.2: Dividing by 9**

Name: \_\_\_\_\_

Directions: Determine whether or not each of the following numbers is evenly divisible by 9. If the sum of its digits is evenly divisible by 9, then the number is divisible by 9. For example, for the number 2,349,  $2 + 3 + 4 + 9 = 18$ . Because 18 is evenly divisible by 9 ( $18/9 = 2$ )—there is no remainder—2,349 is divisible by 9.

Number	Evenly divisible by 9?	
1. 20,016	Yes _____	No _____
2. 52,333	Yes _____	No _____
3. 81,054	Yes _____	No _____
4. 100,232	Yes _____	No _____
5. 222,222	Yes _____	No _____
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1. Which occupation did you choose?
  
  
  
  
  
  
  
  
  
  
2. What are the education requirements for that occupation?
  
  
  
  
  
  
  
  
  
  
3. What is the annual income of the occupation?
  
  
  
  
  
  
  
  
  
  
4. Is the pay for the occupation higher or lower than the median annual wage of all workers?
  
  
  
  
  
  
  
  
  
  
5. Does the typical amount of training and education help explain why the wage is high or low?
  
  
  
  
  
  
  
  
  
  
6. Based on the pay and education requirements, would you expect people in this occupation to experience more or less unemployment?

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## Standards and Benchmarks

### National Standards for Financial Literacy

**Standard 1: Earning Income.** Income for most people is determined by the market value of their labor, paid as wages and salaries. People can increase their income and job opportunities by choosing to acquire more education, work experience, and job skills. The decision to undertake an activity that increases income or job opportunities is affected by the expected benefits and costs of such an activity. Income also is obtained from other sources such as interest, rents, capital gains, dividends, and profits.

- **Grade 8 Benchmarks**
  2. People make many decisions over a lifetime about their education, jobs, and careers that affect their incomes and job opportunities.
  3. Getting more education and learning new job skills can increase a person's human capital and productivity.
  4. People with less education and fewer job skills tend to earn lower incomes than people with more education and greater job skills.
  5. Investment in education and training generally has a positive rate of return in terms of the income that people earn over a lifetime.
- **Grade 12 Benchmarks**
  5. The wage or salary paid to workers in jobs is usually determined by the labor market. Businesses are generally willing to pay more productive workers higher wages or salaries than less 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.

- **Grade 8 Benchmarks**
  4. More productive workers are likely to be of greater value to employers and earn higher wages than less productive workers.
  5. Peoples' 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.

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