Lesson Description

This lesson brings awareness to the students about what factors are important when choosing a career path. Students will explore the relationship between the salary of different occupations and the level of education or training required for the occupation. They will investigate three occupations that they are interested in pursuing and research to find the anticipated salary, education or training required, as well as other factors that might influence their choice of job.

Texas Essential Knowledge and Skills (Target standards)

- **PFL Math 6.14H** compare the annual salary of several occupations requiring various levels of postsecondary education or vocational training and calculate the effects of different annual salaries on lifetime income

Texas Essential Knowledge and Skills (Prerequisite standards)

- **Math 6.1** Mathematical process standards
- **Math 6.2D** order a set of rational numbers arising from mathematical and real-world contexts

National Standards (Supporting standards)

- **CEE PFL Earning Income 8.4:** People with less education and fewer job skills tend to earn lower incomes than people with more education and greater job skills.
- **CEE PFL Earning Income 8.5:** Investment in education and training generally has a positive rate of return in terms of the income that people earn over a lifetime.
- **CCSS Math** 6.NS Compute fluently with multi-digit numbers.

CCSS - Common Core State Standards

Time Required

Two 45-minute classes

Materials Required

- A copy of **Visual 6.4-1, 6.4-2, 6.4-3, 6.4-4**
- A copy of **Activity 6.4-1a, 6.4-1b, 6.4-2** for each student
- One copy of **Activity 6.4-1c:** Before the lesson cut the cards in the table apart, folded in half, and put in a container from which students can draw a job.
- Computer and Internet access for each student
- A sheet of blank paper for each student

PFL Terms

- Median
- Post-secondary education
- Salary
- Occupation

Procedure

Day 1

1. Explain that the term occupation means that a person performs duties or responsibilities for pay. The term job in this lesson will have the same meaning and both terms will be used.

Engage

2. Think-Pair-Share
   - Think: Students work individually to record their answers to the following questions.
     a. What type of job do you want to have as an adult?
     b. What types of skills will you need for this job?
     c. How will you gain those skills? (college, trade school, on the job training)
     d. How much do you think this job pays per year?
   - Pair: Ask students to share their answers with a partner.
   - Share: Allow several students to share their answers.

2. Display **Visual 6.4-1.** Tell students that according to the Texas Workforce Commission, the occupations listed on the visual are projected to be the fastest growing in Texas through 2018. Say: *On a sheet of paper, number 1 – 5. From this list, identify what you think are the top 5 fastest growing occupations. Then write in order which occupations you think are the top 5 beginning with the fastest growing.* Once the students have completed this task, have them share their list with a neighbor and ask them to give a strong argument why these might be the fastest growing occupations in Texas. Ask a few students to share their argument. Use their responses to initiate a class discussion. (For the most current occupational projection, go to http://www.careerinfonet.org/state1.asp?next=state1&id=11&nodeid=12&soccode=&stfips=48&x=74&y=5, Texas Workforce Commission)

3. Display **Visual 6.4-2.** Tell the students that this is the correct order of the fastest growing occupations in Texas. Allow them time to compare their prediction to this list. Then ask the following questions: *Did anyone have the top 5 occupations in their list? How close were you in your prediction? Why do you think there will be an increase in these jobs? (**Answers will vary.**) Why is this type of information important to young people? **(Sample response: As you get closer to high school graduation and start planning for your future, you need to be aware of what occupations are in demand.)***

4. Continue to display **Visual 6.4-2.** Tell students to number from 1 – 5 again. Say: *Now from this list of 10, identify what you think are the top 5 paying occupations. Then rank these occupations by salary starting with the highest paying.* Once the students have completed this task, have them share their top pick with a neighbor and ask them to give a strong argument why their pick is the top paying occupation from the given list. Post their top pick on the board. Ask students how they made their decisions.

5. Display **Visual 6.4.3**. Allow students time to compare their prediction to this list. Ask the students to write what they think is the most important factor for some occupations paying more than others. Then ask them to tuck this note away. This list and the students' notes will be referenced at the end of the next activity.

6. Explain that there are other factors besides availability of the occupation and the salary that should be considered when making a career choice. In the next activity, they will investigate a variety of jobs, salaries, and educational requirements. Display **Visual 6.4-4** and explain the different levels of education.

Explore

7. Have each student draw a job from the container with the cut-out cards from **Activity 6.4-1c.** Tell students that each card has a job title, an annual salary, and the amount of education required for that job. Explain that the given annual salary represents the

median salary. This is the salary in the middle of all the salaries for that job and that some people may make more and some may make less. (Source: http://money.usnews.com/money/careers/articles/2012/12/18/the-best-jobs-of-2013).

8. Distribute one copy of **Activity 6.4-1a** to each student.

9. Tell students to list the job they drew and the annual salary, hourly wage, and education required in the top left box of the three by three grid that reads "Your Job." Demonstrate how to calculate the hourly rate. Divide the annual salary by 52 for the number of weeks in a year, and then divide that by 40 for the number of hours in a regular workweek.

10. Ask students to look at the remaining boxes on their grid. Ask: *What do you notice about the boxes? How are they alike? How are they different? (**Each grid has a blank for job, salary, and education. Each grid has different criteria for a job at the top of the grid. Some specify jobs by salary range, and some specify education level.)***

11. Tell students they will complete the remaining eight boxes by circulating around the room and finding classmates who have jobs that match the criteria either by salary range or education level.

12. Students will find a job that matches the criteria in a box that is empty, and will complete the box with the required information. Explain that each student will be responsible for writing the information in the box on his or her own paper.

13. After students have completed **Activity 6.4-1a**, divide them into small groups. Distribute **Activity 6.4-1b** to each student. Tell students to use their data from **Activity 6.4-1a** to answer the questions on **Activity 6.4-1b**.

Explain

14. Lead a class discussion by using the questions below.

- *Which jobs had the greatest median salary?*
- *Which jobs had the lowest median income?*
- *Which jobs required the most education? Which jobs required only a high school diploma?*
- *What conclusion(s) can you make about the relationship between the salary and educational requirement for different jobs?*

15. Ask students to pull out their note where they wrote what they thought was the most important factor for some occupations paying more than others. Ask how their thought compares to their findings in the last activity. ***(Students should have discovered that educational attainment is an important factor.)*** Then ask what other factors should be considered when planning for a future career. ***(Sample response: physical demand, mental demand, travel, distance to home, location of job, safety of job, work schedule, interest in occupation)*** Tell them that tomorrow they will explore occupations based on what factors are important to them.

Elaborate

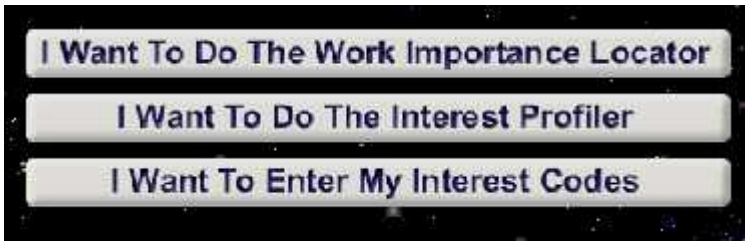
16. Take students to a computer lab. Tell them that today they will explore various occupations that are of an interest to them. Allow students time to explore the following

website: http://www.texascaresonline.com/wowmenu.asp

Explore

17. After students have had a chance to explore, distribute **Activity 6.4-2** to each student. Explain that they will take an on-line assessment to help them find three possible occupations. Have them take the Self-Assessment by following these steps:

    a. Go to http://www.texascaresonline.com/wowmenu.asp
    b. Click on **Self-Assessment**
    c. Click on **I Want To Do The Interest Profiler**
    d. Click on **Interest Profiler** and follow the prompts



18. Explain that once they have completed the Interest Profiler, a list of occupations that match their interest will appear. Have them investigate several occupations from their list by clicking on an occupation.

19. Tell students that once they have found three occupations that interest them, they should complete **Activity 6.4-2.** Students will complete the activity by identifying three occupations that are of interest to them. Note that in this activity students will calculate annual earnings, based on working 45 years. For the column labeled Percent of Change 2010 to 2020, ask students to write the percentage and if it is an increase of a decrease.

20. If students have difficulty finding the information, point out that after they choose an occupation under the self-assessment, they will need to then click on the various tabs above their chosen occupation to find the needed information.

Elaborate

20. Demonstrate how to investigate the fastest-growing occupations by following the steps below.

    - Go to http://www.careerinfonet.org/.
    - Click on **State Information**
    - Click on **State Profile**
    - Choose **Texas**
    - In the SEARCH option for occupation rankings in Texas, choose **Fastest-growing occupations**.
    - For average worker education level, choose **Overall**.

21. The top 25 fastest-growing jobs will be displayed. Ask students which occupation is the fastest-growing. Then have them calculate the number of new jobs for this occupation. **(2020 Employment – 2010 Employment)** Then have them identify the occupation that will have the greatest number of jobs in 2020. Help them understand that the fastest growing occupation may not have the greatest number of jobs.

22. Direct students to return to previous screen. Allow students to investigate deeper by inspecting the fastest-growing occupations for each educational level.

Evaluate/End

23. To end lesson, ask the following questions.

    a. Why should someone look at the projected demand when choosing an occupation? ***(Sample responses: This feature will reveal if there are any jobs available. Someone might spend valuable time and money pursuing an occupation that job availability is declining.)***

    b. At what level of education is there the best possibility for higher salaries? ***(For many occupations that require more education, the salary tends to be greater. However there are occupations that require a college degree and have a low salary. There are other occupations that only require a high school diploma and a certification that pay equal or higher to occupations that require a college degree.)***

    c. What is the relationship between salary and education for the fastest growing occupation? ***(For the most part, the occupations with the Bachelor's degree pay more. However, electrical and electronics repairs earn more than two of the Bachelors' degree occupations. The Doctoral degree occupation earns less than some Bachelors' degree occupations.)***

    d. What other factors should you consider when you are choosing a career path? ***(Sample answers: projected growth rate, employment by location, working condition, ability to advance, work environment, benefits, physical demand, mental demand, travel, distance to home, location of job, safety of job, work schedule, interest in occupation)***

Extension:

- Have students explore the website below to learn more about occupations.
    - Occupational Outlook Handbook (US Bureau of Labor and Statistics) - http://www.bls.gov/ooh/
    - Exploring Career Information from the Bureau of Labor Statistics -

http://www.bls.gov/k12/

- After students have researched the three occupations, play Charades or Pictionary. The student will either pantomime or draw pictures to get the class to guess their selected job. After the class has guessed correctly, the student will report the information they found about the occupation.

Visual 6.4-1

According to the Texas Workforce Commission, the occupations listed below are projected to be the fastest growing in Texas through 2018. Which are the top 5 fastest growing occupations in Texas?

Fastest Growing Texas Occupations 2018 - Projected

Athletic Trainers

Biomedical Engineers

Electrical & Electronics Repairers, Powerhouse, Substation & Relay

Financial Examiners

Home Health Aides

Medical Scientists

Network Systems & Data Communications Analysts

Personal & Home Care Aides

Petroleum Engineers

Special Education Teachers

Visual 6.4-2

Fastest Growing Texas Occupations 2018 - Projected

1 Biomedical Engineers

2 Home Health Aides

3 Network Systems & Data Communications Analysts

4 Petroleum Engineers

5 Athletic Trainers

6 Personal & Home Care Aides

7 Electrical & Electronics Repairers, Powerhouse, Substation & Relay

8 Financial Examiners

9 Medical Scientists

10 Special Education Teachers

Source: Labor Market & Career Information (LMCI) - Texas Workforce Commission

Visual 6.4-3

Fastest Growing Texas Occupations 2018 – Projected with Salary

1 Petroleum Engineers $126,241

2 Network Systems & Data Communications Analysts $76,420

3 Financial Examiners $76,359

4 Biomedical Engineers $66,729

5 Medical Scientists $64,386

6 Electrical & Electronics Repairers, Powerhouse, Substation & Relay $55,250

7 Special Education Teachers $49,856

8 Athletic Trainers $45,873

9 Home Health Aides $18,849

10 Personal & Home Care Aides $16,211

Data based on 2009 salaries by Texas Workforce Commission

Visual 6.4-4

Vocabulary

On-the-Job Training (OJT): training or preparation that is typically needed, once employed in an occupation, to attain competency in the occupation. Training is occupation specific rather than job specific; skills learned can be transferred to another job in the same occupation

Education: levels of education typically needed for entry into an occupation are classified as follows:

- **Doctoral or professional degree**: degree awarded usually for at least 3 years of full-time academic work beyond a bachelor's degree; *e.g., lawyers, physicians and surgeons, and dentists*
- **Master's degree:** degree awarded usually for 1 or 2 years of full-time academic study beyond a bachelor's degree
- **Bachelor's degree**: degree awarded usually for at least 4 years of full-time academic study beyond high school
- **Associate's degree:** degree awarded usually for at least 2 years of full-time academic study beyond high school
- **Postsecondary nondegree award:** usually a certificate or other award that is not a degree. Certifications issued by professional organizations or certifying bodies are not included in this category. Programs may last only a few weeks to 2 years. *e.g., nursing aides, EMTs and paramedics, and hairstylists*
- **Some college, no degree:** a high school diploma or the equivalent, plus the completion of one or more postsecondary courses that did not result in any degree or award
- **High school diploma or equivalent:** the completion of high school or the equivalent resulting in the award of a high school diploma or the equivalent, such as the General Education Development (GED) credential
- **Less than high school:** the completion of any level of primary or secondary education that did not result in the awarding of a high school diploma or the equivalent

Source: Bureau of Labor and Statistics, http://www.bls.gov/ooh/about/glossary.htm

Activity 6.4-1a Name _____ Class Period _____

Directions: Find classmates who have the information for the job described and fill in the additional information in that block.

Your Job Job _____ Annual salary _____ Hourly rate _____ Education Level/Training _____	Income range: Less than $36,000 Job _____ Annual salary _____ Hourly rate _____ Education Level/Training _____	Income range: $36,001 - $60,000 Job _____ Annual salary _____ Hourly rate _____ Education Level/Training _____
Income range: $60,001 - $100,000 Job _____ Annual salary _____ Hourly rate _____ Education Level/Training _____	Income range: More than $100,000 Job _____ Annual salary _____ Hourly rate _____ Education Level/Training _____	Level of Education: None required Job _____ Annual salary _____ Hourly rate _____ Additional Training _____
Level of Education: Training required Job _____ Annual salary _____ Hourly rate _____ Additional Training _____	Level of Education: High school diploma Job _____ Annual salary _____ Hourly rate _____ Additional Training _____	Level of Education: College degree Job _____ Annual salary _____ Hourly rate _____ Additional Training _____

Activity 6.4-1b Name _____ Class Period _____

Directions: With your group use the responses in your table to answer questions below.

1. Which three jobs had the highest annual salary? What was the educational level for each of those three jobs?

Jobs	Annual Salary	Level of Education

2. Which jobs required the most college education? What was the annual salary for each of those three jobs?

Jobs	Annual Salary	Level of Education

3. Which three jobs had the lowest annual salary? What was the educational requirement for each of those three jobs?

Jobs	Annual Salary	Level of Education

4. Which three jobs had no educational requirement or a high school diploma? What was the annual salary for each of those three jobs?

Jobs	Annual Salary	Level of Education

5. What conclusion(s) can you make about the relationship between the salary and educational level for different jobs?

Activity 6.4-1c

Job: Dentist Annual Salary: $146,920 Education Level: Doctoral or professional degree	Job: Police and Detectives Annual Salary: $55,010 Education Level: High school diploma or equivalent
Job: Registered Nurse Annual Salary: $64,690 Education Level: Associate's degree	Job: Nursing Aide Annual Salary: $24,010 Education Level: Postsecondary non-degree award
Job: Pharmacist Annual Salary: $111,570 Education Level: Doctoral or professional degree	Job: Plumber Annual Salary: $46,660 Education: High school diploma or equivalent and apprenticeship
Job: Physician Annual Salary: $183,170 Education Level: Doctoral or professional degree	Job: Real Estate Agent Annual Salary: $42,680 per year Education Level: Postsecondary non-degree award
Job: Physical Therapist Annual Salary: $76,310 Education Level: Doctoral or professional degree	Job: Auto Mechanic Annual Salary: $35,790 Education Level: High school diploma or equivalent and long-term on-the-job training

Job: Veterinarian Annual Salary: $82,040 Education Level: Doctoral or professional degree	Job: Bus driver Annual Salary: $35,720 Education Level: High school diploma or equivalent preferred, commercial driver's license
Job: Medical Secretary Annual Salary: $32,350 Education Level: Postsecondary non-degree award	Job: Restaurant Cook Annual Salary: $22,080 Education Level: none
Job: Computer Support Specialist Annual Salary: $46,260 Education Level: Moderate-term on-the-job training	Job: Receptionist Annual Salary: $25,240 Education Level: High school diploma
Job: Landscaper and groundskeeper Annual Salary: $23,410 Education Level: None	Job: Painter Annual Salary: $34,280 Education Level: none
Job: Financial Analyst Annual Salary: $74,350 Education Level: Bachelor's degree	Job: Teacher Assistant Annual Salary:$23,220 Education Level: Short-term on-the-job training
Job: Lawyer Annual Salary: $112,760 Education Level: Doctoral or professional degree	Job: Cashier Annual Salary: $18,820 Education Level: Short-term on-the-job training

Job: Accountants Annual Salary: $61,690 Education Level: Bachelor's degree	Job: Janitor Annual Salary: $22,370 Education Level: None
Job: High School Teacher Annual Salary: $53,230 Education Level: Bachelor's degree	Job: Construction Managers Annual Salary: $83,860 Education Level: Associate's degree
Job: Carpenters Annual Salary: $39,530 Education Level: High school diploma or equivalent	Job: Bus Driver Annual Salary: $29,160 Education Level: High school diploma or equivalent
Job: Insurance Agent Annual Salary: $46,770 Education Level: High school diploma or equivalent	Job: Construction worker Annual Salary: $29,730 Education Level: On-The-Job Training
Job: Elementary school teacher Annual Salary: $51,380 Education Level: Bachelor's degree	Job: Hairdresser Annual Salary: $22,500 Education Level: Postsecondary nondegree
Job: Paramedic Annual Salary: $30,710 Education Level: Postsecondary nondegree award	Job: Customer Service Representative Annual Salary: $30,610 Education Level: High school diploma

Activity 6.4-2 Name _____ Class Period _____

Directions: 1. Use this website, http://www.texascaresonline.com/wowmenu.asp, **to find three occupations you might like to pursue when you graduate. Research to determine the level of postsecondary education or vocational training required for this occupation and annual salary. Then calculate the lifetime earnings, based on working for 45 years. Note any special skills, requirements, or experiences that may be needed for the job selected and find the projected employment for 2020.**

Occupation	Level of Education/ Vocational Training	Annual Salary	Lifetime Earnings (45 years)	Special skills/ Requirements/ Experience	Percent Change from 2010 to 2020
1.					
2.					
3.					

What factor(s) about possible future occupations will you consider when making your occupational choice?

Visual 6.4-4

Fastest Growing Texas Occupations 2018 – Projected with Education Level

	Growth Occupations	Education preferred	2009 Salary
1	Biomedical Engineers	Bachelor's degree	$66,729
2	Home Health Aides	Short-term OJT (On the Job Training)	$18,849
3	Network Systems & Data Communications Analysts	Bachelor's degree	$76,420
4	Petroleum Engineers	Bachelor's degree	$126,241
5	Athletic Trainers	Bachelor's degree	$45,873
6	Personal & Home Care Aides	Short-term OJT (On the Job Training)	$16,211
7	Electrical & Electronics Repairers, Powerhouse, Substation & Relay	Postsecondary vocational training	$55,250
8	Financial Examiners	Bachelor's degree	$76,359
9	Medical Scientists	Doctoral degree	$64,386
10	Special Education Teachers	Bachelor's degree	$49,856

Source: Labor Market & Career Information (LMCI) - Texas Workforce Commission