

Career Searches

Unit. Career Exploration

Problem Area. Health Science Career Pathways

Lesson. Career Searches

- **Student Learning Objectives.** Instruction in this lesson should result in students achieving the following objectives:

- 1 Identify and use key elements in a career search.**
- 2 Identify and analyze the meaning of medical terms that are found in the process of career exploration activities.**

- **List of Resources.** The following resources may be useful in teaching this lesson:

Badasch, S., and Chesebro, D. (2004). *Introduction to Health Occupations*, 6th ed. Upper Saddle River, NJ: Prentice Hall.

Booth, K. (2004). *Health Care Science Technology: Career Foundations*. New York: McGraw-Hill–Glencoe.

Gerdin, J. (2003). *Health Careers Today*, 3rd ed. St. Louis: Mosby.

Mapping Your Future, Inc. (2002). *CareerShip*. (A product of Mapping Your Future.) <http://www.mapping-your-future.org/features/careership/>

Morkes, A. (Managing Editor). (2002). *Exploring Health Care Careers*, 2nd ed., Volumes I & II. Chicago: Ferguson Publishing.

Simmers, L. (2004). *Health Science Career Exploration*. Clifton Park, NY: Delmar Learning, a division of Thomson Learning, Inc.

U.S. Department of Education and U.S. Department of Labor. *Career Voyages* Web site: <http://www.careervoyages.gov/>



U.S. Department of Labor. (2003). *Occupational Outlook Handbook, 2002–2003* (or latest edition). Chicago: VGM Career Books, A Division of McGraw-Hill. (This text is also accessible on-line at <http://www.bls.gov/oco>)

■ **List of Equipment, Tools, Supplies, and Facilities**

- ✓ Overhead or PowerPoint projector
- ✓ Visual(s) from accompanying master(s)
- ✓ Copies of sample test, lab sheet(s), and/or other items designed for duplication
- ✓ Materials listed on duplicated items
- ✓ Computers with Internet access
- ✓ Classroom resource and reference materials

■ **Terms.** The following terms are presented in this lesson (shown in bold italics):

- ▶ career ladder
- ▶ job/market outlook
- ▶ occupational
- ▶ postsecondary

■ **Interest Approach.** Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situation. A possible approach is included here.

Introduce the topic of career exploration. Generate a class discussion by asking the students what they have already done to prepare for a career. Ask them to list specific activities they have participated in, either on their own or as part of school work, to explore and prepare for a career. Explain to the students that an important part of career exploration and career planning is knowing what kind of information to gather. Having essential information about particular occupations will help students with their decision making. Inform the students that, in this lesson, they will learn the key elements of a career search and that they will then use this information to research a specific occupation. Also inform students that, as they perform their career search, they will come across medical terminology that relates directly to the career they are studying. Students should use their career search activities as a way of building a medical terminology vocabulary that will contribute to their ability to communicate appropriately in the health care industry.

SUMMARY OF CONTENT AND TEACHING STRATEGIES

Objective 1: Identify and use key elements in a career search.

Anticipated Problem: What are the key elements in a career search?

- I. Key elements in a career search
 - A. Career title—Name of specific occupation
 - B. Health science career pathway—This is the health science career pathway or health service area with which the occupation correlates. Students should determine which career pathway the occupation they’re searching falls into:
 1. Biotechnology Research & Development
 2. Diagnostic Services
 3. Health Informatics
 4. Support Services
 5. Therapeutic Services
 - C. Job description / nature of the work—During their research, students should locate a brief description of the nature of the work.
 - D. Salary range—Students should research salary for this career and describe it in terms of an hourly or yearly range.
 - E. Places of employment—Students should research, for each particular occupation, a list of the possible places of employment. Students should list as many places of employment for this occupation as they come across in their research.
 - F. Recommended high school courses—These are the courses that might be particularly important for high school students to take if they intend to pursue the occupation. Students should look for specific course recommendations as they research. For example, rather than simply listing “science courses,” students should investigate which type of science courses would be particularly important for the occupation (e.g., chemistry, physics, biology).
 - G. Postsecondary training required—**Postsecondary** means “after high school.” This category refers to the education and/or training required after high school in order to qualify for this occupation. If there are several paths of training or education leading to this career, students should list them.
 - H. Personal skills required—Students should try to find information about what personal skills or abilities are particularly important in order to be successful in this occupation (e.g., dependability, punctuality, verbal/written communication, organization, leadership, creativity).

- I. Physical skills required—During their research, students should locate information on what specific physical skills are required in order for an employee to be able to perform all the tasks involved in the occupation.
- J. Schools/colleges offering training—Students need to research what schools/colleges offer education and training for a particular occupation. This information is essential for college preparation and planning and for helping students determine whether they can realistically pursue a particular occupation based on such issues as transportation, financing, admission requirements, and housing.
- K. **Occupational** (work-related) risks and hazards—In the course of their career research, students should find information on the occupational risks and hazards of the particular occupation. Students need to be aware of any safety risks or other potential dangers that might be associated with a particular occupation.
- L. Certification, registration, licensing, continuing education—In the course of their research, students should determine whether certification, registration, licensure, and continuing education are available and/or required for the particular occupation. It is important for students to have this information for careers they are considering so that they are aware of requirements and can project and plan for the future. (A separate lesson explaining and distinguishing between certification, registration, and licensing is available.)
- M. Relevant professional organizations—Knowledge of professional organizations associated with particular occupations is important for students. Students may use these organizations for additional career exploration activities or as a means of arranging work-based learning activities related to an occupation. Students should collect information on one or more student or professional organizations associated with the occupation they've chosen to research.
- N. Career ladder—Students doing a career search should be aware of career ladders related to the occupation they are researching. A **career ladder** is the upward mobility, or promotion, within a career path as a result of additional training, education, and/ or experience. It is essential that students understand the training and education required to move up a career ladder in a field that holds interest for them. Researching information on advancement opportunities in a particular occupation may assist students in career planning.
- O. **Job/market outlook**—Researching job/market outlook is an essential part of career searching and career planning. Research on an occupation should reveal whether experts in the labor field (e.g., U.S. Department of Labor) expect growth for that occupation in the future. The *Occupational Outlook Handbook* is an excellent resource for this information.
- P. Resource(s)—Documenting a resource where career information is found is also essential. This allows students to be able to return to the site for additional information and followup. It will also assist their counselors and instructors in determining whether the information was from a valid, reliable source attributable to experts in that occupational area.

Q. Vocabulary—An understanding of medical terminology and abbreviations is an essential skill for health care workers. Developing a medical vocabulary requires time and effort. Students can begin building and developing a medical and health care vocabulary by collecting, defining, and then using the medical terms and abbreviations they come across as they complete career exploration activities. Medical vocabulary terms should be defined in the context of the occupation a student is researching. A definition should include an explanation of word parts (prefix, root word, suffix), as applicable. After learning the meanings of words, students can build vocabulary skills by using the words in sentences of their own. Various resources are available for defining medical terminology:

1. Dictionaries and medical dictionaries
2. Medical terminology textbooks
3. On-line dictionaries and medical dictionaries

Many techniques can be used to help students master this objective. As an example, students could read one or more of the following: (1) any careers chapter in Health Care Science Technology, (2) any chapter in Unit 3 of Health Careers Today, (3) Chapter 2 in Introduction to Health Occupations, (4) any multidisciplinary skills chapter in Part 2 of Introduction to Health Occupations, (5) career information in the Occupational Outlook Handbook, (6) career information on the Career Voyages Web site, (7) career information on the CareerShip Web site. Use LS–A.

Objective 2: Identify and analyze the meaning of medical terms that are found in the process of career exploration activities.

Anticipated Problem: How should students identify, define, and analyze medical terms found in the process of career exploration activities?

- II. Identify, define, and analyze medical terms found in the course of career exploration activities.
 - A. Health care workers need to have a strong medical terminology vocabulary in order to communicate successfully with their co-workers. Building a medical terminology vocabulary requires time and effort, and every opportunity to learn new medical terms should be taken advantage of. Students can use career exploration activities as an opportunity to learn and use new medical terms in the context of the career they are researching.
 - B. Many medical terms are composed of word elements or word parts that have specific meanings. Understanding the meanings of various word parts will help a student decipher the meaning of the whole word and will lend meaning to other medical terms as well.
 1. Root word—main part, or subject, of word

2. Prefix—part added to beginning of root word that changes meaning or makes root more specific
 3. Suffix—part added to end of root word that changes meaning or makes root more specific
 4. Combining vowel—part added between several root words that makes whole word easier to pronounce
- C. Definition. Students should try to define medical terms in understandable, everyday language.

Many techniques can be used to help students master this objective. As an example, students could read Chapter 5 in Health Care Science Technology, Chapter 6 in Health Careers Today, Chapter 6 in Introduction to Health Occupations, and/or Chapter 7 in Health Science Career Exploration. Use VM–A and VM–B. Use LS–A.

- **Review/Summary.** Use the student learning objectives to summarize the lesson. Have students explain the content associated with each objective. Student responses can be used in determining which objectives need to be reviewed or taught from a different angle. Questions at the ends of chapters in the textbook may also be used in the review/summary.
- **Application.** Use the included visual master and lab sheet to apply the information presented in the lesson.
- **Evaluation.** Evaluation should focus on student achievement of the objectives for the lesson. Various techniques can be used, such as student performance on the application activities. A sample written test is provided.

■ **Answers to Sample Test:**

Part One: Matching

1. f
2. h
3. d
4. b
5. e
6. g
7. c
8. a

Part Two: Short Answer

1. Any five of the following are acceptable answers: career title; career pathway; job description; salary; places of employment; recommended high school courses;

postsecondary training; personal skills; physical skills; schools/colleges offering training; occupational risks and hazards; certification, registration, licensing, continuing education information; professional organizations; career ladder information; job/market outlook; resources; related vocabulary.

2. Any reasonable answer is acceptable.

Career Searches

► Part One: Matching

Instructions: Match the term with the correct definition.

- | | |
|-----------------------|------------------|
| a. combining vowel | e. root word |
| b. occupational | f. career ladder |
| c. prefix | g. suffix |
| d. job/market outlook | h. postsecondary |

- _____ 1. A term used to describe a series of promotions or advancements within a career path
- _____ 2. A term that refers to education or training acquired after high school
- _____ 3. A term used to describe the opinion labor experts have on the future of a particular occupation
- _____ 4. A term that means “job-related”
- _____ 5. The subject or main part of a medical term
- _____ 6. A word part, found at the end of a root word, that adds additional meaning to a medical term
- _____ 7. A word part, found at the beginning of a root word, that adds additional meaning to a medical term
- _____ 8. A word part that connects two or more root words and makes a medical term easier to pronounce



Medical Terminology Vocabulary Cards

Overview

Health Science Technology (HST) students will identify a minimum of 10 medical terms in the course of their career exploration and career research activities. Students will define and analyze these medical terms and create 10 medical terminology vocabulary cards. Each medical terminology vocabulary card will include the following: the medical term; its definition in everyday, understandable language; the word used in context as quoted directly from the source; documentation of the source; the medical term broken down into its word parts (if applicable), with definitions of each word part (if applicable); and the medical term used appropriately in a sentence of the student's own creation. The medical terminology vocabulary cards will be evaluated accordingly:

- ◆ *Number/Format:* Assigned number of medical terminology vocabulary cards is completed; required items are included in the proper format on each card; each medical term is broken down into word elements or word parts; definition or explanation of each word part is provided.
- ◆ *Accuracy of Information:* Definitions are accurate and reflect the meaning of each medical term in everyday, understandable language; word elements or word parts are accurately defined or explained; terms are explained in the context of health science or career association; student uses medical term accurately and appropriately in a sentence of his or her own creation.

Procedures

1. In order to apply word analysis and vocabulary skills to comprehend selections, students should experience sufficient learning opportunities to develop the following skills:
 - ◆ Expand knowledge of word origins and derivations.
 - ◆ Apply knowledge of roots and affixes to comprehend the meaning of unfamiliar or difficult words, terms, or phrases.
 - ◆ Identify and analyze the structure and function of words in context.
 - ◆ Analyze the structure and function of words in context.
 - ◆ Analyze and interpret word usage in traditional and contemporary sources (e.g., books, lyrics, speeches).

Students employed in various health careers are required to understand both written and spoken medical terminology. Understanding medical terminology is critical to enhancing

employment opportunities in various health careers. This assessment aligns with the National Knowledge and Skills Communication Standard.

2. Health Science Technology students will review and discuss the assessment task and how the rubric will be used to evaluate their work.
3. After completing career exploration and research activities and a minimum of two Career Exploration Worksheets, students should have a minimum of 10 medical terms that were found in the process of these activities. Students will take a minimum of 10 medical terms from their Career Exploration Worksheets and make 10 medical terminology vocabulary cards, following the instructions provided.
4. Each student's performance will be evaluated using the rubric. Add each student's scores to determine the performance level.

Time Requirements

One class period (45–50 minutes)

Resources

- ◆ Ten 4" × 6" note cards for each student
- ◆ Student Instructions
- ◆ VM–A: Medical Terminology Vocabulary Card—Format
- ◆ VM–B: Medical Terminology Vocabulary Card—Example
- ◆ Resource/reference materials (dictionary, medical dictionary, medical terminology books, Internet with on-line medical dictionaries or medical terminology resources)
- ◆ Scoring Rubric

Medical Terminology Vocabulary Cards

After completing career exploration and career research activities and after completing a minimum of two Career Exploration Worksheets, you should have at least 10 medical terms on these worksheets. Use at least 10 of the medical terms from your Career Exploration Worksheets to make at least 10 medical terminology vocabulary cards, following the instructions and the examples below.

On each 4" × 6" index card:

1. Write a medical term.
2. Write the medical definition in understandable, everyday language.
3. Write the term in the context in which you found it. Use one or more sentences quoted directly from the source. Underline the medical term.
4. Identify the title of the book, the name of the Web resource, etc.
5. Include the author or publisher of the resource. (If it was an Internet source, include the Web address.)
6. Break the medical term down into its word parts (if applicable), as follows:
PREFIX/combining vowel/ROOT WORD/combining vowel/SUFFIX
7. Define the word parts (if applicable), as follows:
PREFIX—meaning ROOT WORD—meaning SUFFIX—meaning
8. Use the medical term in a sentence of your own.

See the visual examples before beginning your medical terminology vocabulary cards.



Medical Terminology Vocabulary Card Format

- 1, 2 Medical Term—Definition in understandable, everyday language.
- 3 One or more sentences quoted directly from the source, with the medical term underlined.
- 4, 5 Name or title of source—Author/publisher or Web address
- 6 Word parts:
Prefix = _____ Root Word = _____ Suffix = _____
Combining vowel, if any = _____ Combining vowel, if any = _____
- 7 Word parts defined (if applicable):
Prefix—meaning _____ Root Word—meaning _____ Suffix—meaning _____
- 8 Use medical term in a sentence of your own.

Medical Terminology Vocabulary Card Example

- 1, 2 Epigastric—Pertaining to the area above the stomach.
- 3 “A radiology technician performed an x-ray on a patient who was admitted with complaints of epigastric pain.”
- 4, 5 Radiology Today—Brandon Smith
- 6 Prefix = epi _____ Root = gastr _____ Suffix = ic _____
epi—above; higher than gastr—stomach ic—pertaining to
- 8 A person with an ulcer may have symptoms such as nausea and epigastric pain.

Medical Terminology Vocabulary Cards

- ◆ Exceeds standard (7–8 total points)
- ◆ Meets standard (5–6 total points)
- ◆ Approaches standard (3–4 total points)
- ◆ Begins standard (2 total points)

Number/Format	Accuracy of Information
4	<ul style="list-style-type: none"> • Ten or more cards completed. • All required items are included on each card (term; definition; underlined word shown in quoted sentence from source; source identified, including author or publisher; term broken down into word parts, with word parts defined; term used in a sentence of student's own creation.) • Cards are formatted as instructed in directions/sample.
3	<ul style="list-style-type: none"> • Eight or nine cards are completed. • Most of the required items are included on most cards. (See list above.) • Most cards are formatted as instructed in directions/sample.
2	<ul style="list-style-type: none"> • Five to seven cards are completed. • Most required items are included on the cards. • Several cards are formatted incorrectly.
1	<ul style="list-style-type: none"> • Fewer than five cards are completed. • Most cards are missing several of the required items. • Most cards are formatted incorrectly.
Score	

MEDICAL TERMINOLOGY VOCABULARY CARD—FORMAT

- 1, 2 Medical Term—Definition in understandable, everyday language.
- 3 One or more sentences quoted directly from the source, with the medical term underlined.
- 4, 5 Name or title of source—Author/publisher or Web address
- 6 Word parts:
 Prefix = Root Word = Suffix =
 Combining vowel, if any = Combining vowel, if any =
- 7 Word parts defined (if applicable):
 Prefix—meaning Root Word—meaning Suffix—meaning
- 8 Use medical term in a sentence of your own.



MEDICAL TERMINOLOGY VOCABULARY CARD—EXAMPLE

- 1, 2 Epigastric—Pertaining to the area above the stomach.
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- 7 epi—above; higher than gastr—stomach ic—pertaining to
- 8 A person with an ulcer may have symptoms such as nausea and epigastric pain.



Career Exploration Worksheet

Purpose

The purpose of this Career Exploration Worksheet is to provide students with a note-taking tool to use during their career exploration activities / career searches and a place to document new medical terms they come across in the process of their career research.

Objectives

1. Provide students with a list of key elements that are essential to completing a thorough career search.
2. Facilitate the documenting of new medical terms that students come across in the course of their research.

Materials

- ◆ copies of lab sheet
- ◆ writing utensils
- ◆ classroom resource materials for career exploration / career search (e.g., reference books, textbooks, periodicals, career resources, Internet)

Procedure

1. Give each student a copy of the LS–A lab sheet, which consists of a page of instructions and a two-page worksheet.
2. Instruct the student to choose a career/occupation that he or she is interested in.
3. Have the student use the Career Exploration Worksheet to perform a thorough career search.
4. Tell the student to use classroom resources to find all the information indicated on the worksheet relating to the chosen career.
5. Have the student identify and define any medical terms he or she comes across while during career research.

Career Exploration Worksheet— Instructions

This handout will explain how to complete the Career Exploration Worksheet, which will be used to help you research a career in health care.

In addition to the Internet, here are several resources you can use to complete your career research:

Morkes, A. (Managing Editor). (2002). *Exploring Health Care Careers*, 2nd ed., Volumes I & II. Chicago: Ferguson Publishing.

Simmers, L. (2001). *Diversified Health Occupations*, 5th ed. Clifton, NY: Delmar Publishers.

U.S. Department of Labor. (2003) *Occupational Outlook Handbook, 2002–2003* (or latest edition). Chicago: VGM Career Books, A Division of McGraw-Hill. (Also available at <http://www.bls.gov/oco>)

Explanation of Categories on the Worksheet

- ◆ Career Title: Give the title of the career you are going to be researching.
- ◆ Health Science Career Pathway: Indicate which pathway the career corresponds to: Biotechnology Research & Development, Diagnostic Services, Health Informatics, Support Services, or Therapeutic Services.
- ◆ Job Description / Nature of the Work: Describe what a person in this job does. List different job duties, assignments, or tasks.
- ◆ Salary Range: Describe approximately how much money a person in this career can make in a year. Describe the salary in a range. Example: The salary range for a dental assistant is \$14,000 to \$32,000 per year, depending on education and experience.
- ◆ Places of Employment: List several places or locations where someone in this career could work. Example: A medical sonographer might work in a hospital, a private physician's office, a clinic, an educational institution, or a research lab.



- ◆ Recommended High School Courses: List the high school courses recommended for someone who wants eventually to have this career. Example: A student who wants to become an epidemiologist should be strong in high school biology, health, and math.
- ◆ Postsecondary Training Required: Determine what education or training is required after high school in order to pursue this career. Example: An occupational therapist must have a bachelor's degree in occupational therapy.
- ◆ Personal Skills Required: Describe the personal skills, talents, or abilities that someone should have in order to be successful in this career. Example: Someone interested in pursuing a career in pharmacy should have good verbal and written communication skills as well as good technical skills. The person should be organized and observant.
- ◆ Physical Skills Required: Describe what physical skills are necessary in order for someone to perform the tasks of this career. Example: A physical therapist should be in good physical condition and be capable of lifting and utilizing the equipment needed to perform the job.
- ◆ Schools/Colleges Offering Training: Find schools or colleges that offer education and training in this career. Example: Someone who wants to become a physical therapist assistant could study at Triton College in River Grove, IL, or at College of DuPage in Glen Ellyn, IL.
- ◆ Occupational (Work-Related) Risks & Hazards: Determine what work-related risks or hazards (dangers) might be involved for someone in this career. What dangers might a person in this career have to deal with as a part of his or her daily job? Example: A radiology technician is at risk (although minimally) of exposure to radiation. He or she is also at risk for various diseases that might be transmitted by patients.
- ◆ Certification, Registration, Licensing, Continuing Education: Determine if certification, registration, licensure, and continuing education are available and whether they are required for this career. Example: In Illinois, a professional nurse is required to register. A nurse is also required to obtain and maintain a license. Certification is not required, but is available in some specialty areas. Continuing education is recommended but not required in every state.
- ◆ Relevant Professional Organizations: Locate at least two professional organizations or associations that people in this career might join in order to keep current on their profession. Example: A radiologic technologist might be a part of the American Society of Radiologic Technologists (ASRT).
- ◆ Career Ladder: List several steps in a possible career ladder. What position might someone have before this career, and what position might someone move into after additional training, education, or promotion? Example: A registered nurse's career ladder might look something like this: Nurse assistant >> Registered nurse >> Nurse Manager.
- ◆ Job/Market Outlook: Determine the anticipated outlook for this career. Are jobs in this career expected to grow over the next few years? Are these jobs going to be available long into the future? Example: The *Occupational Outlook Handbook* reports that opportunities for dental technicians will be favorable, but no change in employment is expected in the next decade.
- ◆ Resource(s): Document the resource(s) you used to complete this worksheet.
- ◆ Vocabulary: List and define at least five vocabulary words that relate to the career you are exploring. These can include medical terminology or medical abbreviations you come across during your research. Example: Vocabulary words relating to ophthalmic technician might include *cataract*, *cornea*, *glaucoma*, *refraction*, and *retina*.

Career Exploration Worksheet

Directions:

Gather the following information about the career you intend to research, following the instructions that were provided.

Career Title:

Health Science Career Pathway:

Job Description / Nature of the Work:

Salary Range:

Places of Employment (List several.):

Recommended High School Courses:



Postsecondary Training Required (# yrs. college, type of degree, additional training):

Personal Skills Required:

Physical Skills Required:

Schools/Colleges Offering Training:

Occupational (Work-Related) Risks & Hazards:

	Available?		Required to practice?	
Certification	Yes	No	Yes	No
Registration	Yes	No	Yes	No
Licensing	Yes	No	Yes	No
Continuing Education	Yes	No	Yes	No

Relevant Professional Organizations:

Career Ladder—(List several possible steps in a career ladder for this career.):

Job/Market Outlook:

Resource(s)—(What resource(s) did you use to find the above information?):

Locate, list, and define at least five vocabulary words that someone in this career would need to know.

Word	Definition
1.	
2.	
3.	
4.	
5.	