In this unit, students are introduced to the wide range of careers in healthcare. They read graphs and databases to learn about health careers at various levels. They also consider non-health provider careers that exist in healthcare environments. They learn to navigate career websites, assess their own interests and conduct a group research project about careers in healthcare.

1. **LABOR VOCABULARY: WHAT ARE WE TALKING ABOUT WHEN WE TALK ABOUT LABOR?**

Students learn the language of labor—careers, jobs, industries, sectors—what does it all mean?

2. **WHAT IS THE HEALTHCARE SECTOR?**

Students read an overview description of the Healthcare sector, including what types of careers and facilities it includes.

3. **READING BAR GRAPHS: EMPLOYMENT TRENDS IN HEALTHCARE**

Students read about the local labor market by analyzing graphs of job growth and loss.

   **3.1 • Job Losses and Gains Across Sectors**
   Students predict then analyze a graph showing the job losses and gains by sector and consider which fields are ones to watch.

   **3.2 • Total Employment in Healthcare**
   Students read, analyze and write about a bar graph containing the total number of Healthcare jobs filled between 2010 and 2015.

   **3.3 • Which Healthcare Careers Are on the Rise?**
   Students read graphs and graphics about which healthcare careers are on the rise. This grounding in employment reality informs their later work in researching careers of interest.

   **3.4 • What Accounts for Increasing Jobs in Healthcare?**
   Students learn why jobs in Healthcare are on the rise through their analysis of an infographic.
3.5 • Healthcare Careers Brainstorm
Students begin their research by identifying careers in healthcare with which they are already familiar.

3.6 • Related Careers in a Healthcare Environment
Students brainstorm careers in healthcare environments that do not involve directly providing healthcare.

4. HOW DOES TECHNOLOGY AFFECT TODAY’S LABOR MARKET?
Students learn how technology both positively and negatively impacts the workplace, including the number and type of jobs available, the job search process and the need to stay current on technology to remain a valuable worker.

4.1 • Technology’s Impact on Healthcare Employment
Students read an article about technological advances in the healthcare sector and how they impact employment in the healthcare sector, while practicing annotation.

5. INTRODUCTION TO CAREER DATABASES SERIES
Students practice using career databases, including CareerZone and Career Cruising. They learn how to assess their interests, locate entries on individual careers, interpret what they read, paraphrase and present their findings.

5.1 • CareerZone
5.1a • Introduction to New York’s CareerZone and Example Career: Ambulance Driver
Students learn how to use the website, CareerZone, examining one sample career search together before conducting a group research project.

5.1b • Group Research on a Healthcare Career
In groups, students research healthcare careers at various levels, using New York State’s CareerZone website. Having practiced navigating CareerZone by researching one career in a group, students now research their own healthcare career of interest, paraphrasing the information they read.

5.1c • Preparing a Research Presentation
Students work in a group to organize the information found on CareerZone into a presentation.

5.1d • Presenting CareerZone Research
Students present their research to the class, including the job responsibilities, salary, work setting and required education/training.
5.2 • Introduction to Career Cruising
A teacher's overview to the Career Cruising activities.

5.2a • Your Unique Qualities
Students identify personal characteristics that may be an asset or a challenge in the workplace, such as being a strong public speaker or having difficulty with technology.

5.2b • Navigating Career Cruising
Students use Career Cruising to assess their career interests. The website recommends various careers based on the responses to a series of questions about users’ interests.

5.2c • Creating a MyPlan Account
Students create an individual account on Career Cruising which enables them to take an assessment and receive career recommendations.

5.2d • Exploring Career Clusters
Students read about one of Career Cruising’s “career clusters,” according to their interest.

5.2e • CareerCruising Matchmaker
Matchmaker is Career Cruising’s assessment tool. Students answer questions about their interests and receive a list of recommended careers based on their responses.

5.2f • Reading about Recommended Careers
Students read about one or more careers recommended by Career Cruising.

5.2g • Video, Audio and Written Worker Interviews
Students read, listen to or watch interviews from workers discussing their experiences on the job.

5.3 • Additional Career Search Resources:
Bureau of Labor Statistics and Mynextmove
A teacher resource listing additional career databases with descriptions of careers, interest self-assessments and real time labor market information such as job postings, geographical data and educational programs.
6. READ AND DISCUSS: BILINGUAL HEALTHCARE WORKERS

Students read and discuss a short article on the value in the job market of being bilingual.

7. CAREER FAMILIES IN HEALTHCARE

Across sectors, careers can be grouped into types, according to the kind of work the worker does. Students identify commonalities among careers of a particular type. They consider what type they themselves might be well suited for.

8. EMPLOYER TYPES IN HEALTHCARE*

In groups, students read about different types of employers, discuss an example employer with their group, then present to the class this employer type, explaining how it is different from other types of employer.
**Labor Vocabulary: What Are We Talking About When We Talk About Labor?**

Students learn and practice using terms common to the consideration of careers, laying the groundwork for future reading, discussions and career research.

**PREP**

- Become familiar with the terms on the *Labor Terminology* information sheet.

**MATERIALS**

- *Labor Terminology* information sheet
- *Labor Terminology* worksheet
- *Labor Vocabulary Questions* worksheet

**DISCUSS**

1. Explain that you are going to talk about careers. Ask students what words come to mind when they think about careers. Discuss the meanings of these words.

2. Distribute the *Labor Terminology* worksheet and ask students to work in pairs to write what they think each of the terms means.

3. Discuss the definitions, using the *Labor Terminology* information sheet as a guide. Ask students where and when they have heard each term in the past, for example on the news, in readings for school, etc. Feel free to alter the language of the definitions to make them most meaningful to students. Ask students to take notes on the definitions.

4. Distribute the *Labor Vocabulary Questions* worksheet and ask students to complete it, in pairs during class or alone for homework.
## Labor Terminology

Read the term in the left-hand column. Then write what you think the term means in the center column. As the class discusses each definition, take notes and write the definition in the right-hand column.

<table>
<thead>
<tr>
<th>Term</th>
<th>What I Think it Means</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industry</td>
<td></td>
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<tr>
<td>Occupation</td>
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<td>Profession</td>
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<td>Job</td>
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<td>Employment</td>
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<tr>
<td>Career</td>
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<tr>
<td>Labor Force</td>
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</table>
Labor Terminology Information Sheet

**Industry**
An industry is a group of organizations that do the same type of work. It is a way of grouping employers. All of the employers in healthcare, for example, hospitals, nursing homes and physical therapy practices, provide services to keep people healthy. The word “sector” means the same thing as “industry.”

**Occupation**
An occupation is a group of jobs that involve performing the same type of activities. It is a way of grouping workers. For example, people who work as nursing assistants or home health aides all help people who are sick. You can do this type of work in different places for example, in a patient’s home, in a hospital, or in a nursing home.

**Profession**
A profession is a group of jobs that requires advanced degrees and qualifications, such as being a doctor, a nurse, a lawyer, or a teacher.

**Job**
A paid position with a particular employer. The job-holder is the employee.

**Employment**
A relationship between an employer and an employee in which the employee is paid to do work for the employer. Employment can be part-time or full-time. It also can be temporary or permanent.

**Career**
One job or a series of related jobs that a person has over a period of several years. For example, a person could be a teacher for a long time and have a career in education. Or he could have a job as a home health aide and after several years of experience and more education, he could advance to a job as a medical assistant. This would be a career in healthcare. This person has a career in healthcare. A person can have more than one career over a lifetime.

**Labor Force**
The United States labor force refers to all the people in this country who are 16 years of age or older who are either able to work, are looking for work or are working. Labor force can also mean all of the people who work for a particular employer or in a specific city, for example, Target’s labor force or New York City’s labor force. Workforce and labor force mean the same thing.
Labor Vocabulary Questions

Use the vocabulary definitions from the Labor Terminology worksheet to answer the following questions.

1. What is the difference between a job and a profession?

2. Does a person with a profession likely earn more than a person with a job? Why or why not?

3. For each of the following, circle the correct definition:
   1. An employee is a worker/boss
   2. An employer is a worker/boss
   Is the boss always the same as the employer? Why or why not?

4. Healthcare, retail and construction are examples of industry sectors. Give an example of a career within each of these industry sectors:
   a. Healthcare
   b. Retail
   c. Construction

5. What is one industry that you might be interested in working in and why?
What is the Healthcare Sector?

Students read a description of the Healthcare sector overall, then take a closer look at the units that comprise it by brainstorming careers in one of three Healthcare settings—outpatient, nursing home and hospital.

PREP

Navigate to careercruising.com. The Career Cruising website requires a subscription username and password. If your program does not subscribe to careercruising, use the CareerZone website. Once in CareerCruising, navigate to the Careers section. This is a resource for the teacher to learn background information about the Healthcare sector.

Next click on Industries.
Lastly, navigate to **Health Care and Social Assistance** and read about the Healthcare sector.

**MATERIALS**

- Profile of the Healthcare Sector reading
- Chart paper and markers

**DISCUSS**

When you think of the Healthcare sector, which careers come to mind?

- **Doctors, nurses, EMTs.**

What else?

- **Secretaries, billers, custodians.**

Where do people in healthcare work?

- **In hospitals, nursing homes, private homes, schools.**
EXPLAIN

1. We’re going to learn a lot about working in the healthcare sector and about using healthcare as a patient or family member of a patient. Let’s begin with thinking about which careers and employment settings are included in the Healthcare sector. Distribute *Profile of the Healthcare Sector*.

2. Ask students to read the article, then turn to a partner and identify the main ideas of the article.
   - *Healthcare jobs are plentiful, pay higher than average wages, healthcare jobs are in hospitals, outpatient facilities and nursing homes. Healthcare jobs are plentiful due to an increase in older patients needing increasing levels of care, advances in technology.*

3. Ask students to read the article a second time, explaining that when they are finished reading, they will write a 3-4 sentence summary of the article without looking at it. Ask students to explain what a summary is and discuss any confusions.
   - *A summary is a brief explanation of the main points. It does not include a lot of details and uses the summarizer’s own words.*

4. Ask students to put the article away and write a 3-5 sentence summary of the article.

5. Ask for a few volunteers to read their summaries aloud.

6. Divide the students into three groups and assign each group one of the Healthcare sub-sectors: outpatient, nursing home and hospital. Distribute chart paper and markers to each group. Each group should list as many careers as they can that work in one of those settings. They do not have to be direct care positions. They should write their lists on chart paper.

7. Post the chart paper on the walls and have students rotate between the groups, noting the careers listed on each list.

8. Have students return to their seats and write 5-8 questions about working in the Healthcare sector.
Profile of the Healthcare Sector

Healthcare includes establishments that offer medical social services to people. Healthcare establishments can be broken into three sub-groups:

- Outpatient Care (e.g. services provided in doctors’ offices, care centers or at home)
- Nursing and Residential Care Facilities
- Hospitals

In most regions of New York State, there are a lot of jobs in healthcare, though the specific jobs available may vary by area. These jobs range from entry-level positions, such as a home health aide or occupational therapy aide, to positions that require further education and advanced skills, such as a nurse or physical therapist. Many entry-level jobs in healthcare require a high school diploma or equivalent. In several regions of New York State, jobs in healthcare pay annual salaries that are above the average annual salary in the region.

Healthcare is affected by changes in the population, laws, public policies and technology. For example, the healthcare sector is expected to grow over the next decade because as the U.S. population is getting older and older people need more healthcare services. In addition, healthcare-related laws are encouraging more patients to be cared for outside of hospitals, so jobs in outpatient care are expected to grow more than others. And, as technology advances, remote monitoring of patients will make outpatient care easier. Technological advances will also mean that some healthcare workers will need new skills to stay up to date. Healthcare was the fastest growing sector across New York State between 2009 and 2014.

Over the next 10 years, experts expect Healthcare to continue to grow a lot in every region of New York State.

Source: New York City Labor Market Information Service, City University of New York
Reading Bar Graphs Series: Employment Trends in Healthcare

Students learn about the local healthcare labor market by analyzing graphs of job growth and loss.

ACTIVITIES IN THIS SERIES

3.1 • Job Losses and Gains Across Sectors
3.2 • Total Employment in Healthcare
3.3 • Which Healthcare Careers Are on the Rise?
3.4 • What Accounts for Increasing Jobs in Healthcare?
3.5 • Healthcare Career Brainstorm
3.6 • Related Careers in a Healthcare Environment
Section 3.1

Job Losses and Gains Across Sectors

Students predict, then read a graph detailing how various industries fared in New York City* in 2004 and 2014.

PREP

• Read the graph, Job Losses and Gains

MATERIALS

• Job Losses and Gains Graph
• Prediction Guide: Rising and Falling Industries worksheet

EXPLAIN

1 Before planning a career, it helps to know which industries are growing, which are shrinking, and which are staying level. At any point in time, the number of jobs in some industries is increasing, and in others, decreasing.

First off, what do we mean by industry?

▶ An industry is a collection of related jobs. For example, what industry do an x-ray technician and a medical biller belong to? Healthcare.

If a particular industry is growing, what does that mean for job seekers—people looking for jobs?

▶ There are jobs that need to be filled.

If it is shrinking, what happens to jobs?

▶ There are fewer jobs. Some people might lose their jobs and there won’t be many new openings.

Which industries do you think are growing in New York City* right now?

2 Distribute the prediction guide, one per pair, and explain that in partners, students are going to predict which industries increased in 2014, which decreased and which remained level.

3 When students are finished, distribute Job Losses and Gains Graph and ask them to read it carefully.
**Prediction Guide: Rising and Falling Industries**

With a partner, decide whether you think each of the industries below increased, decreased or remained level between 2004 and 2014, marking a check in the corresponding boxes below. Discuss the reasons for your choices.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Increased</th>
<th>Decreased</th>
<th>Stayed Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
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<tr>
<td>Public Administration</td>
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<td>Financial Services</td>
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<tr>
<td>Information</td>
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<tr>
<td>Construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade, Transportation and Utilities</td>
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<tr>
<td>Professional and Business Services</td>
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<tr>
<td>Leisure and Hospitality</td>
<td></td>
<td></td>
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<tr>
<td>Education and Health</td>
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</tbody>
</table>
### Description of Industry Sectors

Teachers may use the chart below to answer questions about the career composition of the industry sectors on the graph.

| **Construction** | Organizations that build things. This includes organizations that build houses, office buildings, sewer pipes, power lines, highways and bridges. It includes organizations that employ people with general skills such as managing a building project and specialty skills such as carpenters, electricians and plumbers. | Construction |
| **Manufacturing** | The CareerKits divide Manufacturing into two sectors: Manufacturing, which includes organizations that make products such as clothing, machines, electronics and cars, and Food Production, which includes organizations that grow, raise and produce products such as apples, bacon, yogurt and milk. | Manufacturing
Food Production |
| **Mining and Logging** | Organizations that prepare natural resources for use. Some examples of natural resources are coal, metals, minerals, oil, gas and trees. | Does not appear in the CareerKits |
| **Education, Healthcare and Social Assistance** | Organizations that offer childcare, education and training as well as healthcare and social assistance. This includes daycare centers, schools, colleges, hospitals, shelters and soup kitchens. | Healthcare
Education and Childcare
Community and Social Assistance |
<p>| <strong>Government</strong> | Sometimes called “public administration” or “the public sector,” the Government sector includes local, state, and federal agencies. This includes organizations that are in charge of public housing, trash collection and national security as well as prisons, the police and the fire department, among others. | Public sector careers are addressed in every CareerKit sector. |
| <strong>Entertainment, Food and Hospitality</strong> | Organizations that provide art, fun, food and places to stay overnight. This includes organizations involved in theater, dance and music, as well as museums, parks, bowling alleys, restaurants and hotels. | Hospitality, Recreation and the Arts |
| <strong>Professional and Administrative Services</strong> | Organizations that provide support services to other organizations. This includes services such as accounting, advertising, billing, security, mailing packages and cleaning. | Organizations that are dedicated to these tasks are not included in the CareerKits, however administrative careers are included in every CareerKit. |</p>
<table>
<thead>
<tr>
<th>Sector</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking, Insurance and Real Estate</td>
<td>This sector includes organizations that deal with money. This includes banks as well as insurance and mortgage companies. It also includes organizations that rent property, vehicles or machinery, such as buildings, cars, refrigerators, televisions and bulldozers.</td>
<td>Does not appear in the CareerKits</td>
</tr>
<tr>
<td>Information</td>
<td>Organizations involved in producing, processing and distributing different types of information. This includes publishers of books, newspapers and computer software as well as producers of movies, music, radio and television programs.</td>
<td>Some of these careers are included in the Technology CareerKit</td>
</tr>
</tbody>
</table>
| Trade, Transportation and Utilities | The CareerKits divide this sector into Retail and Transportation & Warehousing. Retail includes businesses that sell products such as clothing, cars, telephones and furniture. Transportation & Warehousing includes airlines, taxi and limousine companies, shipping and trucking. Some utilities are addressed in other sectors, such as phone/internet in Technology and others, and water and sewage treatment are included in the Community and Social Services CareerKits. | Transportation and Warehousing  
Retail  
Technology  
Community and Social Services                                                                                                           |
| Other                          | This catchall includes organizations that do things not captured by the other sectors. This sector includes car, computer and shoe repair shops, beauty salons, laundromats, parking lots and religious organizations.                                 | Community and Social Services                                                               |
Job Losses and Gains Graph: How Did You Do?*

Read the graph below* noting the employment numbers for each industry sector in 2004 and 2014.

![Total Jobs in NYC, 2004 and 2014](image_url)

*RAENs will provide regional adaptations.
DISCUSSION

Before we think about how the data compares to your predictions, let's discuss how to read this graph.

- According to the title, what is this graph about?
- What do the words going down the left side of the page tell you?
- What do the numbers across the bottom of the page tell you?
- What do the dark blue and light blue lines represent?
- What do the heavy black vertical lines represent?
- What do the fine black vertical lines represent?
- Where on this graph is the key? What does it tell you?
- Why are there two years shown on this graph?
- What does it mean when a dark blue line is longer than its partner light blue line?
- What does it mean when a light blue line is longer than its partner dark blue line?
- The heavy black vertical lines represent an increase of 200,000 jobs. How much of an increase does each fine black vertical line represent? How did you arrive at that answer?
- Ask students to find the corresponding industry sectors from the graph listed on their worksheets and discuss how these numbers compare to their predictions.

PAIR ACTIVITY

In pairs, write three statements about the graph, two that are true and one that isn’t. When you are finished, share with another pair. Each pair should determine which of the other pair’s statements are true and which is false.

FOLLOW-UP DISCUSSION

1. Which sector showed the most job growth from 2004 to 2014? How do you know?
2. Which sector showed the least job growth from 2004 to 2014? How do you know?
3. Why are the industries listed in this order?
4. How is the information in this graph by relevant to a job-seeker?
Students read a bar graph containing data of the total number of Healthcare jobs from 2010–2015. In groups they discuss the graph and answer open ended questions, followed by a class discussion. Finally, students write short paragraphs about the information in the graph and use the data to back up a prediction about the job outlook for the Healthcare field.

PREP

- Review Total Jobs in Healthcare, New York City* graph, to prepare for class discussion.
- Write 6-10 questions based on the sample discussion questions listed below.

MATERIALS

- Total Jobs in Healthcare, New York City* graph
- Jobs in Healthcare Writing Assignment worksheet

EXPLAIN

1. Today we are going to look at a graph titled, Total Jobs in Healthcare, New York City. Can you predict what this data might show?
   - How many healthcare jobs are in New York City?

2. Do you think this graph will show us how many jobs exist today, in the past, or in the future? Why do you think that?

3. Why might it be useful to look at this graph?
   - To determine if jobs are available, have been available, or are likely to become available. To help us decide if we want to go into Healthcare.

4. Let’s see if your predictions are correct. Divide students into groups of three and distribute Total Jobs in Healthcare, New York City* graph.

5. Ask students to discuss the graph together and answer the following questions:
   - What do you notice? (write down as many things as you can)
   - What do you see that interests you?
   - What do you want to know more about?
   - What do you have questions about?
6 Ask students to write down their group’s answers to be discussed afterward as a class.

**DISCUSSION GUIDELINES**

Facilitate a discussion in which students share what they talked about in groups and also ultimately discuss:

- **The structure and organization of the graph**
  - For example: *What information is on the X axis? What information is on the Y axis? What increments of time are used?*

- **How to read the graph**
  - For example: *Can you describe how you would find the total number of jobs for July–September of 2011?*

- **The purpose of the graph**
  - For example: *Why is this graph useful?*

- **The content included in the graph**
  - For example: *During what period was the total number of jobs the lowest? Highest? When did it stay the same?*

- **Any patterns the data shows and possible reasons for the patterns**
  - For example: *Are there any quarterly periods that seem similar from year to year? How? Why do you think that might be?*

- **Implications of the data**
  - For example: *What can we predict based on this graph? Is it a good time to look for a job in Healthcare?*

Students should back up their thinking with evidence from the graph. Ask follow up questions that help students explain their thinking, delve more deeply into the questions, and cite evidence from the graph. Some sample questions might include:

- **How do you know that?**
- **Where in the graph do you see that?**
- **Why do you think that?**
- **What else do you notice?**
- **Can you say more about that?**
- **What do you think that means?**
SAMPLE DISCUSSION QUESTIONS:

What does this graph show?

➢ The total number of jobs in Healthcare in NYC* from 2010-2015

How do you know?

➢ Because the vertical axis shows the total number of jobs and the horizontal axis shows the years 2010-2015

Does the graph report data for each individual month between 2010 and 2015?

➢ No, it is measured in three month increments or quarterly

How do you know?

➢ Each line on the horizontal axis reads Jan–Mar, Apr–Jun, Jul–Sep, etc.

During which periods did ________________? Why do you think that is?

What other things did you notice about the total number of jobs in Healthcare from 2010-2015? Why do you think that? Can you say more about that?

Do you think now is a good time to look for a job in Healthcare? Why do you think that?

OPTIONAL WRITING ASSIGNMENT

1 Distribute Jobs in Healthcare Writing Assignment worksheet.

2 Ask students to write a paragraph in a journalistic style that describes the data in the graph and makes a prediction about the future of Healthcare jobs in the region citing evidence from the graph. Encourage students to write more about trends in the data rather than to report a series of individual pieces of data.
Graph: Total Jobs in Healthcare, New York City*

Source: NYCLMIS analysis of NYS Department Of Labor Quarterly Census Of Employment And Wages (QCEW). NEW YORK CITY includes Bronx, Queens, New York, Richmond, and Kings counties.
Total Jobs in Healthcare Writing Assignment

**WRITING PROMPT:** You work for a newspaper. Your editor wants a short article to accompany the graph. Write a paragraph that describes the total number of Healthcare jobs between 2010 and 2015. Assume that your reader cannot see the graph. Include a prediction for Healthcare jobs in the near future—Do you think Healthcare jobs will rise or fall in the near future? Explain why you think this. Back up your prediction with evidence from the graph.
Which Healthcare Careers Are on the Rise?

Students predict if and why healthcare jobs are on the rise, read a graph about which occupations are having the largest amount of growth and compare it to their predictions.

PREP

- Be prepared to discuss the following terms: increase, decrease

MATERIALS

- Distribution of Healthcare Jobs in the United States graph

EXPLAIN

1. According to the Job Losses and Gains graph, healthcare is the fastest growing industry in New York City, but which jobs specifically are growing and why?

2. In pairs, students discuss which careers in healthcare they think might be increasing. Are they all increasing? Are entry level and high level careers increasing? What does technology have to do with it? After ten minutes, students share their thoughts with the class.

3. Tell students that researchers were wondering the same thing, and collected information on the rate at which various healthcare careers are increasing. What does rate mean?
   - The number of times something happens in a particular period.

4. Distribute the Distribution of Healthcare Jobs in the United States graph and have students read it to see how the current reality matches up with their predictions.
Let’s look at an example. The first one, dental hygienist, is increasing by how much?

- Nearly 40%

What does that mean?

- In the future, there will be 40% more jobs as a dental hygienist than there are now.

If there were 100 dental hygienist jobs, and they increased by 40%, how many would there be?

- 140

What are some of the fastest growing healthcare careers?

- Personal aide and home health aide?

Which careers do you think are entry-level careers?

- Personal care aides, home health aides.

Which do you think are mid-level careers in healthcare?

- Technicians, Licensed Practical Nurses

Which careers do you think require the greatest amount of education and training?

- Physical Therapist, Physician, Social Worker

Are all of the careers on this chart increasing, or are some decreasing?

- All are increasing.

Were you surprised by any of the statistics?

What do you think are some of the reasons for the increasing number of jobs in healthcare?

- People are living longer than they have in the past and have increased healthcare needs. Because of changes in healthcare policies, health insurance is available to more people, so some people who did not previously have regular medical appointments are starting to have them more frequently; family structures have changed and many older people are no longer cared for by family members.

- The healthcare workforce is aging and many workers will be retiring, leaving vacancies that need to be filled;

Among the careers listed, are there any that you are unfamiliar with? Which ones?

How would you find out about them?

What information do you want to know about working in this occupation?

What questions would you ask?
Section 3.3

Distribution of Healthcare Jobs in the United States

Dental hygienists
Physical therapists
EMTs/paramedics
Pharmacists
Dental asst’s
Health care managers
Clin lab techs
Pharmacy techs
Recreation workers
Diagnostic techs
Medical assistants
Support techs
Social workers
Physicians
LPNs
Personal care aides
Home health aides
Nursing aides
RNs

Source: Joint Center for Political and Economic Studies/George Washington University

Growth in the Largest Occupations
What Accounts for Increasing Jobs in Healthcare?

Having speculated, students learn why jobs in healthcare are on the rise, through their analysis of the Baby Boomers and Healthcare infographic.

PREP

- Be prepared to explain the terms: **booming, baby boomers**

MATERIALS

- *The Future of Health: Baby Boomers* infographic (two pages)

PAGE ONE

Distribute the first page of the infographic and ask students to read it for understanding of who baby boomers are.

DISCUSS

According to the graphic, who are baby boomers?

- *People born between 1946 and 1964.*

How old are baby boomers now? Do the math.

- **53-71**

What do they have to do with healthcare?

- *They are aging and have a lot of health concerns.*

Approximately how many baby boomers are turning or have already turned 65 and will likely need more healthcare in the coming years?

- *Roughly 80 million.*

Explain that the baby boomer generation was the longest generation of the 20th century (1900s) and so this is the largest amount of aging people our modern healthcare system has ever had to care for.

What kinds of health concerns do baby boomers have according to the infographic?

- *Obesity, arthritis, diabetes.*

Do you have any people in your life in this age bracket who have some of these health concerns? What additional health concerns do you think baby boomers have?
What are causes of health concerns in baby boomers in your family and community?

- Results of physical strain due to many years working in physically demanding jobs, such as ones in construction, food service, custodial; unhealthy diets; exposure to pollution; lack of preventive care, such as regular check-ups and health screenings; stress, due to financial, family and work concerns.

PAGE TWO

Distribute the second page asking students to read it and explain in further detail the connections between baby boomers and healthcare.

DISCUSSION

How do you think the aging of baby boomers will affect healthcare employment?

- There will be a dramatic increase in healthcare jobs.

What are some of the reasons there are so many new jobs in healthcare?

- People are living longer, and with more health problems.
- There are a lot of tech jobs due to the computerization of the healthcare industry.
- Healthcare research creates a lot of laboratory jobs.

Which patient care jobs do you think will have openings?

- Nurses, home health aides, physical therapists

Which administrative jobs do you think will be in need?

- Medical coders and billers, medical receptionists

What related jobs could increase due to the healthcare needs of baby boomers?

- Sales of medical and healthcare equipment, such as wheelchairs, walkers, bathroom grab bars and ramps.

For the careers that do not involve working with patients, where do you think this work is conducted and what kind of work is it? What kind of interests do you think someone in these careers should have?

Location and Type

- Laboratory, Lab Techs
- Offices, Medical Record Technicians

Interests

- An interest in machines and computers
- Someone who prefers not to come in contact with patients’ personalities, pain, questions, blood, etc.
Healthcare Infographic

A BRIEF HISTORY
Following the end of World War II, the United States experienced a boom of 79 million births between 1946 and 1964. Since then, this generation of “Baby Boomers” has made its mark on everything from classrooms to automobiles to music.

Now, as this generation continues to reach seniornthood, Baby Boomers are expected to transform the future of healthcare...

AN INCOMING SENIOR BOOM

2010:
40 MILLION
SENIORS

2030:
120 MILLION
SENIORS

BABY BOOMERS TURN 65 EACH YEAR

...THAT’S 1 SENIOR BABY BOOMER EVERY 10 SECONDS

BABY BOOMERS LIVING IN THE UNITED STATES

Source: http://visual.ly/future-health-baby-boomers
UNIT 1  •  ANALYZING THE HEALTHCARE LABOR MARKET

Section 3.4

PROJECTED AVERAGE LIFE EXPECTANCY IN 2030

87.0

78.9

COMPARED TO AVERAGE LIFE EXPECTANCY IN 1950

SENIOR BOOM CONTRIBUTORS

HEALTHCARE

BABY BOOMER EFFECT

IMMIGRATION

BOOMER HEALTH IN 2030

6/10 WILL BE LIVING WITH MORE THAN 1 CHRONIC CONDITION

1/4 WILL BE LIVING WITH DIABETES

1/3 WILL BE CONSIDERED OBESE

1/2 WILL BE LIVING WITH ARTHRITIS

56%

OF HOSPITAL ADMISSIONS WILL BE PATIENTS 65+
Healthcare Careers Brainstorm

Students brainstorm careers in healthcare with which they are already familiar, including the name of the occupation and primary responsibilities.

MATERIALS

- Healthcare Careers Brainstorm worksheet

EXPLAIN

1. There are dozens of careers in healthcare, and more are being created all the time, as technology impacts how medical care is done, as research makes new treatments possible, and as people live longer.

2. With a partner, list as many healthcare careers as you can in the left column. Write a description of what that person’s job duties are in the right column.

3. List additional healthcare jobs in the left column that you’ve heard of, but are not sure what exactly the job entails—you can leave the duties on the right side blank.

4. List additional healthcare duties, even if you are not sure of the name of the career—you can leave that part blank. See the examples on the worksheet.

EXAMPLES OF HEALTHCARE CAREERS INCLUDE:

- EMT
- Medical Interpreter
- Home Health Aide
- Substance Abuse Counselor
- School Nurse
- Lab Technician

- Medical Assistant
- Dietician
- Speech Therapist
- Physical Therapist
- Medical Biller
# Healthcare Careers Brainstorm

Write the name of the healthcare careers that you are aware of on the left. Write the duties on the right. It’s okay to leave some columns blank if you’re unsure. Write as many as you can.

<table>
<thead>
<tr>
<th>Career</th>
<th>Duties (what they do)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiologist</td>
<td>Uses X-rays or MRIs to diagnose illnesses or injuries.</td>
</tr>
<tr>
<td>Internist</td>
<td>Checks you in to the emergency room and takes your insurance card.</td>
</tr>
</tbody>
</table>
## Related Careers in a Healthcare Environment

Students brainstorm careers in healthcare environments that do not involve directly providing healthcare.

### MATERIALS

- Related Careers in Healthcare Settings worksheet

### EXPLAIN

1. In addition to people who help patients, there are dozens of other careers that make healthcare settings run. Who fixes the ambulances when they don’t work properly? Who teaches children who are in the hospital long term? Who serves the food in the cafeteria? Write as many careers as you can that are done by non-healthcare providers in healthcare settings.

2. Distribute the Related Careers in Healthcare Settings worksheet and have students work in pairs to complete it.

   - **Examples:**
     - Ambulance mechanic
     - Helicopter pilot
     - Children’s tutor
     - Cafeteria chef
     - Cafeteria cashier

3. **Share Responses.** When students have completed both brainstorms write some of their responses on the board, with healthcare careers in one column and non-health careers in healthcare settings in another. Students can also share some of the duties for each job, but it’s not necessary to write them on the board. Let students know that they will learn much more about these and other healthcare careers over the next several weeks.
## Related Careers in Healthcare Settings

Write the name of the career on the left and the job responsibilities on the right.

<table>
<thead>
<tr>
<th>Related career in healthcare setting</th>
<th>What these workers do in a healthcare setting</th>
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</table>
How Does Technology Affect Today’s Labor Market?

Students read an article and consider the positive and negative effects of technology on the workplace across labor sectors.

MATERIALS

- Technology Opinionaire
- Technology in the Workplace reading
- Chart paper & markers

INTRODUCE

1. Distribute the technology opinionaire. Ask students to read each statement, and circle whether they agree or disagree. Then they should choose one of the statements to explain (in writing) their reasoning.

2. Write on the board:

   How has technology changed the labor market?

3. Distribute Technology in the Workplace, and tell students to read and annotate it, making sure to take notes about how technology has changed how people look for jobs, what kinds of jobs are available, and what their lives are like at work.

4. Put students in groups. Tell them to turn over the article (so they’re not looking at it), and make a list on chart paper of all the ways they can remember from the article how technology has changed the world of work. Groups share findings with the class.

5. When the groups are finished, tell them to look back at the article, and see if they missed anything. If they did, they can add to their lists.

6. Point students back to their opinionaires. Ask if anyone has changed their mind. For example, did anyone who started out feeling positively about technology start to feel more negatively, or the other way around?
Technology Opinionaire

For each of the statements below, circle whether you agree or disagree.

1. Overall, technology is improving our world today more than technology is hurting our world.
   
   Agree / Disagree

2. Technology these days makes it easier to find a career.
   
   Agree / Disagree

3. I would rather be looking for a job in today's job market than I would 20 years ago.
   
   Agree / Disagree

Choose one of the above statements, and explain why you agreed or disagreed:
Technology in the Workplace

Technology has affected the world of work since the rise of factories in 19th Century. For example, a machine called the cotton gin, that removes seeds from cotton after it is picked, made cotton manufacturing quicker and easier. When we talk about technology today, we usually mean hardware, such as hard drives and monitors; software, such as word processing programs; the internet; or networks, which allow computers to communicate with one another. Technology also refers to data collection, analysis and storage. It affects today’s labor market in many ways: the way we find work, the types of jobs we do, the education and skills we need, the way we do work, and the way companies operate.

1. **The way we find work**
   Long ago, people often looked for jobs in local newspapers, but today they use technology. Job search websites such as Monster, Indeed.com and Glass Door have become popular. People use social media sites like LinkedIn and Facebook to make themselves known, connect to others and find opportunities. Employers use these sites too, to find employees and research job applicants.

2. **The type of jobs we do**
   Advances in technology have made some jobs disappear and others appear. For example, because companies like Netflix can offer movies on the internet, there are fewer video rental stores. We used to see a travel agent, baggage collector, porter and ticket agent when we traveled by plane or train. There are fewer of those jobs now that we use websites to book our tickets, and electronic machines to get our tickets and to check our bags. Advances in technology create new jobs too, like ‘app developers’, social media specialists, and health information managers.

3. **The education and skills we need**
   A lot of work relies on technology. We use it to do simple tasks like answering phone calls. More and more employers rely on people to do more difficult work that requires innovative thinking, flexibility, creativity, and social skills. You need a person to plan the layout of products in a store so customers can find them easily and you need a person to provide hands-on care for sick patients. You need technology, for cashiers to use during transactions and to store medical information of patients. In this technology driven labor market, individuals who want...
to get, keep and advance in a good job need to make sure that they have the education and skills that employers are looking for. This means knowing how to use technology and learning the skills that must be done by people.

4. **The way we do work**

Technology has also changed the way we work, by:

- **Making workers more productive** – Using technology can help you do your job better. You can complete more tasks, do them faster and sometimes more accurately. For example, with programs like Word, you can create and edit a letter more quickly than if you were to do it by hand or on a typewriter.

- **Reducing the tasks workers do themselves** – Some tasks that workers used to do themselves are now done by technology. For example, lawyers can use computer programs to search through thousands of documents to find certain information. This allows them to spend more time doing work computers can’t do, such as developing arguments for the courtroom.

- **Replacing some workers** – More and more, we rely on machines to do work without any help from humans. This is called automation. Many people wonder if machines or even robots will one day replace workers. Right now, machines can assemble car parts, answer customer calls and check passengers in at airports. Robots can work together to fulfill warehouse orders. Experts disagree on what kind of impact automation will have on work in the future.

- **Making some workers more mobile** – Mobile phones, computers and the internet have allowed employees to do work from almost anywhere at almost any time. For example, some office workers can work from home for a local company or for a company based in another country. And, they can check email after the official end of the workday. Because of videoconferencing, we can even have meetings with people who are in different places around the world.

- **Directly connecting people who need goods or services to people who can offer it** – Businesses like Uber, Airbnb and Ebay allow sellers to connect with customers in moments. They offer transportation, accommodations and products to potential buyers through the internet.
5. **The way companies operate**

With technology, organizations can produce goods and provide services more quickly, more accurately, on a larger scale and in new and improved ways. They can reach more customers. And, they can use huge amounts of information about individuals—known as ‘big data’—to help them sell more to customers. For many organizations, the way they use technology is what sets them apart from the rest.

Technology has changed the world of work in these five ways, but not all types of technology have the same impact. Some technologies totally transform the way people and organizations work. The internet is a good example; it changed everything. Other technologies that may transform our lives include driverless cars and advanced robots that can work alongside or replace employees altogether. And, some jobs seem to be effected by technology more than others. For example, jobs that involve activities such as data entry, assembly line work or routine design work have all become reliant on technology.

Technology has had many positive effects, but it has also had some negative. For example, the internet has allowed a wide range of individuals to access an incredible amount of information quickly, but it has made security and privacy an important issue. Hackers now can get confidential information that they were not intended to have. Governments are catching up to these changes by making new laws and regulations to keep people more safe.

Jobseekers and employees in today’s labor market must make sure they are tech-savvy. This can include:

- knowing how to operate a computerized cash register
- being proficient in Microsoft Office including Word and Excel programs
- operating medical technology that can require ongoing training as the technology evolves

Employees can raise their awareness by staying current with technological trends in their field, by reading online or print materials about their industry. Jobseekers can prepare for interviews doing job research and getting training. Jobseekers who are not tech-savvy may at a disadvantage to their more tech-savvy peers.
Technology’s Impact on Healthcare Employment

Students read an article about the impact of technology on opportunities in the healthcare field, then develop text-based and speculative questions based on this information.

NOTE
This activity can be used as a follow-up to the Technology in the Workplace activities.

PREP
- Read the article, New Health Care Technology Will Result in New Opportunities and annotate it by underlining parts of the article that mention specific ways technology has impacted healthcare careers, in preparation for class discussion.

MATERIALS
- New Healthcare Technology Will Result in New Opportunities article

DISCUSS
1. Ask students about the ways technology has changed the workplace.
   - Most businesses use computerized technology, such as warehouses tracking items in transit, builders using computerized building plans, or cashiers using computerized cash registers. Even many factories use digital equipment these days to cut and assemble products.

2. Ask students how they think technology has impacted healthcare careers. Write their responses on the board.
   - Many diagnostic tools are digital, such as ultrasound, X-ray and MRIs. Doctors’ offices keep appointments electronically and patients can access their health records online. Many medical offices are starting to digitize their patient records, which has meant purchasing new computer systems and hiring people who know how to operate them.
The computerization of the healthcare field is a big reason for the increase in healthcare jobs. Equipment and computer systems continue to evolve, requiring healthcare professionals to stay current with the most recent developments.

Distribute *New Health Care Technology Will Result in New Opportunities* and ask students to read and annotate it. They should underline parts of the article that discuss the specific ways technology is impacting healthcare careers.

Ask students to share these details with the class.

Divide students into pairs and ask each pair to write 3 questions that can be answered by the article and 3 speculations about healthcare careers and technology beginning with “I wonder…”

- I wonder if a computer will one day be able to draw blood.
- I wonder which computer programs medical assistants have to know.
New Healthcare Technology Will Result in New Opportunities

*August 09, 2012, Chicago Tribune, Tribune Staff*

New technology has made the healthcare industry much more efficient over the last five years, even while it makes some aspects of the field more complicated, according to health care employment and technology experts.

“As you look back and see how technology has evolved over the past few years, there are very exciting times ahead for what technology can do in the future for the health care industry and, most importantly, for the patients it serves,” says Teresa A. Knudson, director of the Enterprise Portfolio Management office at the Mayo Clinic in Rochester, Minn.

As technology improves, so will the opportunities for workers in the field of health care.

“New careers will emerge as we continue to get a handle on the technology and how it impacts health care,” says Jonathon Heck, a Chicago-based health care recruiter. “Anyone in healthcare or anyone interested in healthcare should keep a close eye on advancements to see what’s next.”

**Immediate information**

There have been major changes in healthcare in the past decade, most of which involve the gathering of information. Knudsen says that doctors now can instantly access the complete medical records of their patients each day, which allows them to be better prepared.

“Physicians now rely on the computer system to provide a listing of their patients at the beginning of each day, allowing them to review all medical information from previous visits over the past number of years. They can see test results online as soon as they are completed, and document interactions with the patients within minutes, so they are available for the next appointment,” Knudsen says.

The field of radiology has seen significant technological innovations recently as well. The days of huge X-ray films and their accompanying city-sized manila envelopes are a thing of the past, according to Robin Steinmann, manager for employment and employee relations at St. Louis Children’s Hospital.
“New equipment is going to take the place of that (oversize film and envelopes),” Steinmann says. “It’s all on a computer, and you can access those radiology records through the computer, rather than having to go look back in some dingy file cabinet and dig through a bunch of papers. Then they can also be transmitted to other hospitals, other doctor’s offices, over the computer,” Steinmann says.

Lab technicians have also seen significant technological innovations alter their occupational landscape, according Steinmann.

“In the laboratory, the machinery that they have now, in just probably the last five to 10 years, is so much better. Before, laboratory technicians had to do a lot of the testing by hand – sit at the bench and look through a microscope. And now, you put the sample in the machine, and the machine does a lot of it,” Steinmann says, which puts the emphasis now on analysis. “The laboratory technicians can use their education not to count bacteria but to try to interpret, and work with the other staff,” Steinmann says.

“A lot of that complex machinery, once you figure out how to use it, it makes your job a little easier,” Steinmann says.

But while new technology makes some aspects of healthcare more efficient, the speed with which new concepts are being brought into hospitals and labs has made the healthcare field more complicated, she notes. “It’s made it more complex, because we keep discovering new things and new ways of doing things,” Steinmann says.

**Looking ahead**

Will technology continue to affect healthcare in the coming years? Absolutely, according to Knudson.

“It will continue to evolve to provide access to more expertise from across the world that can relate directly to the patient that is being seen. It will prompt the health care providers of certain indicators and test results that should be taken into consideration in the care of the patient,” Knudsen says.

New technology will continue to provide quality controls to the work of physicians and hospitals, according to Knudsen.

“Technology will provide quality checks to make sure tests are completed, medications are accurately administered, and the patient is provided the best care possible,” she says. “It will support more standardization of best practices across the health care institutions to improve quality and reduce costs.”
Knudsen notes that technology will work hand in hand with research to aid physicians and improve health care at large.

“It will provide data that will support research to improve care in the future,” Knudsen says.

**Schools must adapt**

Schools and universities are aware of the demand for more tech-related health care professionals and are adapting to the changing needs of the workforce.

“I don’t see [the demand for these types of jobs] going anywhere but up,” says Deborah Halliday, former assistant director of career services at Boston University. Healthcare and education are two of the huge issues that society is going to be dealing with, so I don’t see how it can be anything but a growing field. So any student who is interested in it, I would say ‘go for it.’”

Potential healthcare and technology workers are encouraged to look even beyond schools to get acquainted with the skills and equipment needed to enter the health care job market.

“We encourage people to do job shadowing, do all the internships they possibly can, get the best they can out of their clinical experience while they’re in school,” Stenimann says.
Students practice using several career databases, including CareerZone, Career Cruising, the Bureau of Labor Statistics and Mynextmove. They learn how to assess their interests, locate entries on individual careers, interpret what they read, paraphrase and present their findings.

**ACTIVITIES IN THIS SERIES:**

5.1 • CareerZone  
A. Introduction to New York’s CareerZone and Example Career: Ambulance Driver  
B. Group Research on a Healthcare Career  
C. Preparing a Research Presentation  
D. Presenting CareerZone Research  

5.2 • Career Cruising  
A. Your Unique Qualities  
B. Navigating Career Cruising  
C. Creating a MyPlan Account  
D. Exploring Career Clusters  
E. Career Cruising Matchmaker  
F. Reading about Recommended Careers  
G. Video, Audio and Written Worker Interviews  

5.3 • Additional Career Search Resources
Overview of Career Databases

CareerZone is a free website focused on careers in New York State. It includes job descriptions, required education and certifications, and also includes information specific to New York, such as New York salaries, job outlooks and educational programs in New York. It also has an “Assess Yourself” tool, which recommends various careers to users based on the responses to questions about their interests.

**WEBSITE:** [careerzone.ny.gov](http://careerzone.ny.gov)

The Bureau of Labor Statistics is the national Department of Labor’s website. Like CareerZone, it has descriptions of careers through the Occupational Handbook, including salaries, duties, education and job outlook. It also has an area for students and an area for teachers including lessons, articles, activities, graphs and data.

**WEBSITE:** [bls.gov](http://bls.gov)

CareerCruising is a fee-based website that many college campuses subscribe to. It is ideal for students who have some or little idea of the careers they are interested in because careers can be searched by industry as well as by keywords. Careers within one industry are grouped together, so that users can learn about several related careers. It has employment graphs showing data about emerging careers and salaries, video interviews with employees speaking about their careers. It is not intended solely for New York State users, but much of the information can be filtered for New York State results.

**WEBSITE:** [careercruising.com](http://careercruising.com)

Mynextmove is similar to Careercruising, but is free to all users. Careers can be searched by industry, by career name or by using the self assessment tool. It also includes real-time job listings and educational programs, salaries by geographical location, and career outlooks.

**WEBSITE:** [mynextmove.org](http://mynextmove.org)
Introduction to New York’s CareerZone and Example Career: Ambulance Driver

Students learn how to navigate the comprehensive CareerZone website, then read the Ambulance Driver profile as a sample. After reading, they paraphrase the main points of the profile. The Ambulance Driver example is used to help students learn to navigate the CareerZone website and practice paraphrasing. This activity may be adapted using a different career example.

PREP

- Go to CareerZone.ny.gov and explore the website using the search bar, explore the Ambulance Driver entry and the Assess Yourself tool.

MATERIALS

- Ambulance Drivers worksheet
- This lesson requires use of a computer lab. One with an overhead projector is best.

EXPLAIN

1 CareerZone contains information on careers in New York State. It can be used to learn about hundreds of careers.

2 Write the website CareerZone.ny.gov on the board, and make sure students have navigated there. Ask students what kind of information they think a career search website might contain.
   - Job description, salaries, settings or types of facilities workers work in, typical working hours, required education.

3 Once students are all on the front page, ask students what they see.
   - Six industry groups.

4 Ask students for examples of careers they might find in the Health Services category.
   - Doctor, nurse, phlebotomist, medical assistant

5 Lead students through the following navigation toward a listing of healthcare careers (see screenshots).
Searching for Healthcare Careers

Click on the **Health Services** icon. Then select **Health Sciences** in the Career Cluster.

Then select **High School plus Training—Job Zone 2** in the Preparation drop-down list.

Then click **Search**. See screen shot. The results contain a list of careers in the health science field for career searchers with a minimum of a high school diploma.

6 Point out to students that they can change the education requirement to obtain different results in their search. Students may then try this and see what the search yields.
EXPLAIN

1. Click on **Ambulance Driver and Attendant** and instruct students to do the same.

2. Ask students to read through the list of categories on the left and select 3-5 categories that would be especially useful to read.
4. Ask students to paraphrase the tasks of ambulance drivers. Review or explain how to paraphrase if necessary:
   What is paraphrasing? Why is it important? How is it done?

5. Distribute the *Ambulance Driver* worksheet, asking students which sections they will need to read in order to complete it.

6. In pairs, students complete the worksheet, based on the information they are reading. Make sure that all responses are paraphrased. Circulate and assist students.
# Ambulance Drivers

Complete the information below, using the CareerZone entry on ambulance drivers. Make sure to paraphrase your answer, and include which section you found the information in.

<table>
<thead>
<tr>
<th>What they do at work</th>
<th>CareerZone section:</th>
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<table>
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<tr>
<th>What technology they use</th>
<th>CareerZone section:</th>
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<th>Where they work</th>
<th>CareerZone section:</th>
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<th>When they work</th>
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<th>How much they earn</th>
<th>CareerZone section:</th>
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<table>
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<tr>
<th>Which qualities they should have</th>
<th>CareerZone section:</th>
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</table>
Group Research on a Healthcare Career

In groups, students will first brainstorm, then research one of five careers using the CareerZone website, and present their findings to the class.

PREP

- Go to the CareerZone website, research Medical Technician, Health Educator, EMT/Paramedic, Nurse and Dietician and complete the Teacher’s Version of Researching Five Careers worksheet.
- A computer lab is necessary for this class. If not available, print the career descriptions from CareerZone for use with students.

MATERIALS

- Researching Five Healthcare Careers worksheet
- Teacher’s Version Researching Five Healthcare Careers worksheet

EXPLAIN

1 In the last lesson, we looked at a sample healthcare career together. What was it?
   〉 Ambulance driver.

2 Now you are going to use CareerZone to research a different healthcare career in a group, paraphrasing the information you find. Then you will present this career to the class. But before you begin your research, you are going to write what you already know about the careers.

3 Divide the class into five groups and distribute Researching Five Healthcare Careers worksheet.

4 With your group you are going to write what you already know (or what you think you know!) about five different healthcare careers.
   Each of these careers is at a different career level. What does this mean?
   〉 They require different levels of education and preparation.
   What is an example of an entry-level career in healthcare?
   〉 Medical assistant, home health aide
What is an example of a high-level career in healthcare?
- Doctor, physical therapist, hospital administrator, psychologist

What is an example of a mid-level career in healthcare?
- Nurse, surgical technician, dental hygienist

5. Have groups brainstorm what they know about each of the five careers and write their responses on the worksheet.

6. When groups are finished, have them discuss their responses as a class.

7. This is what you think you know about these careers. Now you will research one of the careers to find out the reality of the profession.

8. Now that you have written what your group already knows about these careers, your group will be assigned one of them to research using CareerZone. How will you find the entry using CareerZone?
- Select Health Services, then enter the career in the keyword search.

9. Do you have to select the level of preparation?
- No, that is not necessary when using a keyword search.

10. Assign each group one career to research. Explain: Once you have found the entry, you will read all about the career. You do not have to read every part of the description. Read the parts that you think will be most relevant to completing the worksheet.

11. Once you finish reading, as a group you will paraphrase what you read, adding to what you have already written on the worksheet, or you can write on a clean sheet if you prefer. As a group, make sure that you are paraphrasing and not copying from the website. Ultimately, you will present this career to the class.
**Teacher’s Version: Researching Five Healthcare Careers**

**FOR THE TEACHER:** Complete this key based on CareerZone readings in order to support students in their research.

<table>
<thead>
<tr>
<th>Profession</th>
<th>Specific Duties (What)</th>
<th>Setting (Where)</th>
<th>Education (How)</th>
<th>Salary (How Much)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Technician</td>
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<tr>
<td>Health Educator</td>
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<tr>
<td>EMT / Paramedic</td>
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<tr>
<td>Nurse</td>
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<td></td>
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<tr>
<td>Dietician</td>
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</tbody>
</table>
Researching Five Healthcare Careers

In your group, discuss and write what you think and know about the careers below. Make some guesses if you’re not sure.

<table>
<thead>
<tr>
<th>Profession</th>
<th>Specific Duties (What)</th>
<th>Setting (Where)</th>
<th>Education (How)</th>
<th>Salary (How Much)</th>
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<tr>
<td>Dietician</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
Preparing a Research Presentation

Once students have a basic understanding of the career, they will clarify and organize the information into presentations.

**PREP**

Write the following questions on the board to help guide students’ organization of their findings:

- What makes an effective presentation?
  - *It's well organized, with clear logic from one point to the next, clear, loud speaking, personal connection to audience.*

- In what order will you present the information?

- How will you introduce the topic?

- What questions do you anticipate? Can you answer those questions, or do you need to research the answers?

- Is all of your information paraphrased?

Also include:

- What personal characteristics are a good match for someone who wants to enter this field?

**DISCUSS**

1. Discuss the questions on the board as a class.

2. Students work in groups to prepare their presentations. Let them know that their presentations should be 5 minutes long and will be followed by a 5-minute Q&A with their classmates.
Presenting CareerZone Research

Students and teacher will make presentations during this activity.

PREP


• Write sentence stems for critique/feedback on board (see Discussing Critiques below).

DISCUSS

Today you are going to present the career you researched.

What are the benefits to students of making presentations?

➤ Practice for later presentations in college or other courses. Students practice collaboration—working together. Students practice organizing their ideas, similar to what they do when they write essays.

How might making presentations help prepare people who intend to work in healthcare?

➤ Practice communicating ideas clearly to those who may be unfamiliar with the topic or details.

➤ Students practice working on a team, similar to how individuals work on a team in healthcare settings.

DISCUSSING CRITIQUES

Students learn about professional and academic critiques, in preparation for being an audience member to their peers during presentations of careers researched on CareerZone.
What is a critique?

- Offering feedback on a project. A critique can include praise as well as suggestions, for example, it can identify which parts were particularly effective and which parts need improvements.

Who does them?

- Many college students and workers do them. Many architecture and design students are required to do them, but other students do them too, when they ask their classmates to read their work and offer suggestions.

Why is critiquing done?

- To get better! When you’ve made something the best you think it can be, it’s helpful to hear how others have experienced it, and what ideas they have for improving it. Even the most famous and accomplished writers have editors. These are people who offer feedback in order to help the writer improve.

What are some good ways of giving feedback?

- “I thought it was effective when you said…”
- “You really caught/held my attention when you…”
- “I was confused when you said…”
- “I wanted to hear more about…”
- “One suggestion I have is…”

**PRESENTATIONS**

1. The teacher leads a discussion of what makes an effective presentation.
   - Organization that guides the listener from one topic to the next, clear visuals that contribute to the spoken presentation, clear loud speaking, eye contact with audience.

2. Teacher explains that each student in the group will be involved in the presentation and asks the groups to decide which student will present which parts of the presentation.

Each group presents the career they researched. The presentation should include each of the major categories of information research: Duties, Setting, Salary and Education, plus personal characteristics and personal motivation. Audience members should jot down questions they will ask at the end. Presentations should last 5 minutes, with 5 minutes for Q&A.
OFFERING FEEDBACK

After each presentation, once the Q&A has ended, students are invited to offer their critiques.

Ask students to use the sentence stems you’ve written on the board to offer helpful and respectful feedback to each group.

TEACHER’S PRESENTATION

1 Teacher presents on the field of Healthcare Information, using the Healthcare Information handout.

2 Students critique the teacher’s presentation. What did they learn about this career? What did they notice about the teacher’s presentation style? How could it be improved?

DEBRIEFING RESEARCH PROJECT

The class discusses their experience of the research project. For example,

- What steps did they take to conduct the research?
- What did they learn as a career explorer?
- What did they learn about themselves, as a learner or as a worker?
- What was easy, difficult or interesting about this process?
- What skills did they use in order to complete this project?
- Have their ideas for their own career changed in any way? Explain.

TRANSFERABLE SKILLS

Some students in this group may not be interested in healthcare. They may have other career plans in mind, or they may not know what field to pursue—just not healthcare! Discuss how the skills acquired in this unit can be transferred to learning about other careers.

- Use of CareerZone, reading and paraphrasing information about careers, analyzing graphs.
- Preparing and giving presentations
- Research
- Working in groups
- Brainstorming/drawing from previous knowledge
- Predicting
Introduction to Career Cruising

As an alternative to CareerZone, Career Cruising is a website that can be used to research careers. It is important to note that some healthcare careers go by multiple names, for example “health educator” and “community health worker” are used interchangeably, “phlebotomists” may also be referred to as “medical assistant” or “medical technician” even though there are differences between those careers. In Career Cruising, similar careers are grouped together, enabling students to navigate easily between similar careers. Career Cruising features include:

- **Searchable by industry**
  It is organized by “career cluster,” so that students can find related careers within one career family.

- **Graphs and charts**
  It contains graphs and charts of local salaries and emerging careers.

- **Videos**
  Each career contains video and audio files from workers speaking about their experiences in their careers.

- **Self-assessments and recommended careers** that can be saved for future use, when students create individual accounts.
Your Unique Qualities

As a pre-cursor to conducting a computerized self-assessment, students consider their own knowledge of themselves as workers and future workers. What are their strengths? What might make them well suited for work with patients, or in a lab, or a patient’s home?

EXPLAIN

1. Think back to the research you conducted using CareerZone. What are some of the interests and personality traits that would make a worker well suited to work in the career you researched?
   
   Example:
   
   Health educator—likes speaking to groups, interested in learning about how to keep people healthy, likes working in one’s own neighborhood or community, is observant, is friendly and outgoing.

2. Now, on a piece of paper list qualities you have that will impact your career choices. Include personality traits, things you like to do and things people say about you. For example, do you like working with other people or do you prefer working alone? Do you like helping others, or does it frustrate you? Does using computers come naturally for you? Do people say you get impatient? List as many characteristics as possible. Be specific. List positive traits as well as things that are difficult for you.

3. Once you have written these qualities down, share them with a partner and hear about their qualities and interests. Now, recommend careers for one another based on these lists. Don’t forget to write them down.
Navigating Career Cruising

Students practice navigating to a sector profile, discuss the organization of the page, including the type of information they see, then read graphs and paragraphs, noting the main ideas.

PREP

• Practice logging on and creating a Career Cruising account using your program’s username and password.

• Be prepared to explain vocabulary: navigate, cluster, industry, emerge, self assessment.

MATERIALS

• Computers are required for this session. An overhead projector is best.

EXPLAIN

Career Cruising is a career website with lots of features and various ways to learn about careers. We’re going to look at the website and see what it has to offer.

1 The teacher navigates to careercruising.com, logs in, and writes username and password on the board and circulates to make sure everyone is logged in. Teacher also logs in on the overhead computer.

2 Ask students to click on the Career tab near the top of the page. Before students click on the Industries tab teacher asks them to recall what an industry is and give a few examples, such as healthcare, education, public administration. Ask students to click on the Industries tab, then from the list, Healthcare and Social Assistance.
### Explore Careers

<table>
<thead>
<tr>
<th>Accommodation and Food Services</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative and Support and Waste Management and Remediation Services</td>
<td>Mining</td>
</tr>
<tr>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>Other Services</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>Professional, Scientific, and Technical Services</td>
</tr>
<tr>
<td>Construction</td>
<td>Public Administration</td>
</tr>
<tr>
<td>Educational Services</td>
<td>Real Estate and Rental and Leasing</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>Retail Trade</td>
</tr>
<tr>
<td>Health Care and Social Assistance</td>
<td>Transportation and Warehousing</td>
</tr>
<tr>
<td>Information</td>
<td>Utilities</td>
</tr>
</tbody>
</table>

![CareerCruising](image-url)
Health Care and Social Assistance

About the Industry

Caring for people who are sick or in need, or who require some kind of medical or social assistance, is a huge undertaking. Fortunately, the establishments in the Health Care and Social Assistance Industry are there to help. Health care and social assistance activities are grouped together because the services they offer are often interrelated. For example, a nursing home may offer both medical and social assistance to its patients. Some establishments provide only medical care, some provide only social assistance, and many provide both. Establishments vary according to the activities or services provided. Common workplaces for professionals in this industry.

Employment Statistics

- **Number of Establishments**
  - National: 1,500
  - State: 1,000
  - Local: 500
  - Private: 100

- **Number of Employees**
  - National: 2,500
  - State: 2,000
  - Local: 1,000
  - Private: 500

Average Annual Wage

- **Federal Government**: $70,000
- **State Government**: $65,000
- **Local Government**: $55,000
- **Private**: $45,000

Compare National to: New York.

Ownership

- **Federal**: 1,000
- **State**: 500
- **Local**: 200
- **Private**: 100

Location

- **Federal**: National: 1,000
- **State**: National: 500
- **Local**: National: 200
- **Private**: National: 100

New York:

- **Federal**: 700
- **State**: 400
- **Local**: 100
- **Private**: 50

NYSED/CUNY CareerKit for HSE & ESL Learners (2017) • Healthcare

UNIT 1 • ANALYZING THE HEALTHCARE LABOR MARKET
DISCUSSION OF EXAMPLE CAREER ON CAREER CRUISING

What do you see on this page?
   ➤ Graphs and paragraphs.

About what?
   ➤ Graphs: number of businesses, employees and earnings.

What do the different bars represent?
   ➤ Government and private jobs.

What do you notice about the numbers?
   ➤ There are a lot more private than government jobs in this industry.

What does wages mean?
   ➤ The same as earnings, money earned from an employer for work done.

What do you notice from this graph about the wages?
   ➤ The highest are from local (city) jobs. Among private jobs, the wages are higher in New York than in the rest of the country.

Take 10 minutes to read the paragraphs, just for the main ideas.

What do the paragraphs say about this industry?
   ➤ It describes careers that help people stay healthy and safe.

Click on the Industry Subsector tab. What do you notice?
   ➤ There are many jobs in ambulatory care, which is for people who do not need to be hospitalized. There are also a lot of jobs in hospitals.

Click on Significant Careers. What does this graph show?
   ➤ The numbers of people employed in the given career nationwide.

Click on Wages and Trends. What do you notice?
   ➤ Wages are higher in New York than in the rest of the country.

Click on Other Resources. How could this section be useful to you?

If you want to do more research or look for a job in this industry, these resources can help you.
Creating a MyPlan Account

Students create a MyPlan account and save their usernames and passwords.

PREP

- Cut Password Saver sheets in quarters.

MATERIALS

- This lesson requires a computer lab. One with an overhead projector is best.

EXPLAIN

1. There are a lot of resources on Career Cruising, including a series of questions whose answers guide the website in recommending various careers for you based on your responses. There is so much on this site, it’s important to create an individual account so that you can keep track of it all.

2. Ask students to look at the overhead as you demonstrate, or follow along on their own computers. Navigate to the MyPlan tab to create a username and password. Then click on Create My Plan and complete the registration.

3. Students should use the CareerCruising Password Saver worksheet to record their usernames and passwords and keep them in their binders. Cut the password saver on the next page in quarters and give one quarter to each student to keep in his/her binder.
CREATE “MY PLAN ACCOUNT” ON CAREER CRUISING
www.careercruising.com

Choose Your Login:
Username ______________________________
Password ______________________________

CREATE “MY PLAN ACCOUNT” ON CAREER CRUISING
www.careercruising.com

Choose Your Login:
Username ______________________________
Password ______________________________
Exploring Career Clusters

Using Healthcare and Social Assistance as a model, students will practice reading about one or more careers in the “career cluster” they are interested in.

EXPLAIN

1. Navigate to the Career Clusters tab and click on one cluster that sounds interesting to you. Read about it in the cluster profile. Then examine some careers under the Related Careers tab.

2. Choose one of the related careers and write three points that are interesting to you about it. What about this career captures your attention? It doesn’t matter if it requires a lot of education—you’re just starting to investigate. Then list three questions you have about this career. If you were to pursue this career path, what would you want to know?
CareerCruising Matchmaker

Students will use the Matchmaker feature to answer questions about their interests and Career Cruising will recommend careers based on their responses. Students will be able to save the results for future use.

EXPLAIN

1. CareerCruising not only has descriptions of careers, but also can suggest careers based on what you tell it about yourself. You already did a self assessment based on what you know about yourself. This is another way of doing a self-assessment. The website may recommend careers you had not considered, or it may recommend the exact career you have been thinking about.

2. Click on the Myplan tab with your name in the top left corner. Then click on Career Matchmaker to receive suggestions for careers. Then click Start New Matchmaker. Create a name for the session, such as the month and year and click Start Now. This self-assessment focuses on your interests, so don’t worry about what you do or don’t know how to do already. That’s what education is for!
Reading about Recommended Careers

Students will now read about one or more of the careers recommended by Career Cruising, and paraphrase what they have read.

MATERIALS

- Career Cruising Recommendations worksheet
- This lesson requires a computer lab. One with an overhead projector is best.

EXPLAIN

1. Now that Matchmaker has recommended a list of careers for you, read through that list. Do any sound interesting? Surprising? Terrible? Choose one that sounds interesting to you, regardless of where on the list it is. Under the Careers tab, conduct a keyword search. Your search may return a career that has a slightly different name than the one on your list. Some careers go by a variety of different names.

2. Click on the Job Description tab and read all about it.

3. You’ll now paraphrase what you read. What is paraphrasing and how is it done? Why is it important to paraphrase?

4. Take what’s written in the Job Description and put it in your own words on the Career Cruising Careers worksheet. You will have to paraphrase, since you can’t copy what someone else wrote. Then read the Working Conditions, Earning and Education tabs, and paraphrase what you learned about this career on the worksheet. Make sure the information you write is in your own words, and that you are comfortable explaining to the class what you wrote. If you read any unfamiliar words, try to understand the meaning of the sentence without knowing every word.
Career Cruising Recommendations

Complete this worksheet by paraphrasing the information you found on Career Cruising. Make sure to use your own words and make sure you understand everything you have written.

CAREER: ____________________________________________

<table>
<thead>
<tr>
<th>Responsibilities</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salary</td>
<td></td>
</tr>
<tr>
<td>Where they work</td>
<td></td>
</tr>
<tr>
<td>When they work</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
</tbody>
</table>
Video, Audio and Written Worker Interviews

Career Cruising has collected hundreds of interviews from workers. For every career, there are individual workers speaking about their experiences. The interviews have some portions in writing, some in audio and some in video. Hear from a worker first-hand about his/her own experience.

PREP

Write the following questions on the board:

- What does the worker like about his/her career?
- Is that something you think you would like? Why or why not?
- According to the worker, are there any disadvantages of working in this field?
- If the worker were in class today, what would you ask him/her?

EXPLAIN

1. Every career description on CareerCruising contains video, audio and written interviews with employees speaking about their jobs.

2. Ask students to select three interviews, either audio, video, written, or a combination thereof, and watch, listen, or read them. Students then write responses to the questions on the board. Including the name of the employee in their response. The interviews can be from people in the same or different careers. The careers should be ones that are of interest.

3. When students are finished writing, ask them to discuss their findings with a partner.
Additional Career Search Resources

In addition to Career Zone and Career Cruising, Mynextmove and the Bureau of Labor Statistics are very useful websites.

**Mynextmove**

*www.mynextmove.org* is similar to Career Cruising. It is very user-friendly, contains a self-assessment tool, and is searchable by industry or through keyword searches. It organizes recommended careers according to their education requirements /levels. The job outlook can be searched by location, and it contains a database of job openings by location.

**Bureau of Labor Statistics**

The Bureau of Labor Statistics is the national Department of Labor's website. It contains very readable job descriptions and also contains lots of employment data. It can be found at *www.bls.gov*. It has a student section (tab on the front page) which contains a career exploration tool. There is also a Teacher's section that contains lessons and support materials.
Wanted: Bilingual Healthcare Workers

Students read and discuss a short article on the market advantages of being bilingual.

PREP

- Read Wanted: Bilingual Healthcare Workers

MATERIALS

- Wanted: Bilingual Healthcare Workers article

AGREE OR DISAGREE

Write the following statement on the board and ask students to discuss in pairs whether they agree or disagree and why:

Job seekers whose first language is not English are at a disadvantage when looking for a job.

Once students have discussed for 5 minutes, ask them to share their thoughts.

EXPLAIN

Explain that the class is going to read an article about the realities of job opportunities for bilingual workers. Distribute the article, Wanted: Bilingual Healthcare Workers, and ask students to read it.

DISCUSSION

What is the main idea of the article?

- Bilingual workers are in demand in the healthcare field.

According to the article, why is there currently a demand for bilingual workers in healthcare?

- U.S. demographics are changing, with many non-English speakers, and there are increasing numbers of healthcare users in general, many of whom speak languages other than English.
What situations might an interpreter help with in healthcare settings?

- X-rays, explaining procedures, explaining follow-up instructions, pain management, explaining instructions in a pharmacy, dieticians explaining food and recipes, hospital transfers via ambulance, hospital admissions, nursing home care

Why is it not ideal for children to translate for their parents or other family members?

- Sensitive medical information that might not be appropriate for children to hear about.

Why does the article mention the Civil Rights Act of 1964?

- That law required that federally funded organizations have bilingual staff. This includes many hospitals and healthcare facilities.
Wanted: Bilingual Healthcare Workers

Adapted from Dan Woog, Contributing Writer, Monsterjobs.com

Today, as immigration increases and with the nursing shortage in full swing, the demand for bilingual healthcare workers is growing. The greatest need appears to be for Spanish-speaking nurses.

Anita Holt, RN, says bilingualism is critical not just in nursing, but throughout the healthcare system. “Patients feel more comfortable if they can talk to someone who understands their language, as well as the beliefs and values of their culture,” she says. “For example, it is important for a hospital patient to not only have his wife and children at his bedside, but also his comadres and compadres, his tios and tias. If the nurse, lab technician or doctor do not understand the concept of familia, the integrity of his care could be compromised.

Sam Romero, founder and president of a Massachusetts-based healthcare recruiter specializing in bilingual and bicultural professionals, agrees. “Physicians’ assistants, nurses’ aides, orderlies, mental health technicians, food service personnel, people who work in nursing homes—anyone who understands a different culture and service can make a healthcare organization more efficient and effective,” he says. “That understanding helps the organization, too, by cutting down errors, slashing turnover and serving broader populations.”

It’s the Law

The Civil Rights Act of 1964 mandates that every organization receiving federal money employ bilingual staff. “That’s particularly important in the emergency room, where people use medical terminology,” Romero says. “People are discussing delicate, sensitive matters, so you shouldn’t have a 10-year-old boy interpreting for an OB/GYN. But it happens. I’ve seen a housekeeper called in, and she told the patient something the doctor wasn’t saying. It’s much better for a doctor or nurse to provide information.”

Holt says bilingual nurses are needed all over the US. Although the demand is most crucial in states bordering Mexico, Hispanic/Latino immigrants—legal and illegal—are settling across the country. And the variety of Hispanic/Latino cultures (for example, a patient from Colombia’s cultural experience will vary greatly from that of a Puerto Rican patient) only increases the need for bilingual nurses. In response, the National Association of Hispanic Nurses has developed chapters in nearly every state. The organization holds an annual summer conference and networking opportunities.
What Should Bilingual Job Seekers Do?

Holt suggests bilingual healthcare job seekers subscribe to professional journals (such as the *American Journal of Nursing*), and join Hispanic/Latino and non-Hispanic/Latino professional organizations. They should also inquire about collaborative efforts among hospitals, medical and nursing schools, nonprofit foundations and government agencies. This is true even for health professionals who are not proficient in Spanish. For example, the US Department of Health and Human Services awarded the University of Texas at El Paso an $800,000 grant to prepare culturally and linguistically competent family nurse practitioners to work at border clinics.

Asian-Language Speakers Needed

Bilingual and bicultural healthcare needs extend beyond Spanish, of course. Romero says immigration is increasing from countries like Cambodia, Vietnam and Laos—places where medical care is vastly different from the US. And at the same time, immigration policy is staunching the flow of healthcare professionals from Asia. “Since 9/11, there is much greater vigilance about who comes in,” Romero says. “It’s harder for professionals, even folks with doctor’s and nurse’s degrees, to move here.”
Career Families in Healthcare

Students learn about job types common across sectors, such as administrative, public-facing, technological, management, and production. They brainstorm specific jobs in those career families, the skills someone would need to work in them, and answer self-assessment questions about their interest in various career families.

PREP

- Be prepared to discuss the terms: career families, job duties vs. job skills, described below.

MATERIALS

- Career Families worksheet

EXPLAIN

1 There are many job types that are common in many different industries or job sectors. These are called career families. There are some career families with jobs that nearly all companies or organizations need, for example, a public-facing job. This is a job working directly with people.

2 Which healthcare jobs would require you to work directly with people?
   - Doctors, nurses, home health aide, EMTs, medical assistants, receptionists and X-ray technicians.

3 What kinds of skills do people who work directly with the public need to do their job?
   - Communication skills, computer skills, the ability to get along well with people from all walks of life, friendliness, approachability, being helpful, patient, the ability to explain things clearly and concisely, knowledge of what they are helping people with, problem solving, good listening skills, ability to multi-task, ability to work cooperatively and also be able to work independently.

   Are these particular to healthcare or do they cross industry sectors?
   - They apply to many industry sectors.
4 What do you think are the benefits of having the skills to do jobs in a career family that exists in many different industries?
   - Many job opportunities, you won’t be stuck in one industry if you don’t like it, if you change industries, you won’t necessarily have to learn a whole new set of skills (though you’ll still have to learn industry/company specific knowledge and duties).

5 Put students into groups of three or four, distribute the Career Families worksheet, and ask students to complete the table together. After they finish the table, have them fill out the questions on the second page individually. When finished, students discuss answers (both group and then individual answers) with entire class.

6 **Explain:** It’s important to note that while some of the duties of these job and the skills necessary to do them are similar, the hours and pay could be very different depending on what industry you work in. For example, if you are an administrative assistant at a small business or a nonprofit organization, you earn less than someone who holds a similar job at a large corporation.

7 Can you think of any other types of jobs that are needed in many industries?
### Career Families

In the chart below, follow the example, listing additional examples in the categories provided.

**Left-hand column:** write a career that is part of the career family in each industry.  
**Right-hand column:** write the skills needed to do the job listed in the left column.

<table>
<thead>
<tr>
<th>CAREERS IN HEALTHCARE</th>
<th>SKILLS NEEDED</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public-Facing in Healthcare</strong></td>
<td></td>
</tr>
<tr>
<td>1. Medical Secretary</td>
<td>1. Clear speaking voice, ability to explain things, helpful manner</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td><strong>Administrative in Healthcare</strong></td>
<td></td>
</tr>
<tr>
<td>1. Medical Biller</td>
<td>1. Attention to detail, facility with numbers, writing skills</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td><strong>Technological in Healthcare</strong></td>
<td></td>
</tr>
<tr>
<td>1. X-Ray Technician</td>
<td>1. Computer skills, communication ability with different levels of staff. Ability to learn X-ray dosage and positioning</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td><strong>Management in Healthcare</strong></td>
<td></td>
</tr>
<tr>
<td>1. Nurse Supervisor</td>
<td>1. Professional manner, ability to supervise, ability to establish priorities and delegate responsibilities</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
<tr>
<td><strong>Production (making goods) in Healthcare</strong></td>
<td></td>
</tr>
<tr>
<td>1. Pharmaceutical Manufacturer</td>
<td>1. Ability to learn to properly use mechanical and digital equipment, ability to use precise measurements</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
</tbody>
</table>
1. Of the five we have examined—Public-facing, Administrative, Technological, Management/Business, and Production—which would you be interested in working in? Why?

2. Do you already have any skills that would help you work within the career families you are interested in? How did you acquire these skills?

3. Of these five career families, are there any you would not be interested in working in? Why?

4. Can you think of any other types of jobs that are needed in many different industries or job sectors? Would you be interested in working in any of those? Which ones and why?
Employers Types in Healthcare

Students learn about classifications of employers—corporations, nonprofits, and civil service.

PREP

- Be prepared to discuss the following terms, defined below: Corporation, Nonprofit, and Civil Service, also known as the Public Sector.

MATERIALS

- Sample Employer Types worksheet
- Employers By Type worksheet

EXPLAIN

1. Sometimes the word employer refers to an individual, but it is also used to describe a company or organization. We are going to look at three different types of employers that exist in the Healthcare sector. Additional types of employers exist in other sectors.

2. Distribute Sample Employer Types worksheet.

3. Have students get into pairs and complete the worksheet together.

4. When they are finished, have students share their answers with the class.

5. After each workplace type is reported back, discuss the corresponding definition below to clarify and answer any questions. The descriptions below are intended for use by the teacher.

- A Corporation is a business that sells goods or services. Many corporations have one person in charge at the top, the CEO or President, then a layer of middle managers who supervise people with lower levels of responsibility. If a corporation makes a large profit, that money might go to the high level managers, or they may choose to share it among the employees. Many, though not all, corporations have a hierarchy with some people holding more power to make decisions than others.

- Nonprofits or Not-for-profits generally prioritize providing services over making money. For example, they might provide shelter or counseling to homeless or low-income people, people with disabilities or other groups of people
who need assistance. They are governed by a Board of Directors, a group of people interested in the success of the organization, which guides the decision-making. Users or clients often do not pay for the services. Instead, the organizations apply for and receive grants from the government or private funders. This is money that does not have to be repaid and often comes with requirements on the services provided, such as a certain number of people served or certain results of the services provided.

- Civil service is also known as the public sector or the government. Civil servants are public employees who work in a variety of fields such as teaching, sanitation, health care, management, and administration for the federal, state, or local government. There are standardized prerequisites for employment such as minimal age and educational requirements and residency laws. Employees enjoy job security, promotion and educational opportunities, comprehensive medical insurance coverage, and pension and other benefits often not provided in comparable positions in private employment.

6 Divide the class into three groups and assign each group one of the three readings. Tell students they will share and discuss what they read with the class. They should take notes and be able to summarize the reading.

7 Each group presents their employer to the class, based on what they have read about it.

8 Distribute Employers By Type worksheet and have groups work together to list employers that they think belong in each category.

- They can complete them based on their existing knowledge or use the following websites for research:
  
  - www.greatnonprofits.org
  - www.nycworker.coop

- If they use websites for research, discuss the importance of paraphrasing.

- Another option is to have them complete this worksheet individually for homework.
Sample Employer Types*

Read the descriptions of employers below and decide whether each one is a corporation, a nonprofit organization or civil service.

1. **Community Healthcare Network (CHN)** provides healthcare to more than 80,000 mostly low-income and uninsured New Yorkers at 11 health centers in New York City. CHN is funded by money known as grants that come from the government, private foundations, or individuals and families who are interested in supporting CHN. CHN’s clients do not have to pay for any of the services they receive. The money CHN receives from the grants is used to pay its employees and purchase everything they need to keep their facilities running.

   Business Type ____________________________

2. **New York University (NYU) Langone Medical Center** has inpatient and outpatient settings in New York City’s five boroughs, Long Island, New Jersey, Putnam and Duchess Counties. NYU Langone is privately owned. When patients receive services, they or their insurance company pays for the services. The money the hospital makes from providing services is used to pay the salaries of its staff and keep the facilities running smoothly.

   Business Type ____________________________

3. **US Department of Veterans Affairs** provides medical, as well as non-medical assistance to veterans of the United States’ military. VA employees work in healthcare positions as nurses, mental health workers and dental hygienists, for example and in non-clinical positions as carpenters, maintenance professionals, and Information Technology experts, for example. Some careers with the VA require applicants to take an exam in order to be eligible for consideration.

   Business Type ____________________________

*RAENs will provide regional adaptations.
Corporation

CVS Health

CVS Health is the nation’s biggest retailer of prescription drugs and second-largest pharmacy benefits manager--and is expanding its reach to become a fully integrated provider of health services. Most recently, it bought all of Target’s 1,600-plus pharmacies across 47 states, a deal worth about $1.9 billion. That follows on the heels of its agreement to purchase Omnicare for $12.7 billion. Omnicare is a drug delivery company that also helps senior-living centers manage residents’ medications. The Target pharmacies and Omnicare deals build on a grander shift managed by CEO Larry Merlo, who has been transforming the drug-store chain into a full-service health management company. Within the last year, the company swept cigarettes off its shelves, changed its name to CVS Health from CVS Caremark, and made plans to expand its in-store health clinics by about 600 locations by 2017. They are ranked number 10 on Fortune 500’s list of biggest healthcare companies, having made a profit of $139.4 billion in 2014 with that number projected to increase yearly by 9.9%.

Source: http://fortune.com/2015/06/20/fortune-500-biggest-healthcare-companies/
Nonprofit Organization

Academy of Medical & Public Health Services
Nonprofit or community organization amphsonline.org

A cademy of Medical & Public Health Services (“AMPHS”) is a not-for-profit organization founded in 2010 and dedicated to offering accessible healthcare to underserved immigrant populations. AMPHS strongly believes that healthcare is a basic human right, not a privilege. In the face of health reform where many immigrants still face barriers to access while greatly needing medical care even more so than others, AMPHS strives to coordinate the clinical and social service needs of underserved immigrant communities. In doing so, AMPHS serves as the trusted primary care coordinator of healthcare access, resources, and education for individuals and families at the community level. Through its community public health interventions, AMPHS lends to the empowerment of individuals and communities to create their own local and culturally-sensitive health and wellness paradigms.

AMPHS programs fall into three key focus areas: Clinical Services, Social Services, and Training & Education. They believe that by developing coordinated and integrated interventions in these three areas, they are able to address the root causes contributing to the health disparities and poor outcomes facing immigrant populations today. All of AMPHS’s services are delivered in a culturally sensitive and linguistically competent manner, ensuring community members feel right at home when they visit an AMPHS program site. Their facility serves as a safe haven for the community to engage in a broader dialogue about their overall health and wellness.

*RAENs will provide regional adaptations.
Civil Service

NYC Health + Hospitals/Bellevue

Affiliated with the NYU School of Medicine, NYC Health + Hospitals/Bellevue offers a wide range of medical, surgical and psychiatric services and is a major referral center for highly complex cases.

Their state-of-the-art facilities include:

- a 25-story patient care facility housing more than 800 inpatient beds and six Intensive Care Units
- a world-renowned Emergency Service and Trauma Center, and
- a 4-story modern Ambulatory Care Pavilion.

With over 1,200 full-time attending physician staff, NYC Health + Hospitals/Bellevue is committed to delivering high quality patient care, to preventing disease and to educating medical professionals. NYC Health + Hospitals/Bellevue is a member of NYC Health + Hospitals, the nation’s largest public hospital system.

NYC Health + Hospitals/Bellevue is America’s oldest continuously operating hospital, established in 1736.

http://www.nychealthandhospitals.org/bellevue/html/about/history.shtml
## Employer Profiles

List as many employers as you can in the boxes below, providing the name and what they provide. Use businesses near your program, near your home, and ones you are familiar with. If no employers come to mind for a category, do some research. Use readings from class or search online.

<table>
<thead>
<tr>
<th>Corporation</th>
<th>Product or Service:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nonprofit Organization</th>
<th>Product or Service:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Civil Service</th>
<th>Product or Service:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
</tbody>
</table>
Extension Activity:  
Further Reading on Civil Service

Following is additional reading on careers in civil service, created by the New York City Labor Market Information Service. Teachers may choose to use parts or all of it in further explorations of the public sector. Some sections are specific to New York City and others discuss New York State and federal careers, as well as civil service careers in general.

A PDF can be downloaded at: http://www.gc.cuny.edu/CUNY_GC/media/365-Images/Uploads%20for%20LMIS/LTW/Public-Service-8-5x11.pdf
Who Works in Public Service?
If someone asked you to name someone who works in government, the first person that might come to mind is the Mayor, the Governor, or the President. There are a lot more people involved in making the city, state and federal government run and all of those people are in public service. The government has just about any job you can think of, from accountants, cooks, and engineers, to lawyers, mechanics, and web developers. Other jobs, like firefighters and public health inspectors, are only found within the government.

The big difference between working for the government and working for other employers is that, in the government, the money to pay the salaries comes from taxes and fees that are collected from individuals and businesses. When you work in public service, you are expected to use resources wisely.

Why Do People Work in Public Service?

- **Purpose.** You can make your city, state, or country a better place to live, work and visit.
- **Benefits.** Public service jobs have great benefits, including health and other types of insurance, retirement plans, and sometimes tuition reimbursement.
- **Security.** People who work in civil service positions usually have stable, long-term employment.
- **Variety.** There are jobs for people with all kinds of interests.
- **Fairness.** A unique hiring and promotion process called the civil service system is used to promote fairness.
- **Lifestyle.** Hours, days and responsibilities are usually more defined and therefore there may be a better balance between work and life in the public sector than there is when you work for a private employer.
- **Opportunity.** Skills you learn in the public sector can be transferred to the private sector.

City, State, and Federal Government: Who Does What?
Most people in public service in New York City work for the City of New York. But did you know that you can stay right here in New York City and work for New York State or the Federal government? Each level of government has some unique and some shared functions. As a result, the types of jobs may vary from level to level.

<table>
<thead>
<tr>
<th>City</th>
<th>State</th>
<th>Federal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operate public schools</td>
<td>Issue drivers’ licenses</td>
<td>Establish a military</td>
</tr>
<tr>
<td>Establish police and fire departments</td>
<td>Conduct elections</td>
<td>Manage relationships with other nations</td>
</tr>
<tr>
<td>Build and maintain public works</td>
<td></td>
<td>Operate the Postal Service</td>
</tr>
</tbody>
</table>

**Shared by Two or More Levels**
- Operate colleges
- Create and operate parks
- Ensure public health and safety
- Make laws and regulations
- Build and maintain roads and highways
- Operate hospitals
- Provide social services
- Provide public transportation
- Protect the environment

Brochure may be downloaded from http://www.gc.cuny.edu/lmis/information/brochures
Put Yourself on the Map:
How to Use This Brochure

Like any map, this Career Map helps you find your way to new places – in this case, government. As you read, ask yourself: what different kinds of jobs are there? How does one job lead to the next? Which ones will I like? How much money can I earn, and how long will it take me to get there? What kind of training do I need?

One of the best ways to find a satisfying career is to get clear about your personal interests and strengths. What do you most enjoy doing? What do your friends, teachers, parents say you do best? Do you prefer to work with people, ideas or things? Do you want to be in charge, or work alongside your peers? Which of these jobs will let you be your best?

Once you’ve found a path that sounds like a good fit, it’s time to test it out. Find someone who works in that type of job – ask your friends, parents, teachers and neighbors if they can introduce you. Ask if they are willing to talk with you for a few minutes. This is called an “informational interview.” You’re not asking them to find you a job; you’re only asking to listen and learn about their experience. If you ask in a professional manner, many people are happy to speak with you. (If you’re nervous about this, ask a teacher, guidance counselor or parent to help.)

Before you meet with the person, reread the brochure and write down any questions you have, for example:

- What do you spend your day doing in this job?
- How did you get started in this field?
- How much reading, writing or math do you do in your job?
- How do people dress at the work place?
- Do you have a routine set of tasks you do every day or do you do something different every day?
- Do you work the same schedule every week, or does it change?
- What courses would I take in high school or college to prepare for this job?
- What is my next step after high school if I am interested in this field?
- Where can I find people who can help me learn more about this field?

Make sure to send a thank you note, and in no time you’ll be on your way. For more information about this industry and many others, you can visit www.careerzone.ny.gov
Landing the Job: The Civil Service System

In the early days of the United States many unqualified people were hired for government jobs because of who they knew. An exam system was created to make sure that the government hired qualified people and that capable people had a fair chance of getting a job. The system of exams and hiring is called the civil service system.

This civil service process is designed to make hiring and promotions fair. For most jobs in City and State government, you must take an exam. The process looks something like this:

First you:
• Register for the exam
• Take the exam, submit your resume and other requirements depending on the job

Then the City or State:
• Scores the test and rates your qualifications
• Creates a list of people who passed the exam; the highest scoring person is at the top of the list
• Contacts candidates in the order of their score on the test starting from the highest score
• Interviews candidates until they find the one that is right for the job

Some City and State government jobs are not subject to the civil service system, so there is no exam, just an application, a resume, and usually a cover letter. These jobs are usually temporary or require very special skills. Very few federal government civil service jobs require an exam. Instead, when you apply for the job online, the agency rates your qualifications from your application, resume, and questionnaire, and gives you a score.

The rest is just like New York City or State. You are placed on a list, the agency contacts and interviews the highest scoring candidates until they find the right one. All federal jobs are posted at https://www.usajobs.gov/.

You can find City and State exam schedules at these websites:
http://www1.nyc.gov/jobs/exams.page

This brochure highlights career paths in six of the many fields within public service. For more information, see:

How to Get a State Job https://statejobsny.com/public/howitworks.cfm

Job Boards
New York City: http://www1.nyc.gov/jobs
New York State: https://www.statejobsny.com/
Federal Government: www.usajobs

Sources
All titles and pay ranges are from real-world examples either posted on one of the government job boards listed above, or on “SeeThroughNY” which shows 2014 pay rates for all titles within the New York City and New York State governments

Office of Postsecondary Readiness (OPSR)
New York City Department of Education
52 Chambers Street
New York, NY 10007
Tech & Telecom

Governments can’t run without computers, networks, and phones. All of the agencies that make up the government must use computers — and sometimes mobile devices like smartphones and tablets — so that they can develop documents, communicate between agencies and with the public, store and analyze data, and manage finances, among other functions. Wherever computers are used, there is a need for technicians to install and fix them, and programmers to create applications to run on them. Just like in the private sector, the more knowledge, skill, and experience you have, the more likely you will be better paid. Software and hardware tech jobs can be found in almost every government agency or department and some departments specialize entirely in tech.

<table>
<thead>
<tr>
<th>ENTRY-LEVEL</th>
<th>MORE EDUCATION &amp; EXPERIENCE</th>
<th>SENIOR-LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Yearly Pay</td>
<td>$35,000 to $45,000</td>
<td>$45,000 to $60,000</td>
</tr>
</tbody>
</table>

Sample Pathways
- Help Desk Level 1
- Network Services Specialist
- Web Content Specialist
- Desktop Support Technician
- Network Administrator
- Web Developer
- Quality Assurance Analyst
- Network Manager
- Applications Developer
- Senior Systems Analyst
- Director, Network and Cybersecurity Operations

PLACES YOU MIGHT WORK INCLUDE:
- City of New York: Department of Information Technology and Telecommunications, Human Resources Administration, Department of Investigation, and the Department of Education
- New York State: Office of Information Technology Services, Department of Health, the Attorney General’s Office, the State Insurance Fund, and the State Police Department
- U.S. Government: National Telecommunications and Information Administration (Department of Commerce), Treasury Department, Department of Energy, and the Library of Congress

Public Safety & Health

Protecting the people is a major function of the government. That means there are plenty of public service jobs for people who prevent and investigate crime, enforce the law, put out fires, make sure that living conditions and food are safe, manage emergencies, and recover from disasters. Many people who go into this line of work consider it a “calling,” not a career. They want to protect and serve people or enjoy serving such an important function in society. Public safety employees are often carefully screened for drug use, criminal justice history, and character. Public safety agencies operate 24 hours a day, seven days a week. Everyone knows that the police and fire departments employ officers and firefighters, but these departments also employ people in hundreds of other titles related to investigation, inspection, rescue, and unit dispatch. There are dozens of agencies at the city, state, and federal levels that are responsible for public health and safety, and each employs many workers in a variety of job types, too.

<table>
<thead>
<tr>
<th>ENTRY-LEVEL</th>
<th>MORE EDUCATION &amp; EXPERIENCE</th>
<th>SENIOR-LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical Yearly Pay</td>
<td>$30,000 to $44,000</td>
<td>$45,000 to $89,000</td>
</tr>
</tbody>
</table>

Sample Pathways
- Transportation Security Officer
- Public Health Inspector
- Emergency Management Technician (EMT)
- Transportation Security Supervisor
- Occupational Health and Safety Specialist
- Emergency Response Assistant
- Transportation Security Manager
- Senior Occupational Health Specialist
- Emergency Response Specialist
- Federal Security Director
- Senior Emergency Response and Preparedness Specialist

PLACES YOU MIGHT WORK INCLUDE:
- City of New York: Department of Buildings, Police Department, Fire Department, Office of Emergency Management, Department of Corrections, and Department of Probation, Department of Health and Mental Hygiene
- New York State: New York State Police, Department of Corrections and Community Supervision, Department of Criminal Justice Services, Division of Homeland Security and Emergency Services.
- U.S. Government: Federal Bureau of Investigation, Department of Homeland Security (including U.S. Customs and Border Protection, the Federal Emergency Management Agency, and the Transportation Security Administration), the Department of Justice, Drug Enforcement Agency, the U.S. Marshal Service, the Department of Labor’s Occupational Safety and Health Administration.
### Design & Build

The government owns many buildings, including colleges, courts, hospitals, motor vehicle inspection sites, office buildings, and public housing and schools. Government workers often design and build these buildings, operate and preserve them, and make sure they are energy efficient and safe to inhabit. While much of the design and construction is contracted out to private firms, there are still a range of public service jobs for people who enjoy this work. Some jobs — like engineers, architects, and construction managers — require a four-year college degree to get “a foot in the door,” while others — like building superintendents and carpenters — require hands-on experience and skills.

#### Typical Yearly Pay

<table>
<thead>
<tr>
<th>Entry-Level</th>
<th>More Education &amp; Experience</th>
<th>Senior-Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>$18,000 to $38,000</td>
<td>$40,000 to $65,000</td>
<td>$100,000+</td>
</tr>
<tr>
<td><strong>Sample Pathways</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drafting Assistant</td>
<td>Engineering Assistant</td>
<td>Civil Engineer</td>
</tr>
<tr>
<td>Apprentice Carpenter</td>
<td>Journeyman Carpenter</td>
<td>Carpenter Foreman</td>
</tr>
<tr>
<td>Building Services Aide</td>
<td>Assistant Buildings Inspector</td>
<td>Construction Inspector</td>
</tr>
</tbody>
</table>

**PLACES YOU MIGHT WORK INCLUDE:**

| City of New York          | Department of Buildings, Department of Design and Construction, Landmark Preservation Commission, School Construction Authority, New York City Housing Authority |
| New York State            | Department of Homes and Community Renewal, Dormitory Authority, Office of General Services |
| U.S. Government           | Department of Housing and Urban Development, General Services Administration, National Capital Planning Commission |

### Elected Officials

New York City is home to many elected officials, including its Mayor, 51 Council Members, the Comptroller, five Borough Presidents, five District Attorneys, and the Public Advocate. State “electeds” include the Governor and Lieutenant Governor, the Comptroller, the Attorney General, 150 Members of the Assembly, and 63 State Senators (though this number varies). The two Senators who represent New York State in the U.S. Senate have offices in New York City, as do the 27 Members of Congress that represent New York City residents in the U.S. House of Representatives. All of the offices of these elected officials employ staffers to assist them in their many government duties. Many jobs in this field require a four-year college degree even at the entry level, and a postgraduate degree — in law, policy, business, and other areas — if you want to advance.

#### Typical Yearly Pay

<table>
<thead>
<tr>
<th>Entry-Level</th>
<th>More Education &amp; Experience</th>
<th>Senior-Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>$28,000 to $40,000</td>
<td>$40,000 to $55,000</td>
<td>$100,000+</td>
</tr>
<tr>
<td><strong>Sample Pathways</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constituent Services Liaison</td>
<td>Community Coordinator</td>
<td>Community Affairs Liaison</td>
</tr>
<tr>
<td>Councilmanic Aide</td>
<td>Policy Aide</td>
<td>Legislative Policy Analyst</td>
</tr>
<tr>
<td>Paralegal Aide</td>
<td>Paralegal</td>
<td>Legal Aide</td>
</tr>
</tbody>
</table>

**PLACES YOU MIGHT WORK INCLUDE:**

| City of New York          | Council Speaker, Council Finance, Office of the Mayor, Office of the Comptroller, Public Advocate’s Office, Brooklyn Borough President’s Office, Bronx District Attorney |
| New York State            | Office of Legislative Affairs, Assembly Speaker’s Office, Attorney General’s Office |
| U.S. Government           | Congressional Offices |

### Did you know?

- The City of New York is the largest single employer in New York City.
- More than half a million people work for the City of New York. That’s more people than live in the borough of Staten Island!
- Just about every federal agency has at least one office in New York City.
- Celebrities who worked for the government before they became famous include comedians Wanda Sykes and Steve Carrell, rap musician Rick Ross, and soul singer Sharon Jones.
### Transportation

Governments operate all types of transportation. On the ground they operate trains and subways, trucks, buses, vans, and cars, as well as the rails, roads, bridges and tunnels. There are City-owned ferries and boats owned by all levels of government (fire, police, and Coast Guard). JFK and LaGuardia Airports are owned by the City and operated by the Port Authority of New York and New Jersey. There are jobs for people who can operate, organize and schedule, help people board and disembark, and repair and take care of the vehicles. These jobs are found in many agencies or departments. Coordinating vehicle purchasing and servicing across multiple agencies proved to be so complicated that the City created a “virtual fleet” to streamline the system. Many jobs in transportation operations do not require a four-year degree. However, you will need the degree if you want to move into most management positions.

<table>
<thead>
<tr>
<th>Sample Pathways</th>
<th>ENTRY-LEVEL</th>
<th>MORE EDUCATION &amp; EXPERIENCE</th>
<th>SENIOR-LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transit Electrical Helper-Signals</td>
<td>$35,000 to $45,000</td>
<td>$40,000 to $55,000</td>
<td>$80,000+</td>
</tr>
<tr>
<td>Signal Maintainer</td>
<td>$55,000 to $80,000</td>
<td>Assistant Director of Signal Maintenance</td>
<td></td>
</tr>
<tr>
<td>Signal Maintenance Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automotive Service Worker</td>
<td></td>
<td>Lead Shop Floor Technician</td>
<td>Automotive Shop Manager</td>
</tr>
<tr>
<td>Shop Floor Technician</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ordinary Seaman</td>
<td></td>
<td>Mate</td>
<td></td>
</tr>
<tr>
<td>Able Seaman</td>
<td></td>
<td>Ferry Captain</td>
<td></td>
</tr>
</tbody>
</table>

**PLACES YOU MIGHT WORK INCLUDE:**

- **City of New York**
  - Department of Transportation
- **New York State**
  - Port Authority of New York and New Jersey (regional), Department of Transportation, MTA (Metro North, Long Island Railroad, New York City Transit to name a few)
- **U.S. Government**
  - Department of Transportation (including the Federal Aviation, Highway, Transit and Maritime Administrations, among others)

### The Environment

Over the years, population growth and rapid advances in technology have had negative effects on the air, land, and water, which people, plants, and animals depend on for survival. All levels of government are involved in the practice of conservation (protecting the environment from further damage) and remediation (restoring the environment to its natural state). Some of the biggest issues confronting New York City include reducing air pollution, handling storm water, removing toxic waste, and protecting native trees and plants. Most environmental jobs require excellent science and math skills. With the possible exception of people working “on the ground,” a Bachelor’s degree is required to enter the field, and you may need a Master’s or a Doctoral degree to advance.

<table>
<thead>
<tr>
<th>Sample Pathways</th>
<th>ENTRY-LEVEL</th>
<th>MORE EDUCATION &amp; EXPERIENCE</th>
<th>SENIOR-LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildlife Preservationist Aide</td>
<td>$20,000 to $45,000</td>
<td>$46,000 to $56,000</td>
<td>$90,000+</td>
</tr>
<tr>
<td>Wildlife Biological Preservationist</td>
<td></td>
<td>Wildlife Biologist</td>
<td>Senior Ecologist</td>
</tr>
<tr>
<td>Hazardous Materials (HAZMAT) Abatement Technician</td>
<td></td>
<td>HAZMAT Abatement Inspector</td>
<td>HAZMAT Abatement Manager</td>
</tr>
<tr>
<td>Field Abatement Coordinator</td>
<td></td>
<td>Watershed Program Coordinator</td>
<td>Watershed Management Program Manager</td>
</tr>
<tr>
<td>Environmental Trainee</td>
<td></td>
<td>Watershed Maintainer</td>
<td></td>
</tr>
</tbody>
</table>

**PLACES YOU MIGHT WORK INCLUDE:**

- **City of New York**
  - Department of Environmental Protection, Mayor’s Office of Long-Term Planning and Sustainability, Department of Parks and Recreation, and Department of Sanitation
- **New York State**
  - New York State Energy Research and Development Authority, Department of Environmental Conservation, Environmental Facilities Corporation, Hudson River Park Trust, Hudson River Valley Greenway
- **U.S. Government**
  - Environmental Protection Agency, Chemical Safety Board, National Park Service, National Oceanic and Atmospheric Administration