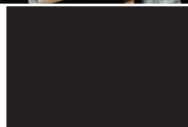




CAREER Development T O O L K I T



by Jennifer Leonard | The Skills Library

Career Development Toolkit

Preface

The ***Career Development Toolkit*** was developed to support career development activities for schools and youth programs in Massachusetts. It provides readings and activities that can be used in a variety of settings, including student advisory groups, after-school and summer programs, work-and-learning programs, or in classrooms.

The Toolkit was inspired by projects that I have worked on over the past several years. As a self-employed consultant, I am fortunate to be able to work with many different projects serving youth in Massachusetts, and so I am familiar with many of the career development goals and approaches used in schools and youth programs. In my personal life, I have also volunteered as a scout leader, and have developed and implemented a variety of career exploration activities for young people. For several years, I also taught Economics part-time at a community college and developed a variety of classroom activities involving analyzing and graphing economic data. Meanwhile, I have also taken time on my own, apart from any professional or volunteer work, to experiment with a variety of career-related activities, developing an online career exploration project called the “Career Outlook Project” and an online “Skills Portfolio,” which are both highlighted in this book.

~

The Career Development Toolkit is available as a booklet OR as a package that includes a printed booklet plus electronic files that schools or programs can use for printing or photocopying. A website with relevant data and links is also available to readers. Please email or visit <http://skillslibrary.com/careers> for ordering information.

~

I hope you enjoy using these resources. Feedback about the guide, stories about how you have implemented these activities, and suggestions for future editions are welcome.

Jennifer Leonard
The Skills Library
Telephone: 781-321-7894
Email: jleonard@skillslibrary.com
Website: <http://skillslibrary.com>

Fall 2008 (Updated Summer 2011)

Career Development Toolkit

Unit 1: Welcome	4
Key Messages	5
Activity 1.1: Notebook/Portfolio	6
Activity 1.2 Brainstorm A-Z Job Titles	7
Activity 1.3: What Do You Want To Do?	8
Unit 2: Career Interest Assessments	9
Activity 2.1: Explore MassCIS	10
Activity 2.2: Career Directions: An Informal Checklist for Exploring Your Career Interests	11
Unit 3: Looking at Labor Market Data	17
Where is Data Available?	17
Industry and Occupation Data	18
Massachusetts Employment, By Industry	18
30 Most Common Occupations	19
Industry Employment Projections	20
Activity 3.1: Graphing – Wages	22
Activity 3.2: Graphing – Employment	23
Activity 3.3: Discussion	24
Activity 3.4: Research with MassCIS	24
Activity 3.5: Talk with Friends and Family	25
Unit 4: Informational Interviewing & Career Outlook Interviews	26
Career Profile: Owner/Manager, Deli and Catering Business	27
Activity 4.1: Collect Interviews	28
Activity 4.2: Browse Interviews	28
Activity 4.3: How Important are These Skills?	28
Career Outlook Interview Form	29
Unit 5: The New Economy	31
Career Profile: Electronics Engineering Technician	31
Excerpt: Federal Reserve Bank of Dallas 2003 Annual Report "A Better Way: Productivity and Reorganization in the American Economy " by W. Michael Cox and Richard Alm	33
Activity 5.1: Local Economic History	34
Activity 5.2: Economic Research Resources	34
Activity 5.3: A Mosaic Economy	35
Unit 6: Education and Career Options	36
"Education Pays" from the Bureau of Labor Statistics	36
25 Fastest Growing Occupations, Earnings and Education	37
Activity 6.1: Graphing Education and Earnings	39
Activity 6.2: Education And Earnings	40
Activity 6.3: Career Profiles	40
Activity 6.4: Read About Apprenticeships	41
Activity 6.5: Learning about Military Careers	42
Unit 7: Spotlight on Science, Technology, Engineering and Math	43
Career Profile: Senior Scientist, Contract Research Organization	44
Career Profile: Senior Programming Analyst	45

Activity 7.1: Career Summary	46
Activity 7.3: College Programs	46
Activity 7.3: Manufacturing Chartbook	46
Unit 8: Spotlight on the Arts	47
Career Profile: Art Investment and Appraisal	47
Occupational Employment and Wage Statistics, Massachusetts, May 2006, for Arts, Design and Media Occupations	48
Career Profile: Creative and Technical Director / Marketing Firm	49
Activity 8.1: Career Summary	50
Activity 8.2: College Programs	50
Activity 8.3: Arts and the Local Economy	50
Unit 9: Spotlight on the Building Trades	51
Career Profile: HVAC Contractor	51
Career Profile: Electrician	52
Construction Employment in Massachusetts, Annual Averages, 1990 – 2007	53
Construction Employment in Massachusetts, January 2005 – March 2008	53
Employment and Wages in Construction Occupations in Massachusetts, 2007	54
Activity 9.1: Career Summary	55
Activity 9.2: Construction and the Local Economy	55
Activity 9.3: Employment and Earnings Graph	55
Activity 9.4: Body Awareness	56
Activity 9.5: Focus on Non-Traditional Employment	57
Unit 10: Spotlight on the Hospitality Industry	58
First Jobs in the Hospitality Sector	58
Career Profile: Concierge	59
Activity 10.1: Career Summary	60
Activity 10.2: College Programs	60
Unit 11: Spotlight on Health Care	61
Career Profile: Director of Pastoral Care and Patient Advocacy	63
Career Profile: Home Health Nurse	64
Activity 11.1: Career Summary	65
Activity 11.2: College Programs	65
Activity 11.3: Healthcare Chartbook	65
Activity 11.4: Case Studies	66
Unit 12: Entrepreneurship	67
Employment and Self-Employment in Selected Occupations	68
Activity 12.1: Self Employment Opportunities	69
Activity 12.2: Creativity Exercises	70
Unit 13: Workplace Skills	71
Foundation Skills	71
Skills for a 21 st Century Economy	72
Activity 13.1: Do's and Don'ts List	74

Activity 13.2: Role-Play Exercises/Case Study Exercises:	74
Activity 13.3: Workplace Safety.	74
Activity 13.4: Career Skills Research	74
Unit 14: Lifelong Career Strategies	76
Activity 14.1: Problem Solving	77
Activity 14.2: Five Steps of Problem Solving	78
Activity 14.3: Budgeting and Salaries	79
Unit 15: Writing a Resume	80
Activity 15.1: Resume Templates	84
Activity 15.2: Organizing Information	84
Activity 15.3: List of Action Words	84
Activity 15.4: List of Resume Skills	84
Unit 16: Interviewing and Job Search	85
Activity 16.1: Interviewing with Confidence – Interview Questions	86
Activity 16.2: Interviewing with Confidence – Evaluating the Interview	87
Activity 16.3: Job Search Case Studies	88
Unit 17: Next Steps, College Majors and First Jobs	89
Activity 17.1: Decision Making Styles	90
Activity 17.2: Web Resources	91
Appendix 1: Analyzing and Presenting Data with Graphs and Charts	92
Data Sets	94
Exercises	101
Sample Graphs	110
Appendix 2: Career Exploration Checklists	118
Appendix 3: Skills Portfolios	124
Appendix 4: Interests, Skills and Work Values Reflection	129
List of Work Values	129
Interests, Skills and Work Values Reflection	130

Unit 1: Welcome

Ask some small children what they want to be when they grow up. Most likely, their answers will cluster around a few well-known occupations - teacher, firefighter, veterinarian or doctor. Then ask their parents what jobs they have and the answers will be quite varied, including many jobs that children (and most high school and college students) have never heard of.

When we interview people about their jobs, we find that most did not know when they were in high school that they would be in their current careers. Instead, many successful careers have been shaped gradually over many years, as people use their career skills to move into new areas of work.

This book provides activities and discussions to support career development and career exploration. You will see that career development is a lifelong process and that you don't necessarily have to map your entire career path all at once. Instead, you will learn how to take the first steps that get you started. This book is designed for use in a high school or college program or course, in a youth program, or in any career exploration or career development program.

You will find real-life interviews, readings, self-assessments and economic data to provide a picture of the job market. You will be encouraged to find out what people do for a living. You will learn the importance of talking to people and "networking" throughout your career. You will also think about the skills and abilities that will help you navigate an ever-changing job market.

The immediate goal is that you will have some fun and interesting discussions and will be ready to make "first steps" in high school and post-high-school education and training. We hope that later on, the ideas presented here will help you as you manage your career.

WHAT DO YOU WANT TO DO?

List **five skills or abilities** that you might like to use in a future career. Examples could include writing, working with people, giving advice, organizing projects, performing music, or other skills.

1. _____
2. _____
3. _____
4. _____
5. _____

WHAT IS CAREER DEVELOPMENT?

Career Development includes:

Career Exploration - Finding out about yourself, your career interests, your personality, and your work values, and learning about a wide variety of careers that you might enjoy.

Career Planning - Making initial decisions about the education, training and experience needed to start your career.

Career Management - Shaping your career throughout your lifetime, looking for new opportunities and continually developing new skills.

KEY MESSAGES

CAREER DEVELOPMENT IS A LIFELONG PROCESS.

Career development is a lifelong process that begins in childhood and continues throughout high school and beyond. For high school students and young adults, it is important to explore your general interests, find out what skills and credentials are important in those career areas, and begin to seek out experiences that will open doors to the careers you are interested in. As you build your career, you should always be assessing your skills and interests and looking at how you can build additional skills and credentials to take advantage of current opportunities.

CAREER DEVELOPMENT IS BEST DONE WITH OTHER PEOPLE.

You can start exploring careers through books, magazines and software, but ultimately the best source of information is other people. There are many aspects of the workplace that are hard to capture on paper - such as the latest trends in an industry, new and emerging job titles, and the real atmosphere of the workplace. Talk with your parents, neighbors, friends, supervisors, job shadow hosts and others to find out about their careers. Get first-hand experience through volunteer work, jobs and internships. Ask questions and observe to find out all that you can.

THE JOB MARKET IS ALWAYS CHANGING.

The workplace will change dramatically during the decades to come. Trends in technology, manufacturing, health care and business will reshape jobs and job titles in the twenty-first century. To be well-prepared for the job market, you should work to:

- Understand your career interests.
- Start to find out what types of careers exist.
- Build career skills in areas like writing, logical thinking, creative thinking and teamwork.
- Be an active lifelong learner.
- Be willing to explore new fields and learn new things throughout your career.

ACTIVITY 1.1: NOTEBOOK/PORTFOLIO

Start gathering materials for a notebook or portfolio. Get a notebook or heavy-duty folder and keep paper copies of career exploration activities that you do through this book and elsewhere.

Keep copies of:

- Career exploration materials (including activities from this book)
- Important school papers and projects
- Job descriptions from jobs or internships
- Photos of artwork
- Photos of school and community activities you have participated in
- Copies of news articles or brochures about activities you have participated in
- Certificates or awards you have earned
- Other materials that document the skills and experiences you are gaining

Store computer files on your school computer network, home computer, memory stick or other location.

Your school or program may have a “College and Career Plan” or “Skills Portfolio” system in place. Many schools use the Massachusetts College and Career Plan, the Your Plan for College program, or a variety of proprietary software programs to enable all students to track their college and career planning activities. Many schools also have e-portfolios or other portfolios that allow students to collect and display projects they have worked on. You may also create your own portfolio if appropriate. See the portfolio section of the Appendix for additional information about one format for a skills portfolio.

ACTIVITY 1.2 BRAINSTORM A-Z JOB TITLES

Brainstorm a list of job titles, focusing on both well-known jobs like doctor, nurse or firefighter, and less-well-known jobs like underwriter or biomedical engineer. Try to think of 3 or more jobs for each letter if possible.

A to Z Job Titles		
A	B	C
D	E	F
G	H	I
J	K	L
M	N	O
P	Q	R
S	T	U
V	W	X
Y	Z	

ACTIVITY 1.3: WHAT DO YOU WANT TO DO?

List five skills or abilities that you might like to use in a future career. Examples could include writing, working with people, giving advice, organizing projects, performing music, or other skills.

1. _____
2. _____
3. _____
4. _____
5. _____

This activity is repeated at the end of the book, in the “Career Interests Reflection” in the Appendix. If you are not sure right now about what to list, you may get more ideas as you read through this book and as you do additional activities and self-assessment exercises.

Unit 2: Career Interest Assessments

How do you know what type of career you would enjoy? If you like art, does that mean you would like to be an artist? Or if you like being outdoors, should you try to go into an environmental career? If you are very social, should you look for a career that is people-oriented? If you are talented in math, or music, or sports, should your career build on those talents? There are several different ways to look at “who you are” and start to make decisions about possible careers.

Interest Checklists: Sometimes, your interests will clearly point the way to a possible career. You may really enjoy something and want to pursue it professionally. You might be interested in a career in the arts, or science, or sports and fitness, or mathematics. You might know that you want to work in teaching, or health care, or government. The quick “interest inventory” in this section gives a very informal assessment of career interests. You can find more formal interest inventories online.

Formal Inventories: More formal insight into your interests and personality traits will help you make thoughtful career choices. For example, suppose that you love math, but you aren’t sure if you would enjoy using math as a math teacher, or as a statistician in a research setting, as an accountant, actuary or finance manager in a business setting, or in a math-oriented career like engineering or architecture. Or, for example, you love sports and wonder if you would enjoy being a fitness coach, or manager of a fitness center, or manager of a sporting goods store. Formal assessments like the Career Assessment Inventory (CAI) or the Career Decision Making (CDM) can help you decide what type of setting and what type of job would make you happiest.

Your Work Values. Is it important to you that you have a high salary? Is it important that your work have an impact on society? Is it important that your career build on your academic skills and talents? Do you like working with other people? Do you like working outdoors? Questions like these are part of exploring “work values” and are as important as exploring interests and personality traits. Inventories of work values give you further insight into what type of work you would enjoy. The Massachusetts Career Information System (MassCIS) allows you to sort occupations by important work values. (See information below.) The appendix to this book also includes a brief checklist of work values.

WORK VALUES: WORKING OUTDOORS OR OTHER THINGS IMPORTANT TO YOU.

The Massachusetts Career Information System (MassCIS) “Occupation Sort” lists careers that match your interests and work values. Suppose that you are interested in finding a career that involves working outdoors, requires four or more years of education, and offers a lot of independence. For these criteria, the “Occupation Sort” lists the following careers. MassCIS can also provide more information about the work, average earnings, required education, and projected job growth for each of these careers.

Occupation Sort Criteria:

- *Working Outdoors*
- *Four or more years of education*
- *High degree of independence*

Agricultural Scientists
Animal Breeders
Animal Trainers
Appraisers and Assessors
Archeologists
Bricklayers and Stonemasons
Conservation Scientists
Construction and Building Inspectors
Construction Managers
Detectives and Investigators
Environmental Scientists
Farmers and Farm Managers
Fish and Game Wardens
Geographers
Geologists and Geophysicists
Landscape Architects
Photographers
Surveying and Mapping Technicians

ACTIVITY 2.1: EXPLORE MASSCIS

EXPLORE MASSCIS FOR THE “OCCUPATION SORT” AND “CAREER CLUSTER INVENTORY” AND TO IDENTIFY JOBS IN THE CAREER AREAS THAT INTEREST YOU.

The Massachusetts Career Information System (MassCIS) is an online system provided free by the Massachusetts Department of Workforce Development. MassCIS provides a wide variety of career information and activities. It includes free tools for exploring your interests and work values. Explore some of these inventories online at <http://masscis.intocareers.org>.

To use the MassCIS system, students, teachers, counselors and others can sign up for usernames and passwords. The system is free and all information is kept completely confidential. Registration for a username and password is recommended because you can save or bookmark information that you have found. However, you can also sign into the system without registering, using just a zip code.

OCCUPATION SORT:

Sign into MassCIS and then click on “Occupation Sort.” You will be asked to select factors that are important to you. For example, do you care about working indoors vs. outdoors? Jobs that require college education or jobs that require two years or less of post-high-school education and training? Jobs that involve travel? Jobs that involve helping people? Answer the series of questions, and then you will view a list of occupations that match, or nearly match, your work values.

CAREER CLUSTER INVENTORY:

Sign into MassCIS and select the “Career Cluster Inventory.” Answer a series of questions about things you like to do (or would like to do). Do you enjoy planting trees? Helping third graders find books in a library? Watching detective shows? Watching medical shows? Selling cookies to raise money? Based on your answers, you’ll be given a list of career clusters to explore.

BROWSE CAREER OPTIONS:

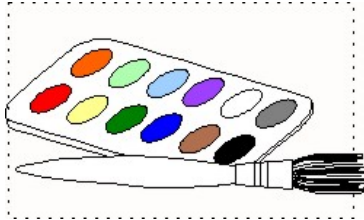
- In MassCIS, click on the link for “Assessment Link.”
- On the Assessment Link screen, click on the name of the assessment that you used (or an equivalent).
- You will then see a list of career clusters or career groups that correspond to the grouping system used by that assessment.
- Click on the clusters/groups that interest you.
- You will then see lists of jobs and can read about the jobs.
- Create a list of interesting jobs in each of the clusters/groups that interest you.
- Keep assessment results and lists of job ideas in your notebook or portfolio.

ACTIVITY 2.2: CAREER DIRECTIONS: AN INFORMAL CHECKLIST FOR EXPLORING CAREER INTERESTS

The Career Directions checklist asks you whether you enjoy a variety of activities - from art to writing to helping others to sports. It is an informal inventory designed simply to help you reflect on your interests and to be able to talk about your career interests with others.

Check as many items as you wish. Then select 3-4 areas that you think might offer interesting career options, and list a few jobs that you would like to learn more about.

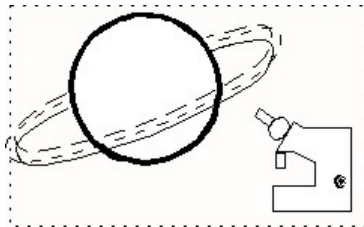
Interest Area 01: Artistic



Do you enjoy:

- Drawing, painting, and other visual arts?
- Music or dance?
- Fashion design?
- Decorating?
- Writing stories or poetry?
- Doing crafts?
- Filmmaking?
- Using a computer for drawing and designing?

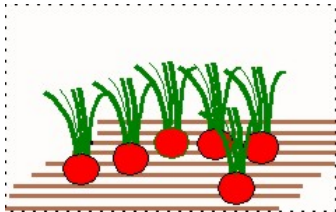
Interest Area 02: Scientific



Do you enjoy:

- Doing experiments to see how things work?
- Learning about nutrition and health?
- Reading about technical developments?
- Using math to solve real-life problems?
- Collecting and identifying rocks, shells, flowers, or other things found in nature?
- Studying a scientific topic like weather, agriculture, or chemistry?

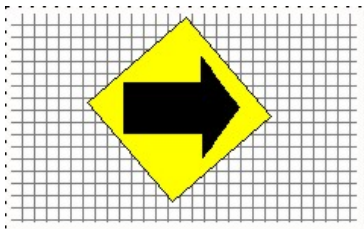
Interest Area 03: Plants and Animals



Do you enjoy:

- Gardening?
- Landscaping?
- Analyzing soil, erosion, or environmental conditions?
- Caring for pets or farm animals?
- Training dogs, horses, or other animals?
- Reading and learning about nature?
- Working outdoors?

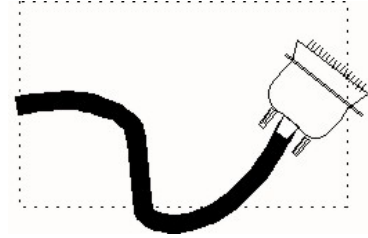
Interest Area 04: Protective



Do you enjoy:

- Teaching others about safety?
- Enforcing rules and law?
- Coming to the aid of people who are in trouble?
- Resolving problems and disputes?
- Gathering facts about an incident?
- Being a role model for younger people?
- Working with the public?

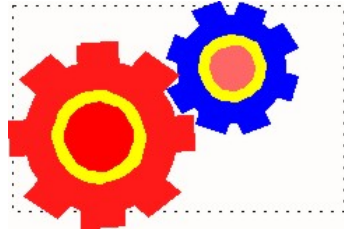
Interest Area 05: Technical and Mechanical



Do you enjoy:

- Sketching out design ideas?
- Designing and building machines?
- Setting up a computer or sound system?
- Troubleshooting computer hardware problems?
- Taking things apart to see how they work?
- Woodworking and carpentry?
- Driving or repairing cars and trucks?
- Building models?

Interest Area 06: Industrial



Do you enjoy:

- Working with your hands, tools, and equipment?
- Doing projects that have concrete, visible results?
- Doing crafts or sewing?
- Building or assembling products?
- Helping friends to move into a new home?
- Working with others to pack boxes, collate papers, or get materials ready for an event?
- Working with others to make a product?

Interest Area 07: Business Detail



Do you enjoy:

- Managing financial information?
- Managing the details for a special event?
- Helping others to organize their time?
- Organizing papers or materials?
- Learning to use new computer software?
- Using a computer to store addresses, telephone numbers, or other information?

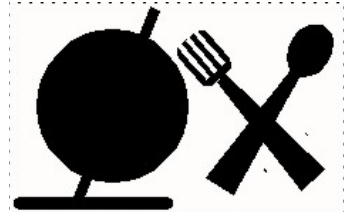
Interest Area 08: Selling



Do you enjoy:

- Finding out about the latest products?
- Reading about fashions and trends?
- Advising people about what to buy?
- Listening to people to see what they need?
- Negotiating with others?
- Calculating prices or fees?
- Promoting a product or idea?

Interest Area 09: Customer Service



Do you enjoy:

- Making people feel comfortable?
- Helping guests or out-of-town visitors?
- Selling tickets or ushering at a special event?
- Volunteering to help at a fund-raising dinner?
- Working pleasantly with all kinds of people?
- Providing direct services, such as hair care or restaurant service?

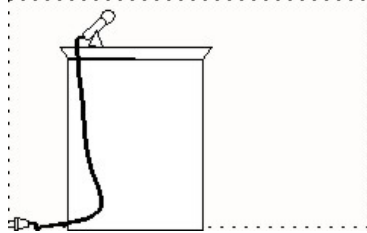
Interest Area 10: Humanitarian



Do you enjoy:

- Talking with people about their family or personal problems?
- Learning about social issues?
- Helping people who have medical problems?
- Helping people who have disabilities to learn new skills?
- Teaching or advising others?
- Taking care of children?

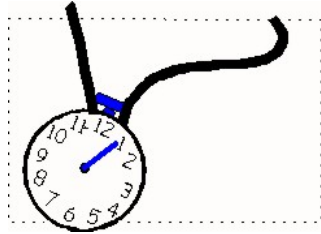
Interest Area 11: Leadership



Do you enjoy:

- Teaching or tutoring others?
- Doing research projects for school?
- Reading about law or court cases?
- Managing a club, an event, or a campaign?
- Holding leadership positions?
- Writing articles, advertisements, or reports?

Interest Area 12: Sports and Physical Performing



Do you enjoy:

- Playing sports?
- Outdoor adventures?
- Learning the rules of a game?
- Being a referee or umpire?
- Engaging in competition?
- Coaching others?

About the Interest Areas

Artistic	<p>Interest Area 01: Artistic Work includes creative jobs in the arts, dance, music, drama, creative writing, and more, including both the fine arts and commercial work.</p> <p>Sample jobs include: ■ Advertising copywriter ■ Art teacher ■ Computer graphic artist ■ Dance teacher ■ Industrial designer ■ Interior designer ■ Multimedia software developer ■ Photographer ■ Video producer ■ Writer/editor</p>
Scientific	<p>Interest Area 02: Scientific Work includes research, teaching, and professional jobs in science and medicine.</p> <p>Sample jobs include: ■ Medical researcher ■ Biotech researcher ■ Laboratory technician ■ Botanist ■ Meteorologist ■ Nutritionist ■ Geologist ■ Environmental analyst ■ Medical professional ■ Statistician ■ Science teacher ■ Educational coordinator for science program or museum</p>
Plants and Animals	<p>Interest Area 03: Plants and Animals includes jobs working with plants and animals, usually outdoors.</p> <p>Sample jobs include: ■ Manager or worker on a farm or in nurseries, garden centers, zoos, nature centers, or aquariums ■ Veterinarian ■ Dog trainer ■ Plant breeder ■ Soil conservationist ■ Landscaper ■ Agricultural extension worker ■ Environmental services field chemist</p>
Protective	<p>Interest Area 04: Protective Work includes jobs in law enforcement, fire fighting, security, and related jobs.</p> <p>Sample jobs include: ■ Police officer ■ Firefighter ■ Security manager ■ Security guard ■ Investigator ■ Corrections officer ■ Park superintendent ■ Police academy instructor ■ Community policing manager</p>
Technical	<p>Interest Area 05: Technical Work includes jobs designing, building and maintaining computers, office machines, industrial equipment, buildings, and more.</p> <p>Sample jobs include: ■ Architect ■ Drafter / Computer Aided Design ■ Mechanic ■ Engineer. ■ Computer systems analyst ■ Computer technician ■ Engineering technicians ■ Construction trades</p>
Industrial	<p>Interest Area 06: Industrial Work includes jobs producing, packaging, shipping and receiving goods.</p> <p>Sample jobs include: ■ Assembler ■ Baker (industrial) ■ Packer ■ Order picker ■ Shipper ■ Printer ■ Machine operator ■ Machine set-up ■ Production supervisor ■ Quality control specialist ■ Inventory control specialist ■ Numerical control operator ■ Hazardous waste management technician ■ Environmental services technician</p>

Business Detail	<p>Interest Area 07: Business Detail includes jobs managing information and providing administrative support.</p> <p>Sample jobs include: ■ Executive secretary ■ Accounting clerk ■ Receptionist ■ Dispatcher * Legal secretary * Medical billing clerk ■ Medical records specialist ■ Administrative assistant ■ Survey interviewer ■ Insurance claims representative ■ Database administrator</p>
Selling	<p>Interest Area 08: Selling includes jobs in retail and non-retail sales. This group may also include jobs that use related skills, such as retail buyers or business purchasing agents.</p> <p>Sample jobs include: ■ Retail salesperson ■ Sales representative ■ Real estate broker ■ Insurance agent ■ Public relations ■ Retail buyer ■ Purchasing agent ■ Sales engineer ■ Store manager ■ Marketing/merchandising</p>
Customer Service	<p>Interest Area 09: Customer Service includes jobs working with the public to provide a variety of personal services, travel and tourism services, and leisure-time activities.</p> <p>Sample jobs include: ■ Beautician ■ Personal shopper ■ Hotel desk clerk ■ Restaurant manager ■ Waitress/waiter ■ Tour guide ■ Travel agent ■ Bus driver ■ Customer service representative</p>
Humanitarian	<p>Interest Area 10: Humanitarian Work includes jobs helping people with their personal, physical, emotional and spiritual needs.</p> <p>Sample jobs include: ■ Social worker ■ Case manager ■ Counselor ■ Family therapist ■ Psychologist ■ Occupational therapist ■ Clergy ■ Youth worker ■ Residential care provider ■ Group home manager ■ Home health aide ■ Child care teacher</p>
Leadership	<p>Interest Area 11: Leadership includes a variety of leadership and professional jobs in business, government and social services.</p> <p>Sample jobs include: ■ Teacher ■ Lawyer ■ Writer/editor ■ Business owner ■ Urban planner ■ Marketing director ■ Management information systems (MIS) director ■ Accountant ■ Market Researcher ■ Social Sciences Researcher ■ Business administration ■ Social services administration</p>
Sports and Physical Performing	<p>Interest Area 12: Sports and Physical Performing includes jobs teaching, directing and playing sports and active recreational activities.</p> <p>Sample jobs include: ■ Athlete ■ Coach ■ Physical Education Teacher ■ Dance Instructor ■ Fitness Teacher ■ Trainer ■ Sports equipment/sales ■ Sports club manager ■ Tour guide / outdoor recreation</p>

Career Directions Checklist SUMMARY

Areas that interest me:

Jobs that I would like to know more about:

Today's Date:

Unit 3: Looking at Labor Market Data

The U.S. Bureau of Labor Statistics (BLS) works with the 50 states to gather information about jobs and the economy and to provide projections about future employment opportunities. This labor market data is useful for career exploration and career planning. It shows what industries and occupations currently have large number of jobs, and it shows where expected growth in the number of jobs will probably occur in the future.

Data comes from surveys, payroll tax records, unemployment insurance claims, and annual and ten-year population census data. Information is published for the nation as a whole, for each state, and for regions within each state. Employment data is available by industry and by occupation (see definitions in box).

Labor market data is useful for:

- Identifying the industries and occupations that offer the most jobs in your state or region.
- Offering information about possible future shifts in the economy.
- Providing information about smaller, less-well-known fields that are worth considering.

WHERE IS DATA AVAILABLE?

Labor market data is available both in print and online. It is published at the national, state and regional level.

National data is available online from the U.S. Bureau of Labor Statistics website (<http://www.bls.gov>) and the U.S. Census Bureau website (<http://www.census.gov>).

State-level and regional-level data is available online through the website of each state employment agency. In Massachusetts, the Executive Office of Labor and Workforce Development, Department of Workforce Development provides labor market data. The website is <http://www.detma.org>.

Massachusetts provides the Massachusetts Career Information System (MassCIS), which is an online, user-friendly guide to career information, and which includes a variety of labor market data. The website is <http://masscis.intocareers.org>.

INDUSTRIES AND OCCUPATIONS

Industry: Labor market data can be organized by INDUSTRY, meaning the type of business or organization. Industry groups include, for example, manufacturing, health care, business services, or retail trade.

Occupation: Labor market data can also be organized by OCCUPATION, meaning the type of work done by the individual. Broad occupational groups include, for example, healthcare occupations, food service occupations, or administrative/clerical occupations. Specific occupations include registered nurse, radiologist, or home health aide.

Why two ways of grouping? Each **industry** provides jobs in a variety of **occupations** and each occupation can be found in a variety of industries. For example, workers in the health care industry may be in health care occupations, food service occupations, administrative/clerical occupations, or building maintenance occupations.

INDUSTRY AND OCCUPATION DATA

As you explore career information, you will notice that there are a variety of different data series, and that different data series may use different classifications for industries and occupations. If you are interested, you can read more on each website about how the data is obtained and what classification system is used.

The table below provides data on employment by industry for Massachusetts. See the Activities at the end of this section for information on finding up-to-date data online.

MASSACHUSETTS EMPLOYMENT, BY INDUSTRY, 2009

	Employment (#)
Total Employment	3,126,539
Goods Providing Domain	389,396
Agriculture, Forestry, Fishing & Hunting and Mining	7,734
Construction	122,742
Manufacturing	258,920
Service Providing Domain	2,747,145
Utilities	13,869
Wholesale Trade	127,469
Retail Trade	334,669
Transportation and Warehousing	95,619
Information	90,406
Finance and Insurance	173,674
Real Estate and Rental and Leasing	40,417
Professional and Business Services	465,616
Educational Services	323,274
Health Care and Social Assistance	511,175
Arts, Entertainment and Recreation	52,702
Accommodation and Food Services	252,593
Other Services (except Public Administration)	129,784
Public Administration	135,917

Source: Massachusetts Department of Workforce Development. ES-202 Data Series.

The following chart provides data by occupation for Massachusetts, showing the 30 largest, or “most common” occupations. Additional data is available online, for nearly 700 different occupational groups.

OCCUPATIONAL EMPLOYMENT AND WAGE STATISTICS, MASSACHUSETTS, MAY 2010
30 LARGEST / MOST COMMON OCCUPATIONS

Occupation Title	Employment	Median	Mean	Entry	Experienced
Retail Salespersons	102,960	\$22,080	\$26,180	\$18,180	\$30,180
Registered Nurses	85,120	\$80,260	\$84,990	\$58,650	\$98,160
Cashiers	74,500	\$19,490	\$21,020	\$18,140	\$22,460
Combined Food Preparation and Serving Workers, Including Fast Food	62,050	\$19,080	\$20,400	\$18,140	\$21,520
Office Clerks, General	59,210	\$32,050	\$33,670	\$22,510	\$39,250
Waiters and Waitresses	54,250	\$25,980	\$28,270	\$19,440	\$32,680
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	52,920	\$29,320	\$30,500	\$21,500	\$35,010
Customer Service Representatives	47,230	\$35,250	\$36,950	\$25,460	\$42,700
General and Operations Managers	44,800	\$101,050	\$119,110	\$62,310	\$147,500
Stock Clerks and Order Fillers	43,540	\$22,410	\$25,960	\$18,240	\$29,820
Bookkeeping, Accounting, and Auditing Clerks	42,880	\$38,950	\$39,800	\$28,490	\$45,460
Secretaries, Except Legal, Medical, and Executive	40,680	\$38,420	\$39,180	\$28,350	\$44,600
Nursing Aides, Orderlies, and Attendants	40,520	\$28,140	\$28,970	\$23,150	\$31,880
Executive Secretaries and Administrative Assistants	35,980	\$50,480	\$51,410	\$37,280	\$58,470
Teacher Assistants	35,740	\$25,930	\$27,590	\$19,240	\$31,770
First-Line Supervisors/Managers of Office and Administrative Support Workers	35,180	\$53,080	\$55,610	\$37,880	\$64,480
Accountants and Auditors	33,290	\$69,820	\$75,030	\$48,490	\$88,300
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	29,670	\$64,730	\$73,470	\$40,040	\$90,180
Elementary School Teachers, Except Special Education	28,890	\$63,210	\$62,570	\$44,950	\$71,380
Laborers and Freight, Stock, and Material Movers, Hand	28,570	\$25,740	\$28,220	\$19,800	\$32,440
Software Developers, Systems Software	27,100	\$100,420	\$102,220	\$74,150	\$116,260
First-Line Supervisors/Managers of Retail Sales Workers	26,340	\$39,570	\$42,850	\$27,460	\$50,550
Secondary School Teachers, Except Special and Vocational Education	24,730	\$62,910	\$62,850	\$46,150	\$71,190
Cooks, Restaurant	23,610	\$26,530	\$27,110	\$21,110	\$30,120
Software Developers, Applications	22,750	\$95,930	\$98,400	\$70,260	\$112,470
Truck Drivers, Heavy and Tractor-Trailer	21,730	\$42,330	\$43,670	\$31,940	\$49,540
Medical Secretaries	21,600	\$36,730	\$38,520	\$28,850	\$43,360
Management Analysts	21,470	\$87,740	\$100,660	\$57,470	\$122,260
Maintenance and Repair Workers, General	20,820	\$41,590	\$43,350	\$29,690	\$50,180
Security Guards	20,700	\$27,340	\$29,030	\$21,420	\$32,840

EMPLOYMENT PROJECTIONS

The Bureau of Labor Statistics (BLS) publishes data on projected employment over ten year periods, based on economic models that look at past growth and other factors. These projections allow people to consider the future prospects in an occupation and to make well-informed decisions about investing in education and training. BLS publishes projections by industry and by occupation. For example, the following charts show the industries with the fastest growth and the largest number of new jobs.

Notice that some of the fastest growing industries may be small in number, but increasing in size. And notice that some of the industries with the largest numerical growth may be growing at a relatively slow rate, but have large numbers of jobs.

The fastest growing occupations will be presented in one of the upcoming units, along with education and earnings data.

<i>FASTEST GROWING INDUSTRIES (PROJECTED) – 2008 TO 2018</i>	% Change	# of new jobs (000)
Management, scientific, and technical consulting services	82.78%	835.2
Other educational services	54.59%	316.0
Individual and family services	47.83%	530.2
Home health care services	46.08%	441.4
Specialized design services	45.84%	65.6
Data processing, hosting, related services, and other information services	45.27%	178.9
Computer systems design and related services	45.26%	656.4
Offices of health practitioners	34.07%	1,265.3
Personal care services	31.77%	197.5
Outpatient, laboratory, and other ambulatory care services	31.17%	308.4
Facilities support services	30.82%	40.9
Software publishers	30.00%	79.1
Independent artists, writers, and performers	28.57%	14.4
Elementary and secondary schools	27.47%	234.8
Scientific research and development services	25.29%	157.2
Other miscellaneous manufacturing	24.42%	78.4
Community, and vocational rehabilitation services	24.24%	131.1
Architectural, engineering, and related services	22.48%	324.8
Logging	22.20%	18.2
Other professional, scientific, and technical services	21.90%	128.1

<i>INDUSTRIES WITH THE LARGEST GROWTH (PROJECTED) – 2008 TO 2018</i>	% Change	# OF NEW JOBS (000)
Offices of health practitioners	34.07%	1,265.3
Management, scientific, and technical consulting services	82.78%	835.2
Computer systems design and related services	45.26%	656.4
Retail trade	4.26%	654.0
Employment services	19.07%	599.7
Individual and family services	47.83%	530.2
Transportation and warehousing	9.89%	445.5
Home health care services	46.08%	441.4
Services to buildings and dwellings	18.16%	335.5
Architectural, engineering, and related services	22.48%	324.8
Other educational services	54.59%	316.0
Outpatient, laboratory, and other ambulatory care services	31.17%	308.4
Junior colleges, colleges, universities, and professional schools	15.89%	254.7
Legal services	21.75%	253.1
Elementary and secondary schools	27.47%	234.8
Accounting, tax preparation, bookkeeping, and payroll services	20.96%	199.1
Religious organizations	11.73%	197.6
Personal care services	31.77%	197.5
Data processing, hosting, related services, and other information services	45.27%	178.9
Scientific research and development services	25.29%	157.2

ACTIVITY 3.1: GRAPHING - WAGES

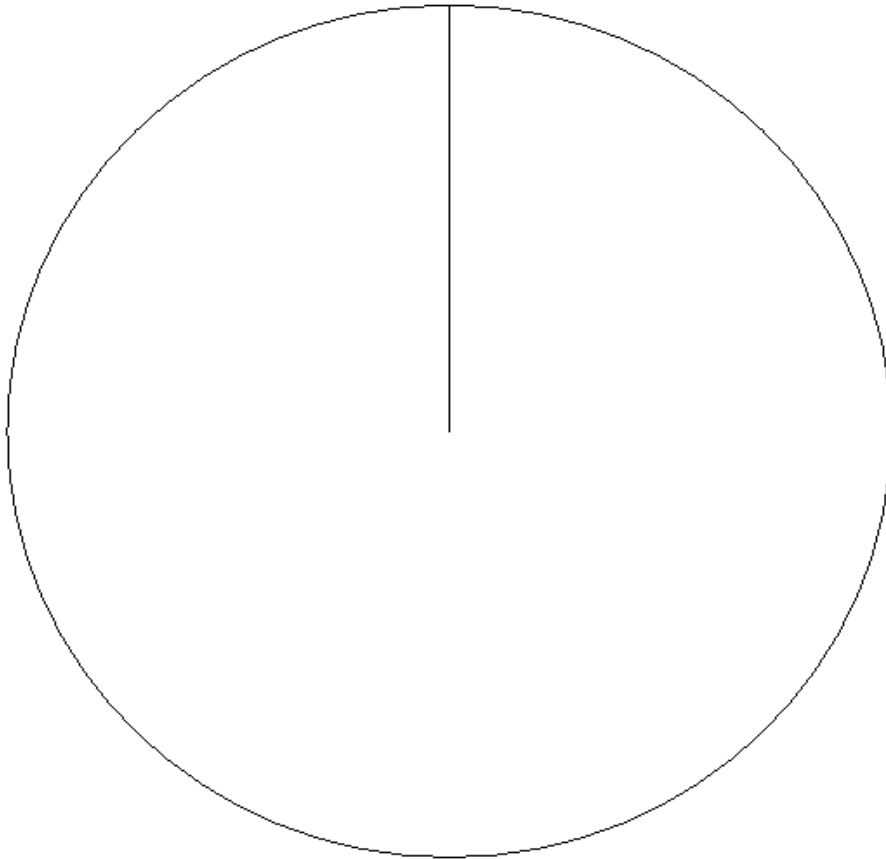
One of the best ways to become more familiar with a set of data is to spend time creating graphs and charts. Create a set of graphs or charts to display some of this data.

You may use the data presented in this unit or go online to find additional data. A template is provided below, but you may also use separate paper to create additional graphs or modify the templates. For example, the graph of median wages could be re-drawn, sorted in order of highest to lowest wage, rather than the order presented here.

Exercise: Create a bar graph to present ***median wages in the ten largest occupations***.

ACTIVITY 3.2: GRAPHING - EMPLOYMENT

Exercise: Create a pie chart to present the distribution of employment in Massachusetts by industry. A template is provided below, but you may also use separate paper



ACTIVITY 3.3: DISCUSSION

For discussion:

- How would you use this data to guide career planning?
- Is it better to focus on careers with large numbers of jobs and large numeric growth, or is it better to focus on careers with faster rates of growth, even if the number of jobs is small?
- How do you balance your personal career interests with the labor market data when making decisions about career planning?
- Hint: there are no right or wrong answers to these questions!!

ACTIVITY 3.4: RESEARCH WITH MASSCIS.

Use MassCIS to read about the admissions requirements, preparation and other facts about postsecondary programs of study.

- Sign into MassCIS at <http://masscis.intocareers.org>
- Click on “Programs of Study” under the “Education and Training” heading.
- Use the alphabetical index of titles to choose a program of study, such as ***Automotive Technology, Carpentry, Fashion Design, Journalism or Civil Engineering.***
- Then read about “Program Admission” to find out what high school classes will help you gain admission to this program of study.

Browse the other links as well, including “Resources” to learn about organizations and websites that can provide more information.

ACTIVITY 3.5: TALK WITH FAMILY AND FRIENDS!!

Connect with parents/guardians, relatives and friends to get their input into your career exploration. Share some of the labor market data that you analyzed in this unit. Sit together at a computer and browse one or more of the websites recommended in this book. Talk about their work and about their ideas for your future career.

What if you are interested in a particular career field and your family thinks you should go in a different direction? Find out what the concerns are, such as whether your choice is practical or whether enough jobs will be available. Find ways to discuss options. Agree to gather more information and continue to discuss all possible ideas.

Some conversation starters:

- Tell me more about what you do at work. What do you like best about your work?
- If you were my age, what careers would you want to explore?
- What do you think my strengths are?
- I might be interested in a career in _____. Do you know anyone who works in that type of career?
- What career fields do you think will offer the best opportunities in the future?
- If you could choose any college major to study, what would it be? Why?

Unit 4: Informational Interviewing and the Career Outlook Interview

The Career Outlook Interview is a set of questions for gathering information about jobs. It is designed to help open up conversation about the skills, education and training, and technology that is important in people's careers.

The interview questions are available on paper or online. The paper version is ideal for taking notes while interviewing someone in person. It can be used to interview a guest speaker in your classroom/program, a job shadow host, a mentor, an internship supervisor, or a parent, family member or friend whose job you want to learn more about.

Interviews entered into the online version are stored to create a database of career profiles. The career profiles used throughout this book come from the online database of Career Outlook Interviews. The interview asks a series of interview questions, and then presents a "Skills Profile" that asks how important various skills are to this type of job.

Interview Questions:

- What is your job title?
- What is your job description? What do you like best about this work?
- What are some related career opportunities or job titles in your company or in your career area?
- What new technology do you think will be important in this industry in the next 10 or 20 years?
- What education and training did you have to prepare yourself for this career?
- What education and training do you recommend for a young person interested in this career?
- When you were in high school, did you know you would be in this career?

Skills Profile: What skills are most important for this type of job? Which skills are least important? Rate the following list of skills on a scale of 5 (most important) to 1 (not important).

Artistic
Athletic/Physical
Bilingual
Computer Technology
Coordination/Using hands, tools, equipment
Creative Thinking
Interpersonal
Investigative/Fact finding
Leading and Supervising
Logical Thinking
Math
Mechanical Understanding
Sales and Negotiation
Scientific and Experimental
Service/Helping skills
Teaching/Instructing
Verbal Communication
Understanding nature, plants, animals
Understanding yourself
Writing

What skills are important to be successful in a career? The “Skills Profile” section of the Career Outlook Interview was designed to open up conversations about this question. When people are interviewed about the skills they use, they usually respond with pride and enthusiasm as they reflect on the various skills they use.

Although the “Skills Profile” focuses on just twenty skills, the conversation often highlights additional, more specific skills that are important in a career.

The profile on the right shows the skills that were rated as important by an owner/manager of a deli and catering business. As a small business owner, he was involved in all aspects of the business, including the creative aspects of designing catering menus and displaying food, the actual preparation of food, working with customers in the deli and on catering contracts, training and supervising employees, setting prices, ordering supplies, and managing bookkeeping for the business. He gave ratings of “5 / very important” to many of the skills, including business-related, artistic and interpersonal skills.

CAREER PROFILE: OWNER/MANAGER, DELI AND CATERING BUSINESS

What do you do? I own and manage a deli and catering business. As the owner, I am responsible for all aspects of the business.

Skills Profile: Which skills are most important in your job? Which are less important? Rate the following skills on a scale of 1-5, with 1=not important and 5=very important.

	Rating (1-5)	
Artistic	■■■■■	Create catering menus and ideas for clients
Athletic / Physical	■■■	
Bilingual	■■	
Computer technology	■■■	
Coordination / Using Hands, Tools, and Equipment	■■■■■	Cooking, cutting and arranging food
Creative Thinking	■■■■■	
Interpersonal	■■■■■	Deal with employees and customers
Investigative / Fact Finding	■■■■■	Pricing
Leading and Supervising	■■■■■	Assigning tasks to employees
Logical Thinking	■■■■■	Setting up operations
Math	■■■■■	Bookkeeping
Mechanical Understanding	■■■	Knowledge of equipment in store
Sales and Negotiation	■■■■■	Dealing with catering clients
Scientific and Experimental	■■■■■	
Social Service / Helping Skills	■■	
Teaching / Instructing	■■■■■	Train employees
Verbal Communication	■■■■■	Speak to customers to help with their decisions; make jokes to entertain customers
Understanding Nature, Plants, Animals	■	
Understanding Yourself	■■■■■	Know what capabilities I have
Writing	■■■■■	Supply quotes on large catering jobs

ACTIVITY 4.1: CONDUCT INTERVIEWS

During the next few weeks, seek opportunities to interview one or more people using this interview format. If possible, enter the results into the online system. (SEE FOLLOWING TWO PAGES FOR INTERVIEW FORM.)

ACTIVITY 4.2: BROWSE INTERVIEWS

Browse some of the profiles and summaries in the online system. You can:

- Find some jobs that look interesting.
- Find out how people's career paths evolved.
- Find out what skills are most commonly rated as important in people's jobs.

Website: <http://skillslibrary.com/cdir/careeroutlook.asp>

ACTIVITY 4.3: HOW IMPORTANT ARE THESE SKILLS?

The Career Outlook Interview is available online. Interview information that is entered in the online screens is stored in a database. According to the career outlook interviews stored in this database as of this writing, the following are the average ratings for the twenty skills on the skills profile.

- Sort these by average rating and create a graph or table to present this information.
- Which skills seem to be most universally considered "very important"? Why?
- Which skills seem to be important in some jobs and not others? Why?

Skill	Average Rating (1=not important; 5=very important)	Number of Responses				
		1	2	3	4	5
		Not important	...	Very important		
Artistic	2.59	22	18	20	8	11
Athletic/Physical	2.27	30	18	17	8	6
Bilingual	2.63	20	19	18	14	8
Computer Technology	4.06	2	5	13	25	34
Coordination	3.13	14	13	18	17	17
Creative Thinking	4.38	3	2	6	19	49
Interpersonal	4.73	0	0	5	11	63
Investigative/Fact Finding	4.34	1	1	7	31	39
Leading / Supervising	4.04	2	4	18	20	35
Logical Thinking	4.58	0	0	7	19	53
Math	3.70	1	10	23	23	22
Mechanical	2.91	14	17	22	14	12
Sales and Negotiation	3.25	11	16	16	14	22
Scientific and Experimental	3.00	15	11	26	13	14
Service / Helping	3.43	15	8	12	16	28
Teaching / Instructing	3.94	4	3	17	25	30
Understanding Nature, Plants and Animals	2.41	31	16	12	8	12
Understanding Yourself	4.08	2	4	19	15	39
Verbal Communication	4.58	2	0	5	15	57
Writing	3.92	6	5	10	26	32

CAREER OUTLOOK INTERVIEW

What is your job title?

What is your job description? What do you like best about this work?

What are some related career opportunities or job titles in your company or in your career area?

What new technology do you think will be important in this industry in the next 10 or 20 years?

What education and training did you have to prepare yourself for this career?

What education and training do you recommend for a young person interested in this career?

When you were in high school, did you know you would be in this career?

Skills Profile:

What skills are most important for this type of job? Which skills are least important? Rate the following list of skills on a scale of 5 (most important) to 1 (not important).

Skill	1	2	3	4	5	Comments
	<i>Not important ...</i>		<i>Very important</i>			
Artistic	[]	[]	[]	[]	[]	
Athletic/Physical	[]	[]	[]	[]	[]	
Bilingual	[]	[]	[]	[]	[]	
Computer Technology	[]	[]	[]	[]	[]	
Coordination / Using hands, tools, equipment	[]	[]	[]	[]	[]	
Creative Thinking	[]	[]	[]	[]	[]	
Interpersonal	[]	[]	[]	[]	[]	
Investigative/Fact finding	[]	[]	[]	[]	[]	
Leading and Supervising	[]	[]	[]	[]	[]	
Logical Thinking	[]	[]	[]	[]	[]	
Math	[]	[]	[]	[]	[]	
Mechanical Understanding	[]	[]	[]	[]	[]	
Sales and Negotiation	[]	[]	[]	[]	[]	
Scientific and Experimental	[]	[]	[]	[]	[]	
Service/Helping skills	[]	[]	[]	[]	[]	
Teaching/Instructing	[]	[]	[]	[]	[]	
Verbal Communication	[]	[]	[]	[]	[]	
Understanding nature, plants, animals	[]	[]	[]	[]	[]	
Understanding yourself	[]	[]	[]	[]	[]	
Writing	[]	[]	[]	[]	[]	

Your Career Area (choose from list):

- | | |
|---|--|
| <input type="checkbox"/> Arts, Media and Communications | <input type="checkbox"/> Health |
| <input type="checkbox"/> Business | <input type="checkbox"/> Hospitality, Tourism and Recreation |
| <input type="checkbox"/> Construction and Design | <input type="checkbox"/> Human Services |
| <input type="checkbox"/> Education | <input type="checkbox"/> Information Technology |
| <input type="checkbox"/> Environment, Agriculture and Natural Resources | <input type="checkbox"/> Law, Government and Public Service |
| | <input type="checkbox"/> Science, Technical and Engineering |

Unit 5: The New Economy

There have been many times in history when major shifts in the economy have changed the way people worked and lived. In the short history of the United States, the economy has transformed from a primarily agricultural economy to an industrialized economy and then to a primarily service-oriented economy.

At the beginning of the 19th century, when the U.S. was a newly independent country, more than 90% of Americans worked in agriculture. Today, more than four out of five workers are employed in “service-providing” industries, including health care, education, retail trade, business services, government and other areas. Fewer than one in five workers are employed directly in any of the “goods-providing” industries of manufacturing, agriculture and construction.

There are several reasons for these long-term shifts in the job market, including higher productivity, global trade, and different ways of organizing businesses.

The decreasing number of manufacturing jobs has caused some concern about the future. People worry that as manufacturing jobs are lost, there will be fewer highly productive jobs that offer high earnings and long-term economic growth. People seek strategies to reverse some of these trends and strengthen the manufacturing base of the economy.

However, further analysis also provides some positive insights about the level of innovation in the economy and about the “interdependence” of goods-producing and service-producing industries.

Although fewer and fewer people are working directly in goods-producing businesses, many are working in service-sector jobs that support manufacturing, construction and agriculture.

For example, some of the fastest growth in the service sector is in businesses that provide services to other businesses, including management, scientific and technical consulting services (firms that provide direct consultant services to other businesses); and employment services (firms that provide temporary or long-term staffing to other companies to meet specific needs, such as clerical, accounting, engineering or software development staffing).

An engineering technician (the career profiled in the box above) is increasingly likely to be working for a service-sector business, including research and development (R&D) firms or employment/staffing services, rather than working directly for a manufacturing business.

CAREER PROFILE: ELECTRONICS ENGINEERING TECHNICIAN

What do you do? Following an engineer’s instructions I build new electronic circuits or equipment and test them.

What are some related career opportunities and job titles in your company or in your career area? Any electronics specialties in the medical industry will be in strong demand. This includes equipment for diagnoses of illnesses as well as equipment for people with disabilities.

What new technology will be important? Prosthetics. More and more is known how the nervous system works. People who are paralyzed may be able to use their limbs again.

What education or training did you have to prepare for this career? High school, 1.5 years of electronics from the US Navy, microprocessor courses from Lowell Institute School, robotics classes from ABB Robotics, repair and programming of process controllers from Modicon, courses in programming with Labview.

What education or training do you recommend for students today who want to enter this field? High school, technical training from the military or a technical school.

When you were in high school, did you know that you would enter this field? Yes, I had a strong interest in electronics and computers.

The “goods providing” and “service providing” industries are surprisingly interdependent, and both are important sources of jobs and economic growth.

What does this mean for career planning?

Many writers describe the current job market as a “new economy.” Flexibility and lifelong learning are more important than ever for success in the economy.

Workers should be prepared to work with others on innovation and new technology. Innovations in manufacturing, construction and agriculture are important in all aspects of society and the economy, from health care to housing to food and nutrition to media and entertainment and more. For example, the engineering technician profiled above talks about engineering and producing new medical devices that will be used in the health care industry to support people with disabilities. Or, for example, the emerging need for healthier, more environmentally friendly food, housing, manufactured goods and transportation is creating additional demands for innovation.

Workers should expect a higher pace of change and fluidity in the economy. Because technology changes quickly and because businesses are organized more flexibly, the economy can shift resources, money and jobs from one area to another quickly. This creates higher productivity for the economy and new opportunities, but also creates more risk and change for workers. The ability to adapt to change is therefore essential.

Workers may expect more flexible work schedules and workplaces. With changes in the type of work people do and the technology used, workers are working more flexible work schedules, often working at home or in remote offices, and working more varied hours than ever before. This shift in work styles will demand higher levels of responsibility and self-management than a traditional eight-hour-per-day office or factory job.

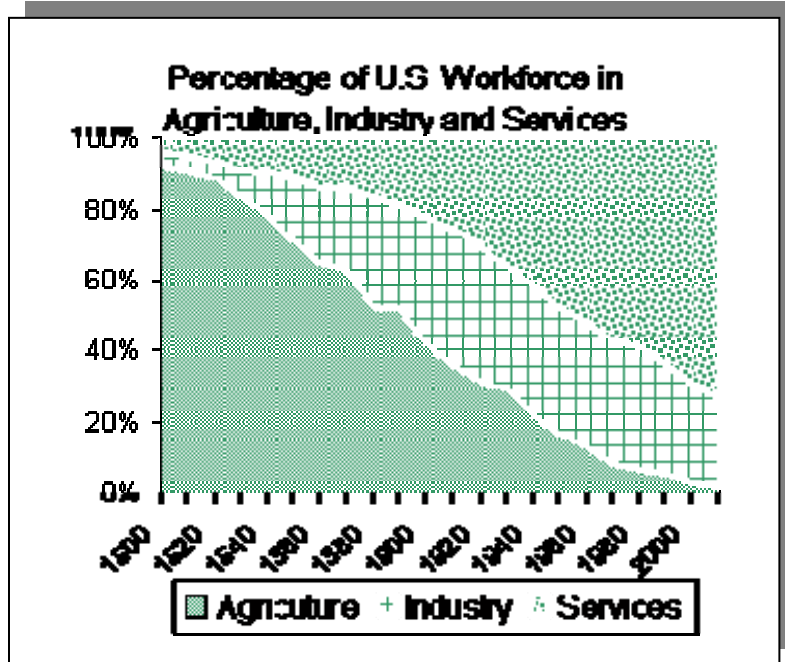
The idea of “career management,” highlighted in the first unit, is very important in the new economy. Workers will need the ability to actively manage their career throughout their lifetimes, always looking for new opportunities and developing new skills.

EXCERPT: FEDERAL RESERVE BANK OF DALLAS 2003 ANNUAL REPORT "A BETTER WAY: PRODUCTIVITY AND REORGANIZATION IN THE AMERICAN ECONOMY " BY W. MICHAEL COX AND RICHARD ALM

History shows us the power of macroeconomic productivity in action. At its founding America was primarily agrarian, with more than 90 percent of the population toiling on farms. As tractors, threshers, irrigation and high-yield seeds made individual farmers more productive over the past century or so, the United States could feed itself—and expand its export markets—with far fewer agricultural workers.

Displaced farmhands flocked to cities, where they found work assembling cars, building houses, generating electricity and making an abundance of consumer goods. Over time, factories grew more automated and saw great leaps of productivity. Workers moved from assembly lines to jobs in retailing, medical care, finance, management and services.

Over the grand sweep of history, the cumulative effects of productivity on living standards have been astounding. Per capita output has grown 25-fold since 1776. In just the past two generations, average real income in the United States has more than doubled, thanks largely to increased output per hour.



Productivity has also allowed Americans to reduce the average workweek from 76 hours in 1830 to 60 in 1890, 39 in 1950 and just 34 today. All told, productivity provides something close to economic alchemy: more for less. We get more of the goods and services we want for less time at work.

- ❁ -

The efficiency gains that make firms leaner and the economy-wide reshuffling of jobs require painful adjustments. Some see only the hardships. Fearful of job loss and upheaval in their lives, such people have a single message: Preserve the status quo. What they fail to see is that society must endure the turmoil to get the payoff from productivity.

Taken together, micro- and macroproductivity are a potent brew for economic progress. Through a succession of technology revolutions and industrial reorganizations, the nation advanced from the horse-and-buggy age to one of jet travel, satellite communications, robotics, genetic engineering and the Internet—all generated by waves of productivity.

ACTIVITY 5.1: LOCAL ECONOMIC HISTORY

Massachusetts cities and towns have interesting economic histories. Some Massachusetts cities date to the 1600s and 1700s, and have histories in farming, fishing or shipping. Salem, for example, was a major shipping port, with trade from all over the world. Some Massachusetts cities grew in the 1800s as manufacturing centers. Lowell, for example, emerged as a textile manufacturing hub, with the canals and mills built in the early 1800s. Similarly, Holyoke developed as a paper manufacturing city, also with a network of canals and mills. Lynn was a leader in shoe manufacturing, with a shoe industry growing from handmade to factory-made.

Investigate local history to find out what industries were most important in your city or town in the past. Questions to address could include the following.

- What were the key industries in this city in the past?
- When did these key industries develop?
- What jobs did people have?
- How has the local economy changed over time?
- What industries are most important now?
- What agricultural (food, farming, fishing, forestry) work is done today in your community?
- What manufacturing work is done today in your community?
- What impact does local history have on the local economy today?

ACTIVITY 5.2: ECONOMIC RESEARCH RESOURCES

Each of the 12 Federal Reserve Banks of the Federal Reserve System has a research division that publishes economic analysis about issues facing the nation or region. The “A Better Way” excerpt in this unit comes from the Federal Reserve Bank of Dallas.

- Read more from the “A Better Way” article on the Federal Reserve Bank of Dallas website at: <http://www.dallasfed.org/fed/annual/2003/ar03b.cfm>. Use the links on the right side of the page to navigate to the different sections of the report.
- Visit the website of the Federal Reserve Bank of Boston at <http://www.bos.frb.org> to see economic research and educational materials specifically about the New England region.

ACTIVITY 5.3: A MOSAIC ECONOMY

The current economy provides a mosaic of career opportunities. The question “Where are the job opportunities in the current economy?” does not have a quick, neat answer. The economy is fluid, with new opportunities always emerging.

1. Technology has changed virtually every field: consider the impact of technology on all areas of business and nonprofit management, production and marketing, as well as on specific fields, from healthcare to media and communications to music to bookstores and libraries to any other field of work.
2. Advances in science and technology have led to new opportunities in medical and bio-tech research, healthcare, healthcare technology, nutrition, food production and more.
3. Attention to the environment and to personal and community health have created many new jobs and reshaped other jobs. Movement to locally grown and organic food is creating new opportunities in agriculture, marketing and distribution and community health. Environmental awareness is reshaping work in architecture, design, construction, engineering and manufacturing.
4. Different ways of organizing work have created opportunities in support of manufacturing, construction, technology, health care and other large sectors of the economy. Research and development work, engineering design, software consulting and many other functions are organized entrepreneurially in smaller organizations that support larger manufacturing, construction, technology and healthcare organizations.
5. “Traditional” or “older” sectors of the economy, such as farms, printers, bookstores and publishing, textile mills, sewing and fabric stores continue to be productive and to attract new entrepreneurial approaches. Although these sectors generally employ a smaller share of the labor force than in the past, they continue to provide interesting career and business opportunities.
6. Advances in technology and productivity have allowed individuals and communities to devote more resources to personal lifestyle and community life. From cooking magazines to gourmet kitchens to community cooking classes to fitness centers to dance studios to community youth programs, there are many more resources devoted to “how we live” with new job opportunities emerging as a result.
7. Most important, jobs in the new economy are not a fixed commodity that “exist” but are a fluid set of opportunities that emerge through dynamic markets and business/social entrepreneurial efforts. Entrepreneurs launch new business to pursue a personal dream, to take advantage of available resources and unused space, and to meet needs in the local, regional or larger community.

As an exercise, list 25-50 job titles or names of local businesses on small pieces of paper or sticky notes. On a large board or flipchart, organize the job titles in a mosaic, based on common themes. For example you could use headings like this:

Technology and science	Environment, Personal Health and Community Health	Entrepreneurship
Services to other businesses	Personal lifestyle / Community life	Traditional sectors of the economy (farming, manufacturing, etc.)

Unit 6: Education and Career Options

One key goal of career exploration activities is to help individuals to consider career-planning decisions:

What type of education and training should I pursue? Do I want a two-year college, four-year college, technical school, apprenticeship program or on-the-job training program?

What specific courses or programs of study would be helpful? What summer, after-school or entry-level jobs will give me experience that will start me in the right direction? Should I invest time in internships or volunteer work to get experience in a field that interests me? What other activities will be helpful?

This unit looks at the relationship between education/training and career options. The theme of the unit is that people may take a variety of routes to careers, including postsecondary education, apprenticeship, on-the-job training, and other types of investment. You have probably heard recently about the importance of investing in education beyond high school. In the past several decades, the percentage of U.S. workers completing high school and the percentage with college education has increased significantly. However, you may have also observed that not everyone who attends college is ultimately employed in a job related to their field of study, and you have probably also observed that many people have built good careers through apprenticeships, vocational training, and on-the-job experience.

How strong is the connection between education, employment and earnings?

One of the most requested sets of data on the Bureau of Labor Statistics website is a chart (shown here) that shows that on average, people who have higher levels of education have higher earnings and lower unemployment rates.

However, there are multiple ways of being successful in the job market, including college education and also including a variety of other paths. The more detailed data shows that some type of investment in career preparation – through education, apprenticeship or high quality work experience -- is a key to success. Some highly paid, in-demand occupations are accessible through postsecondary education, while others may be accessible through on-the-job training, experience or apprenticeship.

The following chart presents data on the 25 fastest growing occupations nationally, with data on employment, projected growth, median annual earnings, recommended level of training or education, and actual educational attainment of workers ages 25 and over currently working in the occupation. The data shows that the economy offers opportunities for people with all levels of education. It also shows that, interestingly, surveys of people working in different occupations show a wide range of actual educational attainment.

“EDUCATION PAYS” FROM BUREAU OF LABOR STATISTICS

Unemployment rate in 2010 (Percent)	Education attained	Median weekly earnings in 2010 (Dollars)
1.9%	Doctoral degree	\$1,550
2.4	Professional degree	1,610
4.0	Master's degree	1,272
5.4	Bachelor's degree	1,038
7.0	Associate degree	767
9.2	Some college, no degree	712
10.3	High-school graduate	626
14.9	Less than a high school diploma	444

Note: Data are 2010 annual averages for persons age 25 and over. Earnings are for full-time wage and salary workers.
http://www.bls.gov/emp/ep_chart_001.htm

25 FASTEST GROWING OCCUPATIONS, EARNINGS AND EDUCATION

Occupation	2008 Total Employment (000's)	Projected 2018 Total Employment (000's)	Percent Change	2008 Median Annual Earnings (Dollars)	Postsecondary education or training category	Percentage of workers Age 25 and over with..		
						High school or less	Some college	Bachelor's degree or higher
Biomedical engineers	16	27.6	72.02	\$84,780	Bachelor's degree	2.5%	23.0%	74.5%
Network systems and data communications analysts	292	447.8	53.36	--	Bachelor's degree	8.8	35.1	56.1
Home health aides	921.7	1382.6	50.01	\$21,760	Short-term on-the-job training	56.6	35.4	7.9
Personal and home care aides	817.2	1193	45.99	\$20,420	Short-term on-the-job training	58.7	30.6	10.8
Financial examiners	27	38.1	41.16	\$82,320	Bachelor's degree	8.0	16.4	75.6
Medical scientists, except epidemiologists	109.4	153.6	40.36	\$86,710	Doctoral degree	1.0	1.3	97.8
Physician assistants	74.8	103.9	38.99	\$87,140	Master's degree	7.7	23.2	69.2
Skin care specialists	38.8	53.5	37.86	\$32,030	Postsecondary vocational award	59.2	29.3	11.5
Biochemists and biophysicists	23.2	31.9	37.42	\$86,580	Doctoral degree	1.0	5.8	93.1
Athletic trainers	16.3	22.4	36.95	\$44,030	Bachelor's degree	13.0	25.1	61.9
Physical therapist aides	46.1	62.8	36.29	\$25,000	Short-term on-the-job training	13.2	66.4	20.4
Dental hygienists	174.1	237	36.14	\$68,680	Associate degree	2.9	61.6	35.4
Veterinary technologists and technicians	79.6	108.1	35.77	\$31,030	Associate degree	30.2	53.1	16.7
Dental assistants	295.3	400.9	35.75	\$34,140	Moderate-term on-the-job training	35.6	54.3	10.1
Computer software engineers, applications	514.8	689.9	34.01		Bachelor's degree	2.9	15.3	81.8
Medical assistants	483.6	647.5	33.9	\$29,760	Moderate-term on-the-job training	33.8	54.2	12
Physical therapist assistants	63.8	85	33.28	\$49,810	Associate degree	13.2	66.4	20.4

25 FASTEST GROWING OCCUPATIONS, EARNINGS AND EDUCATION

Occupation	2008 Total Employment (000's)	Projected 2018 Total Employment (000's)	Percent Change	2008 Median Annual Earnings (Dollars)	Postsecondary education or training category	Percentage of workers Age 25 and over with..		
						High school or less	Some college	Bachelor's degree or higher
Veterinarians	59.7	79.4	32.95	\$92,570	First professional degree	0.6	0.3	99
Self-enrichment education teachers	253.6	334.9	32.05	\$41,210	Work experience in a related occupation	14.3	27.2	58.5
Compliance officers, except agriculture, construction, health and safety, and transportation	260.2	341	31.05	\$62,140	Long-term on-the-job training	14.0	31.2	54.8
Occupational therapist aides	7.8	10.2	30.74	\$31,090	Short-term on-the-job training	2.6	84.2	13.2
Environmental engineers	54.3	70.9	30.62	\$83,160	Bachelor's degree	5.0	8.5	86.5
Pharmacy technicians	326.3	426	30.57	\$29,330	Moderate-term on-the-job training	30.2	53.1	16.7
Computer software engineers, systems software	394.8	515	30.44		Bachelor's degree	2.9	15.3	81.8
Survey researchers	23.4	30.5	30.36	\$43,450	Bachelor's degree	5.1	17.1	77.9
Physical therapists	185.5	241.7	30.27	\$77,990	Master's degree	2.1	8.5	89.4
Personal financial advisors	208.4	271.2	30.13	\$91,220	Bachelor's degree	5.3	17.1	77.6
Environmental engineering technicians	21.2	27.5	30.1	\$46,820	Associate degree	27.2	55.8	17
Occupational therapist assistants	26.6	34.6	29.78	\$51,300	Associate degree	2.6	84.2	13.2
Fitness trainers and aerobics instructors	261.1	337.9	29.41	\$35,920	Postsecondary vocational award	23.6	34.8	41.6

Sources: Bureau of Labor Statistics. Employment Projections and May 2010 Occupational Employment and Wage Estimates (National Cross-Industry Estimates)

<http://www.bls.gov/emp/#tables>

http://www.bls.gov/oes/oes_dl.htm

ACTIVITY 6.1: GRAPHING – EDUCATION AND EARNINGS

Using the graphing tips from Appendix 1, and using the data from the chart in this unit:

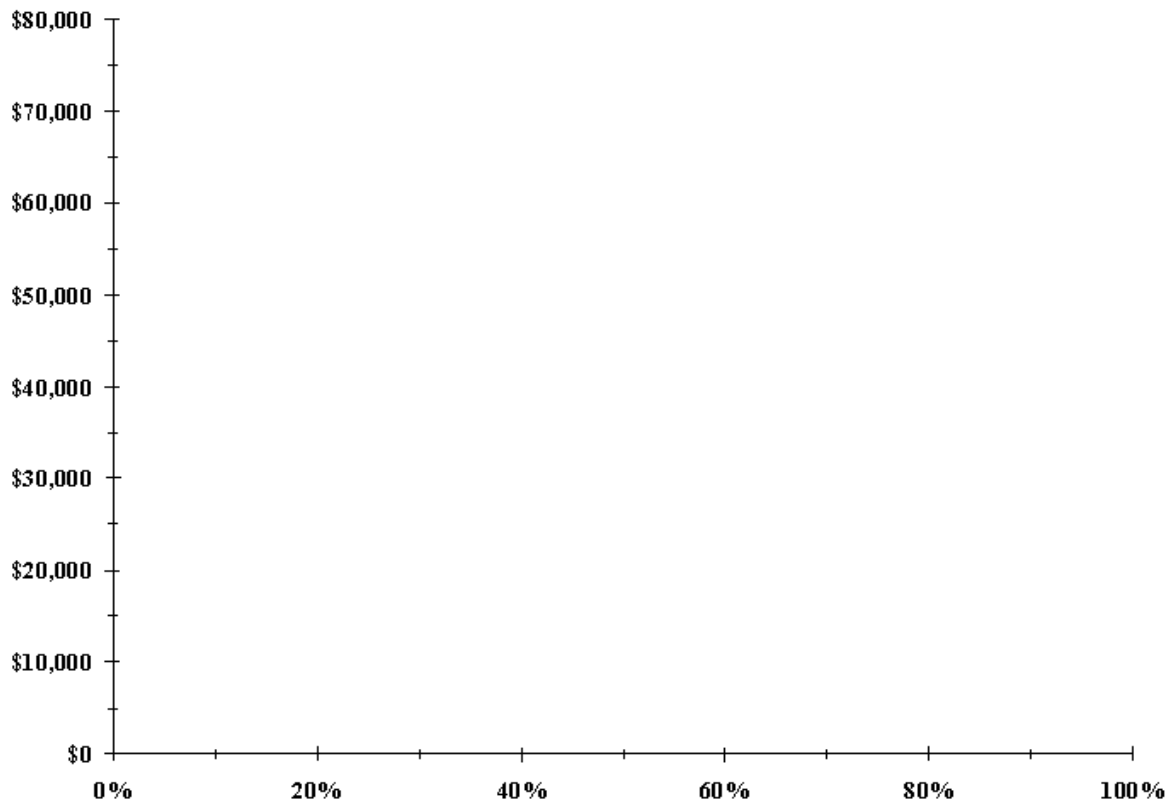
Draw a scatter diagram showing the relationship between:

- median annual earnings
- and
- the percentage of workers with a bachelor's degree or higher.

Choose 10 or 20 occupations from the list to include on this graph.

What relationship do you see?

**Median
Annual
Earnings**



Percent of Workers Ages 25 and over in the Occupation with a Bachelors Degree

ACTIVITY 6.2: EDUCATION AND EARNINGS

Go online to view more data from the occupational employment, training and earnings database. Look at additional occupations and make notes about the educational levels of employees and the median earnings. What are some of your observations about education and employment/earnings?

Website: <http://skillslibrary.com/careers/unit6.asp>

ACTIVITY 6.3: CAREER PROFILES

Read five career profiles in the Career Outlook web page and describe the individual's actual education and training and the education and training they recommend for their career field.

<http://skillslibrary.com/cdir/careeroutlook.asp>

Career /Job Title	Actual education and training received by the individual who was interviewed	Education and training recommended by the individual who was interviewed

ACTIVITY 6.4: READ ABOUT APPRENTICESHIPS

Visit the Division of Apprentice Training website and look for answers to the following questions.

Website: <http://mass.gov/dat>

- What is the definition of “apprenticeship?”

- How long are apprentice training programs?

- What are some of the apprenticeship opportunities available through *labor unions* in Massachusetts?

- What are some of the apprenticeship opportunities available through *employers* in Massachusetts?

ACTIVITY 6.5: LEARNING ABOUT MILITARY CAREERS

For many generations, the military has been one route to job training and education. Read about military careers in the Massachusetts Career Information System (MassCIS).

Website: <http://masscis/intocareers.org>
(Sign in and then click on “Military Careers” and select “FAQs”)

Use the list of Frequently Asked Questions (FAQs) to make a list of some of the key questions that people considering the military should explore.

Unit 7: Spotlight on Science, Technology, Engineering and Math

- *What careers use science, technology, engineering and math?*
- *How do people in a variety of careers use science, technology, engineering and math?*

Knowledge of math and science are increasingly important in both traditional math/science careers and a wide variety of other careers. Careers in business, health care, construction trades and other fields call for math literacy, including a strong general number sense, basic calculation skills, use of ratios and proportions, measurement, geometry, algebra and basic statistics. Advanced math is used in technology, engineering, sciences, and the social sciences. Science literacy is important in many careers, with the increasing need to understand new advances in science, technology and engineering. In high level “math/science careers,” it is increasingly important to be knowledgeable in more than one discipline in science, technology and math.

Trends that are creating career opportunities include:

- The expanding role of computer technology in all aspects of business, manufacturing, education, media, and other fields.
- Advances in the fields of medical research, including the growing biotechnology and biomedical fields.
- The increasing need for environmentally healthy, “green” technologies in food production, transportation, manufacturing, building and other areas.

HOW DO PEOPLE USE SCIENCE, TECHNOLOGY, ENGINEERING AND MATH IN THEIR CAREERS?

Architect/Designer: “Materials and methods in building technology and construction will mimic biology.”

Co-Owner, Marketing Firm: “We work with many high tech clients and it is important that we have a knowledge of science and technology in order to understand their businesses.”

Creative and Technical Director of Marketing Firm: “We use math for the financial aspects of the business and for certain projects, such as creating shapes and distances... I need an understanding of science for understanding joints in the human body for creating animation. It is also important for understanding reflection and refraction of light.”

Electrician: “Apprenticeship courses use trigonometry, algebra, and physics.... Electricians use high level applied math on the job and need an understanding of physics and spatial relationships.”

International Project Manager and Researcher: “I am serving with a non-profit organization that works with rural farmers. We help farmers by teaching them agricultural methods so they may better understand how to use their farmland. We teach them how to make their own fertilizers, how to plant crops and make use to the land so that more vegetables can be grown, healthy and without using chemical pesticides.”

Planetarium Systems Coordinator/Educator: “I maintain various specialized media equipment used in the production of educational programming in astronomy. As an astronomer, and educator, I also present programs to schools and general public. In addition, I am also one of the producers of content.”

CAREER PROFILE: SENIOR SCIENTIST, CONTRACT RESEARCH ORGANIZATION

What do you do? My company specializes in research using fish embryos from zebrafish to test cancer drugs and other substances. Zebrafish embryos provide a cost-effective, ethical means for testing drugs, pesticides or other substances for toxicity and effectiveness. Zebrafish are quite evolutionarily similar to human tissue, and human cancer cells grow in these embryos in the same way they grow in human tissue. Cells grow quickly, and the tissues are transparent, allowing us to study the growth of the cancer cells and the effects of the anti-cancer drugs. My work involves designing and conducting experiments and writing up results. What I like best is the fact that I am working on cancer research and knowing that I am making a positive contribution to the field.

What are some related career opportunities and job titles? Other jobs include Research Associates and Lab Technicians. Other scientists might do similar work in an academic setting, both teaching and research.

What new technology will be important in this career? Many... There is continuing work on finding cost-effective, ethical and effective methods of testing new drugs. Ethically, it is better to do initial drug testing with fish embryos, or other alternatives, rather than with animals that are higher on the evolutionary scale.

What education or training did you have to prepare for this career? Ph.D. in Genetics.

What education or training do you recommend for students today who want to enter this field? A Ph.D. is required for my work. With a Master's Degree, one can work as a Research Associate. Many lab technicians in our company have a Bachelor's degree or Master's degree, but we have also hired lab techs who received training through a certificate program.

When you were in high school, did you know that you would enter this field? No. I started college as pre-med. In college I did extremely well in biology and chemistry classes that required analytical and thinking skills, but I didn't do as well in the chemistry classes that required lots of memorization. A favorite professor encouraged me to apply to graduate school in Genetics. After graduate school, I worked on human genome research. During that time, I heard a well-known scientist talk about the type of work I'm doing now, was very interested, and eventually came to the position I'm in now.

	Rating (1-5)	
Artistic		Figures and diagrams for presentations and papers
Athletic / Physical		Important for long hours at microscope
Bilingual		
Computer technology		
Coordination / Using Hands, Tools, and Equipment		Doing experiments
Creative Thinking		
Interpersonal		
Investigative / Fact Finding		
Leading and Supervising		Working in project teams
Logical Thinking		
Math		Statistics
Mechanical Understanding		Troubleshooting lab equipment, creating needed apparatus
Sales and Negotiation		Communicating with clients
Scientific and Experimental		
Service / Helping Skills		Indirect role
Teaching / Instructing		
Verbal Communication		
Understanding Nature, Plants, Animals		
Understanding Yourself		Knowing your ethical values
Writing		Writing grant proposals

CAREER PROFILE: SENIOR PROGRAMMING ANALYST

What do you do? Database administration and programming.

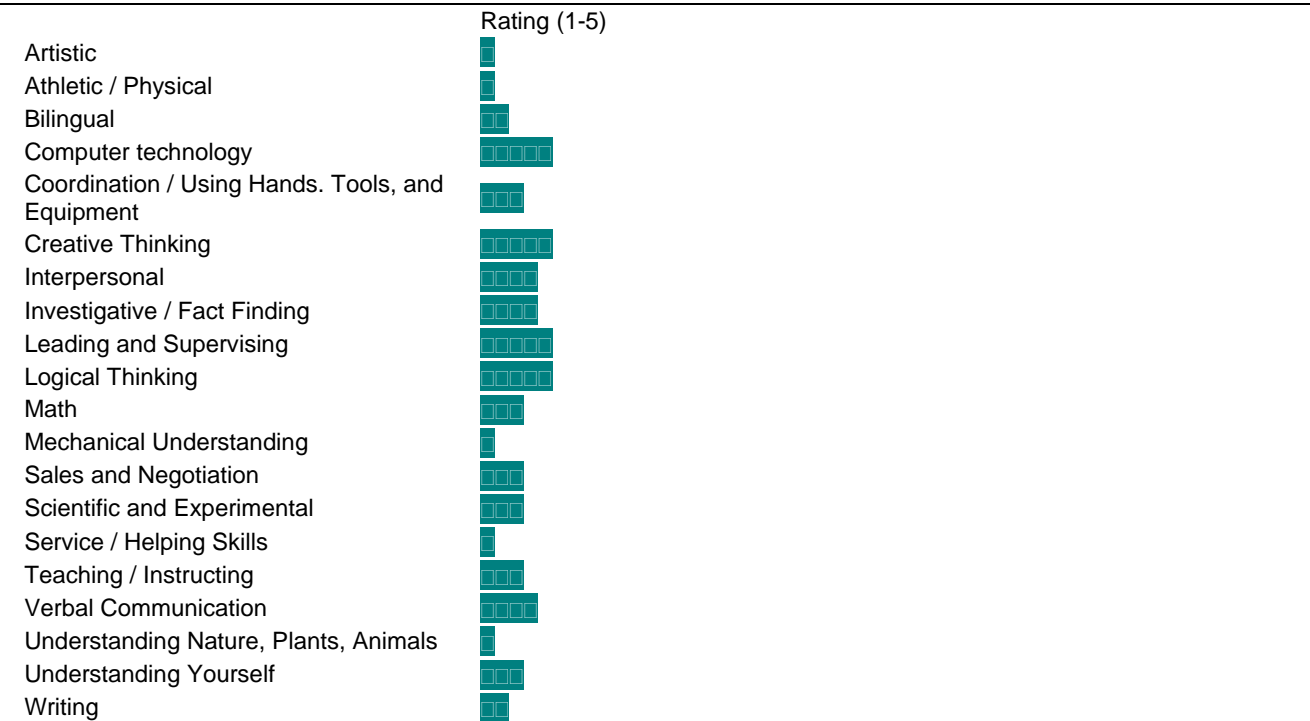
What are some related career opportunities and job titles? There are tons of opportunities in the high tech area. Every industry needs people that know computers. In particular, my area of database administration is a nice niche that always needs experienced people.

What new technology will be important in this career? Web based applications are driving this industry away from client/server applications. Now that the .com era is over, the web will stabilize and put forth money making endeavors.

What education or training did you have to prepare for this career? I had some corporate training, but for the most part, I am self -taught. Technology changes so much that you constantly have to educate yourself. It helps to have a Bachelors degree to give you background.

What education or training do you recommend for students today who want to enter this field? Read a lot of books, but most important get some hands on experience. Books only give you concepts.

When you were in high school, did you know that you would enter this field? Not at all.



ACTIVITY 7.1: CAREER SUMMARY

Create a summary of one science, technology, engineering or mathematics career that might interest you. Include a description of the work, training and education needed, skills needed, potential earnings, types of businesses or organizations providing employment in this field, and any other information that you can find. Use a format of your choice, such as a written report, poster, computer presentation or video.

ACTIVITY 7.2: COLLEGE PROGRAMS

Look at college catalogs or websites for several engineering schools and several colleges and universities that offer programs in science, technology, engineering and/or mathematics. What courses are offered? What technology and resources are available to students? How many faculty teach in the program and what are their interests and specialties? Do the catalogs or websites describe jobs that graduates obtain upon graduation?

ACTIVITY 7.3: MANUFACTURING CHARTBOOK

Download and read the Manufacturing Chartbook, a publication by the Commonwealth Corporation that presents information about careers in the manufacturing sector. Use the information in the book to create a presentation about careers in manufacturing, including information about opportunities for engineering and technical careers. The publication is available from <http://commcorp.org/publications>.

Unit 8: Spotlight on the Arts

Art galleries, performing arts, and other art-related activities increase quality of life in a region and draw in new residents and visitors.

Commercial art, industrial design, graphic design, video production, and other design activities support the information economy, manufacturing, engineering, health care and more.

The arts, media and design fields are an important part of the Massachusetts economy. For example, in a 2005 economic development strategy, the Cape Cod Commission identified “Arts and Culture” as one of seven “traditional and emerging economic clusters” that are vital to the Cape Cod economy, along with hospitality and leisure, information and related technology, micro/small business, marine science and technology, energy efficiency and alternative energy, and education. Other regions of the state, from Boston to North Adams, have invested in museums, artist spaces, youth art programs, and other local arts programs in order to encourage the growth of the arts.

The chart on the following page presents employment data for selected arts-related occupations in Massachusetts. A recent study by the New England Foundation for the Arts said that Massachusetts ranks among the top ten states nationally in employment in several key industries, including designers, architects, writers, and musicians. (Massachusetts Cultural Council website, http://www.massculturalcouncil.org/news/adams08_release.html; Visited April 9, 2008)

In addition to the employment numbers shown in the chart, there are also a very large number of people who are self-employed in the arts. Nationally, approximately 63% of fine artists, 54% of photographers, 45% of music directors and composers, 25% of graphic designers, 23% of fashion designers, 16% of film and video editors, and a similarly high percentage of other artists and designers are self-employed. (Source: BLS, National Employment Matrix)

CAREER PROFILE: ART INVESTMENT AND APPRAISAL

What do you do? Buy and sell artwork. Build collections for individuals, museums, and corporations.

What are some related career opportunities and job titles in your career area? Art Historian: Research data on deceased artists, provide background, data, shows. Art Conservation: Repair, care of artwork on paper or canvas (preservation) Appraiser: Evaluate collection for individuals and estates for insurance or sale.

What new technology will be important? Shared databases with museums and libraries allowing larger information database searches of deceased artists or international exhibition history.

What education or training did you have to prepare for this career? Started as a hobby – turned into a business – developed 4,000-volume library to draw on.

What education or training do you recommend for students today who want to enter this field? Art History Major / Fine Arts Degree

When you were in high school, did you know that you would enter this field? No.

**OCCUPATIONAL EMPLOYMENT AND WAGE STATISTICS, MASSACHUSETTS, MAY 2006, FOR ARTS,
DESIGN AND MEDIA OCCUPATIONS**

SOC Code	Occupation Title	Employment	Median Hourly Wage	Median Annual Wage	Mean Hourly Wage	Mean Annual Wage
ARTS						
27-1012	Craft Artists	190	\$13.71	\$28,520	\$15.32	\$31,860
27-1013	Fine Artists, Including Painters, Sculptors, and Illustrators	390	\$22.36	\$46,510	\$21.76	\$45,260
27-1014	Multi-Media Artists and Animators	730	\$21.84	\$45,420	\$23.05	\$47,940
27-1019	Artists and Related Workers, All Other	280	\$19.33	\$40,210	\$27.11	\$56,390
27-1021	Commercial and Industrial Designers	740	\$30.29	\$63,010	\$31.88	\$66,300
27-1022	Fashion Designers	660	\$24.94	\$51,880	\$28.59	\$59,470
27-1023	Floral Designers	1,870	\$13.28	\$27,630	\$13.71	\$28,520
27-1024	Graphic Designers	4,980	\$21.35	\$44,410	\$22.89	\$47,620
27-1025	Interior Designers	1,940	\$24.13	\$50,190	\$28.68	\$59,660
27-1026	Merchandise Displayers and Window Trimmers	1,180	\$14.85	\$30,900	\$15.79	\$32,840
27-1027	Set and Exhibit Designers	210	\$37.19	\$77,360	\$31.09	\$64,670
27-1029	Designers, All Other	340	\$30.70	\$63,850	\$30.57	\$63,580
27-2012	Producers and Directors	1,480	\$23.43	\$48,740	\$27.32	\$56,830
27-2032	Choreographers	90	\$21.04	\$43,770	\$23.05	\$47,940
27-2041	Music Directors and Composers	150	\$28.21	\$58,680	\$32.99	\$68,610
27-3031	Public Relations Specialists	8,490	\$25.70	\$53,460	\$28.88	\$60,070
27-3042	Technical Writers	2,320	\$33.00	\$68,640	\$33.32	\$69,310
27-3043	Writers and Authors	1,010	\$23.36	\$48,590	\$26.61	\$55,350
27-3091	Interpreters and Translators	1,110	\$17.57	\$36,540	\$18.79	\$39,090
27-3099	Media and Communication Workers, All Other	430	\$18.69	\$38,870	\$21.96	\$45,680
27-4011	Audio and Video Equipment Technicians	1,230	\$18.91	\$39,340	\$19.81	\$41,200
27-4012	Broadcast Technicians	490	\$15.52	\$32,280	\$17.74	\$36,890
27-4021	Photographers	1,320	\$16.25	\$33,810	\$17.32	\$36,020
27-4031	Camera Operators, Television, Video, and Motion Picture	420	\$24.06	\$50,040	\$24.22	\$50,380
27-4032	Film and Video Editors	190	\$20.55	\$42,740	\$23.60	\$49,080
ARCHITECTURE						
17-1011	Architects	3,540	\$35.16	\$73,120	\$38.63	\$80,340
17-1012	Landscape Architects	1,120	\$28.18	\$58,620	\$30.78	\$64,030
17-3011	Architectural and Civil Drafters	2,700	\$21.75	\$45,240	\$23.15	\$48,150
EDUCATION/Museums						
25-1121	Art, Drama, and Music Teachers, Postsecondary (see note below)	4,210	***	\$61,670	***	\$64,640
25-4011	Archivists	340	\$21.96	\$45,670	\$25.94	\$53,950
25-4012	Curators	560	\$25.99	\$54,050	\$27.71	\$57,630
25-4013	Museum Technicians and Conservators	380	\$19.00	\$39,520	\$20.11	\$41,820

Notes:

- (1) Does not include self-employment
- (2) Data on elementary and secondary level art, drama and music teachers is not provided separately.

CAREER PROFILE: CREATIVE AND TECHNICAL DIRECTOR / MARKETING FIRM

What do you do? Responsible for the creative, artistic, and technical aspects of a full-service marketing firm, including graphic design, computer animation and other projects. Train and supervise 7-10 staff.

What are some related career opportunities and job titles? Graphic designer * Web designer * Videographer * Photographer * Copy writing * Account Executive * Multimedia Designer * Movie director * Illustrator * TV producer

What education or training did you have to prepare for this career? Art school (Art major); practice in drawing; continuing self-education; worked in advertising firm before starting own company.

What education or training do you recommend for students today who want to enter this field? Art school or a four-year college with an art major. Need to attend a good art program with up-to-date program in graphic design with new technologies. You also need ongoing education in new technology and skills.

When you were in high school, did you know that you would enter this field? Yes and no. I was interested in commercial art all along, but didn't know I would be in this particular field.

	Rating (1-5)	
Artistic	★★★★★	Most important
Athletic / Physical	★★	
Bilingual	★	
Computer technology	★★★★	
Coordination / Using Hands, Tools, and Equipment	★★★★	Cutting boards and mats, building models
Creative Thinking	★★★★	But it is also important to focus on what the client wants rather than what you want to create
Interpersonal	★★★	
Investigative / Fact Finding	★★★★	Need to learn about clients and their business. Need to learn about new equipment, costs, and payback time.
Leading and Supervising	★★★★	
Logical Thinking	★★★★	Need to make assumptions about target audience. Need to manage workload and assess equipment needs.
Math	★★★★	For the financial aspects of the business and for certain projects, such as creating shapes and distances
Mechanical Understanding	★★★★	Computers, printers, professional printing process
Sales and Negotiation	★★★	
Scientific and Experimental	★★★★	Investigating new technologies
Service / Helping Skills	★	
Teaching / Instructing	★★★★	
Verbal Communication	★★★★	
Understanding Nature, Plants, Animals	★★★★	Understand joints in human body for creating animation. Understand reflection and refraction of light.
Understanding Yourself	★★★★	
Writing	★★★	

ACTIVITY 8.1: CAREER SUMMARY

Create a summary of one arts-related career that might interest you. Include a description of the work, training and education needed, skills needed, potential earnings, types of businesses or organizations providing employment in this field, and any other information that you can find. Use a format of your choice, such as a written report, poster, computer presentation or video.

ACTIVITY 8.2: COLLEGE PROGRAMS

Look at college catalogs or websites for several art schools and several colleges and universities that offer programs in the arts. What courses are offered? What technology and resources are available to students? How many faculty teach in the program and what are their interests and specialties? Do the catalogs or websites describe jobs that graduates obtain upon graduation?

ACTIVITY 8.3: ARTS AND THE LOCAL ECONOMY

The New England Foundation for the Arts says that the “creative sector” provides 109,000 jobs and has a \$2.1 billion impact on the Massachusetts economy. Do you see a large impact in your community? Use local newspapers, chamber of commerce publications, websites, or other resources to learn about the role of the arts in your local economy. What arts-related or design-related organizations and businesses are found in your local area? How large a role do you think the arts play in the economy of your city or town?

Recommended Websites:

- ❑ Massachusetts Cultural Council: <http://www.massculturalcouncil.org>
- ❑ New England Foundation for the Arts: <http://www.necd.org>
- ❑ Massachusetts Municipal Association (for city/town websites): <http://www.mma.org> (Click on the link for City and Town Websites for a list of official city/town websites)

Unit 9: Spotlight on the Building Trades

On a major building project, the work of many different trades must be coordinated in order to complete the project. Ironworkers build the frame for the building. Before walls are constructed, electricians and plumbers lay out the electrical, heating and plumbing systems for the building. The work is continued by HVAC installers, carpenters, elevator installers, tile workers, masons, carpet installers, painters and other tradespeople. Planning and coordination are provided by a general contractor, with consultation with the architects and engineers. The project must be coordinated with local authorities, including city planning, zoning, building inspectors and the local water and sewer and public works departments.

What skills are required for a successful project? Each tradesperson must know the skills specific to their own trade, and must also bring skills in teamwork, problem solving, workplace safety, communication and project management. They must be skilled in blueprint reading and must have knowledge of basic principles of building. A good background in math, science and reading is essential.

The interviews with an HVAC contractor, on the right, and with an electrician, below, highlight some of these skills.

Construction work is:

Highly skilled. The building trades require a high level of skills and knowledge, which are developed through a combination of on-the-job and classroom training. Apprentices work with journey-level workers to learn the trade. Apprentices start with less-skilled tasks and eventually take on more highly skilled work.

Project oriented. Workers are usually hired by a contractor for a specific project. You may work for many different contractors and on many different projects during your career.

Physically demanding. The work is physically demanding, and includes lifting, using hand tools and power tools, and may include working outdoors and working in extreme weather. Successful tradespeople develop skills and strategies for safely lifting and carrying heavy loads and pay attention to all aspects of fitness, including maintaining strength, flexibility, balance and body awareness.

CAREER PROFILE: HVAC CONTRACTOR

What do you do? Sales and service of new and existing HVAC (Heating, ventilating and air conditioning) systems including hot water, hot air, and heat pumps.

What are some related career opportunities and job titles? HVAC system design, drafting, sales, parts & supplies specialist, installation and diagnosis, sales & service of replacement units for home & commercial use, estimator, project manager, energy conservation.

What technology will be important? More and more systems will be integrated with computers. Particularly with the new types of systems, the technician will need a laptop computer to plug into the system to diagnose and repair equipment.

What education or training did you have to prepare for this career? I prepared for this career through military training and manufacturers training. At the time that I entered the field, there were no college level courses, but now some technical and community colleges offer HVAC programs.

What education or training do you recommend for students today who want to enter this field? Enroll in a high school Career and Technical Education program. Math, Science, and English classes are important. Build mechanical skills. Consider 2 or 4 year colleges.

When you were in high school, did you know that you would enter this field? No, I did not even know it existed.

Interdependent. Workers don't work in isolation. The quality of your work, your personal safety, and the training you receive on the job all depend on the work of others. Because of this interdependence, and because most construction trades are taught through apprenticeship, there is a strong tradition of informal mentoring in the trades. Successful workers look for mentors who can help them as they get started.

CAREER PROFILE: ELECTRICIAN

What do you do? Union electrician working on major commercial projects such as new office buildings, hotels and apartment buildings.

What are some related career opportunities and job titles? An apprenticeship will prepare individuals for all types of work as an electrician - commercial, residential, industrial, etc.

What technology will be important? Telecommunications is one example of a rapidly changing area.

What education or training did you have to prepare for this career? Five year apprenticeship, which includes on the job and classroom training.

What education or training do you recommend for students today who want to enter this field? Before entering an apprenticeship, it is helpful to have a strong background in math, science, and reading. Shop courses are helpful in familiarizing students with tools, blueprints, and principles of electricity.

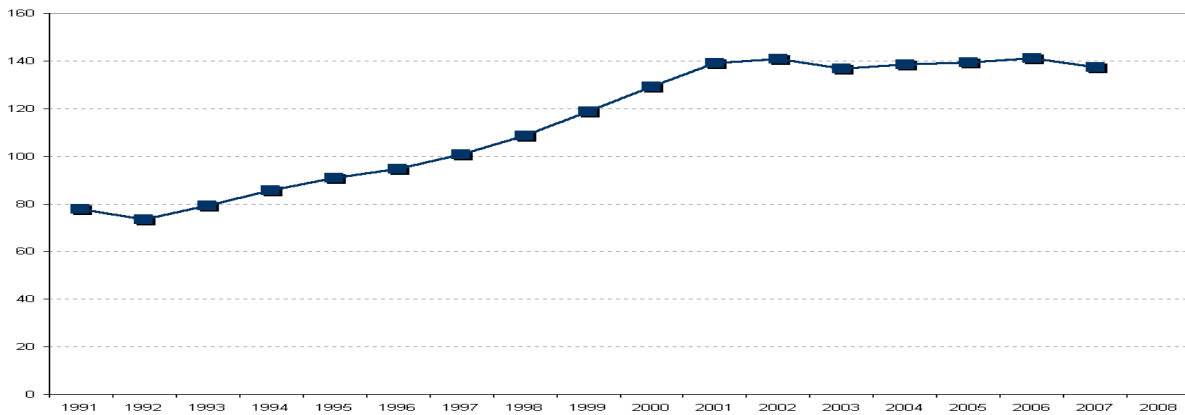
When you were in high school, did you know that you would enter this field? Yes.

	Rating (1-5)	
Artistic		Electricians draw layouts showing where wiring, appliances, etc. will go
Athletic / Physical		Strenuous work
Bilingual		Helpful when dealing with tenants in apartment complexes
Computer technology		
Coordination / Using Hands, Tools, and Equipment		
Creative Thinking		Important for problem solving and for coordinating the work of many tradespeople
Interpersonal		Interpersonal skills help you negotiate for good job assignments and encourage teamwork on the job
Investigative / Fact Finding		Learn about technology
Leading and Supervising		
Logical Thinking		
Math		Apprenticeship courses use trigonometry, algebra, and physics. Electricians use high-level applied math on the job.
Mechanical Understanding		
Sales and Negotiation		These skills are helpful for negotiating side work; and for working out schedules with other trades
Scientific and Experimental		Develop new designs
Service / Helping Skills		Help co-workers; particularly new apprentices
Teaching / Instructing		
Verbal Communication		
Understanding Nature, Plants, Animals		Need to understand the weather; understand physics and spatial relationships
Understanding Yourself		
Writing		

Construction employment tends to vary *seasonally* and *cyclically*, with the business cycle. Consider the following graphs. The first graph presents construction employment for the period 1990-2007 in Massachusetts, using annual average employment. During the 1990s, the economy went into a recession and then a recovery. Meanwhile, the largest construction project in Massachusetts, the Central Artery Tunnel (called “The Big Dig”) started, boosting construction employment. Since the end of the Big Dig project, construction employment has remained strong, as many projects that were delayed during the Big Dig have been launched. Other slices of history might show a more “s-shaped” curve, as construction employment rises and falls every few years. The second graph presents month-by-month employment in Massachusetts, for January 2005 – March 2007, showing the typical seasonal pattern. Construction work also tends to be highly-paid, and workers generally try to budget carefully, pick up “side jobs” and develop other strategies for periods when employment levels are low. Despite seasonal fluctuations, annual earnings in construction are very strong, as shown in the table below.

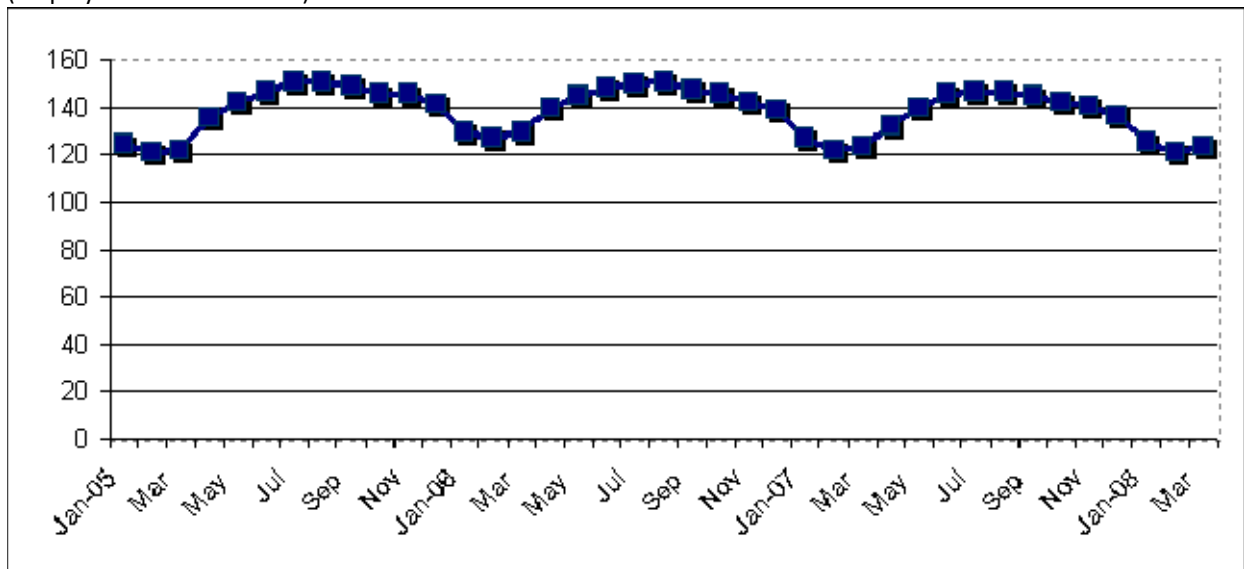
CONSTRUCTION EMPLOYMENT IN MASSACHUSETTS, ANNUAL AVERAGES, 1990 – 2007

(Employment in Thousands)



CONSTRUCTION EMPLOYMENT IN MASSACHUSETTS, JANUARY 2005 – MARCH 2008

(Employment in Thousands)



Employment and Wages in Construction Occupations in Massachusetts, 2007

Median, Mean, Entry-Level and Experienced-Level Earnings

Occupation Title	Employment	Median Annual	Mean Annual	Entry Annual	Experienced Annual
Boilermakers	***	\$54,210	\$53,070	\$44,620	\$57,300
Brickmasons and Blockmasons	1,530	\$76,850	\$72,530	\$52,020	\$82,790
Stonemasons	530	\$51,160	\$51,840	\$31,630	\$61,950
Carpenters	20,780	\$49,160	\$50,960	\$34,870	\$59,010
Carpet Installers	700	\$57,270	\$53,000	\$26,040	\$66,480
Floor Layers, Except Carpet, Wood, and Hard Tiles	380	\$38,730	\$48,890	\$26,040	\$60,310
Tile and Marble Setters	360	\$44,970	\$47,090	\$27,200	\$57,030
Cement Masons and Concrete Finishers	1,590	\$42,920	\$45,950	\$33,360	\$52,250
Terrazzo Workers and Finishers	***	\$69,990	\$59,710	\$33,250	\$72,940
Construction Laborers	14,710	\$41,350	\$42,990	\$27,700	\$50,630
Paving, Surfacing, and Tamping Equipment Operators	1,210	\$39,810	\$42,570	\$33,120	\$47,300
Pile-Driver Operators	180	\$67,710	\$68,600	\$56,500	\$74,650
Operating Engineers and Other Construction Equipment Operators	4,410	\$55,070	\$56,020	\$40,500	\$63,780
Drywall and Ceiling Tile Installers	460	\$52,690	\$49,530	\$30,570	\$59,010
Tapers	410	\$67,570	\$63,780	\$49,780	\$70,780
Electricians	12,670	\$53,470	\$54,850	\$35,720	\$64,410
Glaziers	1,000	\$37,250	\$40,080	\$27,480	\$46,380
Insulation Workers, Floor, Ceiling, and Wall	910	\$35,110	\$36,490	\$23,610	\$42,920
Insulation Workers, Mechanical	660	\$36,940	\$47,080	\$24,620	\$58,310
Painters, Construction and Maintenance	4,240	\$35,900	\$38,230	\$25,730	\$44,470
Paperhangers	***	\$38,590	\$41,180	\$33,950	\$44,790
Pipelayers	570	\$42,700	\$45,240	\$33,460	\$51,130
Plumbers, Pipefitters, and Steamfitters	10,030	\$55,980	\$57,460	\$36,910	\$67,740
Plasterers and Stucco Masons	530	\$51,310	\$50,430	\$37,010	\$57,140
Reinforcing Iron and Rebar Workers	***	\$53,750	\$49,150	\$28,320	\$59,570
Roofers	1,850	\$45,190	\$51,080	\$29,650	\$61,790
Sheet Metal Workers	3,700	\$52,190	\$53,180	\$34,200	\$62,680
Structural Iron and Steel Workers	1,110	\$67,190	\$66,000	\$46,350	\$75,830

Source: Occupational Employment and Wage Statistics<http://lmi2.detma.org/lmi/LMIdataprog.asp>

ACTIVITY 9.1: CAREER SUMMARY

Create a summary of one career in the building trades that might interest you. Include a description of the work, training and education needed, skills needed, potential earnings, types of businesses or organizations providing employment in this field, and any other information that you can find. Use a format of your choice, such as a written report, poster, computer presentation or video.

ACTIVITY 9.2: CONSTRUCTION AND THE LOCAL ECONOMY

What building projects are currently underway in your local community? What new projects are being planned? Use local newspapers, city websites or other resources to learn about local projects.

ACTIVITY 9.3: EMPLOYMENT AND EARNINGS GRAPH

Select 5-10 occupations from the Employment and Earnings table on the previous page and draw a graph portraying entry-level, experienced-level and mean annual earnings.

ACTIVITY 9.4: BODY AWARENESS

Read the box “Work Smarter Not Harder” below. Then search online for additional material about safe work, body mechanics and “ergonomics.” Create a poster or brochure illustrating key points. Do these tips apply only to women? Do they apply only to the construction trades?

Work Smarter Not Harder: Work with your body and not against it. Here are some tips for making construction work easier on your body.

1. Bend your knees when lifting to avoid placing unnecessary strain on your back.
2. Women may do things differently from men. For example, it is often easier for women to carry things on their hips or along their sides rather than throwing them over their shoulders.
3. Use “body mechanics.” Whenever possible, substitute simple tools, such as levers, for brute force. Use pieces of wood as wedges to pry things open, instead of relying on your hands. If you’re using a two foot wrench, try also using a two foot cheater to provide more torque.
4. Break down heavy jobs into parts. Instead of carrying two heavy objects in one load, it may be safer – and quicker – for you to make two quick trips.
5. Try dragging heavy objects instead of lifting them. It may be useful to put them on a tarp or a mat and pull that.
6. Are your arms too short to put around a stack of 4x8s when you carry them on your shoulder? Try using a claw hammer to hold them stable.
7. It’s difficult for anyone to work well or safely with tools and equipment that don’t fit. If you have small hands, for example, you’ll need to find a small hammer and small gloves.
8. Eight hours is a long time to be doing hard physical work. Pace yourself so you can last the full day.
9. It’s customary for construction workers to help each other out doing heavy jobs. If you can do the task alone, fine. But don’t be afraid to ask a fellow worker to lend a hand.

Compiled by Research and Evaluation Associates, Inc., 1030 15th Street, N.W., Suite 750, Washington D.C. [From the Massachusetts Community Colleges CITAP Trade Skills Manual, 1999.]

ACTIVITY 9.5: FOCUS ON NON-TRADITIONAL EMPLOYMENT

A generation ago, it was considered normal that some jobs were traditionally male and some were traditionally female. In fact, classified advertising sections of newspapers had separate section headings for “Help Wanted - Male” and “Help Wanted – Female.” Today, most people view most careers as being open to both men and women. Jobs that were once traditionally male, such as lawyers, doctors, computer programmers and mail carriers are no longer “non-traditional” for women. However, most of the construction trades remain “traditionally male.” In recent years, the trades have reached out to include more women and have started some formal and informal programs, such as mentoring and pre-apprenticeship classes, to attract and retain women.

For discussion:

What are some factors that might discourage women from entering construction trades?

What are some factors that make the construction trades “good” career choices for women as well as men?

Can you list some occupations that remain traditionally male or traditionally female?

In your opinion, why do many occupations remain traditionally male or traditionally female?

What, if anything, do you think might help to change this pattern in the future?

Unit 10: Spotlight on the Hospitality Industry

Have you ever watched while a new restaurant was being prepared for opening? If so, you may have noticed the attention paid to every detail, from the signage outside and inside the restaurant to the décor, furniture, seating arrangements, lighting, and, most importantly, the menu. Whether the restaurant is casual or formal, all of these elements combine to express the creative vision of the owners and to contribute to the customer's experiences.

The hospitality industry provides opportunities for creative expression and customer service through jobs in restaurants, hotels and motels, travel agencies, tourism services, and other aspects of hospitality. The hospitality sector is one of the key sectors in the Massachusetts economy. It provides large numbers of jobs and brings money and tax revenue into the state. Consider some of your favorite places to visit in your city or town or nearby communities. Does your community have art galleries, museums, parks, beaches, sports, or hiking trails? Are there any popular historic places? Concerts? Films? Festivals? Does your community attract visitors and tourists from other parts of New England or from other parts of the world? Does the community have restaurants, hotels, motels, inns or resorts that complement the local attractions?

Jobs in hospitality are ideal for individuals who enjoy welcoming others and enjoy using their skills to create a positive experience. For example:

- Concierge: The career profile interview on the following page describes the job of a concierge in a hotel in Boston. The concierge assists guests of the hotel in many different ways, from solving problems to finding restaurants, shops, salons, and subways.
- Chef: A chef leads the kitchen staff in a restaurant and is responsible for coordinating the work of all the kitchen staff, selecting ingredients, and perfecting the menu. A good chef can be well-known in the community, and his or her reputation will attract diners to the restaurant.
- Hotel manager: A hotel manager manages all aspect of hotel operations, from the front desk to housekeeping to maintenance to food services. The manager is ultimately responsible for creating teamwork among employees and creating a welcoming atmosphere in the hotel.

FIRST JOBS IN THE HOSPITALITY SECTOR

Many young adults' first jobs are in the hospitality sector, particularly in restaurants. Whether you are interested in a future career in hospitality or whether you plan to enter some other field in the future, these first jobs provide good insight into key workplace skills, especially customer service skills, interpersonal skills, and insights into management. Things to notice include:

- Why do customers enjoy eating at this restaurant?
- What factors contribute to their "customer experience"?
- How many of the customers are "repeat" customers who visit regularly?
- How many are new customers?
- Why do employees enjoy working at this restaurant?
- What factors contribute to employee satisfaction?
- What is the turnover rate for employees? Does this vary by type of job?
- What factors contribute to keeping employees in a job?
- What are the most important things that you are learning from this job?

CAREER PROFILE: CONCIERGE

What do you do? Concierges assist guests of the hotel in many different ways, from solving problems to finding restaurants, shops, salons, and subways. We interact with dozens to hundreds of guests every day, arranging various services. I most like interacting with guests from other countries, opening the city and all its treasures to them. WE are their key to the city in many ways.

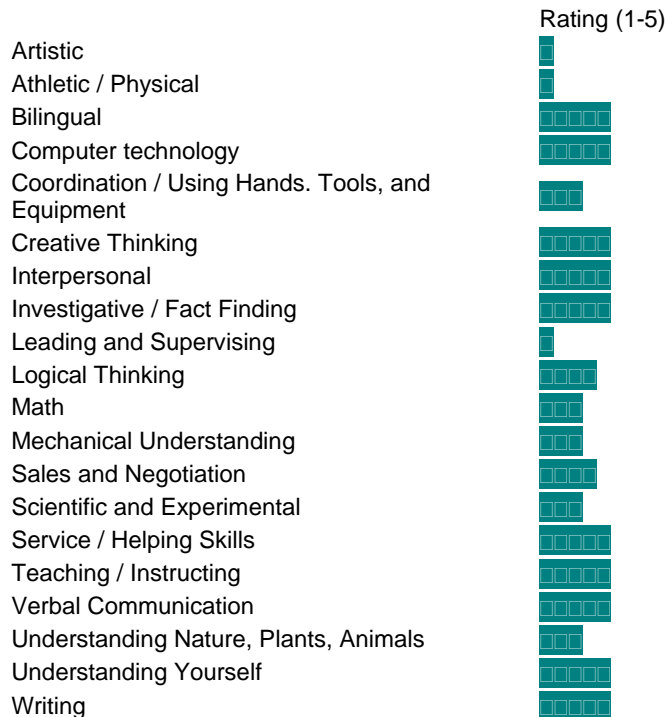
What are some related career opportunities and job titles? Guest Services Specialists work on the front desk registering guests into the hotel. Bell men assist with bags and packages.

What technology will be important? We are like Google but better and faster! Search engines like Google can help, but our value is our knowledge and our customer relationship skills.

What education or training did you have to prepare for this career? I have experience in teaching, and my teaching skills help a great deal. Computer basics are essential. Working in customer service is mandatory. Behavior analysis and sales training are very valuable.

What education or training do you recommend for students today who want to enter this field? Improving communication skills is a good place to start. Then, experience as much of your local area possible. Work in a hotel to experience the particular needs of guests. Learn how to best give directions.

When you were in high school, did you know that you would enter this field? No idea.



ACTIVITY 10.1: CAREER SUMMARY

Create a summary of one hospitality-related career that might interest you. Include a description of the work, training and education needed, skills needed, potential earnings, types of businesses or organizations providing employment in this field, and any other information that you can find. Use a format of your choice, such as a written report, poster, computer presentation or video.

ACTIVITY 10.2: COLLEGE PROGRAMS

Look at college catalogs or websites for colleges, universities and technical schools that offer programs in hospitality management, culinary arts, travel and tourism or related fields. What courses are offered? What technology and resources are available to students? How many faculty teach in the program and what are their interests and specialties? Do the catalogs or websites describe jobs that graduates obtain upon graduation?

Unit 11: Spotlight on Health Care




Jenna is a seven-year-old girl who was born with multiple disabilities. She uses a wheelchair but also has some mobility outside of her wheelchair. She can pull herself up to a standing position and will sometimes take a few small steps while holding on to a support. Her parents, teacher and physical therapist hope that she will be able to walk with a walker soon, which will give her more mobility, more freedom and a healthier life.









Mark is a 62-year-old man whose recent check-ups showed high blood pressure readings. His doctor has suggested that he lose weight and increase his exercise routine, and said that they can watch his blood pressure for a few months before deciding whether he needs to start taking blood pressure medicine.

Marie is a 75-year-old woman whose husband died two years ago after 50 years of marriage. She has started feeling symptoms of arthritis and feels stiff for a long time after waking up in the morning. She eats well, takes a long walk each day and is active with projects around her house and in the community, but wants to know if there is something else she can do to maintain good health.

Jonah is a four-year-old who has a rare condition that affects his bones. He will probably have to wear braces as he gets older. His family hopes for medical research that will successfully address his condition. Several experimental therapies are currently available and his family is considering several options. Meanwhile they are giving him vitamin supplements that may help to strengthen his bones and getting regular bone scans to monitor his condition.

Each of these case studies portrays some of the needs of consumers in the health care system. Careers in the health care sector focus on all aspects of health maintenance from advising on nutrition and exercise to providing diagnostic tests to providing treatments and therapies to providing supportive services to families and caregivers and more.

Examples of Patient Needs	Examples of Jobs in Health Care
 Primary care	Physician Nurse Practitioner Nurse Medical Assistant Physician Assistant
 Patient education	Physicians Nurses Nurse Practitioners Nutritionists
 Medical testing	Lab technician Radiologist

	Medical specialties / Treatment	Surgeon Cardiologist
	Therapies	Physical therapist Occupational therapist Vocational rehabilitation counselor
	Home care	Home health nurse Home health aide
	Mental health services	Family therapists Substance abuse counselors
	Nursing home care	Nurse Certified Nurse Assistant Dietician
	Medical records	Medical records Medical billing Computer information systems
	Administration	Human resources manager Office manager Medical secretary Finance specialist Quality management specialist
	Support	Hospital social worker Case manager Patient advocate Hospital chaplain Vocational rehabilitation counselor

CAREER PROFILE: DIRECTOR OF PASTORAL CARE AND PATIENT ADVOCACY

What do you do? As **Director of Pastoral Care**, I oversee an Interfaith Spiritual Care Department and direct pastoral care for a 273 medical and psychiatric inpatient and a number of hospital campus programs, which includes a homeless shelter, and substance abuse treatment programs. I provide supervision of Field Study students from area graduate schools and volunteers (lay and ordained). I am responsible for designing and leading worship and memorial services. As **Patient Advocate**, I am responsible for advocating on behalf of patients, incarcerated individuals, and mental health clients including patient/staff relations and conflict resolution. I also design program improvement initiatives including patient satisfaction surveys and develop educational materials for patients, families and staff.

What are some related career opportunities and job titles? Human Rights Officer, Social Worker, Counselor, Case Manager, Quality Manager.

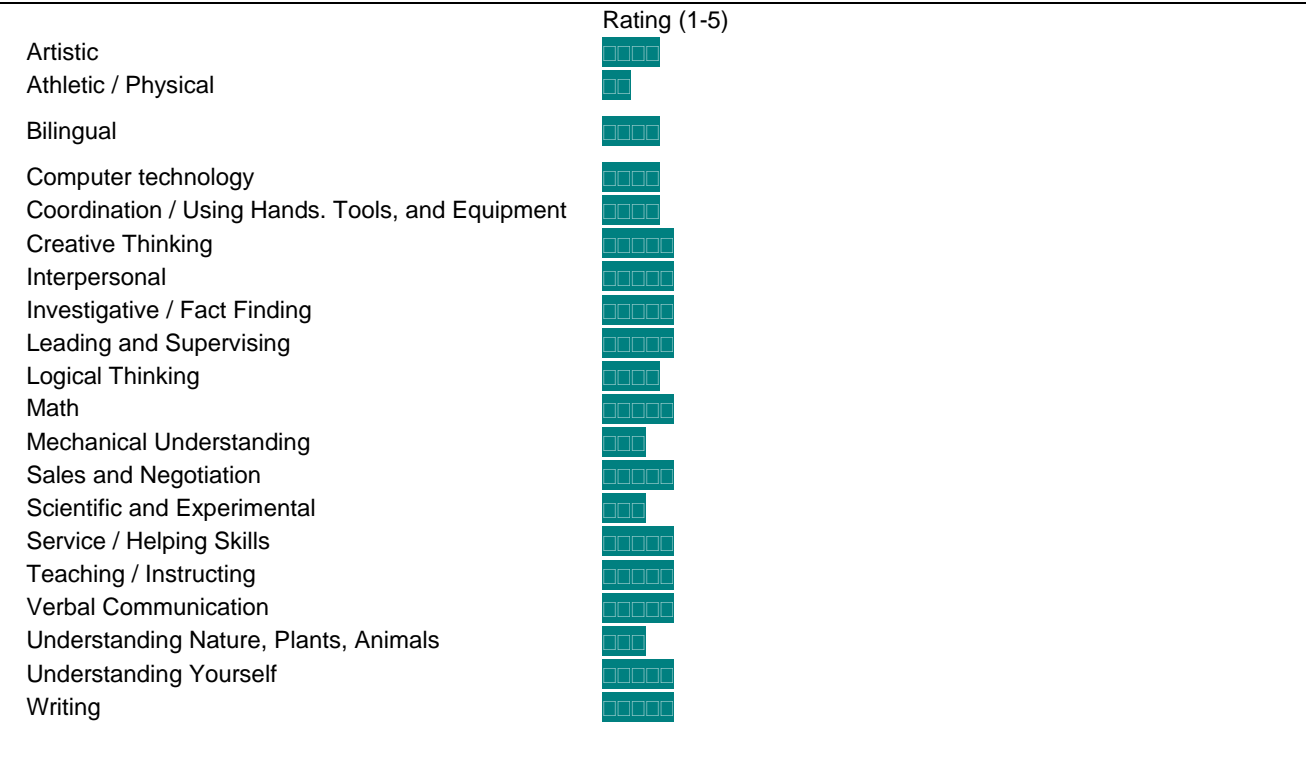
What new technology will be important in this career? Computer programs to help with medical assessment, psycho-social assessment and documentation.

What education or training did you have to prepare for this career?

- Masters of Divinity (M.Div.)
- Licensed Certified Social Worker (LCSW)
- Bachelor of Arts
- Continuing Education through United Church of Christ Polity (Harvard Divinity School)
- Also continuing education in Health Care, Ministry, Medical/Professional Ethics, Geriatrics, Social Work, Psychology, Management and Government.

What education or training do you recommend for students today who want to enter this field? B.A. in Social Work, Education, or Public/Human Service field. Some Divinity Schools offer dual degrees- Master of Divinity/Master in Social Work.

When you were in high school, did you know that you would enter this field? I was always had an interest in ministry and social work that began in childhood.



CAREER PROFILE: HOME HEALTH NURSE

What do you do? I work as a home health nurse and visit people in their homes. I like the opportunity to help people.

What are some related career opportunities and job titles? Nurses can work in any medical setting, such as doctors’ offices, hospitals, schools, shelters, nursing homes, etc. You can become a nurse practitioner.

What new technology will be important in this career? One example is computerized heart monitors that can be used at home. Results are read over an online connection by medical staff.

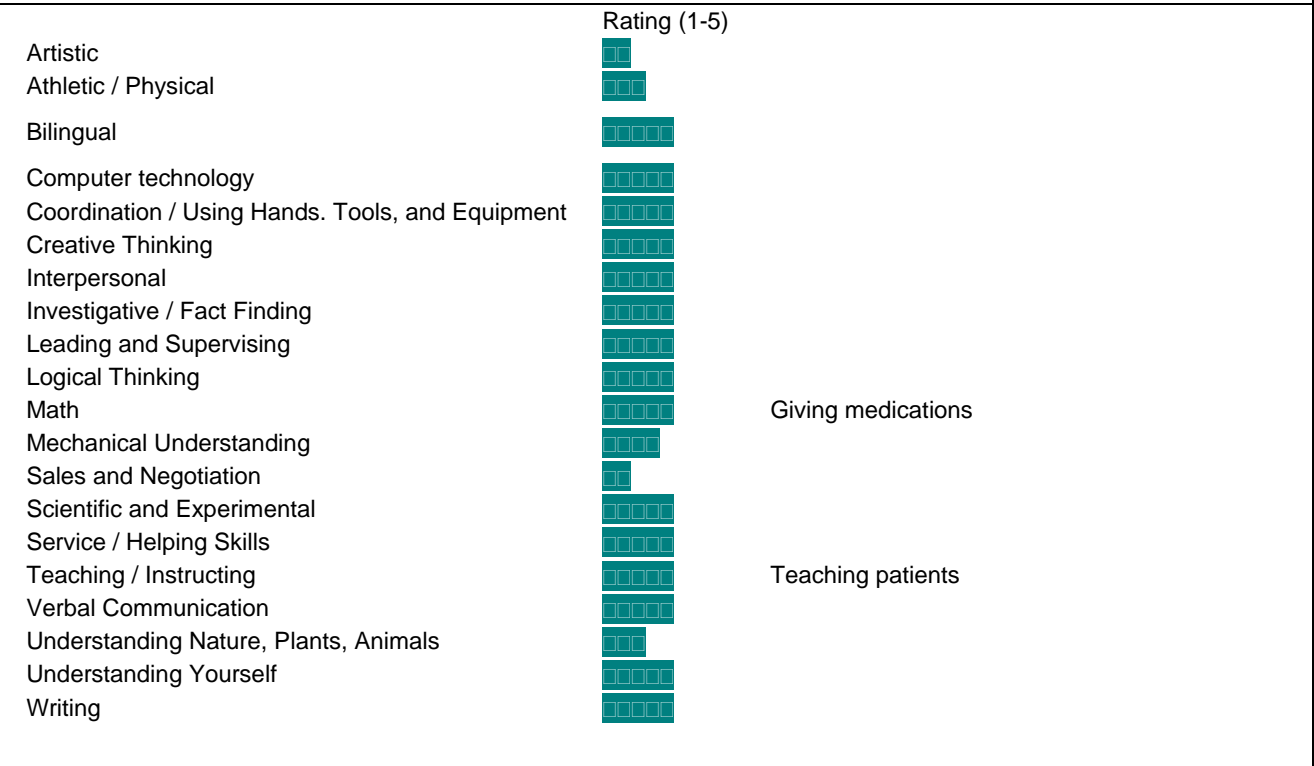
What education or training did you have to prepare for this career?

- School of Nursing

What education or training do you recommend for students today who want to enter this field?

I recommend going to a four-year college and earning a bachelor’s degree in nursing, and then eventually a master’s degree. You can earn more with higher degrees.

When you were in high school, did you know that you would enter this field? Yes.



ACTIVITY 11.1: CAREER SUMMARY

Create a summary of one health-related career that might interest you. Include a description of the work, training and education needed, skills needed, potential earnings, types of businesses or organizations providing employment in this field, and any other information that you can find. Use a format of your choice, such as a written report, poster, computer presentation or video.

ACTIVITY 11.2: COLLEGE PROGRAMS

Look at college catalogs or websites for colleges, universities and technical schools that offer programs in health care or related fields. What courses are offered? What technology and resources are available to students? How many faculty teach in the program and what are their interests and specialties? Do the catalogs or websites describe jobs that graduates obtain upon graduation?

ACTIVITY 11.3: HEALTHCARE CHARTBOOK

Download and read the *Healthcare Chartbook*, a publication by the Commonwealth Corporation that presents information about careers in the health care sector. Use the information in the book to create a brief paper or presentation about the health care sector, including information about the wide range of jobs available in the health care sector. The publication is available from <http://commcorp.org/publications>.

ACTIVITY 11.4: CASE STUDIES

Read the case studies on the first page of this unit. In small groups, choose one of the case studies and identify **a list of health care professionals** who might work with the person described in the case study. Use a career guide to identify job titles, such as MassCIS or the Occupational Outlook Handbook. Try to include a variety of health care professionals, including physicians (including specialties such as orthopedics), nutritionists, physical therapists, radiology technicians, etc.

Job Title	Brief Description

Unit 12: Entrepreneurship

What are the qualities that make a person a successful entrepreneur? An entrepreneur is someone who organizes, launches and manages a business or other venture. An entrepreneur may be someone who opens a restaurant, starts a home-based business, or organizes a new community-based organization. They might become self-employed in an occupation where they have worked for many years or they may start a business in an area that is new to them.

- A high school student starts a music lesson business, matching high school music students with elementary school students who want extra lessons in an instrument they are learning to play.
- A chef and a restaurant manager partner to open a restaurant focused on a favorite cuisine.
- A graphic designer starts a home-based business providing web design services to small companies.
- A retired bus driver, who is also a deacon in his local church, buys a used bus and starts a business providing bus transportation for church groups.
- A former insurance agent, with no experience in cosmetics, launches a business making natural organic cosmetics.

The qualities that make a person successful as an entrepreneur may be surprising. Entrepreneurs are not necessarily risk takers, and do not necessarily have highly outgoing personalities. Instead, key qualities are:

- A personality that is between “risk-taking” and “risk-averse” (willing to take risks but also sensible about planning carefully before moving forward)
- Motivation and persistence
- Problem-solving skills
- Talent and technical skills
- Common sense
- Willingness to study and learn new things
- Ability to focus on the needs/wants of other people

Other necessary qualities for an entrepreneur depend on the type of business. Some business ideas are generated through market analysis and innovative thinking while others are simply outgrowths of an existing career or talent. Some businesses require creativity in product design; others require solid, skilled, reliable service to customers. Some require attention to marketing, sales and outreach efforts, while others will thrive based on word-of-mouth from customer to customer.

What occupations provide opportunities for self-employment? The Bureau of Labor Statistics National Employment Matrix provides national figures about total employment, wage-and-salary employment and self-employment in different occupations. The table below provides data for a few selected occupations. Overall, about 92% of all workers work in wage-and-salary employment and about 8% work in self-employment. As you would expect, these shares vary significantly by occupation.

EMPLOYMENT AND SELF-EMPLOYMENT IN SELECTED OCCUPATIONS FROM THE BUREAU OF LABOR STATISTICS, NATIONAL EMPLOYMENT MATRIX

	2006 Total Employment	Wage and Salary Employment	Self Employment
ALL OCCUPATIONS	150,620,175	138,310,165 91.83%	12,179,895 8.09%
SELECTED OCCUPATIONS			
Accountants and Auditors	1,274,357	1,152,495 90.44 %	121,553 9.54 %
Actors / Actresses	70,030	52,322 74.71%	17,708 25.29%
Airline pilots, copilots and flight engineers	79,444	77,479 97.53%	1,965 2.47%
Architects	131,873	105,063 79.67%	26,810 20.33%
Automotive Service Technicians and Mechanics	772,675	642,912 83.21%	129,741 16.79%
Barbers	60,034	11,471 19.11%	48,563 80.89%
Carpenters	1,462,071	997,495 68.22%	464,577 31.78%
Craft Artists	8,816	4,852 55.04%	3,959 44.91%
Graphic Designers	260,831	194,617 74.61%	66,106 25.34%
Hairdressers, hairstylists, and cosmetologists	617,452	342,839 55.52 %	274,613 44.48%
Meeting and convention planners	50,962	48,127 94.44%	2,835 5.56%
Musicians and singers	196,330	100,281 51.08%	96,049 48.92%
Occupational therapists	98,858	90,394 91.44%	8,464 8.56%
Physical therapists	172,948	158,498 91.65%	14,450 8.35%
Registered Nurses	2,504,664	2,482,876 99.13%	21,226 0.85%

Source: Bureau of Labor Statistics, <http://www.bls.gov/emp/>.
Click on "National Employment Matrix, Occupation Search."

ACTIVITY 12.1: SELF EMPLOYMENT OPPORTUNITIES

What career areas offer opportunities for self employment? Look at the table on the previous page and see what patterns you notice. Use the BLS website <http://www.bls.gov/emp> to look at other occupations.

Website Instructions:

- GO to <http://www.bls.gov/emp>.
- Click on the link for the “National Employment Matrix” and then click on “Occupation Search.”
- Choose an occupation from the list, then click “Continue”
- Then click “All Industries in List” and click “Continue” again.
- You will see data on total employment, total wage and salary employment, total self-employment and other information by industry.

ACTIVITY 12.2: CREATIVITY EXERCISES

For many businesses, creativity is a key ingredient behind the business idea, the product design or the marketing plan. Try one of these creativity activities to generate possible business ideas.

Random word pairs:

- (a) Working in small groups, list 30-50 words on a piece of paper. Include words that might reflect popular trends, such as “organic” or “recycling” etc.
- (b) Randomly choose two words from the list and write them together in a new list, such as “organic webservice” or “video recycling.” Continue, creating 10 or more different pairs of words.
- (c) Look at the list and try to pick one pair and create a business idea based on that pair of words.

Business ideas / Solutions to problems:

- (a) Working in small groups, list some very small day-to-day problems, such as “I always want to pack a lunch, but I never do.” Or “My desk is a mess and I waste time looking for things.”
- (b) Analyze the list, considering what the root cause of each problem may be, whether other people are likely to share the same problem, and whether there are any practical solutions to the problem.
- (c) Generate one or more business ideas that address the problems on your list.

Marketing ideas:

MARKETING includes all aspects of presenting a product or service to potential customers. Marketing can include, for example, product design, packaging, pricing, advertising, distribution and company image. Choose a small business – a restaurant, repair service, pet care business, etc. -- and think of a marketing idea to make the business unique. Work in small groups to develop the idea.

Unit 13: Workplace Skills

Are there certain skills that are universally important in all jobs? Some skills, such as artistic skills, athletic skills, or bilingual skills, are needed in some jobs but not in others. However there are other skills, including interpersonal skills, verbal communication skills and logical thinking that are almost universally rated as very important for every job.

The following list of “Foundation Skills” comes from the Massachusetts Work-Based Learning Plan, and represents one look at the skills that are universally important in careers. These are important for success in first jobs, including summer jobs, after-school jobs, internships, and first full-time jobs. These skills are also important for long-term career growth. The same foundation skills that lead to success in high school, postsecondary education and training will also contribute to success in career advancement, entrepreneurial success and career enjoyment.

FOUNDATION SKILLS

WORK ETHIC AND PROFESSIONALISM

Understanding Workplace Culture, Policy and Safety	Demonstrating understanding of workplace [or school or organizational] culture and policy Complying with health and safety rules for the specific workplace Respecting confidentiality and exhibiting understanding of workplace ethics
Motivation and Taking Initiative	Participating fully in task or project from initiation to completion Initiating interaction with supervisor [or teacher, instructor, team leader, etc.] for next task or project upon successful completion of previous one
Accepting Direction and Constructive Criticism	Accepting direction and feedback with positive attitude through appropriate verbal and non-verbal communication skills Displaying willingness to work in a cooperative manner
Workplace Appearance	Dressing appropriately for position and duties Practicing personal hygiene appropriate for position and duties
Attendance and Punctuality	Showing up in timely manner prepared for work Providing sufficient notice if unable to report for work

COMMUNICATION AND INTERPERSONAL SKILLS

Speaking	Speaking clearly Using language appropriate to the environment, both in person and on phone
Listening	Listening attentively Making and maintaining eye contact appropriate to the workplace culture Confirming understanding
Interacting with Co-Workers	Relating positively with co-workers Working productively with individuals and in teams Respecting racial and cultural diversity

NOTE: This list comes from the Massachusetts Work-Based Learning Plan. The Work-Based Learning Plan is a tool that is used to help structure summer and after-school jobs and internships for participants in work-based learning activities. It provides participants with a job description, a description of these foundation skills, a description of additional career and workplace skills that are important in their specific job, and evaluations of their work. This list of foundation skills was developed through collaboration among educators, workforce development staff and employers. For more information visit <http://www.doe.mass.edu/connect>.

Beyond the basic foundation skills, there are many widely-used, “transferable” skills that are used in work, school, and community projects. These are often referred to as “21st Century Skills” because of their importance in the new economy. These skills are important in traditional jobs as well as newly emerging career fields, and important not only in workplace settings but also in classroom settings, community settings and day-to-day life experience.

21st Century Skills

Critical Thinking	Thinking logically and analytically to support decision making. Critical thinking shapes effective action — critical thinking is used to assess new and existing ideas and strategies, gather and weigh evidence, and sharpen insights into your goals and work. Like creativity, critical thinking can be described as “thinking outside the box” — looking at information in several different ways in order to draw good conclusions.
Creative Thinking	Thinking freely, generating new ideas, creating innovative approaches and designs, and thinking of new ways to do things. New ideas may be small or large, radically different or just a slightly fresh approach.
Writing and Workplace Communication	Using effective writing, editing and visual presentation skills to communicate with various audiences in the workplace.
Applied Math	Using numbers, geometry and mathematical ideas to support work. May include using math in support of designing and building physical structures or products, working with budgets and finances, working with health information, analyzing survey data, or any other applications.
Computer Technology	(A) Cultivating the ability to learn, communicate effectively, collaborate, and problem solve about computer-technology-related tasks and projects; and (B) Using technology to support your work; and/or (C) Supporting others in the use of technology.
Leadership	Leading, coaching, motivating, directing and mentoring others to support work on workplace projects, classroom activities and community programs.
Customer Service	The ability to communicate a positive attitude, empathy, energy and helpfulness to customers or co-workers and to provide the assistance customers or co-workers need.
Problem Solving	Being alert to possible problems or issues in the work; Systematically analyzing the situation to identify when and/or why the issue is occurring; Working with supervisors or co-workers to identify possible solutions; Taking agreed-on steps to address the problem.
Time Management	Establishing a healthy, comfortable and productive approach to using time. Includes: (a) thoughtfully and systematically deciding what tasks to do in what timeframe; (b) maintaining a steady, safe and comfortable pace of work; and (c) developing habits and approaches that lead to a comfortable pace of life (i.e., not rushing, being late or missing deadlines).
Project Management	A systematic approach to planning and managing an individual or group project, including setting goals, planning, keeping progress on track and evaluating the results of the project. May include formal and informal tools and approaches, including timelines, budgets, checklists, planning meetings and more.
Research and Data Use	Gathering, organizing, managing and presenting information in order to support the work of an organization, team or project.
Active Learning	Cultivating a practice of active learning by attending workshops, attending meetings when possible, listening, reading (online or print), observing others, and asking questions.
Teaching and Instructing	The ability to help others to learn new concepts, skills and knowledge through effective instruction, hands-on experiences, teaching materials and environment for learning.

PROFESSIONALISM AND THE NEW ECONOMY

EXCERPT FROM SKILLS PAGES YOUTH EMPLOYMENT BLOG:

What does it mean to be “professional?” The word “professional” has many meanings, including:

- 1.) A member of a trained profession: such as a lawyer, doctor or teacher.
- 2.) A well-trained expert in a field: such as a professional car mechanic or a professional landscaper.
- 3.) A person who shows dedication and skill in his/her work: “The salesperson who helped us was very professional; she really knew the product line well and helped us make a good choice.”
- 4.) A person whose appearance and actions shows seriousness about work: “He always dresses very professionally at work” or “She is very well-organized and professional in her work.”

The Massachusetts Work-Based Learning Plan (WBLP) focuses on visible evidence of professionalism – such as attendance and appearance — as well as less-visible aspects of professionalism — such as motivation and understanding the workplace culture.

What does it mean to show professionalism in the new economy? The new economy is very fluid, with ongoing changes in jobs, job titles, technology and the way work is organized. People’s careers are likely to change and evolve over the years, and so successful professionals will learn new skills and technologies and actively manage their careers to take advantage of new opportunities. In many fields, well-established professionals are more likely than ever to telecommute, using technology to connect from their homes to their offices or from one office to another. In many fields professionals are likely to work with people from around the country and around the world; making communication skills more important than ever. Professionals are likely to manage projects with teams of people, making it important to be able to work in teams, be motivated, take initiative, provide direction to other team members and accept direction from others. Many professionals work in short-term projects, and demonstrate professionalism by their commitment to each project and workplace where they work; whether they are there for years, months or just for a few weeks.

What does it mean to show professionalism in first jobs? In summer jobs, internships, after-school jobs, and first full-time jobs – professionalism includes a variety of visible and less-visible characteristics and behaviors. Excerpts from WBLPs include:

- showing a positive attitude
- showing commitment to learning about and enjoying the professional field (whether for a few weeks or longer!)
- learning about the specific profession (such as healthcare, teaching or childcare)
- respecting confidentiality
- respecting diversity
- dressing professionally and appropriately for the workplace
- flexibility
- participating enthusiastically in staff meetings and trainings
- introducing oneself to other team members (especially in a large hospital for example)
- greeting customers or patients professionally
- learning workplace routines
- understanding the “flow” of the workplace
- learning vocabulary used in the workplace
- conducting oneself with a professional attitude and seriousness
- acting as a positive role model for others
- AND MANY OTHER EXAMPLES

Source: Skills Pages Youth Employment Blog, <http://skillspages.com/blog>

ACTIVITY 13.1: DO'S AND DON'TS LIST

Use the list of Foundation Skills to generate a list of “Do’s” and “Don’ts” for the workplace.

ACTIVITY 13.2: ROLE-PLAY EXERCISES/CASE STUDY EXERCISES:

Use the list of Foundation Skills or the list of “Do’s” and “Don’ts” generated in Activity 6.1 to generate ideas for a series of mini “role play” activities or written “case study” exercises. Create scenarios in which an employee is faced with a challenge, and demonstrate how the employee can successfully meet the challenge. For example, the employee may be late for work, or may be uncomfortable facing critical feedback, or may have a difficult issue to resolve with a customer or co-worker.

ACTIVITY 13.3: WORKPLACE SAFETY.

Use the “Safe Work/Safe Workers” program, available through the Massachusetts Department of Public Health, to explore workplace safety issues. The program provides activities and discussion guides.

This resource, as well as other workplace safety resources, can be found through the Department of Elementary and Secondary Education website at:

Website: <http://www.doe.mass.edu/ssce/safety.html?section=workplace>

ACTIVITY 13.4: CAREER SKILLS RESEARCH

In addition to the general skills described in this unit, most careers require many more specific skills, such as accounting, blueprint reading, cooking or carpentry.

Choose a job title or career area to focus on for a mini career skills research project. Use research, informational interviews and/or brainstorming to identify skills that are important in the career. Present this information in a list, chart, or diagram. (See the three examples below (on the following page) for presentation ideas, or create your own format.)

Example 1: Narrative – What Skills are Needed to be a Restaurant Manager? (Excerpt from MassCIS)

To work as a restaurant manager, you must:

- have a high school diploma or GED;
- have restaurant work experience;
- be self-confident and persuasive;
- have strong communication skills; and
- be able to direct and motivate people.

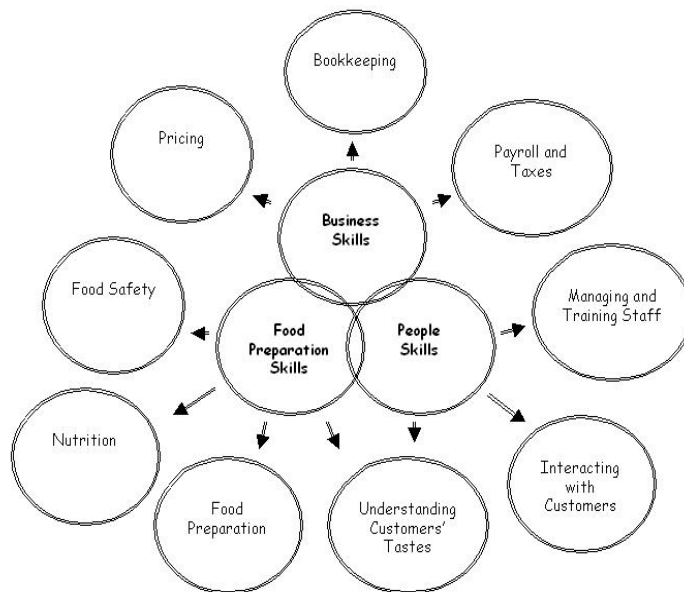
Education after high school

Some restaurant managers are promoted from within the company. However, many restaurant managers go through formal training programs. Either an associate or a bachelor's degree in restaurant management is good preparation for this occupation. In these programs you study nutrition, food planning, and food preparation. You also take courses in accounting, business management, and computers. Some programs combine classroom study with experience in a restaurant setting.

Example 2 – Chart – Skills Needed in Restaurant Management

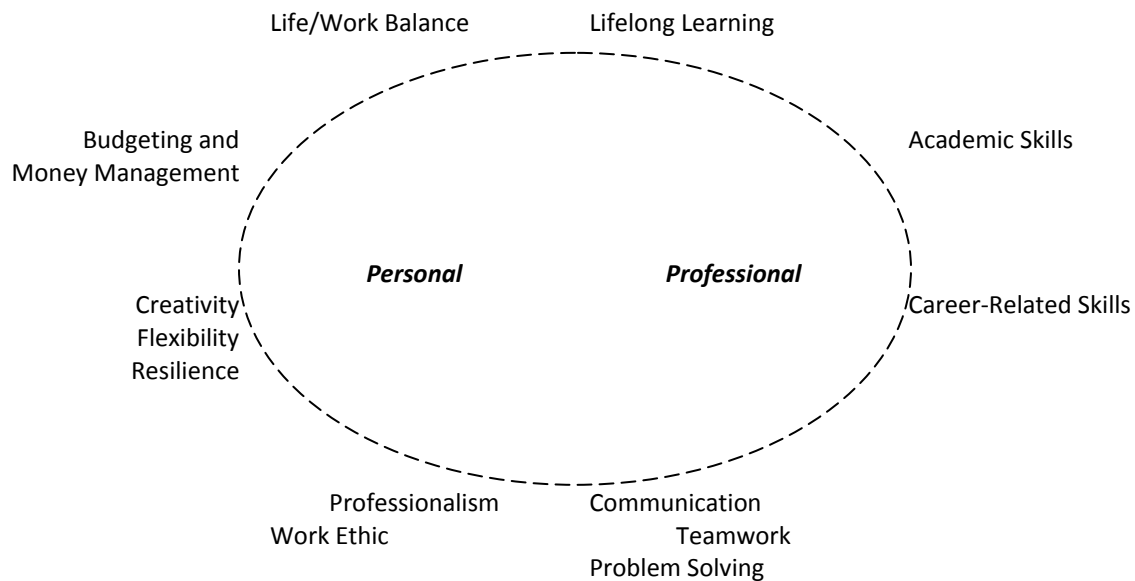
<i>General skills</i>	<i>Specific tasks/skills</i>	<i>Topics to Learn/Study</i>
Food preparation skills	Food preparation Menus Nutrition Food safety Ordering	Cooking Food safety Nutrition
Interpersonal skills	Working with Employees Working with Suppliers Working with Customers	Marketing Management Supervisory skills
Business skills	Planning and Marketing Hiring Pricing Bookkeeping Payroll / Taxes	Marketing Management Supervisory skills Accounting/Bookkeeping Basic Math

**Example 3 --
“Skills Map” –
Skills and Knowledge
Needed by a
Restaurant Manager**



Unit 14: Lifelong Career Strategies

In an ever-changing economy, there are some lifelong strategies that help individuals to feel successful and “in control” of their work lives. Young adults entering the workforce now are likely to see their careers change over the next few decades as the technology, economy and society changes. These changes can be positive for those who are ready.



Academic skills	Start with a strong background in math, science and reading that will allow you to learn new skills and master new information throughout your career.
Career-related skills	Acquire career-related skills in a field that interests you.
Communication, Teamwork and Problem Solving	Cultivate the basic skills that are needed in all careers, including communication, teamwork, and problem solving.
Professionalism and work ethic	Professionalism and a strong work ethic are essential to a successful career.
Creativity, Flexibility and Resilience	When changes in the economy, in your field, or in your personal life present challenges, be prepared to meet these challenges with creativity, flexibility and resilience.
Budgeting and Money Management	In all fields, personal budgeting and money management are essential, both for surviving job changes and for the sake of feeling more secure within your income, whatever it may be.
Life/Work Balance	A healthy life/work balance makes you more flexible and resilient.
Lifelong learning	A habit of lifelong learning allows you to learn new technology or move into new career specialties when necessary or when new opportunities arise. Lifelong learning flows from a professional approach to one’s work and from a healthy life/work balance, thus completing the circle.

ACTIVITY 14.1: PROBLEM SOLVING

Complete the checklist below and discuss.

When faced with an important problem, do you tend to...

	1 Never	2 Rarely	3 Sometimes	4 Usually	5 Always
a) Ask advice from several different people?	[]	[]	[]	[]	[]
b) Read books or magazine articles that might help?	[]	[]	[]	[]	[]
c) Brainstorm and write lists to think of possible solutions?	[]	[]	[]	[]	[]
d) Solve it alone?	[]	[]	[]	[]	[]
e) Have trouble thinking or eating because you are worried?	[]	[]	[]	[]	[]
f) Try not to let it worry you?	[]	[]	[]	[]	[]
g) Face the problem directly?	[]	[]	[]	[]	[]
h) Try to avoid the problem situation?	[]	[]	[]	[]	[]
i) Stay calm?	[]	[]	[]	[]	[]
j) Panic?	[]	[]	[]	[]	[]
k) Consider several possible solutions before deciding what to do?	[]	[]	[]	[]	[]
l) Act quickly?	[]	[]	[]	[]	[]

Discuss: Which approaches to problem solving are desirable? Which are not desirable? If you were to create a scoring system (like a typical magazine quiz...) how would you score these answers?

ACTIVITY 14.2: FIVE STEPS OF PROBLEM SOLVING

One model of problem solving is a simple “five-step” model. The steps include:

- | | |
|----------------------------------|---|
| 1. Clearly identify the problem: | What is going on? |
| 2. Brainstorm: | What are some possible solutions? |
| 3. Evaluate: | Which of these solutions makes the most sense for me in this situation? |
| 4. Implement: | What do I do? |
| 5. Assess: | Is the problem resolved? |

Choose a problem from a set of “case studies” and apply this five-step model. Then discuss your case study:

- What was the problem?
- What possible solutions did you think of?
- What solution did you choose?
- Was the five-step model helpful? Why or why not?

ACTIVITY 14.3: BUDGETING AND SALARIES

MassCIS provides an activity called “Reality Check” that examines the budget that you hope to have and the salary needed to support that budget. Try this activity and reflect on the importance of developing budgeting and money management skills.

Website: <http://masscis.intocareers.org>

(click on “Reality Check” under “Assessment Tools” after signing in)

Unit 15: Writing a Resume

What is a resume? A resume is a brief document that outlines the story of who you are as a professional and how you have gotten to that point. This definition implies several key points:

- * Length: A resume is brief, usually one page.
- * Style: A resume uses an outline-style format, employing headings and lists, and uses partial sentences rather than full sentences or paragraphs.

Writing a resume is one of the first steps in starting a job search. Writing, editing and refining a resume is a project that requires considerable time, attention and thought. This unit looks at the purpose of a resume, what it is, how it is used, and some of the steps in writing a resume.

- * Content: The resume tells the story of who you are as a professional. As in a short story, all aspects of the narrative should support the main themes. All the details that are included should support the main ideas that you are conveying. As in a short story, a resume omits extra details that are not relevant to the story.

- * Themes: A resume tells the story of who you are as a professional and how you got to that point. The main themes include a portrait of your skills, education, work ethic, and other qualities. Depending on the type of job you are seeking, you may emphasize customer service skills, ability to manage projects or information, ability to work well with children, computer skills, or other sets of skills, along with a positive attitude and willingness to work hard.

The main purpose of a resume is to have a document that you can provide to potential employers or others to describe your qualifications for a job, internship, volunteer position, leadership position or other opportunity.

Organizations also use the resumes of their employees or vendors as part of the proposals they submit to potential clients, funding sources or other audiences. For example, a scientific research organization applying for funding for a research project will include the resumes of the members of their research staff to demonstrate that they have the capacity to conduct the research work. A summer children's program applying for funding to support their programming may include resumes of staff for the same reason, to demonstrate the capacity to provide quality services.

There are additional benefits to developing a resume. The process of working on a resume is a reflective process that helps individuals to think about their experiences, strengths and goals. The process is also a good opportunity to spend time organizing information about work experiences, education, and other activities and achievements, including summaries and key dates. Once a resume is developed, it can be used as a source of information for filling out employment applications and preparing for job interviews or college interviews.

Along with a skills portfolio, which is described in another unit in this book, the resume provides a collection of information that can grow and change with new experiences and accomplishments. Unlike a skills portfolio, however, a resume is intended to be brief and more narrowly focused on professional goals, skills and accomplishments.

A resume includes sections highlighting the individual's employment goals, key skills, work history, volunteer or community work, education, workshops and training, honors and awards, and other activities.

The process of developing a resume includes:

- Reflecting on goals, experiences and accomplishments;
- Organizing information;
- Presenting the information in a traditional resume format;
- Sharing drafts with peers and teachers/counselors for feedback;
- Editing and rewriting;
- Updating as goals change or new accomplishments are added.

REFLECTING

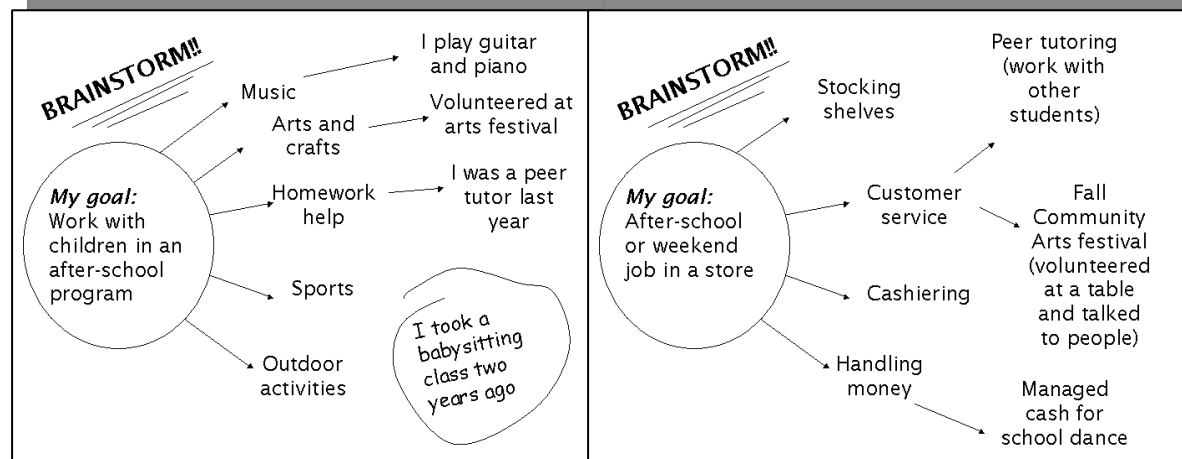
What story do you want to tell with your resume? What types of opportunities are you seeking? What are some of the experiences, accomplishments and skills you hope to highlight? Start the reflection process by creating lists and by drawing maps or charts highlighting possible information for the resume.

- List key experiences, including paid jobs, internships, volunteer work, informal jobs, and other experience.
- List school and community activities.
- List schools attended for high school and/or college.
- List special workshops or training attended and any certificates received.
- List any honors, awards or other recognitions.
- List skills that might be included on the resume. Start with a broad list of skills, recognizing that the list may be shortened and refined later.

Brainstorm by drawing a map of goals, skills and accomplishments. For example, starting with a goal of working with children, the map may connect to important skills that could be used in a classroom or children's summer or after school program, and then to previous experience using those skills and to courses and training that support those skills.

EXAMPLES OF RESUME SKILLS

Customer service
 Project management
 Time management
 Leadership
 Organizing information
 Public speaking
 Attention to detail
 Writing and editing
 Working with children
 Arts and crafts projects
 Guitar, piano, voice
 First aid certified
 CPR certified
 ServSafe Food Safety Certified
 Bilingual in English and Spanish
 Fluent in Spanish and French
 Microsoft Word
 Microsoft Excel
 Microsoft Access
 Microsoft PowerPoint
 HTML
 JavaScript



ORGANIZING AND PRESENTING THE INFORMATION

After listing and brainstorming possible information for the resume, the next step is organizing and presenting the information.

Choose a format for the resume. Many software programs and websites offer resume templates. Many books provide sample resumes that can be used as examples for creating a resume. Any template should be customizable, allowing the individual user to use different headings or a different order of topics.

Decide what to include and what to omit by focusing on the main themes of the resume. Include information that is relevant to the objective and highlights the relevant skills and experiences. Also include information that shows a strong work ethic, including willingness to work hard, positive attitude, and ability to work well with other people, even if not directly relevant to the current job objective.

Omit information that is solely personal, even if it is interesting, if it is not relevant to the main themes of the resume. However, do not throw away the lists generated in the reflection phase. It may be helpful to set up a file of experiences, activities and accomplishments, since even the items omitted from the resume might be useful for future resumes, skills portfolios, college applications, or other purposes.

Write a goal, objective or summary statement for the resume. The objective may be simple, such as "To work in an after-school children's program" or "To work in a customer service role in a retail store." Alternatively, a summary statement may focus on skills offered, such as "Student with excellent customer service and office skills seeking summer employment."

Next, focus on descriptions for each of the work experiences or other key experiences on the resume.

- Job descriptions in resumes should use "action words" that show what you did in the job.
- Wherever possible, job descriptions should describe any notable accomplishments and results of your work.
- Traditionally, job descriptions in resumes omit the pronoun "I"
- Job descriptions should use a consistent tense, with present tense verbs for currently-held jobs and past tense verbs for past jobs.
- Avoid phrases like "duties included" or "responsible for" and use action verbs instead to portray what you actually did.
- Be honest in portraying the job, using the words "assisted" or "helped" as appropriate if the position was as an assistant or team member.

Examples:

Babysitter, 2006 to present.

Provide babysitting for families in my neighborhood, for infants, toddlers and school-age children. Provide meals, cook with older children, help with homework, play games and supervise bedtime routines. Have expanded to a client base of ten families and have developed a reputation for excellent and responsible care.

Assistant Camp Counselor, Valley Summer Camp, Summer 2008.

Helped to organize and lead children's activities in summer day camp, including arts and crafts activities, nature walks and sing-a-longs. Provided snacks for children and supervised clean-up routines. With two other staff, developed a new songbook for the camp music program.

Using the template you have chosen, start drafting the resume. Edit as needed to keep the resume on one page. Proofread carefully, even before you share it with peers or teachers for feedback.

WHAT TO OMIT: WHAT ABOUT PERSONAL INFORMATION?

Professional resumes should not have sections about personal information, such as hobbies, personal interests, marital status, age, etc. However, students will include school and community activities, since these provide valuable experience and skills.

Should you include activities that reflect your political affiliation, religion, ethnicity, sexual orientation, or other personal information? A general guideline is that it is fine to include activities that demonstrate your professional skills. For example, if you organized events or worked on a web design project for your religious organization, then it is generally fine to include this experience in your resume. If you provided office support or helped with fundraising for a political campaign, then you may want to include this experience on your resume. However, if you worked with a controversial organization or a controversial campaign, you might choose to omit this information from your resume, since it is personal. Generally, it is a good idea to include information if it is relevant and if you are comfortable that employers who you are interested in working for will view the information positively.

SHARING, EDITING and REWRITING

Once the resume is drafted, share it with peers, teachers/counselors and family for feedback. The resume should be reviewed for:

- Grammar, spelling and sentence structure - is it clearly written and error-free?
- Formatting - does it look clean, attractive and easy to read?
- Content - is everything relevant?
- Descriptions - are job descriptions well written?
- Focus - does the resume highlight the skills employers will be looking for?

Each person who reviews the resume will provide suggestions and ideas for the next draft. When writing the next draft, incorporate any suggestions that make sense to you. If a suggestion doesn't seem helpful, talk to the reviewer to learn more about what they were thinking. If something that you wrote didn't read well for them, but you aren't comfortable with their re-write, consider other ways of re-writing that section. If a reviewer suggests that you omit something that you think is important, talk to other people to get additional opinions before making a final decision. Throughout this process, be open-minded and willing to listen to the ideas of others.

UPDATING A RESUME

Professionals update their resumes regularly, even if they are not currently seeking jobs. As a student, it is a good idea to keep an activity log, journal or other list of activities, experiences and accomplishments, and use this to regularly update the resume and portfolio. In the future, you will have the habit of keeping your resume up-to-date since it is an increasingly important tool for career management.

ACTIVITY 15.1: RESUME TEMPLATES

Look at the resume templates in Microsoft Word and MassCIS. The resume template in Microsoft Word is available by starting a new document and choosing one of the templates. The resume template in MassCIS is available under the “My Portfolio” option. MassCIS uses a format similar to the format in Microsoft Word, but provides screens for listing and saving resume information. Experiment with filling in information and print out examples of the different templates.

ACTIVITY 15.2: ORGANIZING INFORMATION

If you haven’t already done so, start an activity log where you can list activities, workshops, training, achievements and other information that could possibly be used in a skills portfolio or resume. Choose a format for storing the information, whether pencil-and-paper or electronic. Formats may include, for example, a system of file folders, notebooks, calendars or organizers, or computer databases.

ACTIVITY 15.3: LIST OF ACTION WORDS

Browse some books or websites about resume writing and gather a list of “action words” that are recommended for writing resume job descriptions. List here, or present your list with a poster or computer presentation.

ACTIVITY 15.4: LIST OF RESUME SKILLS

Browse some books or websites about resume writing and gather a list of “resume skills” that are recommended for writing job descriptions. Include a variety of skills, including general workplace skills, computer skills, language skills, or occupation-specific skills. For example: customer service, attention to detail, fluency in Spanish, HTML, Microsoft Office. List here, or present your list with a poster or computer presentation.

Unit 16: Interviewing and Job Search

How do young adults usually find their first jobs? How do people find jobs later in their career? Is it common to find jobs through online listings? newspaper ads? Applying in person? Applying online? Emailing resumes? Word of mouth? Working with public and private agencies, including youth employment programs, temp agencies and employment agencies?

What are the factors that make a job search comfortable or make it difficult?

How can young adults apply for jobs and interview with confidence?

If you are looking for a job, it is important to approach the job search with confidence and optimism. Some tips for a successful job search include:

1. Reach out and connect with other people for advice about where to look, how to look and who else to talk to.
2. Connect with people who will be encouraging and positive about your job search.
3. Be educated about the jobs you are looking for. (Study the organization and the job requirements and review your own skills before applying and before interviewing.)
4. Practice interviewing so that you can interview with confidence. Think about good answers to common interview questions.
5. Work with others to review and strengthen your resume and cover letters.
6. Looking for a job is an ever-evolving art. The “best” techniques for applying for jobs will vary from year to year and from one job market to another. Don’t rely on just one method (such as emailing resumes in response to job postings) but use a variety of approaches.
7. Be optimistic.
8. Be energetic.
9. Be honest, reliable and positive in all your interactions with people during your job search.
10. Send thank you notes to anyone who has interviewed you or helped you with job ideas.

Most important, you should be both flexible and focused.

It is helpful to be flexible as much as possible, but it is also good to be focused on finding a job that is a good fit for your current goals, skills and interests. Don’t say that you will take “anything” but focus on job opportunities that fit your current goals. If you want a part-time job so you can earn money while attending school you might want a job with convenient hours and a convenient location. If you want a full-time job that will help you start a career direction, you should focus on working for a high quality organization that will offer you room to explore and learn.

ACTIVITY 16.2: INTERVIEWING WITH CONFIDENCE – EVALUATING THE INTERVIEW

After an interview (real or practice) briefly evaluate the interview to get ideas for improvement. Complete the checklist yourself. For a mock/practice interview ask the interviewer or observer to evaluate your interview. Use the following checklist or create your own.

Rating Scale: 1=needs improvement thru 3=very satisfied				
Did you:	1	2	3	Suggestion/thoughts for a future interview
Dress professionally, comfortably, and appropriately for the setting?				
Wear appropriate shoes and accessories?				
Speak in a professional tone of voice (not too loud or soft)?				
Make eye contact with the interviewer?				
Use professional language (vocabulary and grammar)?				
Feel calm and comfortable?				
Avoid any nervous or distracting behaviors?				
Listen attentively to the interviewer?				
Express interest in the job opportunity being described?				
Clearly answer each question asked by the interviewer?				
Describe your skills and strengths clearly?				
Mention examples of experience, skills or accomplishments from your resume?				
Do you think that you conveyed that you would be an enthusiastic and hard-working employee?				
In summary, did you feel satisfied with the interview?				

ACTIVITY 16.3: JOB SEARCH CASE STUDIES

Choose one of the scenarios below. Suppose that you are a friend or teacher helping the student. What would you advise? What type of job should they look for? How should they look? What can they do to have a successful job search?

- A student seeking a summer job – it is almost summer and he has not found anything yet.
- A student who wants to work full-time for a year before starting college (a “gap” year) and is about to start applying for full-time jobs.
- A student who is passionate about journalism and wants to work part-time while attending community college.
- A student who is interested in construction trades but has not been accepted into any apprenticeship programs yet and is on a waiting list for possible apprenticeship opportunities.
- A student whose family owns a landscaping business who wants to try out other jobs before possibly going to work in the family business.
- A student who wants to enter the healthcare field and wants an after-school job while in high school to “try out” the field of health care.

Unit 17: Next Steps, College Majors and First Jobs

How do young adults make decisions about colleges, college majors, apprenticeship programs or postsecondary training programs? How do young adults get started in first jobs? As with any major decision, young adults gather information, think about their personal goals, talk with friends and families, and ultimately take first steps based on what they want to do.

This book has provided information and strategies to support career decision making. This unit briefly reviews some of the key points of the book and provides activities for looking at these “first steps.”

This book has emphasized the idea that careers evolve throughout one’s lifetime. Early planning and preparation are important. Lifelong learning and career management skills are also important.

Hopefully some of the career opportunities portrayed in this book and related research are exciting to you. You may have one strong career interest and know that you are ready to start on a path toward that goal. Or you may be interested in more than one career area. You may have several strong interests and not know which to pursue professionally. Or you may be interested in a particular field but you aren’t sure if it is practical. Or you may still be working to discover what you are most interested in.

Career decision making involves a combination of looking at **who you are** and **what opportunities** exist. Once you identify a match between your interests and potential careers, career decision making involves **choosing a path to prepare for opportunities** that interest you, both present and future.

This book has emphasized the importance of:

- Understanding your career interests.
- Finding out what types of careers exist.
- Building career skills in areas like writing, logical thinking, creative thinking and teamwork.
- Being an active lifelong learner.
- Being willing to explore new fields and learn new things throughout your career.

ACTIVITY 17.1: DECISION MAKING STYLES

What is your style of decision-making? Do you make decisions quickly? Do you sometimes avoid making decisions? Do you do careful research before making a decision? Do you talk to friends and family to get their opinions? Do you create lists of “pros and cons”? Have you ever created a worksheet with numerical ratings for various choices?

Are you or any of your friends or classmates facing difficult career decisions? What if you are passionate about a career field which is hard to break into or in which it is hard to make a living? What if you want to pursue a career path that is less established or less “safe” than others in your family have pursued? Or what if you are just totally unsure about what you want to do?

Work in small groups to create a magazine-style quiz or activity about “decision-making styles” and give the quiz or activity to others in the class.

For discussion: Is there an ideal decision making style that leads to successful career management?

ACTIVITY 17.2: WEB RESOURCES

As a classroom or independent project, create a directory of the most useful web resources for learning about colleges, training programs and apprenticeship programs and share it with parents and family members. The directory might be produced as a handout to be shared at a parent night, a webpage on your school website or some other format.

College Board. The College Board is a not-for-profit membership association whose mission is to connect students to college success and opportunity. Founded in 1900, the association is composed of more than 5,400 schools, colleges, universities, and other educational organizations. Among its best-known programs are the SAT®, the PSAT/NMSQT®, and the Advanced Placement Program® (AP®). The college board website offers college search tools, information on the SAT, PSAT/NMSQT and AP exams, and financial aid information for families. <http://www.collegeboard.com/>

Higher Education Information Centers / TERI College Planning. At TERI College Planning Centers, located in Boston, Brockton, and Chelsea, Massachusetts, education advisors provide FREE, one-on-one guidance and resources to make planning and paying for college as simple as possible. The main center at Copley Square is open 7 days a week from October 1 to May 31. During the summer, it is closed on Sundays. For information on each site's hours, call (617) 536-0200. <http://www.tericollegeplanning.org/>

Massachusetts Department of Higher Education. The Massachusetts Department of Higher Education oversees the states public higher education system, including state universities, state colleges and community colleges. <http://www.mass.edu/campuses/missionsystem.asp>

Massachusetts Community Colleges. Use this Massachusetts Community College website as a starting point for exploring the opportunities available through the community colleges. <http://www.masscc.org/>

Historically Black Colleges and Universities - HBCU Mentor. An internet portal linking students to the historically Black colleges and universities of America. Provides planning tools, descriptions of the colleges and universities, and information about college majors offered at each college. <http://hbcumentor.org/>

Women's College Coalition. Founded in 1972, the Women's College Coalition is an association of women's colleges and universities – public and private, independent and church-related, two- and four-year – in the United States and Canada whose primary mission is the education and advancement of women. <http://www.womenscolleges.org/>

Massachusetts Career Information System (MassCIS). MassCIS provides career exploration tools and describes college majors relevant to your career interests. Learn what college majors or programs might lead to a career that interests you and find out what postsecondary education institutions provide those majors or programs. <http://masscis.intocareers.org>

Massachusetts Division of Apprentice Training. Apprenticeship programs combine classroom and hands-on training in a specific occupation. Registered apprenticeship programs are available to qualified applicants at Labor Unions across the Commonwealth and through over 452 employers. The Massachusetts Division of Apprentice Training website provides links to these programs for more information. <http://www.mass.gov/dat/>

Appendix 1: Analyzing and Presenting Data with Graphs and Charts

One of the best ways to become familiar with a set of data is to actively work with drawing graphs, creating charts, sorting the data, calculating percentages or other hands-on analysis. As you work with the data, you notice interesting points, patterns and relationships that you might not notice if you just glanced at a chart or graph while reading.

This chapter presents techniques for analyzing information and presenting it in graphs and charts. The chapter provides several sets of practice data and provides exercises using several different types of graphs.

The data presented in this chapter comes from the US Census Bureau, the US Bureau of Labor Statistics (BLS) and the United Nations (UN), and includes data on employment, education, economic production, health and life expectancy. Links to the Census Bureau, BLS and UN websites are provided so that you can look for additional or updated data. Data on these websites is updated annually, and so the websites may have more recent data than that published here.

This chapter provides:

- 1) Data sets that can be used for these graphing exercises or other analysis;
- 2) A discussion about analyzing and asking questions using data;
- 3) Exercises based on the data sets;
- 4) Tips for creating different types of graphs;
- 5) Sample graphs for each of the exercises.

To make the best use of this chapter:

- Look at the website to see step-by-step demonstrations about creating graphs on the computer;
- Copy and paste data from the website as needed if you don't want to re-type this data for your graphs;
- Look at a math book or other guide for more tips and examples of the various types of graphs;
- Work with others to draw the graphs;
- Glance at the sample graphs in the end of the chapter if you need help getting started, but then draw the graph without looking at the sample;
- Practice presenting data by making brief presentations to others;
- Practice reading and interpreting graphs by exchanging graphs with classmates and reading/interpreting each other's work;
- Make a list of interesting points about each data set;
- Make a list of additional questions that would be interesting to explore.

DISCUSSION – ANALYZING THE DATA SETS

As you work with these data sets, consider the following questions:

- Do you get any new insights (or surprises) by looking at the data?
- Does this data support any views that you already had?
- What patterns do you see in the data? What exceptions do you see to these patterns?
- Do you notice any interesting relationships between sets of data?
- Are there any “cause-and-effect” relationships implied by the data?
- Do you notice any trends over time?

Look for:

- Highest values – which occupations/countries/groups/etc. have the highest values?
- Lowest values – which occupations/countries/groups/etc. have the lowest values?
- Distribution – is the data distributed across a broad range of numbers or clustered around a small range of numbers?
- Skewness – are most of the values high or low or evenly distributed across the range of numbers?
- Relationships between two or more data series. – Is there any correlation between two series of numbers?

Ask:

- What does this data represent?
- Are there any vocabulary/terms that I need to look up?
- Can I explain the data to another person?

Decide:

- What is the best way to present this data?
- Should it be presented in a table or in a graph?
- What type of graph is best?
- What should the title of the graph or table be?
- What are some key points that I could highlight in text accompanying my graph or table?

Connect the data to career development:

- What can I learn from this data set about topics related to career development? Consider topics such as:
 - Investing in education
 - Global competitiveness
 - Trends in the “New Economy”
 - Health and health care

DATA SET #1: EDUCATIONAL ATTAINMENT OF THE U.S. POPULATION AGE 25 AND OVER, 1940 – 2007

Data Set #1 presents data from the U.S. Census Bureau about educational attainment of the U.S. population age 25 and over. It presents historical data for selected years from 1940 to the most recent year available.

The rows of data are cumulative. The first column shows the percentage of the population who completed high school or beyond, and therefore it includes those in the next two columns. The second column shows the percentage of the population that completed 1-3 years of college or more, including those who completed 4 or more years of college. The third column shows just those who completed four or more years of college.

YEAR	Percentage of the Population Age 25 and Over With:		
	High School and Beyond	1-3 Yrs College and Beyond	4 Years of College and Beyond
..1940	24.1%	10.0%	4.6%
..1947	32.6%	12.1%	5.4%
..1950	33.3%	13.2%	6.0%
..1952	38.4%	14.5%	6.9%
..1957	40.8%	14.8%	7.5%
..1959	42.9%	16.0%	7.9%
..1960	41.0%	16.5%	7.7%
..1962	46.3%	18.1%	8.9%
..1964	48.0%	18.0%	9.1%
..1965	49.0%	18.3%	9.4%
..1966	49.9%	18.7%	9.8%
..1967	51.1%	19.5%	10.1%
..1968	52.6%	20.1%	10.5%
..1969	54.0%	20.5%	10.7%
..1970	55.2%	21.2%	11.0%
..1971	56.4%	22.1%	11.4%
..1972	58.2%	22.9%	12.0%
..1973	59.8%	24.0%	12.6%
..1974	61.2%	25.2%	13.3%
..1975	62.5%	26.3%	13.9%
..1977	64.9%	28.9%	15.4%
..1978	65.9%	29.8%	15.7%
..1979	67.7%	31.1%	16.4%
..1980	68.6%	31.9%	17.0%
..1981	69.7%	32.1%	17.1%
..1982	71.0%	33.0%	17.7%
..1983	72.1%	34.4%	18.8%
..1984	73.3%	34.9%	19.1%
..1985	73.9%	35.7%	19.4%
..1986	74.7%	36.3%	19.4%
..1987	75.6%	37.0%	19.9%
..1988	76.2%	37.3%	20.3%
..1989	76.9%	38.4%	21.1%
..1990	77.6%	39.2%	21.3%

YEAR	Percentage of the Population Age 25 and Over With:		
	High School and Beyond	1-3 Yrs College and Beyond	4 Years of College and Beyond
..1991	78.4%	39.8%	21.4%
..1992	79.4%	43.4%	21.4%
..1993	80.2%	44.9%	21.9%
..1994	80.9%	46.5%	22.2%
..1995	81.7%	47.8%	23.0%
..1996	81.7%	48.1%	23.6%
..1997	82.1%	48.3%	23.9%
..1998	82.8%	49.1%	24.4%
..1999	83.4%	50.1%	25.2%
..2000	84.1%	51.0%	25.6%
..2001	84.1%	51.8%	26.2%
..2002	84.1%	52.0%	26.7%
..2003	84.6%	52.5%	27.2%
..2004	85.2%	53.1%	27.7%
..2005	85.2%	53.0%	27.7%
..2006	85.5%	53.7%	28.0%
..2007	85.7%	54.0%	28.7%

Source: US CENSUS BUREAU

Table A-1. Years of School Completed by People 25 Years and Over, by Age and Sex: Selected Years 1940 to 2007

Table A-2. Percent of People 25 Years and Over Who Have Completed High School or College, by Race, Hispanic Origin and Sex: Selected Years 1940 to 2007

WEBSITE: <http://www.census.gov/population/www/socdemo/educ-attn.html>

DATA SET #2: EDUCATIONAL ATTAINMENT THE U.S. POPULATION BY AGE GROUP, 1940 TO 2000

Data Set #2 presents data from the US Census Bureau about educational attainment, showing what percent of the U.S. population has a high school diploma or more. In the year 2000, 80.4% of all people age 25 and over had a high school diploma. This rate varied by age group. Notice that:

- The percentage of people with a high school diploma or more has been rising since 1940.
- Between 1940 and 1980, the youngest age groups were most likely to have a high school diploma or more.
- In 1990 and 2000, the age groups with the highest educational attainment were those in their 30s, 40s or 50s.
- In all of the years, the age groups with the lowest educational attainment were those aged 60 to 64, 65 to 69, 70 to 74 and 75 and over. It makes sense that older people were less likely to have a high school diploma, since they attended school in a generation where it was more common to leave school without a diploma.
- People age 25 to 29 were less likely to have a high school diploma in 1990 and 2000 than in 1980, suggesting a possible slight increase in non-completion of high school.

	Percent of the Population 25 Years and Over with a High School Diploma or Higher						
	1940	1950	1960	1970	1980	1990	2000
..25 years and over	24.5	34.3	41.1	52.3	66.5	75.2	80.4
..25 to 29 years	38.1	52.8	60.7	73.8	84.5	83.5	83.6
..30 to 34 years	33.0	47.7	55.7	68.7	83.8	84.7	84.2
..35 to 39 years	26.9	40.5	54.7	64.5	79.0	86.0	84.7
..40 to 44 years	23.7	35.6	48.5	59.1	74.0	85.2	85.4
..45 to 49 years	20.6	30.0	40.6	57.0	69.3	80.4	86.4
..50 to 54 years	18.5	26.8	34.9	50.9	63.1	75.3	85.4
..55 to 59 years	17.1	23.3	28.5	43.0	60.0	70.4	81.1
..60 to 64 years	16.4	20.5	24.5	37.1	53.3	64.8	76.1
..65 to 69 years	14.2	18.4	20.7	30.5	45.1	61.8	72.1
..70 to 74 years	13.1	17.8	18.6	27.3	39.8	56.0	67.3
..75 years and over	11.5	16.6	17.7	24.0	32.7	44.8	60.7

DATA SET #3: VALUE ADDED, BY SECTOR, SELECTED COUNTRIES, 2006

DATA SET #3 presents data from the UN about the distribution of “value added” by each sector in the economies of several different countries. It looks at different sectors of the economy, including agriculture, manufacturing, construction, etc.

The term “value added” refers to the dollar value of production. For example, suppose that a farm produces \$10 worth of wheat and sells it to a mill. The mill produces \$15 worth of flour and sells it to a bakery. The bakery produces \$25 worth of bread and sells it to a retail store. The retail store sells the bread for \$32. The value added by the farm is \$10, the value added by the mill is \$5, the value added by the bakery is \$10, and the value added by the retail store is \$7.

Country or Area	Value Added TOTAL	Agriculture, hunting, forestry, fishing	Mining, Manufacturing, Utilities	Construction	Wholesale, retail trade, restaurants and hotels	Transport, storage and communication	Other Activities
In Millions of Dollars (US\$)							
Brazil	\$1,004,337 100.0%	\$90,560 9.0%	\$305,101 30.4%	\$69,534 6.9%	\$73,497 7.3%	\$50,429 5.0%	\$415,216 41.3%
Canada	\$1,181,043 100.0%	\$26,072 2.2%	\$312,022 26.4%	\$62,166 5.3%	\$161,030 13.6%	\$84,377 7.1%	\$535,375 45.3%
Costa Rica	\$20,947 100.0%	\$1,735 8.3%	\$5,016 23.9%	\$988 4.7%	\$3,936 18.8%	\$1,902 9.1%	\$7,370 35.2%
Guatemala	\$28,757 100.0%	\$3,903 13.6%	\$6,832 23.8%	\$1,447 5.0%	\$4,155 14.4%	\$1,722 6.0%	\$10,699 37.2%
Haiti	\$4,233 100.0%	\$1,305 30.8%	\$370 8.7%	\$637 15.0%	\$658 15.5%	\$118 2.8%	\$1,146 27.1%
Honduras	\$8,360 100.0%	\$1,152 13.8%	\$2,231 26.7%	\$372 4.4%	\$1,023 12.2%	\$510 6.1%	\$3,072 36.7%
Jamaica	\$10,037 100.0%	\$560 5.6%	\$2,080 20.7%	\$993 9.9%	\$2,479 24.7%	\$1,212 12.1%	\$2,713 27.0%
Mexico	\$763,299 100.0%	\$29,191 3.8%	\$158,542 20.8%	\$43,062 5.6%	\$159,699 20.9%	\$79,369 10.4%	\$293,435 38.4%
United States	\$13,210,499 100.0%	\$122,055 0.9%	\$2,243,041 17.0%	\$658,080 5.0%	\$2,016,584 15.3%	\$781,928 5.9%	\$7,388,812 55.9%

Source: United Nations Statistics Division

Web Address: <http://unstats.un.org/unsd/snaama/SelectionQuick.asp>

Viewed on: June 28, 2008

DATA SET #4: PER CAPITA GROSS DOMESTIC PRODUCT

Data Set #4 focuses on Per Capita Gross Domestic Product. “Gross Domestic Product” (GDP) is a measure of the total production of a nation’s economy. “Per Capita” means per person. Therefore Per Capita GDP is the total production of the nation divided by total population. It is not the same as household income or personal income, but is a rough measure of the productivity or income of a country.

This data set shows the countries with the highest and lowest per capita GDP. Additional information is available online.

Country or area Twenty Lowest, by Per Capita GDP	Per Capita GDP (US\$)	Country or area Twenty Highest, by Per Capita GDP	Per Capita GDP (US\$)
Burundi	114	Canada	39,004
Zimbabwe	133	United Kingdom	39,207
Congo, Democratic Republic of	136	Finland	39,853
Ethiopia	164	Netherlands	40,535
Malawi	164	Sweden	42,170
Liberia	192	United Arab Emirates	42,890
Guinea-Bissau	196	United States	43,562
Rwanda	242	Andorra	44,962
Niger	247	San Marino	46,083
Eritrea	249	British Virgin Islands	46,407
Myanmar	281	Switzerland	50,247
Somalia	283	Denmark	51,074
Madagascar	287	Ireland	51,665
Nepal	290	Iceland	52,413
Gambia	307	Cayman Islands	52,707
Guinea	311	Qatar	64,193
Sierra Leone	318	Norway	71,525
Afghanistan	319	Bermuda	80,676
Timor-Leste	319	Luxembourg	87,829
Zanzibar	329	Liechtenstein	102,400

Source: *United Nations Statistics Division*

Web address: <http://unstats.un.org/unsd/demographic/products/socind/inc-eco.htm>

Viewed: *June 28, 2008*

DATA SET #5: LIFE EXPECTANCY AT BIRTH FOR SELECTED COUNTRIES

Life expectancy is used as a measure of the overall health of a nation's people. These figures range from the 40's in some countries to the 80s' in others. This does not mean that people die of "old age" at that age, but that the average life span, reflecting all risks from childhood diseases through illnesses of old age. The data comes from the United Nations Statistics Division. Tables with all UN member countries are available on the UN website.

Country	Life Expectancy at Birth (2003)	
	Male	Female
Argentina	72	79
Brazil	69	76
Canada	78	83
Costa Rica	76	81
Guatemala	67	74
Haiti	59	63
Honduras	67	74
Jamaica	70	75
Mexico	74	79
United States	76	81

Source: *United Nations Statistics Division*

Web address: <http://unstats.un.org/unsd/demographic/products/socind/health.htm>

Viewed: June 28, 2008

DATA SET #6: EDUCATIONAL ATTAINMENT OF WORKERS AGE 25-44 BY OCCUPATION

Data set #6 presents data from the Bureau of Labor Statistics (BLS). This data set, with more detail, is also found in the main body of the book. This data shows the percentage of workers aged 25 to 44 who have a high school degree or less, some college, or a bachelor's degree or higher, for different occupations. This excerpt shows selected occupations from the list of fastest-growing occupations.

Occupation	Percentage of workers aged 25 to 44 with:		
	High school degree or less	Some college	Bachelor's degree or higher
Network systems and data communications analysts	8.1%	34.8%	57.1%
Home health aides	55.3%	37.3%	7.4%
Computer software engineers, applications	2.2%	13.0%	84.8%
Veterinary technologists and technicians	27.0%	57.0%	16.0%
Medical assistants	30.6%	58.9%	10.4%
Veterinarians	-	-	99.9%
Skin care specialists	59.6%	30.5%	9.9%
Financial analysts	3.1%	9.6%	87.3%
Physical therapist assistants	11.7%	65.4%	22.9%
Pharmacy technicians	27.0%	57.0%	16.0%
Forensic science technicians	19.4%	34.9%	45.7%
Dental hygienists	2.9%	63.8%	33.3%
Dental assistants	33.6%	57.5%	8.9%
Computer systems analysts	7.0%	24.6%	68.4%
Database administrators	4.6%	23.9%	71.5%
Computer software engineers, systems software	2.2%	13.0%	84.8%

Source: U.S. Bureau of Labor Statistics
Occupational Employment, Training and Earnings
Postsecondary Education or Training Category Report
<http://data.bls.gov/oept/servlet/oept.noeted.servlet.ActionServlet?Action=empeduc>

EXERCISE #1: LINE GRAPH

Use Data Set #1 to create a line graph showing historic trends in educational attainment in the U.S.

Use Data Set 2 to create a line graph showing historic trends in educational attainment by age group in the U.S.

About Using Line Graphs	
Do	Don't
<p>Use a line graph to plot "time series" data or other "ordered" data.</p> <p>Examples:</p> <p>Time series data:</p> <ul style="list-style-type: none">• Average household income in Massachusetts each year for the past ten years;• Average temperature in Worcester month-by-month in Massachusetts; <p>Other ordered data series:</p> <ul style="list-style-type: none">• Average height of boys or girls in the U.S. by age. <p>Include a title for the graph.</p> <p>Include titles for the horizontal and vertical axes. If necessary, be sure to specify what units are being used, such as "inches" or "dollars" or "millions of dollars."</p> <p>For time series data, plot units of time (such as years or months) on the horizontal axis.</p> <p>For any other data series, plot the "independent" variable on the horizontal axis and the "dependent" variable on the vertical axis. For example, if children's heights depend on their age, then "age" is the independent variable and should be plotted on the horizontal axis and "height" is the dependent variable and should be plotted on the vertical axis.</p> <p>Label the horizontal and vertical axes by even intervals, such as 1's, 10's, 20's, 50's, 100's, etc.</p> <p>Plot each point on the graph and then connect the points.</p> <p>If the graph has more than one series (such as heights for both boys and girls) use labels, different line weights or styles, and/or different markers to distinguish the different series and clearly identify each line with a label or legend.</p>	<p>Don't use a line graph to plot "discrete" data points, such as rainfall in ten different cities or average income in ten different cities. (Use a bar graph instead.) Note that the labels on the horizontal axis of a line graph should be a series of numbers or a series of years, months or days.</p> <p>Don't skip around when labeling the axis.</p>

EXERCISE #2: PIE CHARTS

Choose two countries from data set #3 and draw two side-by-side pie charts showing the distribution of value added by the different sectors of the economy. Note that the ROWS of data in this chart add to 100%. Therefore, each pie should describe one row of data (one country) to show distribution of that country's production/value added.

About Using Pie Charts	
Do	Don't
A pie chart is used to present the "distribution of a whole."	Don't use a pie chart for any other type of data.
The slices of a pie chart must add to 100% of the whole population, economy, labor force, or whatever else is being described.	
Each slice of a pie chart must describe non-overlapping categories. For example, a pie chart could describe the age range of a population, showing what percentage of the population is in categories "Under 18," "18 to 24," "25 to 44," "45 to 64," or "65 and over."	The pie chart would NOT have slices that show how many are in each age group plus how many are male or female because these categories overlap.
If hand-drawing a pie chart, draw a circle, and use a ruler and pencil to lightly draw lines breaking the circle into quarters, and, if desired, into smaller segments. Then use these lines as a guide as you estimate the size of each slice of the pie.	
For more accuracy when hand-drawing, use a protractor to measure the angle of each slice. A circle has 360 degrees. A 36 degree angle represents 10%, a 90 degree angle represents 25%, a 120 degree angle represents 33%, etc.	
If using a computer to generate a pie chart, choose colors or patterns to distinguish each slice.	Don't use colors in a pie chart if you will be printing on a black and white printer.
Use labels or a legend to identify each slice. Use abbreviations if appropriate if the categories names are long.	Don't let the pie chart get too cluttered. If there are a large number of categories, use a legend to identify each slice instead of labels.
You may label each slice with percentages or numbers or both.	
Include a title for the graph	

EXERCISE #3: BAR GRAPH

The following information is extracted from Data Set #3.

Draw two bar graphs analyzing the value added by agriculture in the selected countries.

- Draw one bar graph showing the dollar amount of value added.
- Draw another bar graph showing the value added as a percentage of the country's total value added.

Country	Value Added By Agriculture AS PERCENT OF TOTAL VALUE ADDED	Country	Value Added By Agriculture IN MILLIONS OF US DOLLARS
Brazil	9.00%	Brazil	\$90,560
Canada	2.20%	Canada	\$26,072
Costa Rica	8.30%	Costa Rica	\$1,735
Guatemala	13.60%	Guatemala	\$3,903
Haiti	30.80%	Haiti	\$1,305
Honduras	13.80%	Honduras	\$1,152
Jamaica	5.60%	Jamaica	\$560
Mexico	3.80%	Mexico	\$29,191
United States	0.90%	United States	\$122,055

About Using Bar Graphs	
Do	Don't
<p>A bar graph compares values (numbers or percentages) for different groups or categories. Examples include:</p> <ul style="list-style-type: none"> • Average income in ten different countries. • Average rainfall in twelve different months. • Total agricultural production in the U.S. in ten different years. • Value added by the agricultural sector in nine different countries. • Total employment in ten different career fields in Massachusetts. • Average wages in ten different career fields in Massachusetts. • Average life expectancy in ten different countries. 	
<p>The axis of a bar graph must be numbered from zero to the highest/maximum value.</p>	<p>Don't skip zero. The height of each bar in a bar graph shows the relative size of each group and so skipping zero can distort the relative heights of the bars and therefore distort the data.</p>
<p>The axis must be labeled using consistent intervals, such as 1's, 10's, 20's, 50's, etc., as appropriate to the numbers being presented.</p>	<p>Don't skip around when labeling the axes of a bar graph or any other graph.</p>
<p>A bar graph may be drawn vertically or horizontally.</p>	

About Using Bar Graphs	
Do	Don't
Each category or group should be clearly labeled along the axis.	
Each individual bar may be labeled with the value or percentage if desired. These labels can be inside the bar or just outside the end of the bar.	
Bars may be sorted according to the value, from highest to lowest or lowest to highest. Alternatively, bars may be sorted by category, in alphabetical order or any other logical order.	
Bar Graphs with two or more data series	
Do	Don't
<p>You may use a bar graph to present data for two or more data series across categories. For example:</p> <ul style="list-style-type: none"> • Life expectancy, for males and females, for selected countries. • Average per capita income, in 2000 and 2007, for selected countries. 	Don't present too many data series and categories in a single graph, since you should try to keep graphs simple and uncluttered as much as possible.
Use different colors or patterns to distinguish each data series.	Don't use color to distinguish the different data series if you will be printing in black and white.
Use a legend to distinguish the colors or patterns used in each data series.	
You may also use a data table, alongside or beneath the graph, to clarify the data.	

Bar Graphs with stacked bars	
Do	Don't
<p>You may use a “stacked bar graph” to present data that adds to a total. For example:</p> <ul style="list-style-type: none"> • Educational attainment of workers in ten different occupations. Each section of the bar will represent the percentage of workers in that occupation that have a high school diploma, some college, or 4 or more years of college. 	
Use different colors or patterns to distinguish each data series.	
Use a legend to distinguish the colors or patterns used in each data series.	
You may also use a data table, alongside or beneath the graph, to clarify the data.	

EXERCISE #4: BAR GRAPHS – TWO OR MORE DATA SERIES

Use the data from Data Set #5, Life Expectancy at Birth, to draw a bar graph that shows the life expectancy for men and women for the various countries.

- Each country will have two bars side-by-side, one for men and one for women;
- Use different colors or patterns for the bars for men and women, using labels or a legend to identify the colors or patterns used.

EXERCISE #5: BAR GRAPHS – STACKED BARS

Use the data from Data Set #6: Educational Attainment of Workers, to draw a stacked bar graph.

- Each occupation will be a bar on the graph;
- Each bar will have slices for high school degree or less, some college and 4 or more years of college;
- Each bar will add to 100%.

EXERCISE #6: SCATTER DIAGRAMS

Draw a scatter diagram showing life expectancy for men vs. life expectancy for women, using Data Set #5.

- Label one axis “Life Expectancy for Men” and label the axis from 40 to 100, by 10’s.
- Label the other axis “Life Expectancy for Women” and label the axis from 40 to 100 by 10’s.
- Plot each point from Data Set 5.
- (Optional) Write the name of the country next to each point (abbreviate if necessary).

Draw a scatter diagram showing per capita income and life expectancy for women for the following countries.

- Label the vertical axis “Life Expectancy for Women” and label the axis from 40 to 100 by 10’s.
- Label the horizontal axis “Per Capita GDP” and label the axis from \$0 to \$50,000 by intervals of \$5,000.
- Plot each point from the table below.
- (Optional) Write the name of the country next to each point (abbreviate if necessary).

Country	Per Capita GDP	Female Life Expectancy
Argentina	\$5,528	79
Brazil	\$5,640	76
Canada	\$39,004	83
Costa Rica	\$5,034	81
Guatemala	\$2,235	74
Haiti	\$489	63
Honduras	\$1,335	74
Jamaica	\$3,823	75
Mexico	\$7,875	79
United States	\$43,562	81

Draw a scatter diagram showing per capita income and value added from agriculture for the following countries.

Country	Value Added by Agriculture (%)	Per Capita Income
Brazil	9.00%	\$5,640
Canada	2.20%	\$39,004
Costa Rica	8.30%	\$5,034
Guatemala	13.60%	\$2,235
Haiti	30.80%	\$489
Honduras	13.80%	\$1,335
Jamaica	5.60%	\$3,823
Mexico	3.80%	\$7,875
United States	0.90%	\$43,562

About Using Scatter Diagrams	
Do	Don't
<p>A scatter diagram shows the relationship between two sets of data. The two sets of data must be “continuous” data, such as:</p> <ul style="list-style-type: none"> • Average life expectancy for women vs. for men for various countries • Average life expectancy vs. per capita GDP for various countries. • Percent of workers with a bachelor’s degree vs. average wage for various occupations. 	<p>Don’t use a scatter diagram for any other type of data sets. Both data sets must be “continuous,” meaning a range of numbers, such as incomes, wages, ages, life expectancies, percent of people with a high school degree, etc., rather than “discrete” such as countries, occupations or other groups.</p>
<p>A scatter diagram is also called a “scatter plot” or an “xy chart”</p>	
<p>Each group represents a point on the plot. For example, in a scatter diagram showing life expectancy and per capita GDP for various countries, each country is one point on the plot.</p>	
<p>Where possible, the independent variable should be plotted on the horizontal axis and the dependent variable should be plotted on the vertical axis. For example, if you think that higher income countries are likely to have higher life expectancies, per capita GDP is the independent variable and should be on the horizontal axis and life expectancy is the dependent variable and should be on the vertical axis.</p>	
<p>You may draw a “trend line” that is a straight line showing the approximate relationship between the points you have plotted. Some graphing software will draw a trend line for you.</p>	<p>Do not connect the points on a scatter diagram.</p>
<p>You may label the points with the name of the country, occupation or whatever group, if there is room.</p>	

EXERCISE #7: NUMBER LINES AND BOX-AND-WHISKERS PLOTS

Go to the UN Website or other source to look at the full data set of Per Capita GDP for all UN member countries. Notice the wide distribution of per capita GDP. The figures range from the lowest, at \$114 to the highest, at \$102,400.

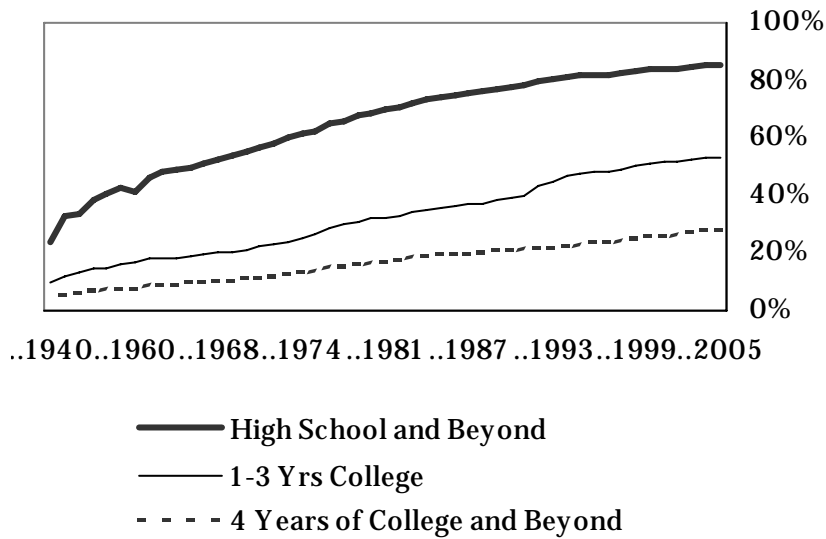
(a) Draw a box-and-whiskers plot based on the following information:

- The lowest per capita GDP is \$114.
- About 25% of countries have a per capita GDP below \$925.
- The median is \$3,446.
- About 25% of countries have a per capita GDP above \$15,045. (Or, put another way, \$15,045 marks the 75th percentile of countries.)
- Although the highest per capita GDP is \$102,400, that should be considered an “outlier.” Instead, use the 98th percentile, which is \$64,193, as the highest-value in your box-and-whiskers plot, with a note that the actual highest is \$102,400. (Note: the very-high per capita GDP figures are usually found in countries that have small populations and that are the registered headquarters of some multinational corporations with high revenues and profits. These high per capita GDP figures do not necessarily reflect the productivity or income of the country’s residents.)

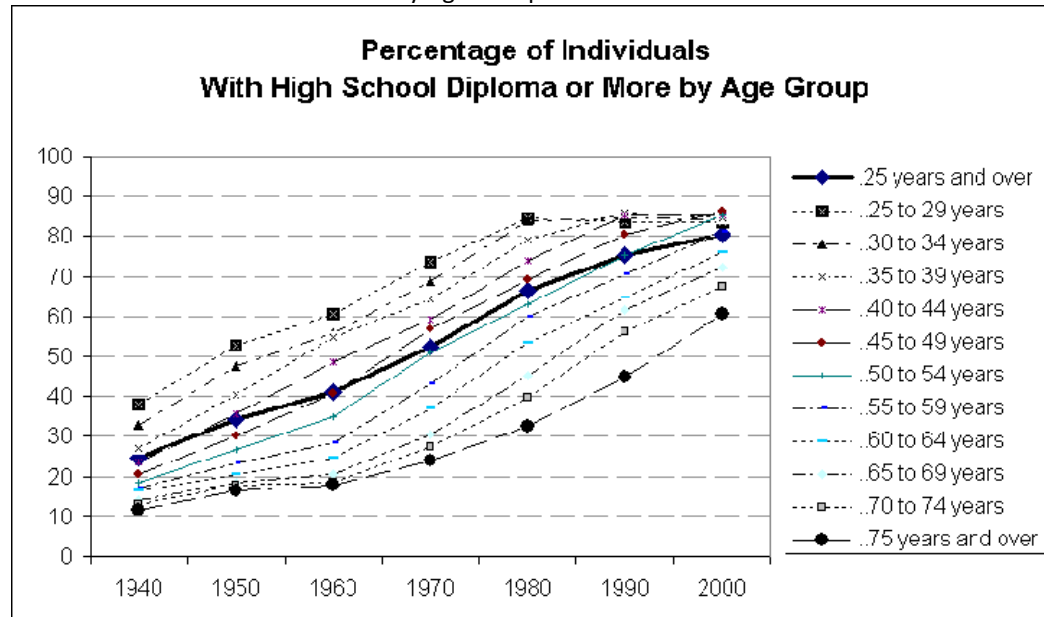
(b) Select a few different countries from data set #4 or from the online tables and plot per capita GDP on a number line. You can select the countries at random or select all of the countries in a region or other group.

SAMPLE GRAPHS

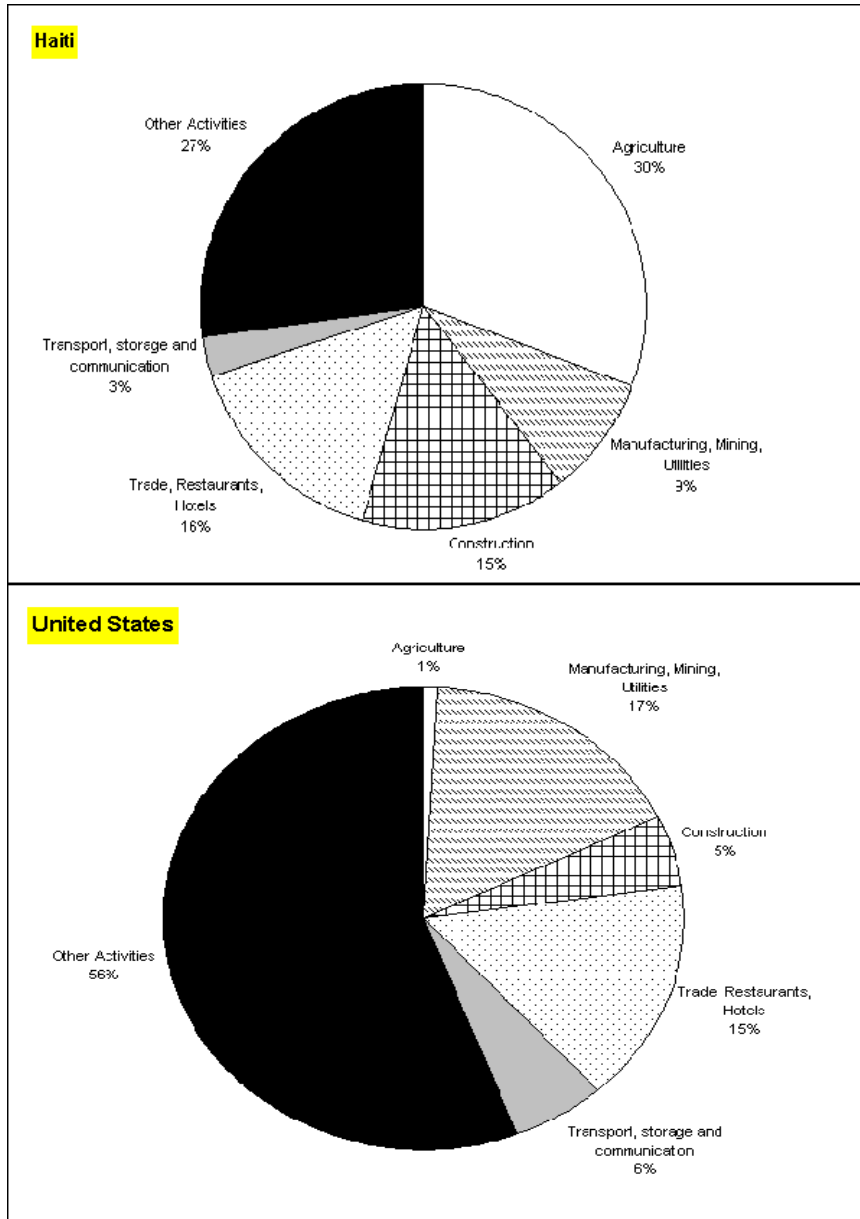
Exercise 1: Educational Attainment of the U.S. Population, Age 25 and Over



Exercise 2: Educational Attainment by Age Group

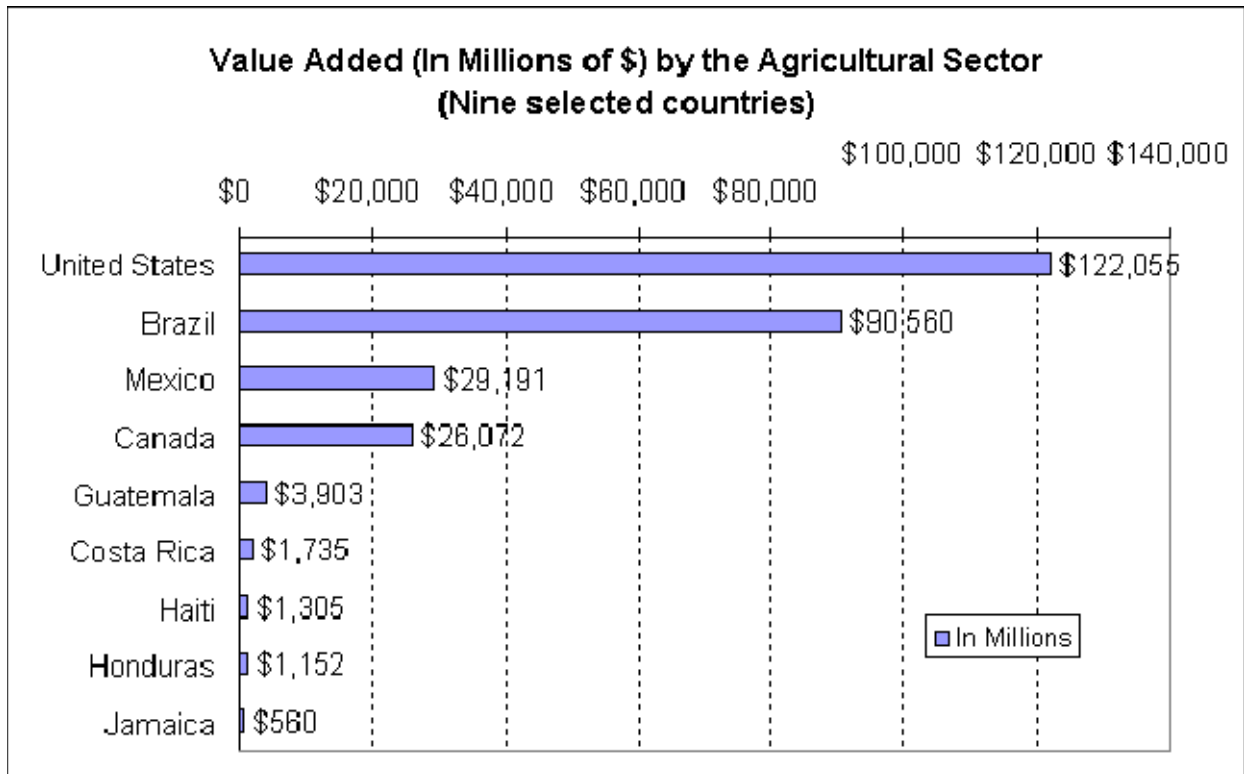
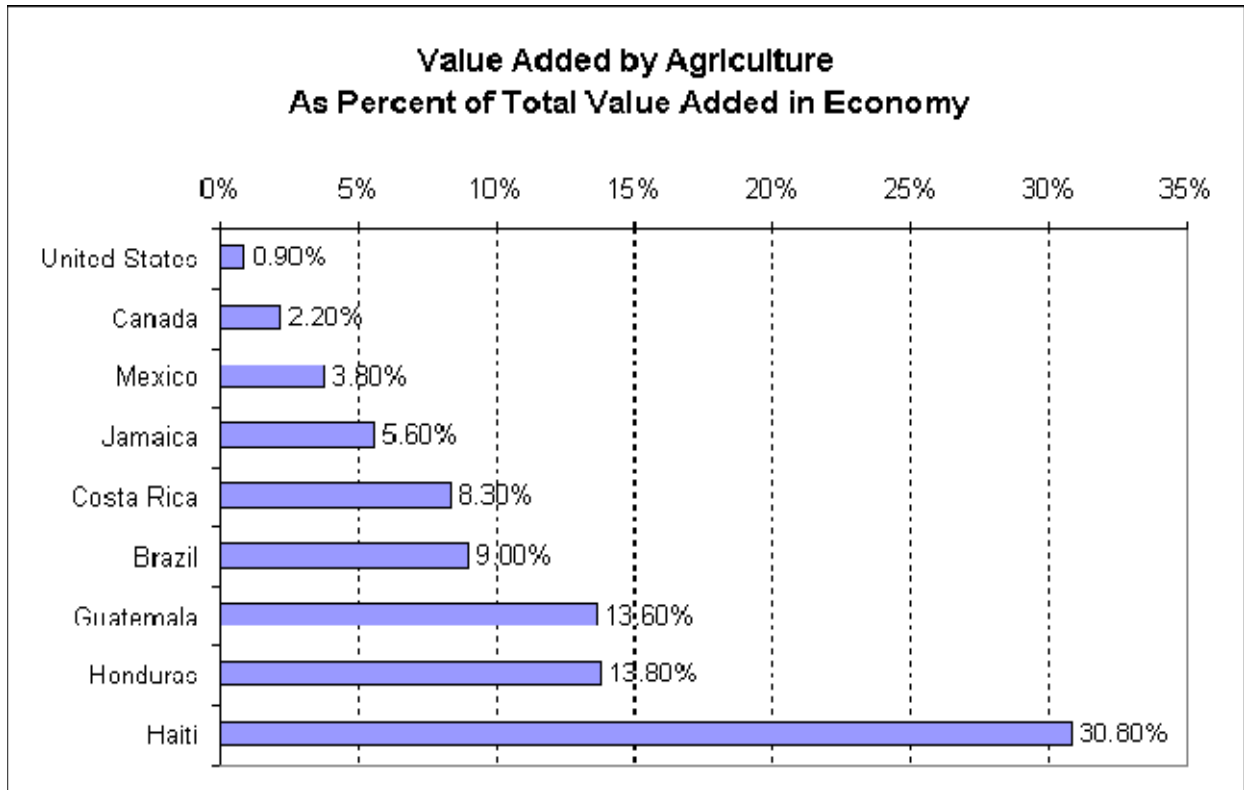


Exercise 3: DISTRIBUTION OF VALUE ADDED, BY SECTOR: U.S. and HAITI

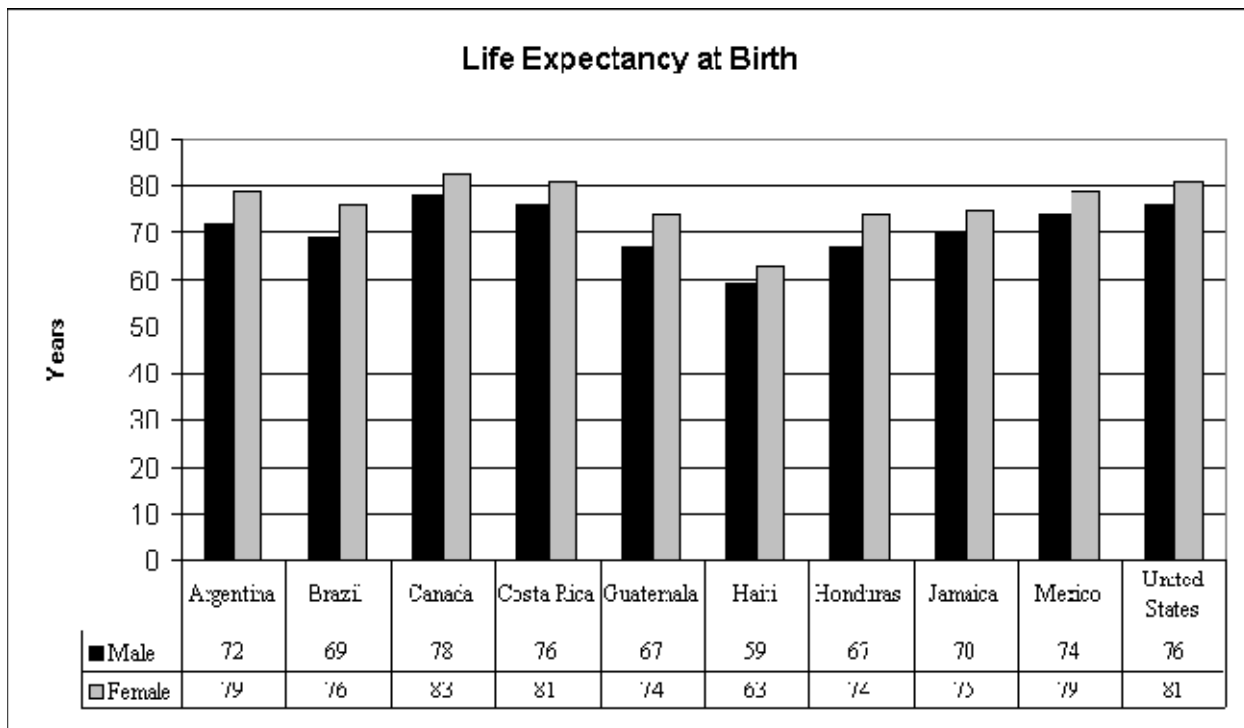
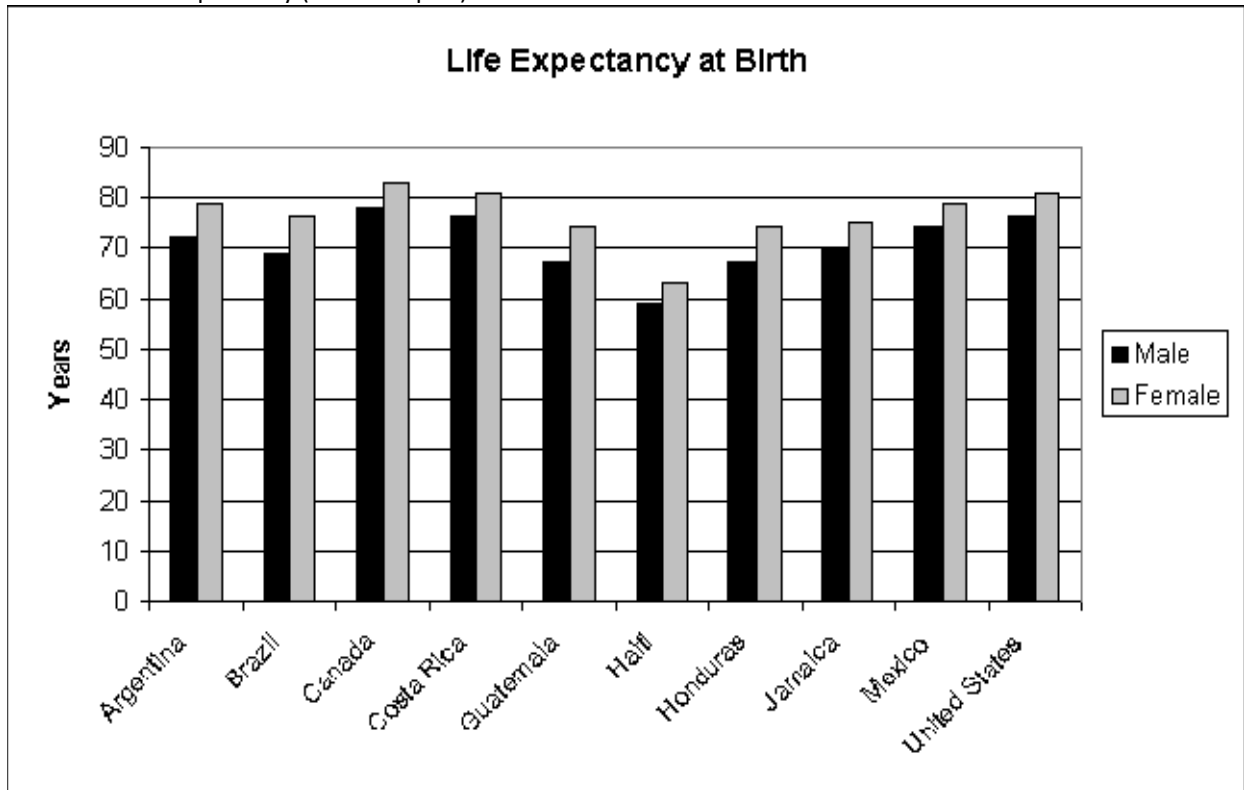


Percent of Total Value Added	United States	Haiti
Agriculture, hunting, forestry, fishing	0.90%	30.80%
Mining, Manufacturing, Utilities	17.00%	8.70%
Construction	5.00%	15.00%
Wholesale, retail trade, restaurants and hotels	15.30%	15.50%
Transport, storage and communication	5.90%	2.80%
Other Activities	55.90%	27.10%
TOTAL	100.00%	100.00%

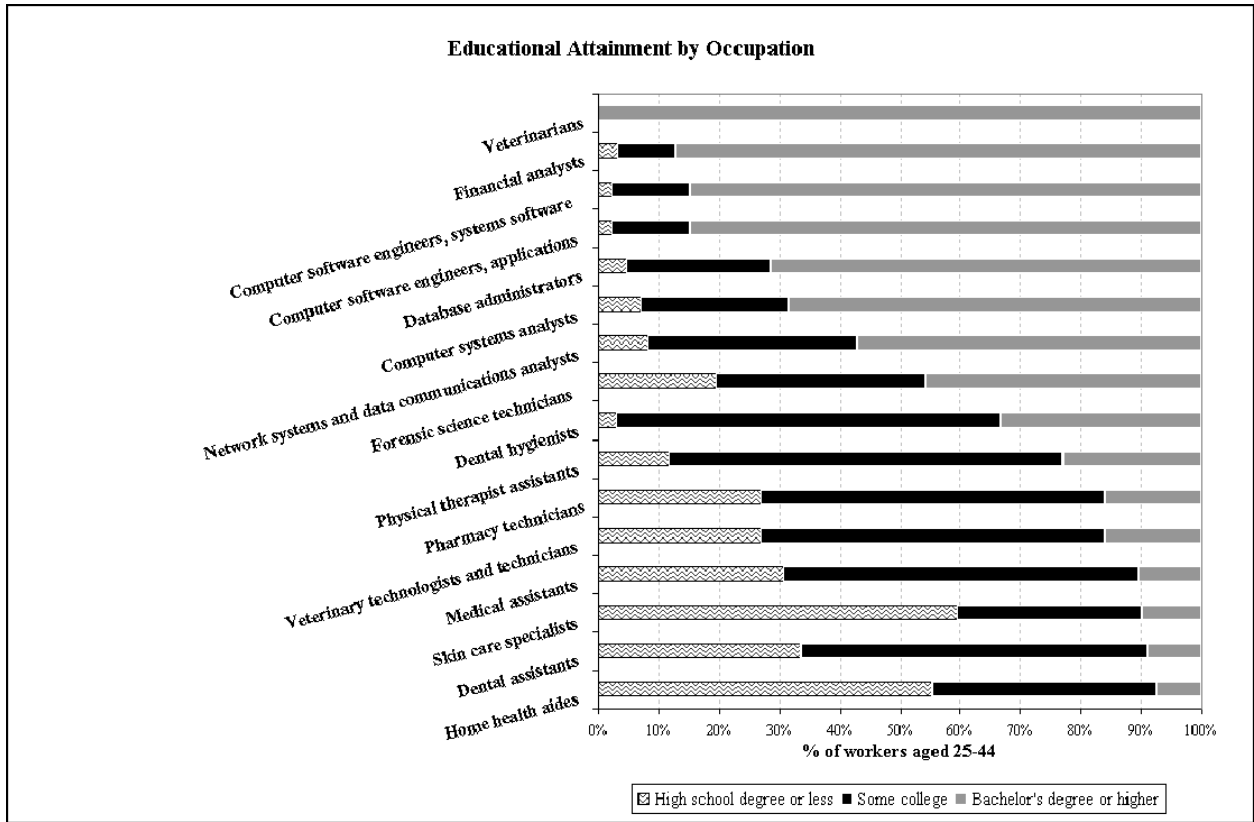
Exercise 4: Value Added



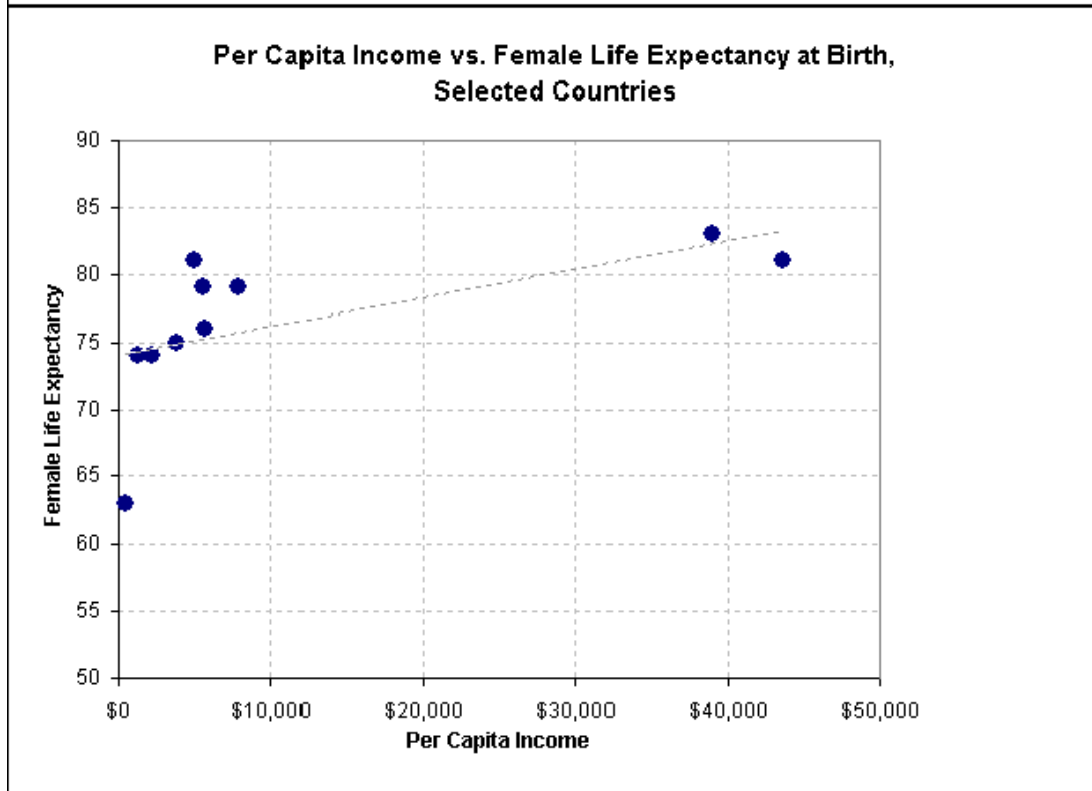
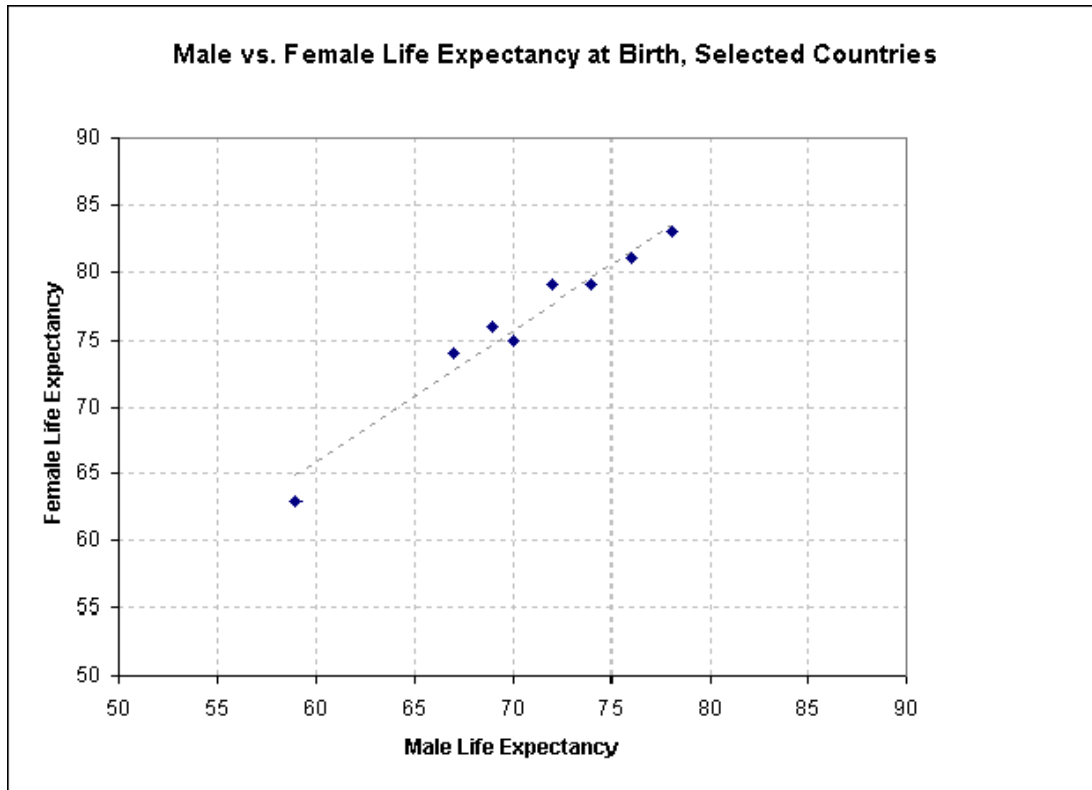
Exercise 5: Life Expectancy (two examples)



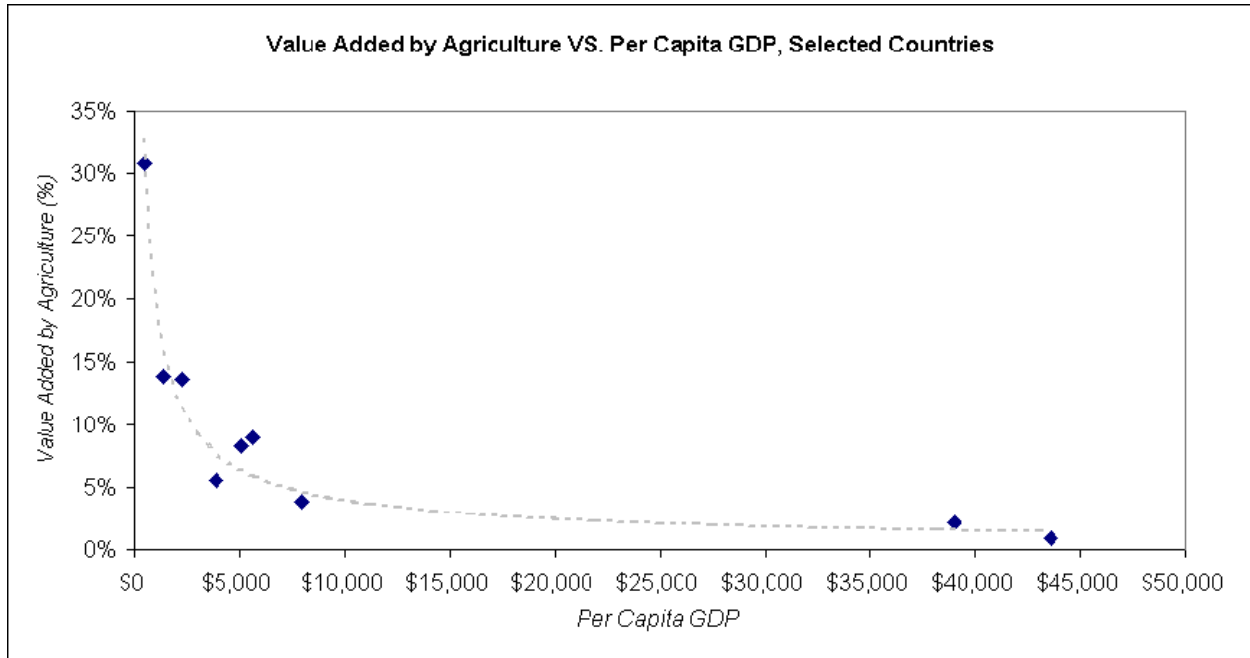
Exercise 5: Educational Attainment (Stacked Bar)



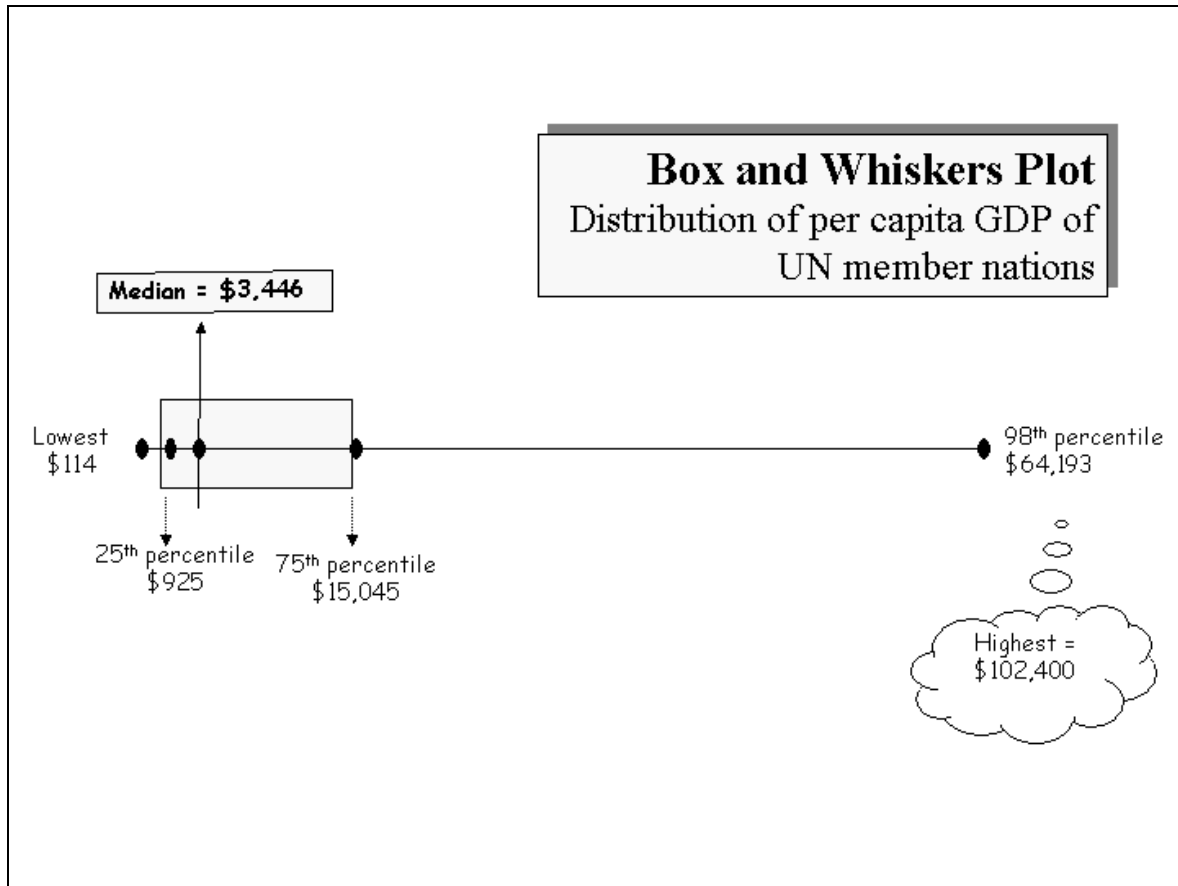
Exercise 6: Scatter Diagrams – Life Expectancy (male vs. female) and Life Expectancy vs. per capita GDP



Exercise 6 (continued): Value Added vs. Per Capita GDP

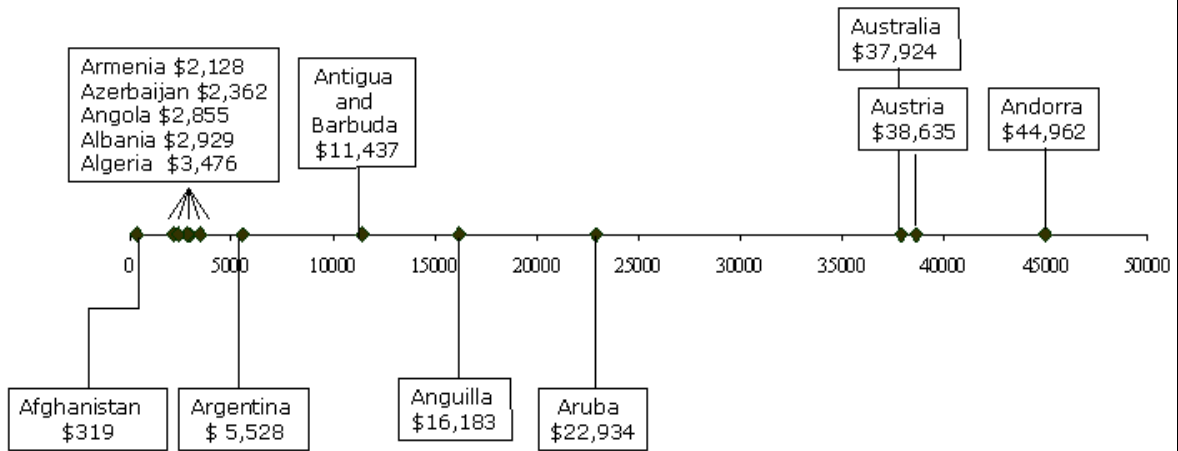


Exercise 7: Box and Whiskers



Exercise 7: Number line

***Per Capita GDP
Selected Countries, 2003***



Appendix 2: Checklists for Planning Career Development

TEACHER / PROGRAM COORDINATOR CHECKLIST

Activities for K – 8 and above	Comments	Favorite Resources
Provide exposure to a variety of career-related and community-related activities, through community service projects, field trips, classroom projects, special science labs and other enrichment activities.		
Provide opportunities for hands-on work in the arts, crafts, cooking, carpentry, music, engineering and technology.		
Provide opportunities for active use of technology through publishing, web design, programming or robotics projects that emphasize skill development and creativity. De-emphasize “passive” uses of technology.		
Provide connections between the community and classroom work. For example, students may conduct surveys and analyze the results, learn about a career path and write about their findings, or listen to a guest speaker and write a story for the school newspaper about the event.		
Use a career interest inventory to open up discussion about career interests.		
Invite parents or other community members to speak about careers.		
If your school system has career-themed high schools, provide exploration of the school career themes and possible future pathways for graduates of each high school.		
Emphasize the idea that career decision making is a long-term process. Note that while choice of a high school may be important in communities with several high school options, actual career choices are made much later.		
Activities for Grade 9 and above	Comments	Favorite Resources
Use activities in this book to explore career interests, labor market information and career options. <ul style="list-style-type: none">Expand on the activities in this book with guest speakers, field trips and community service projects that allow students to meet and talk to adults in the community.		
Use a career interest inventory to open up discussion about career interests.		
Record career interest inventory results for use later in guiding choices of electives, job shadowing opportunities and internship choices.		
Start a college and career plan.		
Start a skills portfolio.		

Provide an introduction to resume writing.

Participate in National Job Shadow Day on Groundhog's Day, February 2. For more information see <http://jobshadow.org>.

Use English class or other opportunities for students to write about job shadow experiences, write career profiles, and compose thank you letters.

Provide opportunities for students to begin learning about colleges through online search tools, speakers or participation in events on college campuses.

Encourage students to consider summer enrichment programs with local organizations and colleges.

Provide community service projects, field trips, classroom projects, special science labs and other enrichment activities.

Connect students with volunteer, internship, after-school and summer job opportunities.

Provide coaching on job search, interviewing skills and workplace skills.

Support students in their college search process, including use of internet and print resources, college speakers, college fairs and college visits. Provide discussion sessions about choosing a college and thinking about a college major. Emphasize the idea that while some career pathways should be chosen now (such as choosing to apply to engineering schools, art schools or architecture programs) others can evolve over time.

Provide coaching on college applications and college essay writing.

Provide information about a wide variety of postsecondary educational opportunities, including technical schools, apprenticeships, 2-year colleges, 4-year colleges and other options.

Provide parent information sessions for parents of students in grades 11 and 12, with information about college applications, college financial aid, and a variety of postsecondary options.

Provide transition planning for students with special needs.

Connect students with post-high-school jobs if they intend to work after graduation. Support students who are interested in working directly after high school, including information about ways to continue to invest in postsecondary education while working.

Check in with each graduating student to ensure that postsecondary plans are in place.

Celebrate success by posting college acceptances and job offers on the bulletin board, school website, school newspaper or other visible locations.

YOUTH / STUDENT COLLEGE AND CAREER PLANNING TIMELINE

There is no single “perfect” career development timeline, but there are some important steps that should be taken during high school, college or young adult years. The following chart outlines some of the activities that should be part of career exploration and planning during four years of high school. As an activity, you can create a more specific timeline tailored to key dates and activities in your school or program.

		Grade 9	Grade 10	Grade 11	Grade 12
<i>Planning and Organizing</i>					
<i>Planning Tools</i>	<ul style="list-style-type: none"> ■ Maintain a written “college and career plan” that tracks your goals and activities. As you change and refine your goals over time, you can use this planning system to make sure you are taking the classes you need and participating in activities and work experiences that will support your goals. 	X	X	X	X
<i>Portfolio</i>	<ul style="list-style-type: none"> ■ Build a portfolio of activities that you can highlight in college applications. 	X	X	X	X
<i>Resume</i>	<ul style="list-style-type: none"> ■ Learn how to write a resume. Keep a resume updated throughout your high school years. 	X	X	X	X
<i>Academics</i>					
<i>Graduation Requirements</i>	<ul style="list-style-type: none"> ■ Find out what the graduation requirements are at your school and make sure that the courses you are taking each year will meet the requirements. 	X	X	X	X
<i>College and Postsecondary Program Admission Requirements</i>	<ul style="list-style-type: none"> ■ Identify possible college majors, postsecondary programs or apprenticeship programs and find out what high school courses are required or recommended for admission. Be sure to take these courses during high school. 	X	X	X	X
<i>Extras</i>	<ul style="list-style-type: none"> ■ Participate in academic and career-themed clubs ■ Participate in summer and after-school enrichment programs ■ Seek opportunities to participate in school and community projects with academic and career themes. 	X	X	X	X
<i>Work and Community Service</i>					

		Grade 9	Grade 10	Grade 11	Grade 12
Community Service	<ul style="list-style-type: none"> ■ Volunteer in the community for a one-day event or for an ongoing commitment ■ Participate in hands-on service learning projects through school or community programs ■ Participate in classroom projects focused on community service themes. 	X	X	X	X
First Jobs	<ul style="list-style-type: none"> ■ Get experience through babysitting, yard work, pet sitting, giving music lessons and other work. Or gain experience through unpaid volunteer work in your community. 	X	X	X	X
Work Experience	<ul style="list-style-type: none"> ■ Get experience through summer and after-school jobs. ■ Seek internships (paid or unpaid). ■ Participate in entrepreneurial projects. 			X	X
Exploring Your Interests					
Career Exploration	<ul style="list-style-type: none"> ■ Explore your career interests by taking career interest assessments. ■ Read about careers. ■ Explore labor market data. ■ Learn about careers through guest speakers, job shadows, workplace visits and other exploratory activities. 	X	X	X	X
Active Learning	<ul style="list-style-type: none"> ■ Get in-depth experience in areas of interest through internships, community service projects, school projects, summer programs, online courses or college classes where available. 			X	X
College Search					
Postsecondary Options College	<ul style="list-style-type: none"> ■ Start to identify possible college majors, postsecondary training opportunities or apprenticeships. 		X	X	
Entrance and Placement Tests					
PSATs	<ul style="list-style-type: none"> ■ PSATs – Preliminary SATs provide practice for the SAT and can help students qualify for national merit scholarships. Should be taken in the fall of grade 10 and/or grade 11. 		X	X	
SATs or ACTs	<ul style="list-style-type: none"> ■ SATs are generally taken in the spring of grade 11 and can be retaken in the fall of grade 12. SATs are the most common college admission test taken by students in the Northeast, but ACTs are also an option. 			X	X

		Grade 9	Grade 10	Grade 11	Grade 12
SAT II Subject Tests	<ul style="list-style-type: none"> Some colleges also request SAT II subject tests. Take these subject tests in the spring after completing the relevant courses. 		X	X	X
AP	<ul style="list-style-type: none"> Advanced Placement (AP) Exams -- Students who have taken "AP courses" take AP exams in the spring, at the completion of any AP course. AP courses are usually taken in grades 11 or 12, but may also be in earlier grades. 			X	X
College and Community College Placement Tests	<ul style="list-style-type: none"> College placement tests (called Accuplacer) are taken upon enrollment at many colleges, including community colleges, but you may take this test sooner to make sure you are ready to place into college level courses. 			X	X
Applications and Financial Aid					
Write College Applications	<ul style="list-style-type: none"> College applications are due during the fall or winter prior to admission (fall/winter of grade 12). Some schools offer "early application/early decision" options, some offer "rolling admissions" and some have a set deadline on or around December 31st. Schools may use their own application form or may accept the "Common Application" form. Work with a teacher, advisor or guidance counselor throughout this process. 				X
Submit Financial Aid Applications	<ul style="list-style-type: none"> Financial aid applications must be completed in order to obtain grants, loans, scholarships or work-study positions. Students and family members may attend financial aid information sessions to learn more about applying for financial aid. 				X
Apprenticeships, Training Programs and Employment	<ul style="list-style-type: none"> Timelines vary for postsecondary training programs and apprenticeship programs. Work with guidance counselors and others to explore the process and timeline for the options that interest you. 				

ACTIVITY: TIMELINE

Create a college and career planning timeline customized to your school or program, showing what career development related activities you plan to do each year.

Activity	Description	Year			

Appendix 3: Creating a Skills Portfolio

A “Skills Portfolio” allows students to display a wide variety of products that document their skills, including essays, resumes, coursework, creative writing, presentations, spreadsheets, photos and artwork. It can include materials from school, community activities, jobs, internships, and career exploration. For each portfolio product, students write a brief description and complete a skills checklist that helps students to reflect on each item.

The purpose of a portfolio is to:

- Help students to document their skills and achievements;
- Challenge students to create their best work;
- Help students to reflect on what they have accomplished.

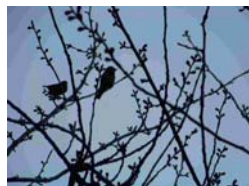
A sample online portfolio is found at <http://www.skillslibrary.com>. The sample portfolio is organized around a checklist of eight skill areas: Reading, Writing and Research; Science and Math; Arts and Humanities; Technology; Teamwork and Leadership; Sports, Fitness and Health; and Career Management. Any similar list of 7-10 skills could be used. In this sample portfolio, for each portfolio item, students write a brief description, fill in the skills checklist, and upload a file. A website link is optional. The portfolio program generates a page for each item, and automatically generates a table of contents organized by skills. Students also write a welcome message and upload a photo for the welcome page. This is just one sample, and other formats, and other skills lists, are also possible.

PORTFOLIO ITEM – INFORMATION SHEET	
Project Name:	
Project Date:	
Your Name:	
Project Description:	
<p>Skills</p> <p><input type="checkbox"/> Reading, Writing and Research</p> <p><input type="checkbox"/> Science and Math</p> <p><input type="checkbox"/> Arts and Humanities</p> <p><input type="checkbox"/> Technology</p> <p><input type="checkbox"/> Teamwork and Leadership</p> <p><input type="checkbox"/> Sports, Fitness and Health</p> <p><input type="checkbox"/> Career Management</p>	
Filename:	

Portfolios can be print-based, using a notebook or heavy-duty folder, or can be electronic, using a web-based or PC-based format. PC formats could be created using MS Access, FileMaker Pro, PowerPoint, or any other software to organize materials. Any software that allows you to use a form or template to list and describe projects and allows you to link to a variety of file types can be used to create a portfolio.

SAMPLE PORTFOLIO

WELCOME AND TABLE OF CONTENTS



Welcome

Welcome to my portfolio! This portfolio includes examples of work I have done in school and in my jobs and volunteer work. It focuses especially on my interests in art and science, as well as general school coursework. Read and enjoy!

Project and Date (Click to view)	Reading Writing Research	Science Math	Arts Humanities	Technology	Teamwork Leadership	Sports Fitness Health	Career Management
Resume	X	X	X	X	X	X	X
Reflective Essay	X				X		
Volunteering at New England Aquarium	X	X			X		X
Science Fair: Genetics	X	X		X			
Activity: Mind-Body Connections						X	X
Sketchbook Example #1			X				

PLANNING THE PORTFOLIO AND GATHERING PORTFOLIO ITEMS

Think about the projects and accomplishments that you would like to highlight in your portfolio. Think about projects you've completed in each of your classes, as well as projects you have done outside of school, through jobs or internships, community organizations, church/religious groups or on your own. For each project, identify one or more products that you can display in the portfolio.

Once you have some ideas, start gathering and creating materials for the portfolio. Keep a file folder of print materials and keep electronic products in your school computer network folder, on a home computer, or elsewhere, with backup copies ideally on memory stick or other storage media. You can use the paper "Portfolio Item Information Sheet" to organize your materials as you work. This worksheet is useful for organizing your information before creating the online portfolio. This worksheet can also be used as a cover sheet for portfolio items in a print version of your portfolio.

If you are creating an electronic portfolio, as you start gathering and creating materials, try to keep files small, so that your portfolio will be easy to view at any connection speed. Photos and other images should be sized using a drawing or photo editing software package. For a "welcome picture" a width of 200 to 400 pixels is ideal, and for other images, a width of about 500 pixels is ideal.

PORTFOLIO PRODUCT IDEAS

Your portfolio should include information on school, community, individual, work and volunteer activities.

Many of your projects will already be in electronic format; such as a resume or personal reflection in Microsoft Word format, a PowerPoint presentation that you created for a science project or an Access database or Excel spreadsheet that you created in a technology class. Other items, such as a job description or short handwritten report can be easily typed or re-typed using Microsoft Word.

For other projects, you may not have any electronic products. In some cases, you might simply write a narrative describing the project and perhaps include an appropriate clipart image or photo in your portfolio. In other cases, you may want to create an electronic product especially for the portfolio. Here are some ideas.

<i>Examples of Portfolio Items</i>	<i>Examples of formats (for electronic portfolio)</i>
Resumes Essays Creative writing Reports / Papers Presentations Science fair projects Certificates or awards Job descriptions Newspaper articles Brochures Programs from a play or school event Artwork and photos Career exploration information	Word documents Excel spreadsheets PowerPoint presentations Access databases Images (gif or jpg) PDF files Media clips (wav, midi, mpg) Links to web pages (Including web pages you have created or web pages related to a school or community project you've worked on.) ** Use of media clips should depend on the filesize and storage capacity of the portfolio.

Use digital photography. Take digital photos of artwork, science projects, performances, community events or sports events.

Scan artwork or photos. Use a scanner to scan some of your artwork or photos. Use a drawing program or photo editing software package to adjust the file size and image size so that the file will fit in the portfolio. (Comment: scanning is not as suitable for text or handwritten material, since it is hard to get a clearly readable product with a reasonable file size.)

Create a spreadsheet. Use Excel or another spreadsheet program to create a spreadsheet based on something you have studied or worked on. For example, if you are studying nutrition, you could create a spreadsheet that shows the nutritional content of various menus. If you are studying physics, you could create a spreadsheet that uses the formulas for gravity and acceleration. If you are a member of sports team, you could create a spreadsheet showing statistics for your team.

Create a database. Use Access or another database program to create a database based on something you have studied or worked on. For example, if you are studying nutrition, you could create a database of nutritional information. If you are studying geography, you could create a database of statistics about selected countries. If you are studying history, you could create a database of historic dates or a database of profiles of famous people. If you are studying Spanish, you could use a database to create a mini Spanish-English dictionary.

Create a presentation. Use PowerPoint or other presentation software to create a presentation based on something you have studied or worked on. For example, if you helped to organize a community, church or school event, you could create a PowerPoint presentation about the event. You could use PowerPoint to illustrate a math or science concept. A PowerPoint presentation could guide viewers through a geometry problem or proof using graphs or simple drawings.

Use a drawing program. Consider using a drawing program to create original artwork, charts or diagrams to illustrate a project. Adobe Illustrator, Corel Draw, Microsoft PhotoDraw and others allow you to use the mouse or

a tablet to draw and edit images. Although PowerPoint is not a formal drawing program, the AutoShapes feature allows you to create simple drawings and diagrams.

Use music notation software. Consider downloading a free trial of music notation software and consider purchasing the software if you like it. You can export the music to a *.mid file, suitable for the portfolio, and you can save a musical score as a *.jpg file, also suitable for the portfolio.

Create summaries of career exploration activities. Use a spreadsheet to create graphs and tables summarizing labor market information that you have studied. Use a spreadsheet, presentation or document to summarize career interest assessment results and career goals.

Explore your employer's or community organization's website. If you have a job or internship or if you volunteer with a community organization, explore the employer's or community organization's website to learn more about the mission and work of the company or organization. Include a link to the website in your portfolio, along with a description of your job, internship or volunteer work.

INTEGRITY AND ONLINE SAFETY

When working on a portfolio, you should carefully observe the following integrity and online safety guidelines.

For an online portfolio, all materials – including language, content and images – must be suitable for all audiences, including young children who may view the portfolios.

Please do not include negative or damaging comments about employers, teachers, community leaders or other individuals in your portfolio.

Do not include personal contact information, including phone numbers or addresses. If you want to include an email address on your resume for potential employers to contact you, you may do so, but if are under 18, please obtain your parent or guardian's permission. When you post your resume in the portfolio, you should include just your name, the name of your school and, with your parent or guardian's permission, your email address.

Don't include any personal information (phone numbers, addresses, etc.) about yourself or others in a database or other portfolio product. Remember that users can download files from the web, so they could download a copy of your database.

In any portfolio – whether print or online – it is also important to follow guidelines of academic integrity. Please carefully cite any print or online source materials that you use. Please acknowledge the role of other people in any of your projects and explain your role if you were a member of a team. Today's workplace requires collaboration and teamwork, and so readers will be interested in seeing how you were able to work with others to complete projects.

ACTIVITY: PLANNING A PORTFOLIO

- (a) What is the **focus of your portfolio**? Will your portfolio focus on academic skills? Career skills? A combination of academic and career skills? Will it focus on a specific career area? Are there “industry skill standards” that should be highlighted?

- (b) Identify **skill areas or subject areas** to be highlighted. Create a chart listing these areas, with a definition for each.

- (c) Brainstorm **a list of possible portfolio items** that could illustrate each skill area or subject area.

Portfolio Focus: _____

Skill or Subject Area	Definition	Examples of portfolio items

Appendix 4: Interests, Skills and Work Values Reflection

LIST OF WORK VALUES

Which of these work values are important to you? Check all that you feel are important to you. List additional values as desired. Then circle 3-5 values that are especially important to you.

- A career with high potential earnings
- A career with potential for job security
- A career with potential for flexible scheduling
- A career that provides travel opportunities

- Interaction with people
- Interaction with customers
- Interaction with children
- Interaction with patients
- Close interaction with co-workers (teamwork)

- Work outdoors
- Work indoors

- Independence
- Creativity
- Teamwork
- Leadership
- Variety
- Comfortable routines
- Work that provides a sense of belonging
- Work that provides a challenge
- Fast-paced environment
- Comfortably-paced environment

- Work that is physically active
- Work that is highly skilled
- Work that has visible results (cooking, repairing, building, etc.)
- Work that has a positive impact on society
- Work that is exciting or glamorous
- Work that involves new technology
- Work that involves innovation
- Work that has a positive environmental impact

Other:

- _____
- _____
- _____

INTERESTS, SKILLS AND WORK VALUES REFLECTION

Use the worksheet below to reflect on interests, skills, work values and career insights.

INTERESTS. Check 1-3 interest areas. Refer to the Career Directions checklist in Unit 2 or a similar inventory for details.

- | | | |
|---|---|---|
| <input type="checkbox"/> Artistic | <input type="checkbox"/> Technical and Mechanical | <input type="checkbox"/> Customer Service |
| <input type="checkbox"/> Scientific | <input type="checkbox"/> Industrial | <input type="checkbox"/> Humanitarian |
| <input type="checkbox"/> Plants and Animals | <input type="checkbox"/> Business Detail | <input type="checkbox"/> Leadership |
| <input type="checkbox"/> Protective | <input type="checkbox"/> Selling | <input type="checkbox"/> Sports and Fitness |

SKILLS. List five skills or abilities that you might like to use in a future career. Examples could include writing, working with people, giving advice, organizing projects, performing music, or other skills.

1. _____
2. _____
3. _____
4. _____
5. _____

WORK VALUES. List five “work values” which are important to you. Examples might include an opportunity to help people, an opportunity to have a leadership role, an opportunity to work with your hands, an opportunity to earn a high salary, a job that provides good job security, a job that has a lot of variety day-to-day, or a job that provides comfortable routines.

1. _____
2. _____
3. _____
4. _____
5. _____

CAREER INSIGHTS. List five interesting jobs that were profiled in this book or that you learned about through the activities in this book. For each, make a brief comment about what was interesting or attractive or appealing to you about the job.

JOBS	Comments – Why interesting?
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____