

CAREER DEVELOPMENT LESSONS
11TH & 12TH GRADE
2009-2010

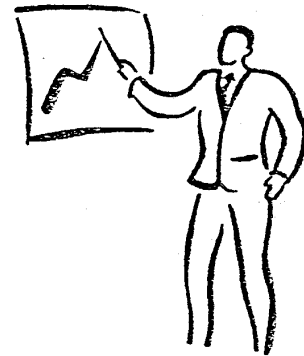
CAREER AWARENESS FOR TOMORROW'S SUCCESS



EDUCATION



SUCCESS

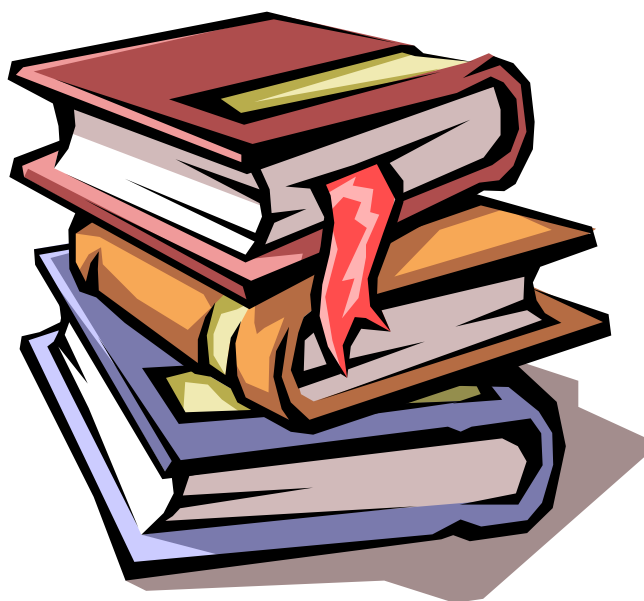


CAREERS

Eleventh & Twelfth Grade
TEACHER'S GUIDE

La Joya Independent School District
2009-2010

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“Career Awareness for Tomorrow’s Success”

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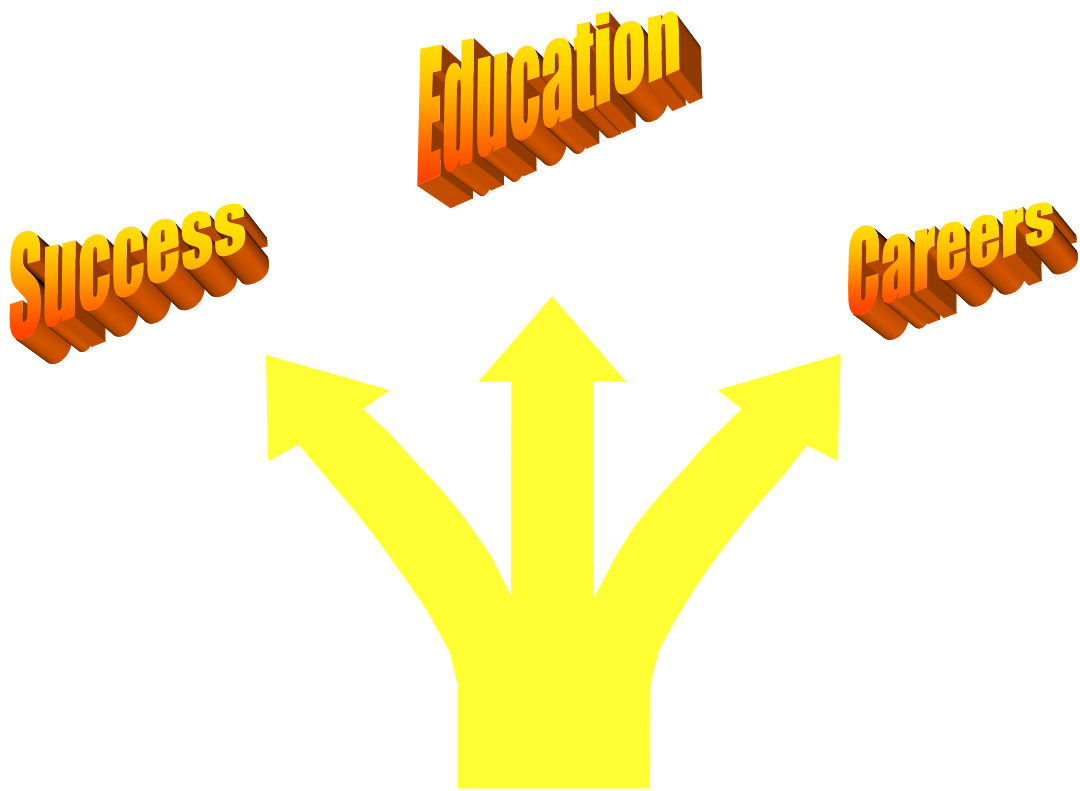
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Rationale



Career and Technical Education Rationale

Federal and state guidelines for Career and Technical Education (CTE) formerly known as vocational education mandate that academic and career and technology education programs be integrated.

Examples of integrated instructional materials and activities may include the following: curriculum guides, lesson plans, projects, and multidisciplinary curriculum planning.

La Joya I.S.D. has adopted the School to Career Connections Curriculum. The district will implement strategies to promote the CTE state goals.

- Goals:
1. Managing the dual roles of the family member and wage earner.
 2. Gaining entry-level employment in a high skill, high wage job or continuing the students education at the post secondary level.

The School to Career Curriculum will be implemented in the classroom. In order to facilitate implementation five lessons have been provided to be taught as scheduled on the timeline.

School to Career Connections Curriculum will:

Promote Self-Awareness

Enhance Career Exploration

Develop Career Decision Making

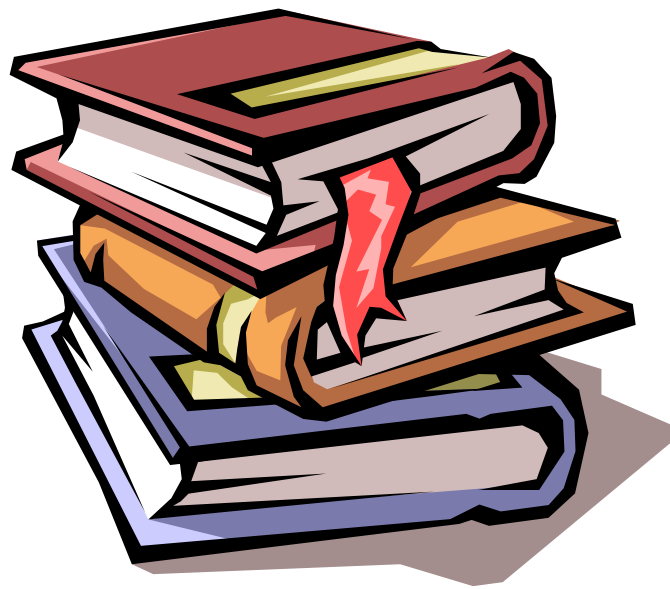
Building Interpersonal Skills

Aligned with District Plan Expectations

Implementation of SCANS Skills

11TH – 12TH Copy Ready Lessons.

District Timeline



La Joya I.S.D.

Career Awareness For Tomorrow's Success

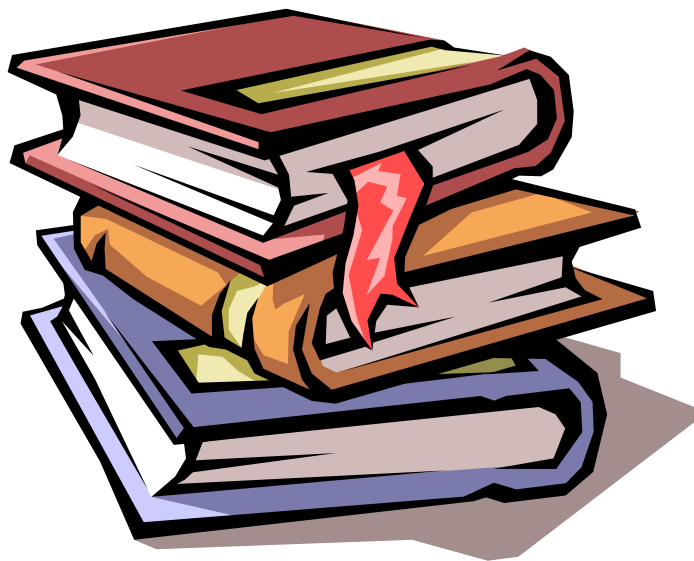
2009-2010

District Timeline

Lesson #:	Week of:	National Career Development Guideline:
I	Sept 1 -25, 2009	Understanding the relationship between educational achievement and career planning.
II	Oct. 5 -30, 2009	Understanding the need for positive attitudes toward work and learning.
III	Jan. 4 -29, 2010	Skills to locate, evaluate, and interpret career information.
IV	Feb.1 -26, 2010	Skills to prepare to seek, obtain, maintain and change jobs.
V	April 1 -23, 2010	Understanding how societal needs and functions influence the nature and structure of work. Skills in career planning.

Grade Level Lessons

Eleventh



La Joya I.S.D.

Career Awareness For Tomorrow's Success

2009-2010

Eleventh

Timeline

Lesson #:	Week of:	National Career Development Guideline:	Title:
I.	Sept. 1 -25, 2009	Understanding the relationship between education achievement and career planning	Civil Service Test Exercise
II.	Oct. 5 -30, 2009	Understanding the need for positive attitudes toward work and learning	Eight Keys to Job Satisfaction
III.	Jan. 4 -29, 2010	Skills to locate, evaluate, and interpret career information	Job Preference Checklist
IV.	Feb. 1 -26, 2010	Skills to prepare to seek, obtain, Maintain and change jobs.	Employment Agencies
V.	April 1 -23, 2010	Understanding how societal needs And functions influence the nature And structure of work. Skills in career planning.	The Interview

Grade Level: Eleventh
Lesson I

Title: Civil Service Test Exercise

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials: Sample Civil Service Test Questions

Time: 1 session

Lesson Plan: Civil Service Test Exercise

The Purpose: Ask students if anyone ever heard of the term “civil service?” What does the term mean?

Point out that “civil service” means any job that is regulated by the government. There are several key points to civil service jobs:

1. Some are run by the federal government. Examples would be civilians who run the Department of Agriculture or the Internal Revenue Service.

Some are run by the state, county, and city government. Examples are highway repair jobs, many of the public mental health positions, and people who run city hall.

(Have students, with teacher assistance, create a list of civil service type jobs.)

The listings of local and national civil service offices are in the telephone book.

2. Have students complete the Sample Civil Service Test Questions. Point out that there are tests for more civil service jobs. This is an example of such a test. Usually these tests are timed. Give students five minutes to complete the sample. Then, review the answers with them.
3. Students will find that civil service workers can be found at all levels.

Sample Civil Service Test Answers

Civil service includes all public service jobs regulated by the government. State and federal government level jobs are listed with the Job Service. A listing of the Local Job Service Centers can be found under the Labor and Industry Department in the blue pages of the telephone directory. Job descriptions, applications, and testing are provided through the Job Service Centers. A sample of some of the questions that might appear on the civil service test is shown below. Try answering the questions:

Sample Civil Service Test Questions

1. _____ Select the item from the following list that is not a complete sentence:

- (a) Having studied diligently and passed the test.
- (b) Stop!
- (c) Typing is her job.

2. _____ New Orleans is the city that has the Mardi Gras. The subject of the preceding sentence is:

- (a) city
- (b) Mardi Gras
- (c) New Orleans

3. _____ Express the answer as a whole number and a remainder:

$$\$23.70/\$2.59 =$$

4. _____ Mr. Lance wants to pay the following insurance premiums for his family: (a) four weeks on weekly policy of 47 cents per week and (b) two months on a monthly policy of \$5.48 per month. How much change will he receive if he gives the insurance clerk a paycheck of \$63.33? Use the space below to calculate your answer and record your answer on the line above.

For each of the following pairs of names, indicate the name that would come first in a telephone directory:

5. _____ Omaha O'Mara

6. _____ Y.M.C.A. Younger

7. _____ Arthur's Artistic

For each of the following sentences, insert the necessary punctuation:

8. We received part of the remittance on April 20 1992 and the balance
on May 1 1992

9. The meeting is at 2 p.m. Thursday May 3 at the Bakersfield Inn.

Which of the following words is spelled correctly?

10. _____ a) similiar (b) simalar (c) similar

11. _____ (a) personel (b) personnel (c) personnell

12. _____ (a) recommend (b) recomend (d) reccomend

13. _____ (a) The meaning of collate is:
(a) add up (b) put together (c) disperse

14. _____ The meaning of mandate is:
(a) herb (b) restraint (c) command

Indicate with an X the unlike pairs :

15. _____ Duchess Pearl Co. _____ Duchess Pearl Co.

16. _____ 344-6381 _____ 344-6831

17. _____ You ask a clerk for change for a \$10 bill. She gives you one \$5 bill, two \$1 bills, eight quarters, six dimes, and the balance in nickels. How many nickels did the clerk give you?

_____ YOUR SCORE

Sample Civil Service Test Answers

Civil service includes all public service jobs regulated by the government. State and federal government level jobs are listed with the Job Service. A listing of the local Job Service Centers can be found under the Labor and Industry Department in the blue pages of the telephone directory. Job descriptions, applications, and testing are provided through the Job Service Centers. A sample of some of the questions that might appear on the civil service test is shown below. Try answering the questions.

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 - (c) Typing is her job.
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For each of the following sentences, insert the necessary punctuation:

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9. The meeting is at 2 p.m., Thursday, May 3, at the Bakersfield Inn.

Which of the following words is spelled correctly?

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14. C The meaning of mandate is:
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Indicate with an X the unlike pairs:

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16. X 344-6381 _____344-6831

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Grade Level: Eleventh
Lesson II

Title: Eight Keys to Job Satisfaction

Directions:

1. The goal of this activity is to have students look at the things they expect to gain from employment.
2. Tell students to concentrate on the Eight Keys to Satisfaction Worksheet. This worksheet contains eight of the major things that people look for to gain satisfaction from their jobs. Students should read through the list and pick out those keys that are most important to them.
3. Do you feel your satisfiers will exist in every job choice? How do you feel you should handle jobs that do not have the satisfiers that are important to you?
4. The instructor should probe for reasons why students choose specific satisfiers. Ask if they feel that the jobs they choose have the potential to provide these satisfiers.
5. Indicate to students that in most situations they will experience satisfaction on some of the eight keys but not all. If all eight keys are constantly dissatisfying, then it's time to begin a new job search.

Wrap-Up: Classroom Discussion

Materials: The Eight Keys to Satisfaction Handout

Time: 1 session

The Eight Keys to Satisfaction

Co-Workers	Bosses	Involvement and Support	Rewards
Colleagues and co-workers and clients –how they work with you, what kind of people they are, and how they treat you.	The boss, administration, supervisors; the goals, rules, and procedures they set for the organization –the S.O.P. (standard operating procedures).	How you are treated, valued, taken into decision-making, allowed to see results, given feedback, trained, and prompted.	Money, appreciation, vacations, benefits, training, and being helped to grow.
Schedule	Organization	Facilities	Issues
Hours, tasks, meetings, interruptions, etc. Time for reflection. Time for planning, night work, and prescribed tasks vs. discretionary tasks.	The nature of the organization: What it is trying to do and how it is doing it? Its structure, procedures, rules, and spirit.	Location, layout, resources, space, and access to outdoors. Transportation.	The organization helps you (or does not) with knowing what’s happening, with surviving, with having a sense of mission or meaning, with effectiveness, etc.

Grade Level: Eleventh
Lesson III

Title: Job Preference Checklist

Directions:

1. The purpose of this activity is to have students review aspects of job importance. Refer students to the job preference checklist. Tell students that the class will review various aspects of occupations that are important. Have students place a check mark in the column that represents how important each item is to them.
2. Touch on each question to determine how the class answered. As an example, “High Income” may be important to everyone for obvious reasons; no probing is really necessary in that case. However, there may not be class consensus on other questions. In those cases, it is important to briefly discuss the students’ choices.
3. This part can be either oral or written. Ask students:
 - If you were to choose five factors that are important to you, what would they be?
 - What is the absolute least important preference for you and why?
 - Do any of you want to discuss any preference we have not included?
4. Mention that no job will contain everything they want. It is important that the positions they seek contain the factors that are most important to them. They should avoid those factors that are unpleasant.

Wrap-Up: Classroom Discussion

Materials: Job Preference Checklist

Time: 1 session

Job Preference Checklist

For each of the items listed below, place a check mark in the column that represents the importance you give that item in your job search.

Job Preference Factor	Very Important	Moderately Important	Not Important
1. High income			
2. Pleasant surroundings			
3. Chance to be creative			
4. Variety of duties			
5. Opportunity for travel			
6. Meeting many people			
7. Security			
8. Fame and popularity			
9. Significant contribution to society			
10. Locally situated			
11. Working with many people			
12. Commute by bus or van pool			
13. Work out of state/relocate			
14. Requires additional education			
15. Opportunity to dress well			
16. Metropolitan or suburban locale			
17. Supervise work of others			
18. Challenging work			
19. Stimulating, adventurous, risky work			
20. Opportunity to learn new skills			
21. Fixed routine or predictable duties			

Job Preference Factor	Very Important	Moderately Important	Not Important
22. A chance to work with my hands			
23. Work under time pressure			
24. Work outdoors			
25. Work alone			
26. Receive public attention for good work			
27. Have opportunities for advancement			
28. Work in a small organization			
29. Work in a large organization			
30. Have freedom in scheduling my work hours			
31. Have regular work hours			
32. Have good benefits			
33. Doing detailed work			
34. Thinking and deciding on things independently			
35. Having good supervision			
36. Working with machines			
37. Having a title			
38. A good work environment that has positive effect on physical and mental health			
39. As little stress/anxiety as possible			
40. Work environment that has outlets to address physical/mental health			

Grade Level: Eleventh
Lesson IV

Title: Employment Agencies

Directions: See attached sheet

Wrap-Up: Classroom Discussion

Materials: Employment Agencies Handout

Time: 1 session

Lesson Plan: Employment Agencies

1. The purpose of this activity is to acquaint students with how they can make the best use of an Employment Agency.
2. Ask students, what an employment agency is. Help students understand that essentially an employment agency is a business that matches a job seeker with an employer.

In subsequent discussion, the instructor should indicate the existence of two types of employment agencies: private employment agencies and public employment agencies (Job Service). Comments should be directed toward the distinguishing characteristics of each type of employment agency. Students should be instructed to make notes on their Employment Agencies Worksheets as the instructor discusses the characteristics.

Private

Deal exclusively with specific employer

“Hard” sell on placement
Charge a fee(full or part-time work)
Hiring firms may pay fee
Match skills with employer’s needs
More individualized service
Specialize in specific job type
Require a contract (read carefully before Signing; it’s binding)

Public

Free service

Operated by the government
Minimum job screening
No job specialization

3. Ask students, where to search for an employment agency. Help students identify the following sources.

- Look in the yellow pages
- Check the local newspapers; the classified as sections
- Note that some agencies specialize in certain jobs
- Use the Internet (Search Agencies)

Ask students, What would be a good way to evaluate employment agencies? Discuss the following possibilities:

- Contact the Better Business Bureau
- Contact the Chamber of Commerce
- Discuss the agency with others

Ask students, How would you contact an agency? Identify three most common methods:

- In person
- On the phone
- Use the Internet

Employment Agencies

Employment Agencies are businesses that match a job seeker with an employer who has a job vacancy. There are two types of employment agencies: private and public (Job Service).

Private	Public

Grade Level: Eleventh
Lesson V

Title: The Interview

Directions: See attached sheet

Wrap-Up: Classroom Discussion

Materials: Interviewing Report/Typical Interview Questions
Interviewing Report/ Questions to Ask at Interviews

Time: 1 session

Lesson Plan: The Interview

1. The purpose : Tell students that the interview is the most widely used method of evaluating people for jobs. There are some strategies to use in approaching interviews that can increase chances of success.

Discuss the four types of interviews:

-Informational Interviews – where you are seeking information, leads, referral, and further contacts, but not usually a job.

-Screening Interviews – Where a Human Resources person will be making a quick evaluation of your suitability, especially how your personality fits the boss and the corporate culture.

-Multiple interviews – where you meet with two or more people, either together in a group or in sequence. This is a screening interview in a sense. But, it usually involves people you would work with or for.

-Decision-maker Interviews – where you meet with the person who can hire you. This person would most likely be your future boss.

Each of these types of interviews is like a stepping stone to where you want to go. Each person you meet can move you along toward the ultimate job. This makes each interview very important. If you don't take your interviews seriously and you perform poorly, you will have wasted the effort it took you to get there and possibly cost you a career opportunity.

2. Ask students, Has anyone here ever experienced a job interview?

- Ask students to briefly describe why and how they were interviewed.
- If no one has been interviewed, the instructor could relate some personal experiences on interviews he/she has had.

Why do you think employers use an interview?

Elicit comments such as:

- The prospective employer has an opportunity to meet and talk with you to determine whether or not you will be the kind of employee the company would consider hiring.
- The prospective employee has the opportunity to determine if he/she indeed wants to work for that company.

The instructor should now lead a discussion on the above two points. It should be stressed that two-way communication is very important in interview situations. This interaction is very important. Companies place much emphasis on communication. Many times it determines if another interview is to follow.

3. What should you do to get ready for an interview?

List the responses on the chalkboard or flip chart.

4. Review students' responses.
5. Distribute the Interviewing Reports: Typical Interview Questions and Questions to Ask and have students participate in a mock interview following one of two options:

Option 1: Have students pair up with another student and face each other across a table. Instruct students to take turns asking each other one question at a time to develop their communication skills in responding to interview questions. Students are to follow this procedure until all questions have been asked. If time permits, have students continue the pattern and start the questions again.

Option 2: Have students form teams of three, with two students asking and responding to the questions and the third student playing the role of an observer. The observer can critique how the interviewee responds. Throughout the exercise, students should interchange roles as they work through the questions.

6. The instructor should explain how interviews may be evaluated:

- Appearance
- Communication skills: grammar, diction, voice, volume, facial expressions, body language, and eye contact
- knowledge and skills
- Attitude
- Interest in the position

Interviewing Report

Typical interview questions

- Tell me about yourself.
- What is your greatest strength?
- What are your three most important career accomplishments?
- Why should I hire you?
- How would your supervisor describe you?
- What is the most difficult situation you have ever faced?
- What would you like to improve about yourself?
- What are your career goals
- What have you learned from your past mistakes? What were some of them?
- Can you work well under stress?
- Are you a team player?
- What are the things that motivate you?
- What is the most important thing to you in a job?
- Tell me about your duties at your present job?
- What is the most important aspect of your job?
- What duties have you enjoyed most? Least? Why?
- What frustrates you about your job?
- Why would you like to work for us?
- What kind of supervisors do you like the most? Least? Why?
- Tell me about your experience in school.

Interviewing Report

Questions to Ask at Interviews

Questions about the Organization

How would you compare this company with others you have worked for?

- What are the opportunities for this department/company in the next year?
- What do you like about working for this company?
- What are the challenges facing this company?
- What is it like working here in terms of the people, work loads and rewards?
- Is the company prepared to deal with the technological changes in the next five years?
- Do you see growth opportunities for yourself?

Questions about the job

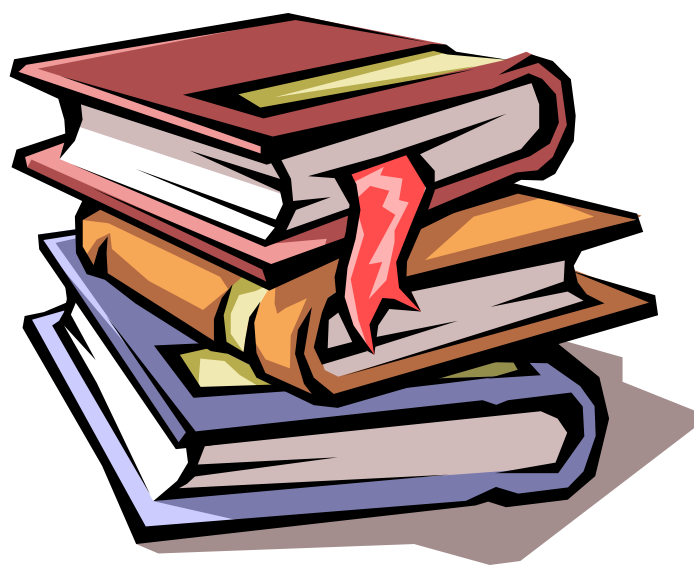
- Why is this position available?
- How many people have held this position in the last three years?
- What are the challenges that have to be faced?
- How does this position fit in with the total department?
- What would be my first assignment?

Questions about the work environment

- How does the company promote personal and professional growth?
- What is needed to get ahead in this organization?
- How would you describe your management style?
- How would you describe the corporate culture/environment?

Grade Level Lessons

Twelfth



La Joya I.S.D.

Career Awareness For Tomorrow's Success

2009-2010

Twelfth

Timeline

Lesson #:	Week of:	National Career Development Guideline:	Title:
I.	Sept. 1 -25, 2009	Understanding the relationship between education achievement and career planning	Long Range Goals
II.	Oct. 5 -30, 2009	Understanding the need for positive attitudes toward work and learning	Investment and Retirement
III.	Jan. 4- 29, 2010	Skills to locate, evaluate, and interpret career information	Lifestyles and Earnings
IV.	Feb. 1 -26, 2010	Skills to prepare to seek, obtain, Maintain and change jobs.	Resumes Review
V.	April 1 -23, 2010	Understanding how societal needs And functions influence the nature And structure of work. Skills in career planning.	Telephone Interview Techniques

Grade Level: Twelfth
Lesson 1

Title: Long-Range Goals

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials:
Long-Range Goals Worksheet
Optional: Word Search: Topics for Post-Secondary Education

Time: 1 session

Lesson Plan: Updating Long-Range Goals

1. Remind students of the definition of a long-range goal. A long-range goal is something you want to achieve in three to five years. (Example: Become a computer programmer.)
2. Have students check present and future goals to determine if they meet the following criteria:
 - Must be achievable
 - Must be realistic
 - Must specify a target date
 - Must be important to the person
3. Have students again complete the long-range goals worksheet. Emphasize that they should be identifying career goals, not hobbies. Encourage such entries as:
 - Complete high school
 - Decide what college to go to
 - Decide on a technical school
 - Decide degree they want to attain
 - Complete technical training
 - Decide if they want to go into the military; which branch
 - Decide on a career during military training that is transferable to a civilian occupation
 - Enter the job market immediately; what must be done

Note: Make sure the students enter some time for achieving the goal.
4. Ask the students what difficulties they had in completing this activity later. As they mention lack of information, knowledge, resources, etc., point out where they can obtain this information (career center, etc.). Ask students if they feel more confident addressing long-range plans based upon training in career planning they have received.
5. Optional Activity – Word Search: Topics for Post-Secondary Education

Long-Range Goals Worksheet

What long-range goal have I had in the past? How many of those goals have I completed? If I did not complete those goals, why not?

If my goals have changed, how will I now address them? If goals have not changed, do they need updating?

Long-Range Goal:

Date:

1.

2.

3.

Word Search : Topics for Post-secondary Education(Answer Sheet)

The list of words below contain most of the topics related to schools in *Choices*. Find all the hidden Words in the diagram and circle the entire word. The words are always in a straight line and may read up, down, forward, backwards, or diagonally. Some words will overlap. When you have found all the topics, choose those in which you think you might be most interested and write their names in the spaces at the bottom of this page.

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

- | | |
|-------------------------------------|-------------------------------|
| Majors | Test (Freshman Test Policies) |
| Geographic (Location) | Class Standing |
| Community (Size) | Tuition (Annual) |
| Environment (Campus Envir.) | Room and Board (and Tuition) |
| Type (Institution Type) | Financial Aid |
| Control | Academic Programs (Special) |
| Student Body | Student Activities |
| Degrees | Remedial Services (Available) |
| Enrollment | Student Services |
| Accreditation | Athletics |
| Affiliation (Religious Affiliation) | Housing |
| Admission (Requirements) | |

Word Search : Topics for Post-secondary Education

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

Majors
 Geographic (Location)
 Community (Size)
 Environment (Campus Envir.)
 Type (Institution Type)
 Control
 Student Body
 Degrees
 Enrollment
 Accreditation
 Affiliation (Religious Affiliation)
 Admission (Requirements)

Test (Freshman Test Policies)
 Class Standing
 Tuition (Annual)
 Room and Board (and Tuition)
 Financial Aid
 Academic Programs (Special)
 Student Activities
 Remedial Services (Available)
 Student Services
 Athletics
 Housing

Grade Level: Twelfth
Lesson II

Title: Investment and Retirement

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials: Investment and Retirement: Student Example and Charts Worksheet
National Occupation Outlook (2005)

Time: 1 session

NOTE: Students can research the latest wages/salaries for their desired occupation for an extended activity.

2005
National Occupational Outlook

Job Titles	Employment Population	Hourly Wages	Annual Wages
All Occupations	130307840	18.21	37870
Management occupations	5960560	42.52	88450
Chief executives	321300	67.22	139810
General and operations managers	1663810	45.90	95470
Legislators	61060	*	31320
Advertising and promotions managers	41710	39.06	81250
Marketing managers	166470	49.03	101990
Sales managers	317970	47.36	98510
Public relations managers	43770	41.26	85820
Administrative services managers	239410	33.44	69540
Computer and information systems managers	259330	49.21	102360
Financial managers	471950	46.45	96620
Compensation and benefits managers	51470	36.68	76300
Training and development managers	28720	38.55	80180
Human resources managers, all other	57830	43.24	89950
Industrial production managers	153950	39.41	81960
Purchasing managers	69300	39.16	81440
Transportation, storage, and distribution managers	84870	36.12	75130
Farm, ranch, and other agricultural managers	4070	26.81	55760
Farmers and ranchers	350	19.09	39720
Construction managers	192610	39.31	81760
Education administrators, preschool and child care center/program	47670	20.51	42670
Education administrators, elementary and secondary school	213250	*	76890
Education administrators, postsecondary	105360	37.78	78590
Education administrators, all other	24710	33.38	69430
Engineering managers	187410	50.71	105470
Food service managers	191420	21.60	44930
Funeral directors	21960	27.04	56240
Gaming managers	3310	31.69	65920
Lodging managers	31040	22.80	47420
Medical and health services managers	230130	37.09	77140
Natural sciences managers	40400	47.66	99140
Postmasters and mail superintendents	26120	25.83	53740
Property, real estate, and community association managers	154230	24.31	50570
Social and community service managers	112910	25.92	53920
Managers, all other	340720	40.16	83530
Business and financial operations occupations	5410410	27.85	57930
Agents and business managers of artists, performers, and athletes	10640	33.68	70060
Purchasing agents and buyers, farm products	12970	25.47	52970
Wholesale and retail buyers, except farm products	132900	23.58	49050
Purchasing agents, except wholesale, retail, and farm products	267410	25.27	52560
Claims adjusters, examiners, and investigators	234030	23.66	49210
Insurance appraisers, auto damage	12900	23.43	48740
Compliance officers, except agriculture, construction, health and safety, and transportation	161810	25.63	53320
Cost estimators	204330	26.91	55980
Emergency management specialists	11240	23.90	49720
Employment, recruitment, and placement specialists	181260	23.31	48470
Compensation, benefits, and job analysis specialists	97740	24.88	51750
Training and development specialists	206860	23.58	49060
Human resources, training, and labor relations specialists, all other	171880	24.27	50480
Logisticians	52220	30.30	63010
Management analysts	441000	36.06	75000

Job Titles	Employment Population	Hourly Wages	Annual Wages
Meeting and convention planners	40040	21.44	44590
Business operations specialists, all other	916290	28.38	59030
Accountants and auditors	1051220	27.89	58020
Appraisers and assessors of real estate	63800	23.96	49830
Budget analysts	53510	29.89	62180
Credit analysts	61500	27.94	58110
Financial analysts	180910	35.16	73130
Personal financial advisors	108640	39.89	82970
Insurance underwriters	98970	27.15	56480
Financial examiners	22160	32.74	68090
Loan counselors	28030	20.85	43370
Loan officers	332690	28.53	59350
Tax examiners, collectors, and revenue agents	72290	23.78	49460
Tax preparers	58850	14.90	31000
Financial specialists, all other	122320	27.47	57130
Computer and mathematical occupations	2952740	32.26	67100
Computer and information scientists, research	25890	45.21	94030
Computer programmers	389090	32.40	67400
Computer software engineers, applications	455980	38.24	79540
Computer software engineers, systems software	320720	40.54	84310
Computer support specialists	499860	20.86	43380
Computer systems analysts	492120	33.86	70430
Database administrators	99380	31.54	65590
Network and computer systems administrators	270330	30.39	63210
Network systems and data communications analysts	185190	31.23	64970
Computer specialists, all other	116760	30.38	63190
Actuaries	15770	43.63	90760
Mathematicians	2930	39.02	81150
Operations research analysts	52530	31.70	65940
Statisticians	17480	31.79	66130
Mathematical technicians	1430	22.23	46230
Mathematical scientists, all other	7320	29.60	61560
Architecture and engineering occupations	2382480	30.73	63910
Architects, except landscape and naval	96740	32.96	68560
Landscape architects	20220	28.62	59540
Cartographers and photogrammetrists	11260	24.68	51340
Surveyors	54220	23.53	48950
Aerospace engineers	81100	41.08	85450
Agricultural engineers	3170	31.91	66370
Biomedical engineers	11660	36.24	75380
Chemical engineers	27550	38.09	79230
Civil engineers	229700	33.41	69480
Computer hardware engineers	78580	41.91	87170
Electrical engineers	144920	36.57	76060
Electronics engineers, except computer	130050	38.46	79990
Environmental engineers	50140	34.00	70720
Health and safety engineers, except mining safety engineers and inspectors	25330	32.33	67240
Industrial engineers	191640	32.93	68500
Marine engineers and naval architects	6550	35.73	74320
Materials engineers	20950	34.32	71390
Mechanical engineers	220750	33.65	70000
Mining and geological engineers, including mining safety engineers	5680	36.09	75070
Nuclear engineers	14290	43.60	90690
Petroleum engineers	14860	46.80	97350

Job Titles	Employment Population	Hourly Wages	Annual Wages
Engineers, all other	152940	37.29	77570
Architectural and civil drafters	101040	20.24	42110
Electrical and electronics drafters	30270	23.27	48410
Mechanical drafters	74650	21.87	45490
Drafters, all other	20870	21.84	45420
Aerospace engineering and operations technicians	9950	26.31	54720
Civil engineering technicians	90390	19.61	40780
Electrical and electronic engineering technicians	165850	23.42	48710
Electro-mechanical technicians	15130	21.96	45670
Environmental engineering technicians	19900	20.16	41940
Industrial engineering technicians	73310	23.67	49220
Mechanical engineering technicians	46580	22.37	46520
Engineering technicians, except drafters, all other	78300	25.19	52400
Surveying and mapping technicians	63910	16.05	33390
Life, physical, and social science occupations	1185730	27.90	58030
Animal scientists	3000	22.88	47600
Food scientists and technologists	7570	27.33	56840
Soil and plant scientists	10100	27.90	58040
Biochemists and biophysicists	17690	36.21	75320
Microbiologists	15250	30.46	63360
Zoologists and wildlife biologists	16440	26.58	55280
Biological scientists, all other	26200	30.61	63670
Conservation scientists	15540	26.27	54640
Foresters	10750	24.53	51030
Epidemiologists	3630	27.09	56340
Medical scientists, except epidemiologists	73670	33.24	69140
Life scientists, all other	12790	31.04	64570
Astronomers	970	48.73	101360
Physicists	15160	43.98	91480
Atmospheric and space scientists	7050	35.11	73020
Chemists	76540	30.51	63470
Materials scientists	7880	35.74	74350
Environmental scientists and specialists, including health	72000	27.63	57470
Geoscientists, except hydrologists and geographers	27430	38.46	79990
Hydrologists	8360	32.33	67260
Physical scientists, all other	23800	40.57	84380
Economists	12470	38.90	80900
Market research analysts	195710	30.95	64370
Survey researchers	21650	18.13	37710
Clinical, counseling, and school psychologists	98820	30.75	63960
Industrial-organizational psychologists	1070	43.26	89980
Psychologists, all other	6750	35.70	74250
Sociologists	3500	29.66	61700
Urban and regional planners	31650	27.70	57620
Anthropologists and archeologists	4790	24.07	50060
Geographers	810	31.07	64620
Historians	2850	23.86	49620
Political scientists	5010	40.78	84820
Social scientists and related workers, all other	31900	31.27	65040
Agricultural and food science technicians	19340	15.99	33260
Biological technicians	67080	17.54	36480
Chemical technicians	59790	19.29	40120
Geological and petroleum technicians	11130	23.82	49550
Nuclear technicians	6050	28.77	59840

Job Titles	Employment Population	Hourly Wages	Annual Wages
Social science research assistants	16320	17.29	35960
Environmental science and protection technicians, including health	32460	18.52	38520
Forensic science technicians	11030	22.79	47390
Forest and conservation technicians	29940	15.13	31480
Life, physical, and social science technicians, all other	63810	21.72	45180
Community and social services occupations	1692950	18.04	37530
Substance abuse and behavioral disorder counselors	72210	16.73	34800
Educational, vocational, and school counselors	214160	23.33	48530
Marriage and family therapists	18500	21.90	45550
Mental health counselors	87220	18.01	37470
Rehabilitation counselors	117230	15.07	31350
Counselors, all other	21390	19.01	39540
Child, family, and school social workers	256430	18.65	38780
Medical and public health social workers	112220	20.52	42690
Mental health and substance abuse social workers	120140	17.75	36920
Social workers, all other	60940	20.54	42720
Health educators	51970	20.89	43440
Probation officers and correctional treatment specialists	90600	20.92	43510
Social and human service assistants	313210	12.79	26600
Community and social service specialists, all other	99860	16.85	35060
Clergy	36590	20.05	41700
Directors, religious activities and education	13610	17.09	35540
Religious workers, all other	6670	13.48	28050
Legal occupations	986740	38.98	81070
Lawyers	529190	53.13	110520
Administrative law judges, adjudicators, and hearing officers	15350	36.89	76730
Arbitrators, mediators, and conciliators	5780	28.78	59870
Judges, magistrate judges, and magistrates	25330	43.99	91500
Paralegals and legal assistants	217700	20.92	43510
Court reporters	17130	21.84	45420
Law clerks	40620	17.78	36980
Title examiners, abstractors, and searchers	64580	19.26	40070
Legal support workers, all other	71060	22.54	46890
Education, training, and library occupations	8078500	20.89	43450
Business teachers, postsecondary	67420	*	67500
Computer science teachers, postsecondary	38520	*	60330
Mathematical science teachers, postsecondary	44660	*	58850
Architecture teachers, postsecondary	6110	*	65740
Engineering teachers, postsecondary	34500	*	78780
Agricultural sciences teachers, postsecondary	11460	*	73680
Biological science teachers, postsecondary	59540	*	77690
Forestry and conservation science teachers, postsecondary	2990	*	67550
Atmospheric, earth, marine, and space sciences teachers, postsecondary	8810	*	70960
Chemistry teachers, postsecondary	19520	*	65400
Environmental science teachers, postsecondary	4340	*	66020
Physics teachers, postsecondary	13310	*	71020
Anthropology and archeology teachers, postsecondary	5320	*	66700
Area, ethnic, and cultural studies teachers, postsecondary	7970	*	62480
Economics teachers, postsecondary	12670	*	74600
Geography teachers, postsecondary	4250	*	61790
Political science teachers, postsecondary	13710	*	65760
Psychology teachers, postsecondary	30240	*	61980
Sociology teachers, postsecondary	14980	*	59030
Social sciences teachers, postsecondary, all other	6330	*	66060

Job Titles	Employment Population	Hourly Wages	Annual Wages
Health specialties teachers, postsecondary	108680	*	82450
Nursing instructors and teachers, postsecondary	37020	*	56840
Education teachers, postsecondary	51320	*	54790
Library science teachers, postsecondary	3960	*	56630
Criminal justice and law enforcement teachers, postsecondary	9880	*	52930
Law teachers, postsecondary	13560	*	95570
Social work teachers, postsecondary	7440	*	56520
Art, drama, and music teachers, postsecondary	69260	*	55340
Communications teachers, postsecondary	22320	*	54010
English language and literature teachers, postsecondary	58710	*	53950
Foreign language and literature teachers, postsecondary	23830	*	53400
History teachers, postsecondary	20520	*	59450
Philosophy and religion teachers, postsecondary	18340	*	57960
Graduate teaching assistants	117970	*	29170
Home economics teachers, postsecondary	4010	*	51760
Recreation and fitness studies teachers, postsecondary	16530	*	48960
Vocational education teachers, postsecondary	105980	21.69	45110
Postsecondary teachers, all other	267280	*	67540
Preschool teachers, except special education	348690	12.09	25150
Kindergarten teachers, except special education	171290	*	45250
Elementary school teachers, except special education	1486650	*	46990
Middle school teachers, except special and vocational education	637340	*	47890
Vocational education teachers, middle school	15380	*	46080
Secondary school teachers, except special and vocational education	1015740	*	49400
Vocational education teachers, secondary school	96600	*	49240
Special education teachers, preschool, kindergarten, and elementary school	214060	*	47820
Special education teachers, middle school	103480	*	50340
Special education teachers, secondary school	136290	*	50880
Adult literacy, remedial education, and GED teachers and instructors	66070	21.21	44110
Self-enrichment education teachers	141650	17.68	36760
Teachers and instructors, all other	530670	*	33510
Archivists	5410	19.64	40850
Curators	8790	23.64	49180
Museum technicians and conservators	9370	17.94	37320
Librarians	146740	23.61	49110
Library technicians	115770	12.95	26940
Audio-visual collections specialists	6910	19.76	41100
Farm and home management advisors	12620	22.05	45860
Instructional coordinators	112880	25.66	53360
Teacher assistants	1260400	*	21100
Education, training, and library workers, all other	72450	16.33	33970
Arts, design, entertainment, sports, and media occupations	1683310	21.30	44310
Art directors	29350	35.48	73790
Craft artists	4300	13.15	27360
Fine artists, including painters, sculptors, and illustrators	10390	22.44	46670
Multi-media artists and animators	23790	27.53	57270
Artists and related workers, all other	5290	17.73	36880
Commercial and industrial designers	31650	27.30	56780
Fashion designers	12980	32.39	67370
Floral designers	63920	10.77	22410
Graphic designers	178530	20.45	42530
Interior designers	50020	22.60	47010
Merchandise displayers and window trimmers	64320	12.10	25170
Set and exhibit designers	8380	20.15	41920

Job Titles	Employment Population	Hourly Wages	Annual Wages
Designers, all other	12410	22.99	47810
Actors	59590	23.73	*
Producers and directors	59070	33.16	68970
Athletes and sports competitors	12230	*	71900
Coaches and scouts	145440	*	32050
Umpires, referees, and other sports officials	12800	*	27150
Dancers	16240	13.22	*
Choreographers	16150	18.26	37970
Music directors and composers	8610	20.90	43470
Musicians and singers	50410	25.16	*
Entertainers and performers, sports and related workers, all other	68540	17.92	*
Radio and television announcers	41090	17.11	35600
Public address system and other announcers	8150	14.98	31160
Broadcast news analysts	6680	30.73	63920
Reporters and correspondents	52920	19.41	40370
Public relations specialists	191430	24.56	51080
Editors	96270	24.88	51750
Technical writers	46250	27.75	57720
Writers and authors	43020	25.89	53850
Interpreters and translators	29240	18.41	38300
Media and communication workers, all other	25660	22.13	46030
Audio and video equipment technicians	40390	17.48	36350
Broadcast technicians	30730	17.00	35350
Radio operators	1190	18.21	37880
Sound engineering technicians	12680	22.98	47790
Photographers	58260	15.10	31410
Camera operators, television, video, and motion picture	22530	22.13	46040
Film and video editors	15200	26.31	54730
Media and communication equipment workers, all other	17200	24.81	51610
Healthcare practitioners and technical occupations	6547350	28.45	59170
Chiropractors	24290	39.45	82060
Dentists, general	86270	64.27	133680
Oral and maxillofacial surgeons	5120	77.24	160660
Orthodontists	4820	78.56	163410
Prosthodontists	560	70.23	146080
Dentists, all other specialists	3480	55.60	115640
Dietitians and nutritionists	48850	22.09	45950
Optometrists	23720	45.91	95500
Pharmacists	229740	42.62	88650
Anesthesiologists	27970	83.77	174240
Family and general practitioners	112150	67.49	140370
Internists, general	48210	75.27	156550
Obstetricians and gynecologists	21910	82.60	171810
Pediatricians, general	26400	66.94	139230
Psychiatrists	23450	70.26	146150
Surgeons	52930	85.43	177690
Physicians and surgeons, all other	180210	66.79	138910
Physician assistants	63350	34.17	71070
Podiatrists	8290	53.49	111250
Registered nurses	2368070	27.35	56880
Audiologists	10330	27.72	57660
Occupational therapists	87430	28.41	59100
Physical therapists	151280	31.42	65350
Radiation therapists	14120	30.59	63620

Job Titles	Employment Population	Hourly Wages	Annual Wages
Recreational therapists	23260	16.90	35150
Respiratory therapists	95320	22.24	46270
Speech-language pathologists	94660	27.89	58000
Therapists, all other	9730	21.96	45680
Veterinarians	47870	37.36	77710
Health diagnosing and treating practitioners, all other	57880	42.13	87630
Medical and clinical laboratory technologists	155250	23.37	48600
Medical and clinical laboratory technicians	142330	15.95	33170
Dental hygienists	161140	29.15	60620
Cardiovascular technologists and technicians	43560	19.99	41580
Diagnostic medical sonographers	43590	26.65	55430
Nuclear medicine technologists	18280	29.10	60530
Radiologic technologists and technicians	184580	22.60	47010
Emergency medical technicians and paramedics	196880	13.68	28440
Dietetic technicians	23780	12.20	25380
Pharmacy technicians	266790	12.19	25350
Psychiatric technicians	62040	14.04	29210
Respiratory therapy technicians	22060	18.57	38620
Surgical technologists	83680	17.27	35920
Veterinary technologists and technicians	63860	12.84	26710
Licensed practical and licensed vocational nurses	710020	17.41	36210
Medical records and health information technicians	160450	13.81	28720
Opticians, dispensing	70090	14.80	30770
Orthotists and prosthetists	5190	28.87	60050
Health technologists and technicians, all other	71140	18.04	37520
Occupational health and safety specialists	35460	26.83	55800
Occupational health and safety technicians	9510	22.17	46120
Athletic trainers	15110	*	36520
Healthcare practitioners and technical workers, all other	50880	19.03	39590
Healthcare support occupations	3363800	11.47	23850
Home health aides	663280	9.34	19420
Nursing aides, orderlies, and attendants	1391430	10.67	22200
Psychiatric aides	56150	11.47	23860
Occupational therapist assistants	22160	19.13	39800
Occupational therapist aides	6220	13.20	27450
Physical therapist assistants	58670	18.98	39490
Physical therapist aides	41930	11.01	22900
Massage therapists	37670	19.33	40210
Dental assistants	270720	14.41	29970
Medical assistants	382720	12.58	26160
Medical equipment preparers	41790	12.42	25830
Medical transcriptionists	90380	14.36	29880
Pharmacy aides	46610	9.76	20310
Veterinary assistants and laboratory animal caretakers	69890	9.90	20590
Healthcare support workers, all other	184200	13.05	27150
Protective service occupations	3056660	17.19	35750
First-line supervisors/managers of correctional officers	37530	24.37	50700
First-line supervisors/managers of police and detectives	91320	32.33	67240
First-line supervisors/managers of fire fighting and prevention workers	53490	30.06	62510
First-line supervisors/managers, protective service workers, all other	49330	21.95	45650
Fire fighters	282180	19.43	40420
Fire inspectors and investigators	12820	23.44	48760
Forest fire inspectors and prevention specialists	1720	18.44	38360
Bailiffs	17160	16.90	35160

Job Titles	Employment Population	Hourly Wages	Annual Wages
Correctional officers and jailers	411080	17.60	36600
Detectives and criminal investigators	85270	28.24	58750
Fish and game wardens	6300	20.85	43360
Parking enforcement workers	10140	14.72	30620
Police and sheriff's patrol officers	624130	22.73	47270
Transit and railroad police	5090	24.20	50330
Animal control workers	13940	13.50	28090
Private detectives and investigators	33720	17.78	36980
Gaming surveillance officers and gaming investigators	8730	13.82	28740
Security guards	994220	10.91	22690
Crossing guards	69390	10.21	21230
Lifeguards, ski patrol, and other recreational protective service workers	107620	8.67	18020
Protective service workers, all other	141480	15.90	33070
Food preparation and serving related occupations	10797700	8.58	17840
Chefs and head cooks	115850	17.23	35840
First-line supervisors/managers of food preparation and serving workers	748550	13.44	27960
Cooks, fast food	631190	7.45	15500
Cooks, institution and cafeteria	393500	9.88	20550
Cooks, private household	830	11.18	23250
Cooks, restaurant	791450	9.86	20510
Cooks, short order	203350	8.64	17980
Cooks, all other	12100	11.40	23720
Food preparation workers	880360	8.68	18060
Bartenders	480010	8.48	17640
Combined food preparation and serving workers, including fast food	2298010	7.48	15550
Counter attendants, cafeteria, food concession, and coffee shop	501390	7.88	16380
Waiters and waitresses	2274770	7.84	16310
Food servers, nonrestaurant	188750	8.98	18680
Dining room and cafeteria attendants and bartender helpers	391320	7.59	15800
Dishwashers	498620	7.58	15760
Hosts and hostesses, restaurant, lounge, and coffee shop	328930	7.90	16430
Food preparation and serving related workers, all other	58730	9.14	19000
Building and grounds cleaning and maintenance occupations	4342550	10.55	21930
First-line supervisors/managers of housekeeping and janitorial workers	186870	15.66	32570
First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers	106280	18.82	39150
Janitors and cleaners, except maids and housekeeping cleaners	2107360	10.15	21120
Maids and housekeeping cleaners	893820	8.74	18180
Building cleaning workers, all other	15610	12.99	27020
Pest control workers	62400	13.89	28880
Landscaping and groundskeeping workers	896690	10.74	22350
Pesticide handlers, sprayers, and applicators, vegetation	25770	13.22	27500
Tree trimmers and pruners	29790	14.35	29850
Grounds maintenance workers, all other	17960	11.78	24510
Personal care and service occupations	3188850	10.67	22180
Gaming supervisors	24180	19.87	41320
Slot key persons	14700	11.65	24230
First-line supervisors/managers of personal service workers	125760	16.53	34390
Animal trainers	8320	14.19	29510
Nonfarm animal caretakers	100550	9.64	20050
Gaming dealers	82320	7.71	16040
Gaming and sports book writers and runners	19290	9.58	19930
Gaming service workers, all other	**	11.53	23980
Motion picture projectionists	10230	9.30	19340
Ushers, lobby attendants, and ticket takers	102330	8.05	16740

Job Titles	Employment Population	Hourly Wages	Annual Wages
Amusement and recreation attendants	232030	8.15	16950
Costume attendants	3900	13.94	28990
Locker room, coatroom, and dressing room attendants	20340	9.02	18760
Embalmers	9840	19.01	39550
Funeral attendants	30220	10.39	21600
Barbers	13630	11.88	24700
Hairdressers, hairstylists, and cosmetologists	338910	11.36	23640
Makeup artists, theatrical and performance	1070	15.70	32660
Manicurists and pedicurists	42960	9.81	20400
Shampooers	16040	7.85	16320
Skin care specialists	22740	12.90	26830
Baggage porters and bellhops	51300	10.03	20870
Concierges	16810	12.08	25130
Tour guides and escorts	28320	10.42	21670
Travel guides	3120	15.03	31270
Flight attendants	99590	*	53740
Transportation attendants, except flight attendants and baggage porters	24810	9.88	20550
Child care workers	557680	8.74	18180
Personal and home care aides	566860	8.52	17710
Fitness trainers and aerobics instructors	189220	14.93	31060
Recreation workers	264840	10.78	22420
Residential advisors	50490	11.39	23690
Personal care and service workers, all other	60260	10.20	21210
Sales and related occupations	13930320	15.77	32800
First-line supervisors/managers of retail sales workers	1083890	18.08	37600
First-line supervisors/managers of non-retail sales workers	294010	35.42	73670
Cashiers	3481420	8.32	17300
Gaming change persons and booth cashiers	28590	9.92	20630
Counter and rental clerks	473090	10.83	22530
Parts salespersons	235190	13.94	28990
Retail salespersons	4344770	11.14	23170
Advertising sales agents	153890	24.23	50400
Insurance sales agents	299470	27.38	56960
Securities, commodities, and financial services sales agents	251710	42.30	87990
Travel agents	88590	14.78	30750
Sales representatives, services, all other	439450	26.07	54230
Sales representatives, wholesale and manufacturing, technical and scientific products	379890	33.14	68940
Sales representatives, wholesale and manufacturing, except technical and scientific products	1436800	26.90	55940
Demonstrators and product promoters	86050	11.81	24570
Models	1430	13.26	27570
Real estate brokers	41760	36.98	76930
Real estate sales agents	150200	25.04	52090
Sales engineers	69790	38.16	79370
Telemarketers	400860	11.30	23500
Door-to-door sales workers, news and street vendors, and related workers	10970	12.19	25350
Sales and related workers, all other	178480	19.05	39610
Office and administrative support occupations	22784330	14.28	29710
First-line supervisors/managers of office and administrative support workers	1352130	21.89	45540
Switchboard operators, including answering service	194980	11.07	23020
Telephone operators	29290	14.92	31030
Communications equipment operators, all other	3870	16.36	34030
Bill and account collectors	431280	14.36	29860
Billing and posting clerks and machine operators	513020	13.87	28860

Job Titles	Employment Population	Hourly Wages	Annual Wages
Bookkeeping, accounting, and auditing clerks	1815340	14.76	30700
Gaming cage workers	18730	11.28	23460
Payroll and timekeeping clerks	205600	15.44	32120
Procurement clerks	71390	15.64	32530
Tellers	599220	10.59	22020
Brokerage clerks	70110	18.34	38140
Correspondence clerks	17990	14.51	30180
Court, municipal, and license clerks	102060	15.02	31230
Credit authorizers, checkers, and clerks	65410	14.90	30990
Customer service representatives	2067700	14.27	29680
Eligibility interviewers, government programs	85550	16.53	34390
File clerks	229830	10.98	22840
Hotel, motel, and resort desk clerks	207190	9.05	18820
Interviewers, except eligibility and loan	201790	12.54	26070
Library assistants, clerical	104650	10.76	22380
Loan interviewers and clerks	231700	15.33	31880
New accounts clerks	82450	13.69	28460
Order clerks	259760	13.18	27410
Human resources assistants, except payroll and timekeeping	161870	16.24	33790
Receptionists and information clerks	1088400	11.12	23120
Reservation and transportation ticket agents and travel clerks	160120	14.45	30050
All other information and record clerks	288730	19.10	39720
Cargo and freight agents	78730	17.97	37380
Couriers and messengers	106520	10.80	22460
Police, fire, and ambulance dispatchers	94060	15.03	31270
Dispatchers, except police, fire, and ambulance	172550	16.15	33590
Meter readers, utilities	46920	14.92	31030
Postal service clerks	78710	22.51	46820
Postal service mail carriers	347180	21.38	44460
Postal service mail sorters, processors, and processing machine operators	208600	20.01	41620
Production, planning, and expediting clerks	287980	18.71	38920
Shipping, receiving, and traffic clerks	759910	12.80	26620
Stock clerks and order fillers	1625430	10.60	22060
Weighers, measurers, checkers, and samplers, recordkeeping	79050	12.99	27030
Executive secretaries and administrative assistants	1442040	18.18	37810
Legal secretaries	265000	18.78	39070
Medical secretaries	381020	13.65	28390
Secretaries, except legal, medical, and executive	1744380	13.35	27780
Computer operators	129160	16.15	33580
Data entry keyers	296700	11.98	24910
Word processors and typists	153580	14.49	30140
Desktop publishers	29910	16.72	34770
Insurance claims and policy processing clerks	239120	15.24	31700
Mail clerks and mail machine operators, except postal service	148330	11.59	24120
Office clerks, general	2997370	11.82	24580
Office machine operators, except computer	87900	12.24	25460
Proofreaders and copy markers	18070	13.30	27660
Statistical assistants	18700	15.04	31270
Office and administrative support workers, all other	287270	13.50	28070
Farming, fishing, and forestry occupations	443070	10.10	21010
First-line supervisors/managers of farming, fishing, and forestry workers	19750	18.65	38790
Farm labor contractors	2310	12.14	25240
Agricultural inspectors	11730	16.75	34840
Animal breeders	1860	15.23	31690

Job Titles	Employment Population	Hourly Wages	Annual Wages
Graders and sorters, agricultural products	45010	8.74	18170
Agricultural equipment operators	19940	10.06	20930
Farmworkers and laborers, crop, nursery, and greenhouse	227750	8.35	17370
Farmworkers, farm and ranch animals	49740	9.56	19890
Agricultural workers, all other	8970	11.60	24140
Fishers and related fishing workers	770	13.94	29000
Forest and conservation workers	8700	11.19	23280
Fallers	9780	15.26	31740
Logging equipment operators	26880	14.28	29700
Log graders and scalers	4520	14.21	29550
Logging workers, all other	**	15.04	31290
Construction and extraction occupations	6370400	18.39	38260
First-line supervisors/managers of construction trades and extraction workers	555380	26.79	55720
Boilermakers	17760	23.62	49130
Brickmasons and blockmasons	115950	20.60	42850
Stonemasons	17030	17.53	36450
Carpenters	935920	18.62	38720
Carpet installers	37050	17.84	37100
Floor layers, except carpet, wood, and hard tiles	14520	17.92	37270
Floor sanders and finishers	5950	14.34	29830
Tile and marble setters	47410	18.81	39130
Cement masons and concrete finishers	204720	16.64	34610
Terrazzo workers and finishers	5440	16.69	34720
Construction laborers	934000	13.97	29050
Paving, surfacing, and tamping equipment operators	63220	15.93	33140
Pile-driver operators	4410	24.27	50490
Operating engineers and other construction equipment operators	378720	18.85	39210
Drywall and ceiling tile installers	126810	18.07	37580
Tapers	38570	19.91	41410
Electricians	606500	21.94	45630
Glaziers	49310	17.75	36920
Insulation workers, floor, ceiling, and wall	34250	16.59	34510
Insulation workers, mechanical	22100	19.16	39840
Painters, construction and maintenance	249850	16.08	33450
Paperhangers	7710	17.65	36720
Pipelayers	56280	15.53	32290
Plumbers, pipefitters, and steamfitters	420770	21.56	44850
Plasterers and stucco masons	47760	17.40	36200
Reinforcing iron and rebar workers	30270	19.32	40190
Roofers	120070	16.14	33570
Sheet metal workers	174550	19.03	39570
Structural iron and steel workers	68900	20.93	43540
Helpers--brickmasons, blockmasons, stonemasons, and tile and marble setters	58690	13.14	27340
Helpers—carpenters	101870	11.11	23100
Helpers—electricians	90370	11.86	24670
Helpers--painters, paperhangers, plasterers, and stucco masons	21820	10.61	22070
Helpers--pipelayers, plumbers, pipefitters, and steamfitters	77630	11.84	24630
Helpers—roofers	20510	10.41	21660
Helpers, construction trades, all other	37590	11.55	24020
Construction and building inspectors	87820	22.51	46830
Elevator installers and repairers	21000	28.12	58500
Fence erectors	22600	12.74	26490
Hazardous materials removal workers	38260	17.90	37240
Highway maintenance workers	140600	14.88	30950

Job Titles	Employment Population	Hourly Wages	Annual Wages
Rail-track laying and maintenance equipment operators	13510	18.81	39120
Septic tank servicers and sewer pipe cleaners	17940	15.38	31980
Segmental pavers	330	12.82	26670
Construction and related workers, all other	63340	15.50	32230
Derrick operators, oil and gas	13270	17.16	35690
Rotary drill operators, oil and gas	15500	19.18	39880
Service unit operators, oil, gas, and mining	19530	16.61	34560
Earth drillers, except oil and gas	18800	17.20	35770
Explosives workers, ordnance handling experts, and blasters	4800	19.33	40210
Continuous mining machine operators	9000	18.67	38830
Mine cutting and channeling machine operators	6080	18.12	37680
Mining machine operators, all other	2450	18.26	37970
Rock splitters, quarry	3600	13.56	28200
Roof bolters, mining	4140	18.84	39180
Roustabouts, oil and gas	33570	12.71	26430
Helpers--extraction workers	25550	13.76	28620
Extraction workers, all other	9060	17.32	36010
Installation, maintenance, and repair occupations	5305260	18.30	38050
First-line supervisors/managers of mechanics, installers, and repairers	455690	26.15	54390
Computer, automated teller, and office machine repairers	138210	18.10	37640
Radio mechanics	6170	18.78	39070
Telecommunications equipment installers and repairers, except line installers	198350	23.72	49330
Avionics technicians	22490	22.57	46940
Electric motor, power tool, and related repairers	20070	16.77	34880
Electrical and electronics installers and repairers, transportation equipment	20560	20.20	42010
Electrical and electronics repairers, commercial and industrial equipment	69620	21.32	44350
Electrical and electronics repairers, powerhouse, substation, and relay	21250	26.26	54620
Electronic equipment installers and repairers, motor vehicles	17650	14.94	31080
Electronic home entertainment equipment installers and repairers	35360	14.83	30840
Security and fire alarm systems installers	49470	17.06	35480
Aircraft mechanics and service technicians	115120	23.68	49260
Automotive body and related repairers	158160	18.23	37920
Automotive glass installers and repairers	17760	14.67	30510
Automotive service technicians and mechanics	654800	16.90	35140
Bus and truck mechanics and diesel engine specialists	248280	17.96	37360
Farm equipment mechanics	30800	14.17	29480
Mobile heavy equipment mechanics, except engines	117500	19.32	40190
Rail car repairers	24270	20.32	42270
Motorboat mechanics	18190	16.31	33920
Motorcycle mechanics	16140	15.11	31430
Outdoor power equipment and other small engine mechanics	24680	12.95	26930
Bicycle repairers	7980	10.33	21490
Recreational vehicle service technicians	13540	15.43	32100
Tire repairers and changers	100860	10.72	22300
Mechanical door repairers	14400	15.81	32890
Control and valve installers and repairers, except mechanical door	38640	21.21	44120
Heating, air conditioning, and refrigeration mechanics and installers	241380	18.64	38770
Home appliance repairers	43110	16.38	34060
Industrial machinery mechanics	234650	19.74	41060
Maintenance and repair workers, general	1307820	15.70	32650
Maintenance workers, machinery	83220	16.96	35270
Millwrights	53080	22.33	46450
Refractory materials repairers, except brickmasons	3250	19.74	41070
Electrical power-line installers and repairers	106060	23.65	49200

Job Titles	Employment Population	Hourly Wages	Annual Wages
Telecommunications line installers and repairers	142560	20.66	42970
Camera and photographic equipment repairers	3160	17.37	36130
Medical equipment repairers	27940	20.04	41680
Musical instrument repairers and tuners	4830	15.33	31880
Watch repairers	3080	16.00	33280
Precision instrument and equipment repairers, all other	12870	22.11	45980
Coin, vending, and amusement machine servicers and repairers	39570	14.11	29340
Commercial divers	2310	20.15	41910
Fabric menders, except garment	2140	16.37	34040
Locksmiths and safe repairers	16080	15.67	32600
Manufactured building and mobile home installers	10120	12.05	25070
Riggers	11840	18.17	37790
Signal and track switch repairers	6100	23.25	48370
Helpers--installation, maintenance, and repair workers	158520	11.17	23230
Installation, maintenance, and repair workers, all other	135560	17.43	36260
Production occupations	10249220	14.37	29890
First-line supervisors/managers of production and operating workers	679930	23.66	49210
Aircraft structure, surfaces, rigging, and systems assemblers	22820	20.45	42530
Coil winders, tapers, and finishers	23190	12.65	26320
Electrical and electronic equipment assemblers	207270	13.05	27150
Electromechanical equipment assemblers	57200	13.71	28520
Engine and other machine assemblers	49430	17.38	36150
Structural metal fabricators and fitters	93490	15.09	31390
Fiberglass laminators and fabricators	30560	12.64	26300
Team assemblers	1242370	12.50	26000
Timing device assemblers, adjusters, and calibrators	2460	14.23	29600
Assemblers and fabricators, all other	258240	14.49	30140
Bakers	144110	11.13	23150
Butchers and meat cutters	128660	13.37	27810
Meat, poultry, and fish cutters and trimmers	136690	9.99	20780
Slaughterers and meat packers	132000	10.33	21490
Food and tobacco roasting, baking, and drying machine operators and tenders	18160	12.15	25280
Food batchmakers	89400	11.61	24140
Food cooking machine operators and tenders	43100	11.03	22950
Computer-controlled machine tool operators, metal and plastic	136490	15.41	32060
Numerical tool and process control programmers	17860	21.15	43990
Extruding and drawing machine setters, operators, and tenders, metal and plastic	87290	13.84	28790
Forging machine setters, operators, and tenders, metal and plastic	33850	14.53	30220
Rolling machine setters, operators, and tenders, metal and plastic	37500	15.02	31240
Cutting, punching, and press machine setters, operators, and tenders, metal and plastic	265480	13.13	27310
Drilling and boring machine tool setters, operators, and tenders, metal and plastic	43180	14.72	30610
Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic	101530	14.23	29600
Lathe and turning machine tool setters, operators, and tenders, metal and plastic	71410	15.74	32750
Milling and planing machine setters, operators, and tenders, metal and plastic	29140	15.44	32120
Machinists	368380	17.00	35350
Metal-refining furnace operators and tenders	17960	16.26	33820
Pourers and casters, metal	14340	14.73	30650
Model makers, metal and plastic	8120	22.26	46300
Patternmakers, metal and plastic	6850	17.74	36900
Foundry mold and coremakers	15890	14.87	30920
Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic	157080	12.82	26680

Job Titles	Employment Population	Hourly Wages	Annual Wages
Multiple machine tool setters, operators, and tenders, metal and plastic	98120	15.17	31550
Tool and die makers	99680	21.61	44940
Welders, cutters, solderers, and brazers	358050	15.52	32280
Welding, soldering, and brazing machine setters, operators, and tenders	45220	15.55	32350
Heat treating equipment setters, operators, and tenders, metal and plastic	26310	14.97	31130
Lay-out workers, metal and plastic	10970	16.56	34440
Plating and coating machine setters, operators, and tenders, metal and plastic	40550	13.67	28420
Tool grinders, filers, and sharpeners	18180	15.64	32530
Metal workers and plastic workers, all other	49650	17.97	37380
Bindery workers	64330	12.92	26880
Bookbinders	7660	14.52	30200
Job printers	50580	16.02	33320
Prepress technicians and workers	72050	16.53	34380
Printing machine operators	192520	15.61	32470
Laundry and dry-cleaning workers	218360	8.87	18450
Pressers, textile, garment, and related materials	78620	8.76	18220
Sewing machine operators	233130	9.55	19860
Shoe and leather workers and repairers	7680	10.11	21030
Shoe machine operators and tenders	3850	10.31	21440
Sewers, hand	11090	10.61	22060
Tailors, dressmakers, and custom sewers	30150	11.79	24530
Textile bleaching and dyeing machine operators and tenders	21660	11.16	23200
Textile cutting machine setters, operators, and tenders	21420	10.83	22530
Textile knitting and weaving machine setters, operators, and tenders	42760	11.41	23740
Textile winding, twisting, and drawing out machine setters, operators, and tenders	47670	11.30	23510
Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers	23040	14.20	29540
Fabric and apparel patternmakers	9650	17.62	36660
Upholsterers	41040	13.46	27990
Textile, apparel, and furnishings workers, all other	24740	11.35	23610
Cabinetmakers and bench carpenters	121660	13.29	27650
Furniture finishers	24610	12.60	26200
Model makers, wood	2280	15.71	32680
Patternmakers, wood	2000	15.16	31540
Sawing machine setters, operators, and tenders, wood	60280	11.72	24380
Woodworking machine setters, operators, and tenders, except sawing	94690	11.83	24610
Woodworkers, all other	10550	11.13	23150
Nuclear power reactor operators	3730	32.17	66900
Power distributors and dispatchers	7520	28.61	59510
Power plant operators	33650	25.65	53350
Stationary engineers and boiler operators	43110	21.94	45640
Water and liquid waste treatment plant and system operators	102940	17.34	36060
Chemical plant and system operators	58640	22.55	46900
Gas plant operators	10530	25.15	52310
Petroleum pump system operators, refinery operators, and gaugers	40470	24.19	50320
Plant and system operators, all other	13920	21.50	44730
Chemical equipment operators and tenders	50610	19.05	39620
Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders	41250	17.15	35680
Crushing, grinding, and polishing machine setters, operators, and tenders	41480	13.89	28900
Grinding and polishing workers, hand	44890	12.03	25010
Mixing and blending machine setters, operators, and tenders	129440	14.52	30200
Cutters and trimmers, hand	28360	11.57	24070
Cutting and slicing machine setters, operators, and tenders	78030	14.04	29210

Job Titles	Employment Population	Hourly Wages	Annual Wages
Extruding, forming, pressing, and compacting machine setters, operators, and tenders	80420	14.15	29420
Furnace, kiln, oven, drier, and kettle operators and tenders	28140	15.36	31940
Inspectors, testers, sorters, samplers, and weighers	506160	15.51	32250
Jewelers and precious stone and metal workers	28100	15.79	32830
Dental laboratory technicians	45600	16.47	34260
Medical appliance technicians	10810	15.61	32460
Ophthalmic laboratory technicians	26740	12.81	26640
Packaging and filling machine operators and tenders	396270	11.94	24840
Coating, painting, and spraying machine setters, operators, and tenders	100830	13.50	28080
Painters, transportation equipment	52650	18.14	37720
Painting, coating, and decorating workers	27830	12.15	25280
Photographic process workers	28000	12.05	25070
Photographic processing machine operators	53970	10.16	21120
Semiconductor processors	44720	15.80	32870
Cementing and gluing machine operators and tenders	25650	12.45	25900
Cleaning, washing, and metal pickling equipment operators and tenders	15250	12.19	25350
Cooling and freezing equipment operators and tenders	9640	12.16	25290
Etchers and engravers	10050	13.35	27760
Molders, shapers, and casters, except metal and plastic	41250	12.33	25640
Paper goods machine setters, operators, and tenders	107560	15.32	31870
Tire builders	19860	17.80	37020
Helpers--production workers	528610	10.45	21730
Production workers, all other	296340	13.49	28070
Transportation and material moving occupations	9594920	13.85	28820
Aircraft cargo handling supervisors	6210	19.73	41030
First-line supervisors/managers of helpers, laborers, and material movers, hand	176030	19.81	41210
First-line supervisors/managers of transportation and material-moving machine and vehicle operators	221520	24.63	51230
Airline pilots, copilots, and flight engineers	76240	*	135040
Commercial pilots	24860	*	65560
Air traffic controllers	21590	50.88	105820
Airfield operations specialists	4510	20.30	42230
Ambulance drivers and attendants, except emergency medical technicians	18320	9.72	20220
Bus drivers, transit and intercity	183450	15.37	31960
Bus drivers, school	465880	11.71	24350
Driver/sales workers	400530	11.44	23800
Truck drivers, heavy and tractor-trailer	1624740	17.05	35460
Truck drivers, light or delivery services	938280	12.99	27020
Taxi drivers and chauffeurs	144280	10.36	21550
Motor vehicle operators, all other	76500	12.29	25570
Locomotive engineers	37390	28.96	60230
Locomotive firers	540	20.54	42710
Rail yard engineers, dinkey operators, and hostlers	6970	18.99	39500
Railroad brake, signal, and switch operators	20700	25.07	52150
Railroad conductors and yardmasters	38330	27.50	57200
Subway and streetcar operators	7430	22.43	46660
Rail transportation workers, all other	7500	18.32	38100
Sailors and marine oilers	31090	15.19	31590
Captains, mates, and pilots of water vessels	28570	25.55	53140
Motorboat operators	2700	17.14	35650
Ship engineers	13240	27.54	57290
Bridge and lock tenders	3620	17.44	36270
Parking lot attendants	124250	8.64	17970

Job Titles	Employment Population	Hourly Wages	Annual Wages
Service station attendants	96340	8.94	18590
Traffic technicians	6990	18.21	37870
Transportation inspectors	25570	25.59	53230
Transportation workers, all other	54010	15.98	33240
Conveyor operators and tenders	49220	13.24	27530
Crane and tower operators	43690	19.65	40860
Dredge operators	1720	16.08	33450
Excavating and loading machine and dragline operators	66030	16.64	34610
Loading machine operators, underground mining	2390	17.47	36330
Hoist and winch operators	3110	17.52	36440
Industrial truck and tractor operators	627060	13.86	28830
Cleaners of vehicles and equipment	333350	9.48	19720
Laborers and freight, stock, and material movers, hand	2363960	10.80	22460
Machine feeders and offbearers	145740	11.41	23730
Packers and packagers, hand	840410	9.13	18990
Gas compressor and gas pumping station operators	3950	20.91	43500
Pump operators, except wellhead pumpers	9970	18.47	38410
Wellhead pumpers	10190	17.86	37150
Refuse and recyclable material collectors	133930	14.50	30160
Shuttle car operators	3100	18.28	38030
Tank car, truck, and ship loaders	15950	16.34	33990
Material moving workers, all other	52970	15.65	32550

Lesson Plan: Investment and Retirement

1. Ask students if they have grandparents or friends that have retired. How do they maintain their lifestyles now that they are not working? Introduce the concept of retirement savings, and how it is different from day-to-day savings. Note the differences in interest rates, and how money can accumulate tax-free over a long period of time.
2. An example of the time value of money follows. A person places \$2000 per year in an investment savings account for eight years, from the time they are eighteen until they are twenty-six. Then they stop investing but let their money earn 10% compound interest until they are age sixty-five. At that time they will have over a million dollars (\$1,035,160)!
3. You may wish to give the students a brief overview of investing options. They may either own assets (stock shares, real estate or collectibles) or lend their money (at the bank or purchasing bonds). Students should be told, that for long term savings they must receive more interest than is taken away by inflation. Examples of alternative interest rates are given below:

Type of investment	Total % (from 1926-93)	Real % return(after inflation)
Stocks	10.3	7.0
Small Stocks	12.4	8.9
Corporate Bonds	5.6	2.4
Government Bonds	3.7	1.8
Treasury Bills	3.7	0.5

Source: John Train (1994) "The Craft of Investing". Harper Business, NY.

4. How much should people save? Most analysts recommend that working people save between five and ten percent of their income per year. For example, a person who earns \$25,000 per year should save between \$1250 and \$2500 per year ($25,000 \times .05$ to $25,000 \times .10$). According to the chart above, stocks provide the best return on their investment. However, students should be aware that all investments come with risks. Many people invest with a diversity of options, high and low risk, in order to have a secure portfolio in case something happens. Younger people, with many years before retirement, may take more risks, because the risks tend to even out over a longer period of time. In any case, people who are interested in investing should seek professional advice before they invest.
5. Tax-free accounts are the best way to save for retirement. The tax is deferred until you take the money out of the savings after you retire. These accounts are called tax-sheltered annuities (TSA). Have students select a career (using software or guidance references) and have them record the earnings potential on the Worksheet. They will take an average of the range and use this for calculations. For example, a range of \$25,000 to \$45,000 would yield an average of \$35,000 yearly salary (an example of a completed worksheet is provided).

6. Next, have them calculate the range of amounts they should save. For example, a person making an average of \$35,000 per year should save between \$1750 and \$3500 per year ($\$3500 \times .05$ to $\$35,000 \times .10$). They will calculate how much money they will have saved at age 65 using both the lower and upper ranges.
7. To use the chart, you will need to know the interest rate, number of years they will be investing, and the amount of each investment. To find n, or number of years, they will use different scenarios of when they start investing. For example, if they start when they are 40 years old, then $n = 25$, because 65 (retirement) minus 40 (start) equals 25 years of investing. It allows that when they start at certain ages, the n value will change:

When they start at age	At 65 they have saved for (n)
20 years old	45 years
25 years old	40 years
30 years old	35 years
35 years old	30 years
40 years old	25 years

8. The chart is designed to look at four different potential interest rates: 6, 8, 10, and 12 percent. The higher the percentage means they generally picked a higher risk investment. Across the top is the n, or number of years they have invested. In each box, is a factor they multiply their investment amount by, using their yearly investment. In technical terms, they are determining their future worth based on a uniform series investment for a specific interest rate and number of years. For example, a person invests \$1200 per year from the time they were 35 years old, and assume they will receive 10% interest on their investment. How much will they have at age 65? To find n, the chart above shows that $n = 30$ years. The factor from the chart is 164.494. They will have \$197,392.80 at age 65 ($164.494 \times \1200).
9. Have the students complete their own chart for 5% and 10% savings of their earnings, based on the career they have selected. They should begin to appreciate how the higher interest rate accumulates money quicker. They should also see how investing early can dramatically increase their retirement “nest egg”.
10. Following the completion of their charts, have them answer the questions on the worksheet. Lead a discussion on the questions. What happens when you earn more interest? What happens when you start earlier? Test them with the following question. Tom starts saving \$5200 per year ($\100 per week) when he is forty years old. Ralph starts saving \$1300 per year ($\25 per week) at age 20. If they both expect to make 10% on their investments, who will accumulate more at the age of 65?
 The Math: Tom (at 10% for 25 years @ 5200/year) = $\$5200 \times 98.347 = \$511,404.40$

 Ralph (at 10% for 40 years @ \$1300/year) = $\$1300 \times 718.905 = \$934,576.50$
11. Another easy calculation is to determine the doubling time. Doubling time is the time required before your money doubles in size, with no new investments, based on your percentage of interest. (Doubling time works for all exponential functions, such as population growth. For example, a world population growth of 2% means the population will double in size in only 36 years!) To determine doubling time, take 72 and divide by the percentage rate as a whole number. For example, at 8% interest, your money will double, with no new investments, in $72/8$ or nine years. (The 72 is derived from a logarithmic function). At 12%, your money would double in six years.
12. It is important to impress upon the students the results of exponential growth, or in this case the time-value of money. They should begin to appreciate the adage save early and often. For further reading, which is the source of the chart on the Worksheet, see L. Blank & A. Tarquin (1984). “Engineering Economy”, 2nd edition, McGraw-Hill, Ny.

Investments and Retirement

Teacher's Example

Directions: Show all your calculations

1. Select a career and investigate the potential earnings.
2. Calculate an average earning for that career.
3. Based on the average salary, calculate 5% and 10% values for savings. This will be your per year savings amount, which is multiplied by a factor to determine total amount.
4. Use the chart of factors and complete the two tables, one for savings 5%, and one for saving 10%.
5. Based on your calculations, answer the questions at the end. Be prepared to discuss your findings.
6. List the career you have selected: Accountant
Potential earnings range: \$30,000 - \$80,000. $(30,000 + 80,000)/2$
7. Calculate an average yearly salary: \$55,000
8. Calculate the amount you should save based on 5% model: \$2,750 per year
 $(55,000 \times .05)$
and the 10% model: \$5,500 per year
 $(55,000 \times .10)$
9. Use the chart below to find the necessary factors to complete the blank tables below or 5% and 10% savings. For example, if you start saving at age 35, you will be saving 30 years to determine the total amount at age 65. Move down the 30-year column until it matches the interest rate (6, 8, 10, or 12%).

N=	25 Years	30 Years	35 years	40 years	45 years
I= 6%	54.865	79.058	111.435	154.762	212.744
8%	73.106	113.283	172.317	259.057	386.506
10%	98.347	164.494	271.024	442.593	718.905
12%	133.334	241.333	431.663	767.091	1358.230

Investments and Retirement

Students' Example & Charts

Directions: Show all your calculations

1. Select a career and investigate the potential earnings.(see National Occupation Outlook 2005)
2. Calculate an average earning for that career.
3. Based on the average salary, calculate 5% and 10% values for savings. This will be your per year savings amount, which is multiplied by a factor to determine total amount.
4. Use the chart of factors and complete the two tables, one for savings 5%, and one for saving 10%.
5. Based on your calculations, answer the questions at the end. Be prepared to discuss your findings.

1. List the career you have selected:
Potential earnings range: \$30,000 - \$80,000.
2. Calculate an average yearly salary:
3. Calculate the amount you should save based on 5% model:
and the 10% model:
4. Use the chart below to find the necessary factors to complete the blank tables below or 5% and 10% savings. For example, if you start saving at age 35, you will be saving 30 years to determine the total amount at age 65. Move down the 30-year column until it matches the interest rate (6, 8, 10, or 12%).

I=	N=	25 Years	30 Years	35 years	40 years	45 years
6%		54.865	79.058	111.435	154.762	212.744
8%		73.106	113.283	172.317	259.057	386.506
10%		98.347	164.494	271.024	442.593	718.905
12%		133.334	241.333	431.663	767.091	1358.230

Answer Key

As an example, if your 5% amount (say $\$30,000 \times .05$) is 1500, and you save for 30 years and expect to get 8% interest, you would multiply the factor of 113.283 times \$1500 to determine the total amount, which should be placed in the appropriate box in the 5% chart below.

Complete the following chart for saving 5% of your yearly income. Calculate for each interest level and number of years. (Each factor times \$2,750)

N=	25 Years	30 Years	35 years	40 years	45 years
I= 6%	\$150,878.75	\$217,409.50	\$306,446.25	\$425,595.50	\$580,046.00
8%	\$201,041.50	\$311,528.25	\$473,871.75	\$712,406.75	\$1,062,891.50
10%	\$270,454.25	\$452,358.50	\$745,316.00	\$1,217,130.80	\$1,976,988.80
12%	\$366,668.50	\$663,665.75	\$1,187,073.30	2,109,500.30	\$3,735,132.50

Complete the following chart for saving 10% of your yearly income. Calculate for each interest level and number of years. (Each factor times \$5,500)

N=	25 Years	30 Years	35 years	40 years	45 years
I= 6%	\$301,757.50	\$434,819.00	\$612,8952.50	\$851,191.00	\$1,170,092.00
8%	\$402,083.00	\$623,056.50	\$947,743.50	\$1,427,635.00	\$2,125,783.00
10%	\$540,908.50	\$904,717.00	\$1,490.632.00	\$2,434,261.50	\$3,953,977.50
12%	\$733,337.00	\$1,327,331.50	\$2,374,146.50	\$4,219,000.50	\$7,470,265.00

Once you have completed and checked your tables, answer the following questions:

- A. What happens to the total amount when the interest rate is higher?
You accumulate a high amount
- B. If you start saving earlier (save for more years), what happens to your accumulation?
You accumulate a significantly high amount
- C. What happens to your accumulation if you double the amount you save?
You double your accumulation, saving more.

As an example, if your 5% amount (say \$30,000 x .05) is 1500, and you save for 30 years and expect to get 8% interest, you would multiply the factor of 113.283 times \$1500 to determine the total amount, which should be placed in the appropriate box in the 5% chart below.

Complete the following chart for saving 5% of your yearly income. Calculate for each interest level and number of years. (Each factor times \$2,750)

	N=	25 Years	30 Years	35 years	40 years	45 years
I=						
	6%					
	8%					
	10%					
	12%					

Complete the following chart for saving 10% of your yearly income. Calculate for each interest level and number of years. (Each factor times \$5,500)

	N=	25 Years	30 Years	35 years	40 years	45 years
I=						

Once you have completed and checked your tables, answer the following questions:

- A. What happens to the total amount when the interest rate is higher?
- B. If you start saving earlier (save for more years), what happens to your accumulation?
- C. What happens to your accumulation if you double the amount you save?

Grade Level: Twelfth
Lesson III

Title: Lifestyles and Earnings

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials:

Monthly Net Income for My Chosen Career – Worksheet
National Occupation Outlook(2005)

My Monthly Expenses – Worksheet

Can You Afford Yourself – Worksheet

Time: 1 session

Lesson Plan: Lifestyles and Earnings

1. Begin the activity by discussing with students the impact of career choice on style of living. Highlight the impact that career choice has on multiple aspects of one's life – friends, leisure activities, access to schools, clubs, organizations, etc.
2. Provide some examples from the local community to demonstrate different styles of living. Local labor market information should be used to demonstrate to students that there are a variety of routes (occupations) to each lifestyle. Because many students will only be looking at traditional four- year degrees as the sole route to a better lifestyle, it is important to discuss technical training as a route to many profitable lifestyles.
3. Distribute and explain student activity worksheets. Provide directions and explanations for the worksheets. Explain to students that salary information can be gathered from a variety of sources including Choices software, local office of the Department of Labor and Industry, or online resources such as, <http://www.acinet.org>, <http://www.bls.gov/ocohome.htm>.
4. Remind students to be realistic in listing their desired occupation. Caution them not to just list a high paying occupation if it is not an appropriate choice for their interest and aptitudes. Likewise, when they calculate personal expenses, they are to use realistic projections.
5. Emphasize the importance of this activity to assist students in recognizing if they are considering occupational choices that are compatible with their desired lifestyle.
6. Students will research updated hourly wages and salaries.
Web site: www.texasindustryprofiles.com
7. Assign a due date for return of worksheets. On the due date, plan time for students to volunteer to share the results of their work and corresponding conclusions.

My Monthly Expenses

Housing (rent or mortgage payment, property insurance, property taxes, housing repairs, etc):

Transportation (bus ticket, car payment, lease payment, ----include the cost of gasoline, insurance, and maintenance):

Clothing (include career and leisure clothing, shoes, jewelry, etc.): _____

Food (include food costs for meals at home and away from home): _____

Utility costs (electric, gas, telephone, water, garbage, cable, etc.): _____

Recreation (health club membership, movies, video rentals, concerts, compact disks, tickets for sporting events, etc.) _____

Vacations (how often and where): _____

Savings and contributions to charity: _____

Personal care items (soap, shampoo, laundry detergent, shaving supplies, general toiletries):

Total monthly personal expenses: _____

Monthly net income from previous worksheet: _____

Monthly Net Income For My Chosen Career

Desired occupation: _____

Average annual starting salary in the local community: _____

Average annual starting salary in the state: _____

Average annual starting salary in the United States: _____

Where do you think you prefer to locate when you begin your career? (Local community, state, or anywhere else in the United States)

As you complete the remainder of the worksheet, use cost estimates for the region (local, state or United States) that you indicated above.

Use the following formula to determine your average monthly post taxes income.

Divide average annual starting salary by 12 (twelve)

Multiply result by .80 (80%)

The result is your monthly net income

$$\frac{\text{average annual income}}{\text{12}} \times .80(80\%) = \text{monthly net income}$$

You will refer back to this figure after you have completed the next worksheet.

Can You Afford Yourself?

How does your monthly net income compare with your total monthly personal expenses?

Can you afford your lifestyle?

If you can't afford your lifestyle, what are you willing to change? Are you willing to change your style of living? If not, are you willing to consider alternative occupational options?

Briefly describe how this activity helped you to gain a better understanding of how your career will affect the way you live (lifestyle). Discuss how it either reinforced your plans or how it will make you reevaluate your plans and consider other options. Consider how important some of your preferences are to you. Are you willing to sacrifice leisure time to earn higher wages? Are you willing to sacrifice some of your lifestyle preferences for a career that may pay less but is personally satisfying?

Website: www.twc.state.tx.us (budget calculator)

Grade level: Twelfth
Lesson IV

Title: Resume Review

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials: Resume DO'S and DON'TS Student Handout
Resume Worksheet

Time: 1 session

Lesson Plan: Resume Review

1. The instructor should share the following information with the students:

Many job seekers regard the resume as the most important part of their job campaign. They believe they should mail and distribute resumes everywhere—then wait for the job offers to pour in. Others see resumes as useless and expect to introduce themselves to interviewers through the application form.

Students should now view the resume as an important tool to supplement their campaign for getting personal interviews. Some applicants dislike personal contacts for fear of personal rejection. Others will not make calls for fear of imposing on people. Unfortunately, jobs are seldom filled by mail. And, unsolicited resumes general go into the wastebasket.

Jobseekers will sometimes get into a rut of answering ads—by merely sending in a resume to prospective employers. While you should use this method, you should realize that it often does not produce results.

So, as you begin to update your resume, you should regard it as a useful tool but not a campaign in itself.

2. Inform students that the resume is an essential element of the job search advertising campaign. You will be expected to have one. As you know, the resume is used for a number of things. It:

- Is personal advertising
- Is a possible link between you and the prospective employer
- Answers questions about who you are, what type of position you are looking for, and what skills/qualifications you have to offer an employer
- Highlights your job objective—what you want
- Presents a summary of why you qualify for a job
- Lists your strengths and accomplishments—not merely your history
- Presents all your personal data in a way that fits your job target

Think of the resume as a brochure, or advertisement designed to sell a product. Remember you are the product.

3. Point out that the purpose of the resume is to advertise skills. It alone does not get a job but should help the person who will hire the person make a decision about whether they should be considered for a job, or job interview.

4. The purpose of the resume is: Students should review material placed in their portfolios and then:
 - Get an interview
 - Make people aware they are looking for a job
 - Give an interviewer a first impression of their skills
5. There are some general guidelines that should be followed in preparing your resume. We'll refer to these guidelines as the "do's" and don'ts" of preparing a resume.

Have students review the DO'S and DON'TS of preparing a resume.

DO

1. Type the resume
2. Use conservative paper (white, cream, eggshell, gray)
3. Use 1" margins
4. Keep it to one or two pages
5. Include all of your work activities

DON'T

1. Be dishonest
2. Make mistakes
3. Assume that your reader understands technical words
4. Use nicknames
5. Be sloppy
6. Write your resume longhand

6. Call students attention to the following hints:
 - Never lie or distort the truth. Some employers will fire you immediately, no matter how hard you work if they find you have lied on any job application.
 - Make the resume readable.
 - Never have a mistake or typographical error on a resume. Most employers have many people applying for jobs. They will usually eliminate anyone who makes careless errors thinking that they will do the same thing on the job.
7. Tell students that they will now begin a resume worksheet that they may better later use to develop their actual resume.

Resume Do's and Don'ts

Have students review the DO'S and DON'TS

DO

1. Type the resume
2. Use conservative paper (white, cream, eggshell, grey)
3. Use 1" margins
4. Keep it to one or two pages
5. Include all of your work activities

DON'T

1. Be dishonest
2. Make mistakes
3. Assume that your reader understands technical words
4. Use nicknames
5. Be sloppy
6. Write your resume longhand

Resume Worksheet

Name _____

Area Code: _____

Telephone No: _____

Address: _____

Objective: _____

Summary: _____

Education: School: _____

Address: _____

From: _____ To: _____

Graduated: _____

Relevant Skills and Courses:

Experience: Business: _____

Address: _____

From: _____ To: _____

Position: _____

Responsibilities:

Extracurricular Activities:

Interests:

References:

Name: _____

Title: _____

Address: _____

Telephone No: _____

Name: _____

Title: _____

Address: _____

Telephone No: _____

(Include at least three references)

Grade level: Twelfth
Lesson V

Title: Telephone Interview Techniques

Directions: See attached sheets

Wrap-Up: Classroom Discussion

Materials: Exercise Sheet #1
Exercise Sheet #2
Exercise Sheet #3
Exercise Sheet #4-1, 4-2, and 4-3

Time: 1 session

Lesson Plan: Telephone Interview Techniques

1. In this activity students will understand that the telephone is one of the most important tools used in their personal life and most definitely in their career/business endeavors.
2. The instructor should emphasize that the telephone can create power positive impressions about you, a mental picture of what you may be like. Improperly used, it can quickly drive friends away, and destroy business/career opportunities.
3. Today we are going to focus on effective telephone techniques.
4. Ask students (students should record responses on exercise sheet #1)
 - What are some of the reasons you receive calls?
 - Who are some of the people that call you?
 - Who are some of the people you frequently call?
 - How would you describe your telephone voice when you receive a call?
 - When you make a call?
5. How would you compare communication styles you use when dealing with someone face-to-face over the phone?
 - The instructor should record student responses on the board or overhead.
 - At the conclusion of the exercise the instructor should state:
When we use the telephone we are limited in the ways that we can communicate with people. Our whole conversation is summed up in the words we use and the tone of our voice.

Face-To-Face

Body language
Eye contact
Facial Expressions
Tone of Voice
Words

Telephone

Tone of voice
Words

6. Coming up with a list of some good telephone tips (students brainstorm). Students should record tips on exercise sheet #2. As brainstorming tips surface, place them on a chalkboard or flip chart. The instructor should pull for some of the following responses.
 - Speak with a smile
 - Give the caller your individual attention
 - Answer quickly
 - Use a warm professional tone.
 - Use common courtesy words. (Please and Thank You – they're magic)
 - Use the person's name (correctly).
 - Avoid slang and technical words.

- Speak with enthusiasm, friendly.
- Speak distinctly.
- Do not chew gum, eat, or carry on side conversations.
- Remain calm and professional under pressure.
- Express a willingness to help.
- Give your call a pleasant ending.
- Be a good listener.
- Keep a note pad for messages.
- When you answer a phone, be ready to talk.
- Convey a smile over the phone (you have less opportunity than when FACE-to-FACE to make a good first impression.
- Convey a good attitude.

7. Self-Analysis of your Telephone Personality:

- Instructor should hand out exercise sheets #3
- Students should check as many under each category that apply

8. Choose Your Words Carefully

- The words you use can and will influence people. Avoid using words and expressions that are blameful, abrupt, condescending, or demanding. Instead use positive words and suggestions that will influence people positively.
- Instructor should hand out exercise #4, Choosing Your Words Carefully.
- Students should submit a positive impression for each negative one given. Class discussion should follow to qualify the best positive impressions. (Note: The instructor may pick and choose from exercises #4-1, 4-2, and 4-3.)

9. Keys-to-Good-Listening

Provide the Key – Ask the Class Why?

Example: Limit your Own Talking – Why? You can't talk and listen at the same time.

Each of 9 key points should be covered in that manner.

- 1. Limit Your Own Talking.** You can't talk and listen at the same time.
- 2. Think Like the Caller:** The caller's needs are important and they need to feel important, too.
- 3. Ask Questions.** If you don't understand something, ASK. It is better to clear it up now before it embarrasses you later.
- 4. Do Not Interrupt.**
- 5. Concentrate.** Focus your mind solely on the caller.
- 6. Take Notes:** Jot down important points to avoid having the caller unnecessarily repeat themselves.
- 7. Listen for Ideas, Not Just Words.** Try and understand the BIG picture. Remember to listen for tone of voice which is a powerful clue within itself.

8. Interjections. An occasional “YES”, “I UNDERSTAND”, shows the caller that you are paying attention.
9. **React to Ideas, Not the Person.** Try and remain calm and solve problems in a professional manner.

Exercise Sheet #1

- What are some of the reasons you receive calls?

- Who are some of the people who call you?

- Who are some of the people you frequently call?

- How would you describe your telephone voice when you receive a call? When you make a call? Receive A Call? _____

Make a Call? _____

Exercise Sheet #3

Self-Analysis of Your Telephone Personality

Choose the word or words that closely resemble your observations and circle it/them.

1. How would you describe your telephone manner and attitude?

Impatient	Patient
Indifferent	Interested
Discourteous	Polite
Apathetic	Enthusiastic
Cold	Friendly
Gruff	Courteous
Tactless	Tactful
Insincere	Sincere
Nervous	Calm
Lifeless	Animated
Dubious	Confident
Unhappy	Cheerful
Rude	Affable
Reluctant	Accommodating

2. How does your voice sound?

Dull	Lively
Monotonous	Well-Modulated
Weak	Vigorous
Rough	Smooth
Indistinct	Clear
Harsh	Melodious
Nasal	Resonant
High or Low	Well-pitched

3. Do you speak . . .

Rapidly?	Moderately?
With a Drawl?	Slowly?

4. Do you pronounce your words . . .

Slovenly?	Clearly?
-----------	----------

5. Is your grammar . . .

Full of mistakes?	Perfect?
Often incorrect?	Usually correct?

6. Is your choice of words . . .

Unfitting?	Fitting?
Limited?	Varied?
Slangy?	Refined?
Imprecise?	Precise

Teacher's Copy

Exercise Sheet #4-1

Choose Your Words Carefully!

The words you use can and will influence people. Avoid using words and expressions that are blameful, abrupt, condescending, or demanding. Instead, use positive words and make suggestions that will influence people positively.

Negative Impressions

I can't do that.

You'd better.

Why didn't you . . .

You probably did this wrong . . .

People are always making that mistake.

It's not my fault!

If you would have only . . .

Positive Impressions

I'm not authorized to do that, but
I'm sure that . . .

Would it be convenient to . . .

Let's see what we can do . . .

Why don't we try this . . .

I'll bet we can work that out by
doing this . . .

Mistakes do happen.

Let's see if we can figure this out.

Teacher's Copy

Exercise Sheet #4-2

Negative Impressions

DON'T

Let the phone ring on and on.

Say "hello" and nothing else.

Leave the message pad incomplete.

Forget to confirm the caller's phone number.

Give out confidential information.

End with "bye-bye" or other cute sayings.

Positive Impressions

DO

Answer after the first ring.

Identify yourself, company or department when answering.

Fill out the message pad completely.

Confirm the caller's phone number.

Give only necessary information.

End the call by saying "good bye".

Teacher's Copy

Exercise Sheet #4-3

Negative Impressions

DON'T SAY

"May I ask who's calling?"

"Who's there?"

"What's your name?"

"He isn't in."

"Hold on."

"He's not here, can you call back?"

"What's your number?"

"Say that again?"

"I don't know how to spell that."

Sorry to keep you waiting . . .

All we can do is . . .

Before we can do this, we'll need . . .

We're unable to do that, unless . . .

I'm sorry we can't . . ., we can only

We don't have those available right now.

Uh-huh.

Positive Impressions

DO SAY

"May I tell him/her who's calling?"

"May I help you?"

"I'd be happy to take a message for him."

"May I have him call you?"

"Would you hold the line please while I locate the information?"

"He's not in at the moment. May I tell him who called?"

"May I have your number please?"

"Would you please repeat that information?"

"Would you please spell your name?"

Thank you for waiting.

We'll be glad to . . .

So that we can do this, may we have . . .

We'll be happy to do that as soon as . . .

While we can't . . ., we can . . .

We will have those available on ____.

Yes or Sure . . .

Student's Copy

Exercise Sheet #4-1

Choose Your Words Carefully!

The words you use can and will influence people. Avoid using words and expressions that are blameful, abrupt, condescending, or demanding. Instead, use positive words and make suggestions that will influence people positively.

Negative Impressions

I can't do that.

You'd better . . .

Why didn't you . . .

You probably did this wrong . . .

People are always making that mistake.

It's not my fault!

I you would have only . . .

Positive Impressions

Student's Copy

Exercise Sheet #4-2

Negative Impressions

DON'T

Let the phone ring on and on.

Say "hello" and nothing else.

Leave the message pad incomplete.

Forget to confirm the caller's phone number.

Give out confidential information.

End with "bye-bye" or other cute saying.

Positive Impressions

DO

Student's Copy

Exercise Sheer #4-3

Negative Impressions

DON'T SAY

“May I ask who’s calling?”

“Who’s there?”

“What’s your name?”

“He isn’t in?”

“Hold on.”

“He’s not here, can you call back?”

“What’s your number?”

“Say that again?”

“I don’t know how to spell that.”

“Sorry to keep you waiting . . .

All we can do is . . .

Before we can do this, we’ll need . . .

We’re unable to do that, unless . . .

I’m sorry we can’t . . ., we can only . . .

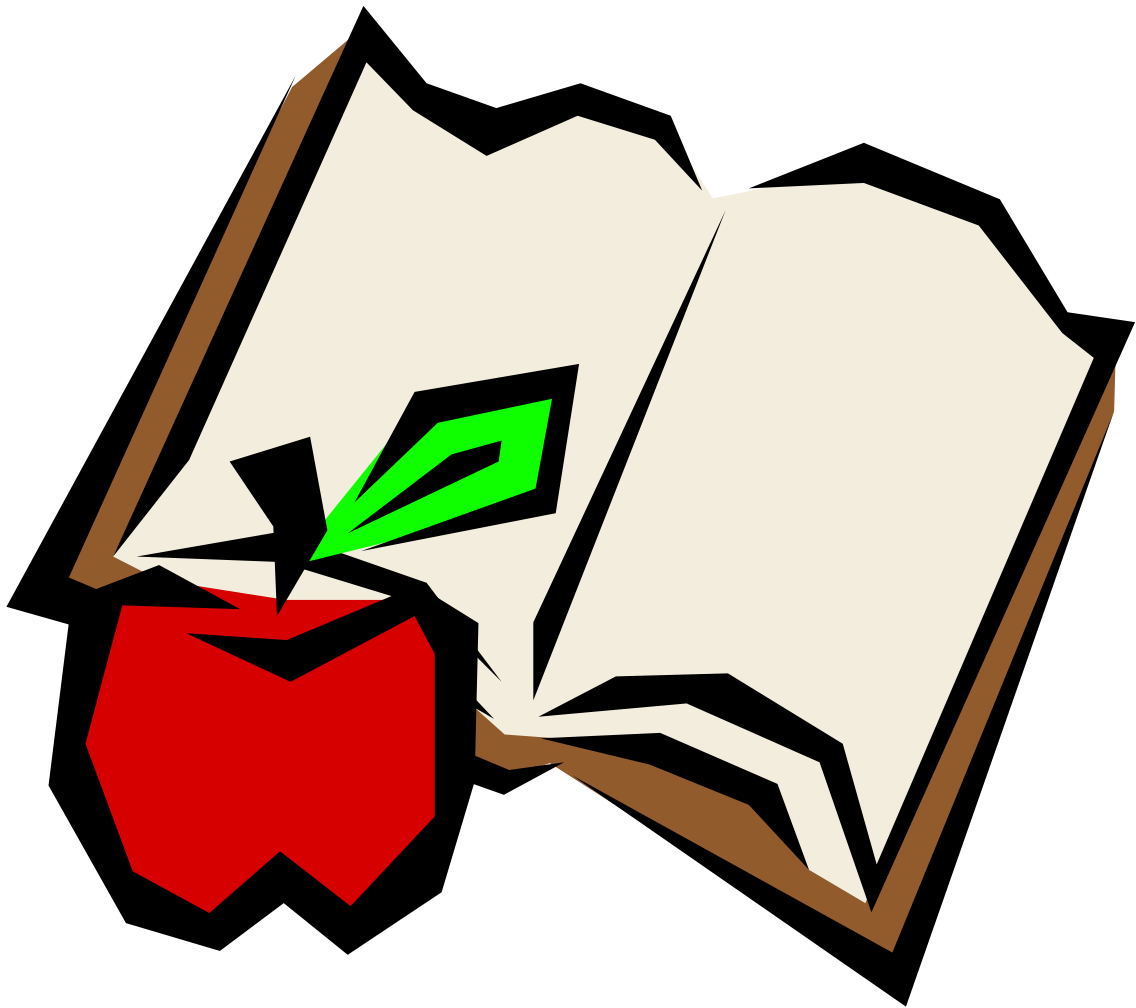
We don’t have those available right now.

Uh-huh.

Positive Impressions

DO SAY

Additional Activities



Additional Activities

- **Job Shadowing**
- **Career Day**
- **College Day**
- **Classroom Speakers**
- **Additional Classroom Lessons**
- **Career Aptitude Survey**
- **Career Interest Inventory Survey**
- **Internet Resource**

<http://www.bls.gov/ocohome.htm>.

www.hotjobs.yahoo.com

www.usajobs.opm.gov.

<http://jobs.employmentguide.com>

www.careerbuilder.com

www.allstarjobs.com

www.texasindustryprofiles.com

www.bestjobs.com

www.twc.state.tx.us- (budget calculator)

Listing of College websites

www.findtherightschool.com

www.colleges.com

www.utexas.edu/world/univ/state/

www.college-scholarships.com

www.bls.gov/oes

- **Developing Resumes**
- **Career Portfolios**
- **Fieldtrips**
- **SCANS Skills in the Workplace**

U.S. Department of Labor

Secretary's Commission for Achieving Necessary Skills

200 Constitution Avenue, N.M.

Washington, D.C. 20210

Sources



SOURCES

- **SCHOOL – to – CAREER CONNECTION 2000**
- **TECH – PREP of the RIO GRANDE VALLEY**
- **SCANS– Skills in the Workplace**
- **Occupational Employment and Wage Estimates-**
www.bls.gov/oes