

WHAT'S A JOB ANALYSIS?



**COMPETENCY
CATEGORY:** Life Survival Skills

**COMPETENCY
NUMBER:** G.40

COMPETENCY: Conduct a job analysis.

OBJECTIVE: Upon completion of this module, students will be able to conduct a job analysis.



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INTRODUCTION

- State module topic and review module objective.
- Ask your students the following questions:
 1. What tools/equipment do we need to make a pitcher of iced tea?
[Note: Bring these items out as your students mention them. Also, ask one of the students to list the items on a flip chart or writing board.]
 2. What are the “steps” we must perform/complete to make a pitcher of iced tea?
[Note: List these on the board. Do not be concerned with the order. This can be established once all the tasks/steps are listed.]
 3. Are there “attitudes” that must go with completing each task – safety, accuracy, etc.?
- Proceed with making a pitcher of iced tea. The steps are as follow:

How to Make a Pitcher of Iced Tea

1. Fill a teapot with cold water – about 1 inch below the rim.
2. Put the pot on the burner.
3. Turn the burner on to “5” (on a 1-10 electric burner scale) or “medium” if a gas unit is used. (Be careful of hot burner.)
4. Set the timer for 20 minutes.
5. Secure 3 tea bags and put them into a separate glass pitcher.
6. After the water comes to a boil, pour it over the tea bags into the glass pitcher. (Be careful when pouring hot water.)
7. Set the timer for 3 minutes – letting the tea “steep.”
8. After 3 minutes, remove the tea bags.

9. Fill an 8 – 16 oz glass half full with ice.
 10. Pour tea into glass and enjoy.
- This is a job analysis.

Administer Pre-Assessment

OUTLINE

- A. What is a job analysis?
1. A job analysis, as you saw from the sample “Making Iced Tea”, is a **systematic process** used to identify the knowledge (k), skills (s), and attitudes(a) required to do a job.
 2. Another way to look at a job analysis is:
 - a. What people do – skills
 - b. What people must know – knowledge
 - c. What people must “feel” – attitudes (This is one that’s hard to understand.)
 3. Perhaps another example will help clarify this point.

Example: Job—Vacuuming the carpet

- a. What skills must the person doing the vacuuming have?

[Note: Brainstorm with the class. List these on the flip chart or writing board.]

- (1) How to operate the vacuum cleaner in an open area.
- (2) How to operate the vacuum cleaner in tight areas (around furniture, next to walls, etc).
- (3) How to install a new bag.

- (4) How to dislodge objects that become stuck in intake area.
 - (5) Others?
- b. In order to do (a-1) above, what knowledge does the person need?
- (1) How to unwind cord.
 - (2) How to plug in vacuum.
 - (3) How to start vacuum.
 - (4) How to determine if it is working properly.
 - (5) How to move vacuum in a forward direction.
 - (6) How to move vacuum in a rearward direction.
 - (7) How to determine when the carpet is clean.
 - (8) Others?
(Repeat for a-2 above, a-3, etc.)
- c. What attitudes (feelings) must a person have to do a-1 above?
- (1) To do the job (vacuuming) properly.
 - (2) To do the job without missing spots.
 - (3) To do the job without bumping into furniture.
 - (4) To not mishandle vacuum cleaner.
 - (5) To do the job safely.
 - (6) Others?

4. To get a better understanding of this “feeling or attitude” piece, let’s look at a different example.
5. Have you ever taken your car into the shop to have a minor repair job done – like a dent in the fender repaired?
6. When you picked up your car the dent and subsequent paint job were done to your satisfaction. (This is the skill end of the job analysis.)
7. The proper type of paint was applied, etc. (This is the knowledge end of the job analysis.)
8. But you were not “treated properly.” When you picked up your car – you had to wait, you had to get someone to assist you, they didn’t treat you with respect, etc. (These are the attitudes associated with the job analysis.)
9. Ideally, your car should have been repaired properly, with the right materials and you should have been “treated” with respect when you picked up your car.
10. The examples that we have used so far have been rather simple ones, but if you did not know “How to make iced tea” or “How to vacuum the carpet” a job analysis would help you to have a better understanding about:
 - a. What you must do – skill.
 - b. What you must know – knowledge.
 - c. What you must “feel” – attitudes.
11. How about this example:

Job Analysis for Municipal Fire Fighter (partial listing) Pump Operations

Pump Operations:

- a. Connects or hooks up apparatus to fire hydrant and operates pumps to supply water in appropriate pressure and volume—using hydrant wrenches, couplings, hoses, spanner wrenches, and other tools.
- b. Engages pumps.
- c. Fills hose with water by hydrant pressure.
- d. Connects and lays feeder line to supply water to fire.
- e. Pumps sprinkler system and wet or dry standpipe systems.
- f. Connects suction hose between hydrant and engine.
- g. Monitors control panel (e.g., water temperature, oil pressure gauge, fuel gauge, and hydrant pressure).
- h. Pumps pre-connect hose-line.
- i. Pumps master stream (e.g., aerial ladders).
- j. Hooks up to ladder pipe to supply water during aerial ladder operations.
- k. Notifies office of any problems which occur while pumping.
- l. Adjusts water pressure (by rule-of-thumb, according to pressure chart, and/or Rules and Regulations) in response to calls for more or less pressure.
- m. Pumps specialty nozzles (e.g. drive-in, cellar distributor).
- n. Implements cold weather procedures (e.g., tank circulation) when necessary.
- o. Maintains pressure by adjusting pressure relief valve or automatic pressure governor.
- p. Transfers from pressure stage to volume stage.
- q. Pumps booster lines.
- r. Opens and flushes hydrant to ensure it is functional.
- s. Shuts down pump when ordered to by officer.
- t. Checks hydrant for proper drainage.

(Source: Massachusetts Fire Departments)

12. Following the “systematic process” of conducting a job analysis, the next step would be to determine what **knowledge** must be learned for each task/step.

For example: Task or step #c – “Fills hose with water hydrant pressure.” Knowledge needed would include:

- a. Which size and type hose?
 - b. Which type of connector should be used?
 - c. How much H₂O pressure should be maintained?
 - d. When to increase or decrease pressure.
 - e. Etc.
13. The attitudes associated with this task or step #3 “Fills hose with water hydrant pressure,” would include:
- a. Performing task safely.
 - b. Performing task in a timely fashion.
 - c. Sensing when everything is ok or something is wrong.
14. As stated earlier, it’s the “attitudes” that go along with performing the job. They are developed over time with experience but they are essential for job success.

B. Why do I need to know how to conduct a job analysis?

1. That’s a great question.
2. Larger businesses often conduct their own job analysis to determine what knowledge, skills and attitudes are essential to perform a particular job. The fire fighter analysis is a good example.
3. But often times it is important for you the beginning worker to know how to informally conduct a job analysis.
4. You remember how it was when you first start on a job. You didn’t know what to do.

5. You had to depend on someone else to show you how to do the job.
6. New employees are often criticized because they stand around, sometimes looking lost on the job, have to be told how and when to do most everything.

C. Sources of job analysis information.

1. You don't have to start from scratch and conduct a complete job analysis at your place of employment. There are some sources you can turn in order to find out what skills, knowledge and attitudes you will need in certain jobs.

2. They are:

- a. The job description – a job description clarifies work functions, reporting relationships, responsibilities and expectations.

- b. **Dictionary of Occupational Titles**
(DOT), example:

620.261-010 AUTOMOBILE MECHANIC (automotive ser.) alternate titles; garage mechanic.

- (1) Repairs and overhauls automobiles, buses, trucks, and other automotive vehicles:
- (2) Examines vehicle and discusses with customer or AUTOMOBILE-REPAIR-SERVICE ESTIMATOR (automotive ser.): AUTOMOBILE TESTER (automotive ser.); or BUS INSPECTOR (automotive ser.) nature and extent of damage or malfunction.
- (3) Plans work procedure, using charts, technical manuals, and experience.
- (4) Raises vehicle, using hydraulic jack or hoist, to gain access to mechanical units bolted to underside of vehicle.
- (5) Removes unit, such as engine, transmission, or differential, using wrenches and hoist.

- (6) Disassembles unit and inspects parts for wear, using micrometers, calipers, and thickness gauges.
- (7) Repairs or replaces parts, such as pistons, rods, gears, valves, and bearings, using mechanic's hand tools.
- (8) Overhauls or replaces carburetors, blowers, generators, distributors, starters, and pumps.
- (9) Rebuild parts, such as crankshafts and cylinder blocks, using lathes, shapers, drill presses, and welding equipment.
- (10) Rewires ignition system, lights, and instrument panel.
- (11) Relines and adjusts brakes, aligns front end, repairs or replaces shock absorbers, and solders leaks in radiator.
- (12) Mends damaged body and fenders by hammering out or filling in dents and welding broken parts.
- (13) Replaces and adjusts headlights, and installs and repairs accessories, such as radios, heaters, mirrors, and windshield wipers.

(Source: *Dictionary of Occupational Titles*)

c. Newspaper ads in the classified section of the newspaper.

(1) Example – Secretary

Qualified candidates must have a minimum of 3 years-related experience, be proficient in MS Office applications and dictaphone, as well as type 75-80 wpm. Must also have excellent attention to detail, multi-tasking skills, and the ability to maintain strict confidence and be a team player.

(2) Example – Nurse Administrator

Previous experience with spreadsheet software, budget preparation, patient billing and accounts receivable in a physician practice highly desirable.

- d. The Internet lists tasks (skills) necessary for certain job classifications. (The fire fighter partial listing of tasks (skills) came from the Internet.)

COMPLETE LEARNING ACTIVITY G.40-1 “JOB ANALYSIS INTERNET SEARCH”

D. Customizing job analysis information.

1. Other than the job description you get when you interview for a job, most job analyses that are collected from the **D.O.T.**, newspaper, or Internet will need to be customized.
2. Customized to the specific place of employment.
3. Let's take the sample “Vacuuming the carpet” example we used earlier.

For example:

- a. How should the cord be unwound for this particular piece of equipment?
- b. Where is the on/off button located on this sweeper?
- c. With this type of carpet, should you go with the “grain” of the carpet or at a 90° angle?
- d. Etc.
4. Customizing allows you to “tailor” the job to this particular employer. The way he/she wants the job done.

E. How to conduct a job analysis.

1. After you have checked the general sources for information – the newspaper, the Internet, the **D.O.T.**, you will need to conduct your own job analysis.

2. There are a number of ways:
 - a. Ask questions of co-workers, supervisors, etc.
 - b. Observe the job being done -
 - (1) What steps are they following?
 - (2) Who do they report to?
 - (3) What forms must be completed?
 - (4) What are the channels of communication?
 - (5) What tools/equipment do they use?
 - (6) How much supervision is required?
 - (7) Are there any physical demands – lifting, moving, etc.?
 - (8) What skills, knowledge, and attitudes are needed for advancement?
 - (9) Are there additional education/training requirements?
 - (10) Are computer skills needed?
 - (11) Etc.

COMPLETE LEARNING ACTIVITY G.40-2 “JOB ANALYSIS QUESTIONS”

- c. Interview people who are performing the job which you wish to do.
- d. Keep a log or informal record book of what you observed or discovered.

- e. Videotape the job. If you use this technique be sure to ask permission first.

COMPLETE LEARNING ACTIVITY G.40-3
“CONDUCT A JOB ANALYSIS”

COMPLETE LEARNING ACTIVITY G.40-4
“JOURNAL WRITING”

COMPLETE LEARNING ACTIVITY G.40-5
“SERVICE LEARNING”

COMPLETE READING ACTIVITY G.40
“COMPUTE-A-JOB”

COMPLETE MATH ACTIVITY G.40
“GIGO”

Administer Post-Assessment

LEARNING ACTIVITY G.40-1
“JOB ANALYSIS INTERNET SEARCH”

OBJECTIVE: To search the Internet for job analysis information

RESOURCES:

- Computer with Internet access and printer, one/each pair of students.

SUGGESTED TIME: 2 – 3 hours

DIRECTIONS:

1. Assign students to groups of 2.
2. Have each student search the Internet looking for job analysis information, specifically the knowledge, skills, and attitudes associated with a particular job.
3. Have students share their findings with the class.

**LEARNING ACTIVITY G.40-2
“JOB ANALYSIS QUESTIONS”**

OBJECTIVE: To develop questions for a job analysis.

RESOURCES:

- Copies of the work sheet for Learning Activity G.40-2.
- Copies of sample job analysis questions from this module written on a flip chart to serve as a guide.
- Flip chart, flip chart paper and markers.

SUGGESTED TIME: 3 – 4 hours

DIRECTIONS:

Note to Specialist: Supervise this activity very closely because these questions will be used in Learning Activity G.40-3. Be certain that an on-site visit can be made BEFORE students begin this Learning Activity.

1. Assign students to groups of 2.
2. Have students select a “job” that they can analyze – auto mechanic, cosmetologist, receptionist, waitperson, etc.
3. Have student develop a set of questions that can be used to conduct a job analysis.

LEARNING ACTIVITY G.40-2
JOB ANALYSIS QUESTIONS
WORK SHEET

Job to be analyzed: _____

Questions related to “skills” performed:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Questions related to “knowledge” needed to perform **each** skill identified:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Questions related to “attitudes” needed to perform **each** skill identified:

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

Other information that may be helpful for job analysis – such as:

1. Degree of supervision required

2. Paperwork to be completed

3. Communication channels

4. Tools and equipment used

5. Physical demands

6. Others

LEARNING ACTIVITY G.40-3
“CONDUCT A JOB ANALYSIS”

OBJECTIVE: To conduct a job analysis.

RESOURCES:

- Copies of the completed work sheet from Learning Activity G.40-2
- Contacts with local businesses willing to have a job analysis team visit
- Cassette recorder and 2 blank 60 minute tapes for each team of two
- Copies of the work sheet for Learning Activity G.40-3
- School or JAG program letterhead and business size envelopes

SUGGESTED TIME: 2 – 3 hours

DIRECTIONS:

1. Assist students in arranging visits for their job analysis interview/observation.

Note to Specialist: If suitable sites cannot be found in the community, you should use the school campus instead.

2. Have students conduct their job analysis using the questions they developed in Learning Activity G.40-2.

3. Stress to students that they are to conduct themselves in a “professional” manner during their site visits.

4. Have students complete the work sheet for Learning Activity G.40-3 when they return from their site visits.

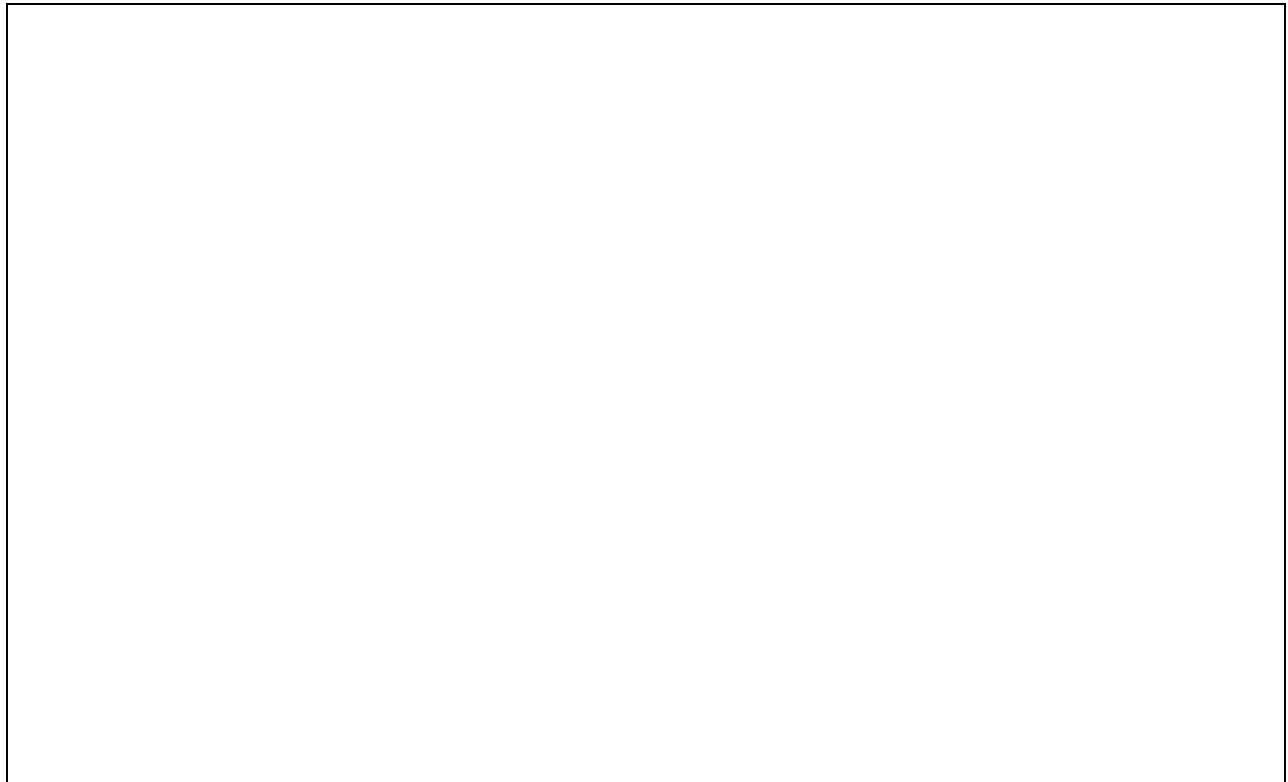
5. Have each team present their job analysis information to the class.

6. Have team members send a thank you letter **AND** a copy of their job analysis information to the site of their visitation.

Note to Specialist: Check both the letters, envelope and job analysis information before they are mailed.

DISCUSSION:

When the same job has been analyzed at two different places of business ask students about the differences. (Jobs have been customized to their employers.)



LEARNING ACTIVITY G.40-3
“JOB ANALYSIS”
WORK SHEET

Job: _____

Skills Performed	Knowledge Required	Attitudes Needed
1. _____ _____		
2. _____ _____		
3. _____ _____		
4. _____ _____		
5. _____ _____		
6. _____ _____		
7. _____ _____		
8. _____ _____		
9. _____ _____		
10. _____ _____		

11. _____ _____		
12. _____ _____		
13. _____ _____		
14. _____ _____		
15. _____ _____		
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24. _____ _____		
25. _____ _____		
26. _____ _____		
27. _____ _____		
28. _____ _____		
29. _____ _____		
30. _____ _____		
31. _____ _____		
32. _____ _____		
33. _____ _____		
34. _____ _____		
35. _____ _____		
36. _____ _____		

LEARNING ACTIVITY G.40-4
“JOURNAL WRITING”

OBJECTIVE: Student will demonstrate writing skills by creating a journal entry centered on a topic assigned by the Specialist

RESOURCES: None

SUGGESTED TIME: 1 hour

DIRECTIONS:

1. Provide students with the topic they are to use for this journal writing activity. The topic should relate to this module.
2. Assign the page range for the journal writing assignment.

This range could vary depending on the timeframe provided for the assignment, the writing skills of the entire group, a small group of students, or individual students. The Specialist can individualize this assignment by placing the page length in the blank space on the work sheet.

LEARNING ACTIVITY G.40-4
“JOURNAL WRITING”
WORK SHEET

NAME:

DATE:

TOPIC:

DATE DUE:

PAGE LENGTH:

LEARNING ACTIVITY G.40-5
"SERVICE LEARNING"

OBJECTIVE: Students will participate in a service learning activity assigned by the Specialist

RESOURCES: Learning Activity G.40-5

SUGGESTED TIME: 1 hour

DIRECTIONS:

1. Identify the type of support linkage which could be used to reinforce the key concept(s) in this module with students (See "Types of Support Linkages").
2. With your students, identify the school and/or community resources which could be contacted to create a Service Learning Activity for this module (See "Community Resources").
3. With students, brainstorm, organize, implement and evaluate the effectiveness of the Service Learning Activity using the "Service Activity Action Plan."

TYPES OF SUPPORT LINKAGES		
Direct Services to Students	Consultative and Technical Assistance	Information and Referral
Community agencies	Professional organizations	Career counseling centers
Parents and personal advocates	Service organizations	Work experience and job placement services
Local education agency support/auxiliary staff	Parent organizations	School and private psychologists
Volunteer and service organizations	Advisory groups	Tutors
Placement services	State education agency personnel	Recreational programs
Postsecondary programs and personnel	Business/industry personnel and programs	Employers
Transitional services	Other vocational support service teams	Employment services
Other school-based personnel	Local colleges and universities	Community agencies for counseling or health services
	Vocational education research and development resource center(s)	New schools (transfer students)
		Division of vocational rehabilitation
		Job training partnership program

(Source: Handbook for Vocational Support Service Teams in Maryland)

COMMUNITY RESOURCES

Federal and State Agencies provide services to their local and regional offices. Such services include financial support, job training and placement programs, housing, health, youth programs, consumer information, and legal aid. Examples include:

- legal services
- armed services
- state employment services
- state agency or school for the visually impaired
- State Department of Welfare
- mental health agency
- Department of Immigration
- Veterans Administration
- Social Security Administration
- Job Training Partnership Act (JTPA)
- Community Action Program
- law enforcement agency
- legal and judicial agencies
- Bureau of Indian Affairs
- public health service
- social services
- adult continuing education programs
- Office of Economic Opportunity
- civil service programs
- Rehabilitation Services Administration
- employment services
- Parks Department
- public health programs
- Adult Basic Education programs
- migrant programs
- military service representatives
- Planned Parenthood
- correctional facilities
- Governor's/Mayor's Committee for Employment of the Disabled

Community agencies and organizations provide such services as youth recreation, counseling and tutoring, employment and job training, foster care placement, and leadership development. Examples include:

- Chamber of Commerce
- YMCA/YWCA
- drug and alcohol abuse centers
- Red Cross
- child abuse/women's centers
- urban league
- adult continuing education programs
- student financial aid programs
- League of Women Voters
- mental health clinics
- probation and parole services
- children and youth services
- foster homes
- halfway houses
- community action programs
- migrant programs
- bilingual programs
- dropout prevention programs
- parent-teacher organizations
- American Legion
- Veterans of Foreign Wars
- Salvation Army
- JAYCEES
- Optimists
- Goodwill Industries

Citizen and special interest groups typically offer scholarship programs, legal aid, daycare, and transportation. Examples include:

- Lions Club
- canes
- Rotary
- churches
- women's and men's clubs in the community
- crisis intervention centers
- hospitals
- Girl Scouts
- Campfire Girls
- Big Brothers and Sisters
- Boy Scouts
- Indian guides
- Knights of Columbus
- Sertoma
- Elks
- retired citizens
- Volunteer tutor groups

Business, industry, and labor organizations are good sources of field trips, guest speakers, job opportunities, and occupational and product information. Examples include:

- Trade and labor unions
- Advisory committee members
- Employers
- Personnel offices
- industrial supervisors

Source: Sarkees-Wircenski, M. & Scott, J. VOCATIONAL SPECIAL NEEDS

SERVICE ACTIVITY ACTION PLAN

IMPLEMENTATION ACTIVITY/IDEA	
IMPLEMENTATION STEPS	RESOURCES NEEDED

PERSONNEL/AGENCIES/ COMMUNITY	REPRESENTATIVE INVOLVED RESPONSIBILITIES
POSSIBLE BARRIERS	CREATIVE SOLUTIONS
TIMEFRAME	

READING ACTIVITY G.40
“COMPUTE-A-JOB”

OBJECTIVE: To read with comprehension

RESOURCES: Reading Activity G.40

SUGGESTED TIME: 1 hour

DIRECTIONS:

1. Distribute copies of Reading Activity G.40.
2. Have the students read “Compute-a-Job”.
3. Have students complete the “Reading Recall” and check their answers for accuracy.
4. Discuss the story with your students.

“COMPUTE-A-JOB”

Manny filled out five different forms. They were all about the skills that he had. Some skills were from his education, like math or reading ability; others had to do with physical work skills. He was giving them to a computer that would tell him his best chance for work. That’s how things were in the year 2020.

“I-am-JAC. Are-your-forms-complete?”

“Sure, but I don’t see how this will help pick the right work for me.”

“I-am-JAC...the Job-Assignment-Computer. I-am-programmed-to-study-your-skills-and-pick-the-best-job-for-you-using-a-job-analysis-program-I-have.”

“OK, here are the forms. Do I have to put them in this slot here?”

“Affirmative.”

“And I’ll be called when you’re done computing what I’m best at?”

“Affirmative.”

“Good enough. See ya’ later JAC.”

The young man left the room that was filled with blinking lights and spinning disks. Down the hall a short way was a coffee shop. He sat down next to someone who looked to him like he might be waiting, too.

“My name’s Manny,” said the young man. “Are you waiting for JAC, too?”

“Hi-mine’s Rafael. Yeah, I’m waiting. It’s the second time for me. First time was a total loss.”

“Why? What happened?” asked Manny.

“That thing said I’d make a good accountant. I’m pretty good in math, see, but I just can’t stand working at a desk all day. I kept daydreaming and gawking out the window. I just didn’t seem to have the right ‘attitude’. Pretty soon I was fired.”

“Oh-that’s too bad.”

“No! It’s the best thing that ever happened to me. I hated that job. I want to work outside. I think surveying would be good for me. But, they say you should take what JAC gives you.”

“Number-12-come-in...Number-12,” they heard over a loudspeaker. “Your-data-is-ready...Number-12.” This was Manny’s number. He got up quickly and walked back to JAC’s room. Manny was anxious. At last he would find out what he was going to be.

“Are-you-Number-12?” the computer said.

“Yep,” Manny replied.

“The-job-analysis-data-states-that-you-are-very-able-in-the-sciences...Many-of-your-skills-would-make-you-suited-for-lab-work.”

“Wow, that’s great! All my life I wanted to be a scientist. I can see it now - my own lab. I’d have a dozen people working for me and another three I’d have just for washing test tubes.”

“But-because-of-your-other-qualities-you-would-be-better-at-giving-service-to-others.”

“No – I don’t think so.”

“Silence!-What-you-think-is-not-important. My-judgment-is-always-correct. I-have-perfect-logic-circuits. My-calculations-are-never-wrong.”

“Well, what kind of service to others?”

“The-sum-of-our-data-on-you-shows-without-error-your-best-career-choice.”

“Oh?”

“You-will-make-a-fine-surgeon.”

“Ha ha ha...I faint at the sight of blood! I think I’ll just do my own job analysis. I know I can come up with something better than that. See ya’ later JAC!

READING RECALL

PART I

DIRECTIONS: How well did you read? Complete the following sentences.

1. JAC was
 - a. _____ a computer.
 - b. _____ an employment agency.
 - c. _____ a series of forms to fill out.

2. Manny was using JAC
 - a. _____ to get a job.
 - b. _____ to find out what sort of work he was suited for.
 - c. _____ to provide job training.

3. JAC told Manny he
 - a. _____ should be a surgeon.
 - b. _____ would faint at the sight of blood.
 - c. _____ should be an accountant.

PART II

DIRECTIONS: Fill in the blanks to complete the paragraphs below.

Manny filled out five different forms. He had to _____ about the skills that _____ had. He gave the _____ to a computer. The _____ would tell him what _____ of job he would _____ best in. It was _____ year 2020.

The computer's _____ was JAC. JAC stood _____ Job Assignment Computer. It _____ programmed to study a _____ skills and pick the _____ job for that person.

_____ told Manny that he _____ very able in the _____. It said that he _____ suited for lab work. _____ said he should be _____ surgeon. George laughed because he always fainted at the sight of blood.

MATH ACTIVITY G.40
“GIGO”

OBJECTIVE: To be able to perform addition, subtraction, multiplication, and division

RESOURCES: Work Sheet—Math Activity G.40

SUGGESTED TIME: 1 hour

DIRECTIONS:

1. Make copies of the work sheet for Math Activity G.40 and distribute to each student.
2. Have students complete the questions on the work sheet and check their answers for accuracy.
3. Discuss the Math Activity with your students.

MATH ACTIVITY G.40
“GIGO”
WORK SHEET

DIRECTIONS: People who work with computers have a word of their own. It is “GIGO.” It stands for Garbage In, Garbage Out. It means that if you give a computer bad or incorrect information (Garbage In), all its computations will be bad or incorrect (Garbage Out). This is true for humans, too. We can check our answers for many kinds of math problems. This way we don’t get caught with “GIGO.”

1. Here is a division problem someone else worked out.

504	9	56
÷	=	
dividend	divisor	answer

To check it multiply the answer by the divisor.

$$9 \times 56 = 504$$

The answer should be equal to the dividend. Use this method to check the following problems. Put a letter C in front of correct problems and a letter X in front of wrong problems.

- _____ a. $945 \div 21 = 42$
 _____ b. $3402 \div 63 = 54$
 _____ c. $952 \div 17 = 58$

2. You can use addition to check subtraction problems also. Here’s an example:

123	46	77
-	=	
subtrahend	subtractor	answer


To check it, add the answer to the subtractor.

$$46 + 77 = 123$$

The answer should be equal to the subtrahend. Use this method to check the following problems. Put a letter *C* in front of correct problems and a letter *X* in front of wrong problems.

- _____ a. $456 - 254 = 205$
_____ b. $789 - 247 = 538$
_____ c. $2569 - 569 = 2000$

3. Can you think of a way to check multiplication problems and addition problems?



PRE-ASSESSMENT **POST-ASSESSMENT**

DIRECTIONS: Answer the following questions to the best of your ability. A listing of points as opposed to sentences is suggested.

1. What is a job analysis?

2. Why should a job analysis be conducted?

3. Identify 4 sources of job analysis information.

4. Why should a job analysis be customized?

5. What are the 4 techniques for conducting a job analysis?

ANSWER KEY

PRE-ASSESSMENT POST-ASSESSMENT

1. What is a job analysis?
 - It is a systematic process used to identify the K, S, and a required to do a job
2. Why should a job analysis be conducted?
 - Helps you fit in more quickly and learn how to perform the job you have been assigned
3. Identify 4 sources of job analysis information.
 - Job description
 - Dictionary of Occupational Titles (DOT)
 - Newspaper ads
 - Internet
4. Why should a job analysis be customized?
 - It allows you to tailor the job to the employer
5. What are the 4 techniques for conducting a job analysis?
 - Ask questions
 - Observe the job
 - Interview people
 - Videotape the job

ANSWER KEY
READING ACTIVITY

PART I

1. JAC was
 - a. x a computer.
 - b. an employment agency.
 - c. a series of forms to fill out.

2. Manny was using JAC
 - a. to get a job.
 - b. x to find out what sort of work he was suited for.
 - c. to provide job training.

3. JAC told Manny he
 - a. x should be a surgeon.
 - b. would faint at the sight of blood.
 - c. should be an accountant.

PART II

Manny filled out five different forms. He had to write about the skills that he had. He gave the forms to a computer. The computer would tell him what kind of job he would be best in. It was the year 2020.

The computer's name was JAC. JAC stood for Job Assignment Computer. It was programmed to study a person's skills and pick the best job for that person.

JAC told Manny that he was very able in the sciences. It said that he was suited for lab work. JAC said he should be a surgeon. George laughed because he always fainted at the sight of blood.

ANSWER KEY
MATH ACTIVITY

1. a. x
 b. c
 c. x

2. a. x
 b. x
 c. c

3. To check multiplication, divide the answer.

4. To check addition, subtract from the answer.