

**EXPLORING
CAREER CLUSTERS:**

**EDUCATION
&
TRAINING**



UNIT 2-C: EXPLORING CAREER CLUSTERS: Education & Training *Suggestions for the Instructor*

Pg. 2C-14 - 17 What Do You Already Know? Job Titles in Education & Training

In small groups, discuss each of the job titles in the **Education & Training** career cluster. What do you think these workers do? What kind of environment do they work in? What tools and equipment do they use? What kind of skills do they need to have?

Pg. 2C-18 - 21 -- Education & Training JOB TITLES: Research

In small groups, look up the job titles below on **MyCareerShines** (www.mycareershines.kuder.com) and write the definition on the lines on the handout. (Other websites or a dictionary may be used if this is not accessible.) ask students to discuss how their research compares with their prior knowledge.

Pg. 2C-22 - 23 -- Education & Training Job Description Match-up

On this handout, have students match the letter of the job from this career cluster with the description of the job duties.

ANSWERS:

A	Fitness Trainer	F	Instruct or coach groups or individuals in the fundamentals of sports; evaluate athletes as possible recruits or to improve technique.
B	Educational, Guidance, School, and Vocational Counselor	R	Teach educationally and physically disabled students, observe and evaluate students' performance, behavior, and physical health. Develop ways to meet the special learning needs of students.
C	Librarian	M	Plan, direct, or coordinate the academic and administrative activities of public or private elementary or secondary level schools.
D	School Psychologist	A	Instruct or coach groups or individuals in exercise, fitness, or wellness activities.
E	Secondary School Teacher	Q	Prepare, plan, and operate multimedia teaching aids. Set up, adjust, and operate audio-visual equipment such as cameras and projectors.

F	Coaches and Athletic Scout	D	Observe student to assess needs, limitations, and potential. Identify students' educational problems and administer psychological tests.
G	Recreation Worker	C	Administer libraries and perform related library services. Select library materials for circulation. Classify and catalog materials. Keep references and files up to date.
H	Middle School Teacher	P	Teach preschool-aged children basic skills such as health, social development, personal hygiene, and good behavior. Instruct in academics needed to prepare them for elementary school.
I	Library Assistant	I	Compile records, sort, shelve, issue, and receive library materials.
J	Teacher Assistant	B	Counsel individuals and provide group educational and vocational guidance services regarding educational issues such as choosing courses, scheduling classes, study habits, and career planning. Counsel individuals to overcome personal, social, and behavior problems.
K	Dietician / Nutritionist	U	Teach students basic academic, social, and other skills at the elementary level. Prepare materials and classroom activities. Establish clear goals for learning and make sure students understand them. Prepare, administer, and grade tests and assignments.
L	Archivists, Curators, and Museum Educator	O	Teach or instruct vocational subjects at the postsecondary level to students who have graduated or left high school. Train individuals to work in skilled industry-type jobs and how to operate transportation equipment and communications equipment.
M	Education Administrator	N	Instruct adults in basic skills in reading, writing, and speaking English. Help students earn their high school equivalent (GED) diploma.
N	Adult Literacy, ESOL and GED Teacher	L	Appraise, catalog, and preserve historically valuable documents. Oversee collections of artwork and historic items. Prepare and restore objects and documents and present exhibits in museums.
O	Vocational Education Teachers, Postsecondary	K	Plan and conduct nutritional programs to promote health and control disease. Prepare dietary plans for clients based on their needs and counsel them on the principles of nutrition and healthy eating habits.
P	Preschool Teacher	E	Teach students at the secondary level in one or more subjects, such as English, mathematics, science, or social studies. Plan course content and course materials. Prepare, administer, and grade exams.

Q	Audio-Visual and Multimedia Specialist	H	Teach students in one or more subjects at the middle school level. Prepare lesson plans for class work. Prepare, administer, and grade exams.
R	Exceptional Student Education Teacher	T	Teach courses in English, science, mathematics, history, art, music, and many more at the college or university level. Prepare and deliver lectures. Prepare coursework and materials such as syllabi, assignments, and handouts. Prepare, administer, and grade exams.
S	Tutor	G	Conduct recreation activities with groups, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies.
T	Postsecondary Instructor	J	Assist classroom teachers supervising students, helping students with assignments, preparing lesson materials, and assisting students with special needs.
U	Elementary School Teacher	S	Provide non-classroom, academic instruction to individuals and small groups who need extra assistance with classwork or test preparation.

Pg. 2C-24 -- Alphabetical Order

Have students put the **Architecture & Construction** job titles in alphabetical order.

ANSWERS:

1. **Adult Literacy, ESOL and GED Teacher**
2. **Archivists**
3. **Audio-Visual and Multimedia Specialist**
4. **Coaches and Athletic Scouts**
5. **Dietician**
6. **Education Administrator**
7. **Educational Counselors**
8. **Elementary School Teacher**
9. **Exceptional Student Education Teacher**
10. **Fitness Trainers**
11. **Librarian**
12. **Library Assistant**
13. **Middle School Teacher**
14. **Postsecondary School Instructor**
15. **Preschool Teacher**
16. **Recreation Worker**
17. **School Psychologist**
18. **Secondary School Teacher**
19. **Teacher Assistant**
20. **Tutor**
21. **Vocational Education Teacher**

Pg. 2C-25 - 26 -- STRETCH your VOCABULARY

Have students make new words from the **Education & Training Job Cluster** vocabulary. They may work in small groups to use their own knowledge and a dictionary to see how many forms of the words they can find. (They will not be able to fill in all the categories for some terms.) The first four are done for them.

Have them write a story about a day in the life of a person who works in the Education & Training career cluster. Have them use at least ten of the words (in addition to the job titles!)

ANSWERS:

JOB TITLE (NOUN)	RELATED NOUN	Present- tense VERB	ADJECTIVE	ADVERB
Fitness Trainer	fitness training	train	fit trained	
School Psychologist	school psychology	school	school psychological	psychologically
Teacher	teaching	teach	taught	
Educational, Guidance, School, and Vocational Counselor	education guidance school vocation counseling	educate guide counsel	educational guided vocational counseled	educationally vocationally
Librarian	library			
Coach	coaching	coach	coached	
Recreation Worker	recreation work	recreate work	recreational	recreationally
Teacher Assistant	teaching assistance	teach assist	taught assisted	
Dietician	diet	diet	dietetic	dietetically
Nutritionist	nutrition			nutritionally
Archivist	archive	archive	archived archival	
Administrator	administration	administer	administrative	administratively
Adult Literacy	literacy		literate	literately

Pg. 2C-27 - 28 -- Education & Training Job Cluster Crossword Puzzle

ANSWERS:

Across

4. One who appraises, catalogs, and preserves historically valuable documents
ARCHIVIST
10. One who seeks possible recruits for high school or college athletic teams **SCOUT**
11. School for students in kindergarten through fifth grade **ELEMENTARY**
12. School for students up to age five to learn basic academic skills as well as health, social development, personal hygiene, and good behavior **PRESCHOOL**
13. One who counsels students about choosing courses, career planning, personal, social, and behavior problems **GUIDANCE COUNSELOR**
14. One who coordinates the overall academic and administrative activities of a school
ADMINISTRATOR
15. One who coaches groups or individuals in the fundamentals of sports **COACH**
16. The person who plans menus and nutritional programs to assist in the promotion of health and control of disease **NUTRITIONIST**
17. The ability to read and write **LITERACY**

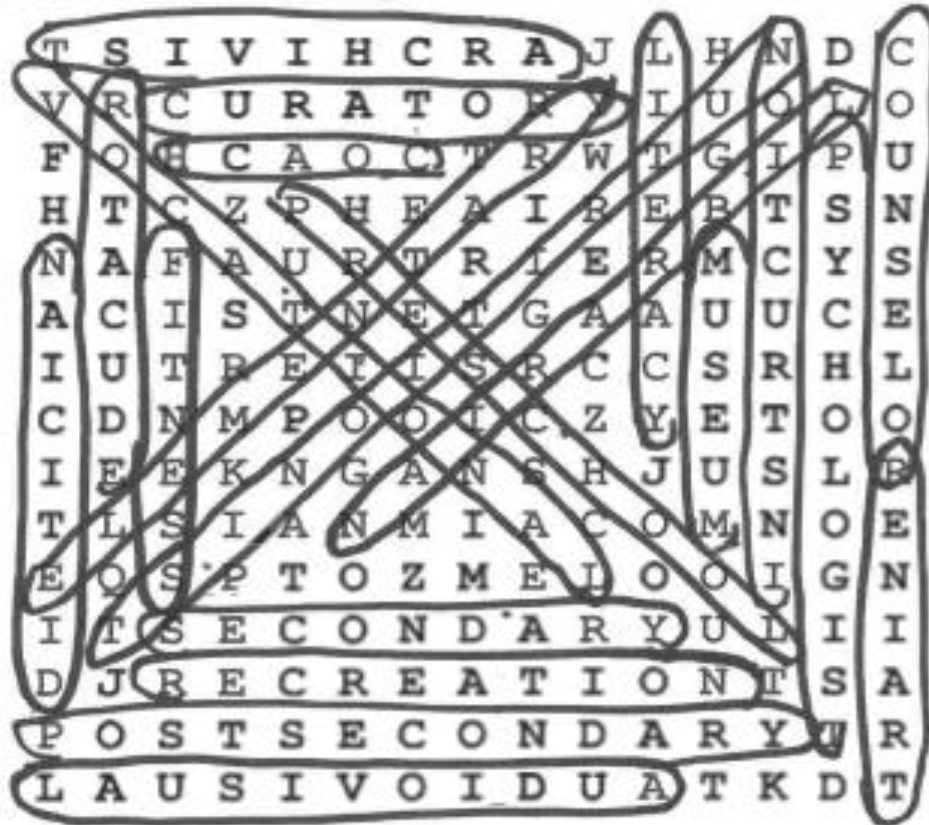
Down

1. The person who selects, classifies, and catalogs books and other library materials
LIBRARIAN
2. Education after high school or GED completion **POSTSECONDARY**
3. One who instructs groups or individuals in exercise, fitness, and wellness activities
FITNESS INSTRUCTOR
5. Related to skilled industry-type jobs **VOCATIONAL**
6. One who provides non-classroom, academic instruction to people who need extra assistance with classwork or test preparation **TUTOR**
7. One who assists classroom teachers supervising students, helping with assignments, and preparing lesson materials **TEACHER ASSISTANT**
8. School for students in ninth through twelfth grade **SECONDARY SCHOOL**
9. School for students in sixth through eighth grade **MIDDLE SCHOOL**

Pg. 2C-29 -- Education & Training Job Cluster Word Search

ANSWERS:

Education & Training Job Cluster Word Search



ADMINISTRATOR
ARCHIVIST
AUDIOVISUAL
COACH
COUNSELOR
CURATOR
DIETICIAN
EDUCATOR

ELEMENTARY
FITNESS
INSTRUCTION
LIBRARIAN
LITERACY
MUSEUM
NUTRITIONIST
POSTSECONDARY

PRESCHOOL
PSYCHOLOGIST
RECREATION
SCHOOL
SCOUT
SECONDARY
TRAINER
VOCATIONAL

**Pg. 2C-30 - 32 -- MATH in the Education and Training Career Cluster:
Reading and Interpreting NBA Statistics**

Tell students that, as a high school or college basketball coach, they might look at the record of the star player in the NBA in order to help players better understand what makes him great and to practice important math skills along the way. Have students work in pairs or small groups, using the glossary and the statistics on the handout, to answer the questions about LeBron James' record in the NBA.

After they have answered the questions, have them develop five questions for others in the class to solve, based on the statistics in the chart.

ANSWERS:

1. During what season and for which team did James start the most games? **17-18, CLE**
2. During what season did James have the highest 3-Point Field Goal Percentage? **12-13**
3. To find the percent of field goals made, divide the field goals per game by the attempts per game. In his 2009-10 season with Cleveland, James made 20.1 field goal attempts and 10.1 field goals. What percent of his attempts were successful? 50% Approximately what fraction of his attempts were successful? 1/2
4. Of the three positions James played, which has he played the most? **Small Forward**
5. What percent of his career has James played Power Forward? **20%**
6. In his first year with Miami, James made an average of how many more 2 point shots than 3 point shots per game? **11.8**
7. What is LeBron James' weight in metric units? **113 kg.**
8. How many total games did James play in the first ten years of his career? **764**
9. In what year did James score the highest average number of points per game? **05-06**
10. Of all the games in James' career, what percent were played for Miami? **27%**

**Pg. 2C-33 -- MATH in the Education & Training Career Cluster:
Calculating Batting Average**

In this activity, students learn that batting average (BA) is defined by the number of hits a player makes divided by the number of times at bat. Batting average is calculated by dividing the number of hits by the number of at-bats.

Have students calculate the batting averages for the pro baseball players listed on the handout, then order (rank) their batting average in order from highest (1) to lowest (5).

ANSWERS:

Rank	Player	At-Bats	Hits	Batting Average
3	J.D. Martinez	399	130	.326
4	Christian Yelch	380	122	.321
5	Corey Dickerson	346	110	.318
1	Mookie Betts	357	123	.345
2	Jose Altuve	407	134	.329

**Pg. 2C-34 - 39 -- SCIENCE in the Education & Training Career Cluster:
Nutritionist**

Have students read the informational pamphlet published by the Centers for Disease Control on the science of diabetes, then ask them to imagine that they are nutritionists preparing to give an educational workshop to people in the community. Have them take notes from the handout on the notecards that follow, or distribute 4" x 6" cards for them to use when answering the questions. Have them then use the notes to take turns presenting the information to the class.

Pg. 2C-40 -- What do Education & Training Workers Do? Editing Practice

Have students rewrite the paragraph on the handout. They will edit for complete sentences, correct subject / verb agreement, punctuation, and capitalization.

ANSWERS:

Would you like to get paid to help others learn new things? Professionals in the field of education and training guide and train people in skills they need to succeed in life at whatever level.

Educators work with people of all ages. Preschool, elementary, middle, and secondary school teachers work in public and private schools to teach fundamental skills related to reading, writing, math, science, and social studies. They may specialize in art, music, physical education, vocational skills, or special education.

At the postsecondary level, in community colleges, four-year colleges, universities, and technical schools, instructors teach a subject area in which they have done advanced study and have special expertise.

Many people support the work of teachers. Teacher assistants help classroom teachers by working with individuals and preparing materials. Guidance counselors counsel students regarding educational issues such as choosing courses, scheduling classes, and planning careers. Librarians select library materials for circulation, classify and catalog materials, and keep references and files up to date. Administrative staff and school principals plan, direct, and coordinate the academic and administrative activities of educational institutions.

Do you like to help people expand their understanding of the world? Do you like to learn new information and find creative ways to share it with others? Consider a rewarding career in education.

Pg. 2C-41 -- Talk About Jobs! Small Group Dialogue

Have students pick one of the jobs in the Education & Training Career Cluster. In small groups, complete the dialogue on the handout, using at least ten of the words from the previous lessons. Have him write in such a way that the audience learns about the job duties, the work environment, and the qualities a person should possess who holds one of these jobs. Then they can perform the dialogue for the class.

Pg. 2C-42 - 43 -- A Day in the Life: David Marshall, Preschool Teacher

Have students read an article about a day in the life of a building contractor, either individually, in small groups, or as a class. Then have them answer the comprehension questions about the information in the article.

ANSWERS:

1. What time does David Marshall arrive at work? What does he do to prepare for his day as a Preschool Teacher? **He arrives at 7:30. He prepares the classroom and gets materials ready for the day.**
2. What are the activities he leads his students in every day?
 - **breakfast**
 - **circle time (talk about the weather, colors, numbers, days of the week)**
 - **reading a story aloud.**
 - **playground time**
 - **restroom and wash up for lunch**
 - **lunch**
 - **phonics activity**
 - **singing educational songs**
 - **outside for play**
 - **nap time**
3. What other workers in the Education and Training Career Cluster does David Marshall work with as part of his job? **Teacher Assistant and Principal**
4. What are some of the things that David Marshall likes most about his job?
 - **He is inspired by his smart, curious and energetic students.**
 - **He loves watching them play.**
 - **He enjoys the time when the kids come in to use the restroom and wash up for lunch, because the in-between times are when they teach how to cooperate, wait your turn, use your words, and solve problems.**
 - **He likes chatting with the kids because he thinks they say the funniest things!**
 - **He likes nap time so he can get some paperwork done.**

(continued)

5. What qualities do you think David Marshall has to have to make him a good Preschool Teacher?

Answers may include: He needs to be patient, well organized, interested in child development, creative, able to work well with others (team player.)

6. What parts of David Marshall’s job as a Preschool Teacher do you think you would enjoy? Why? Which would you find challenging?

Answers will vary.

Pg. 2C-44 -- Career Cluster Research

Ask students to use three resources to research and complete the information pertaining to job titles in the career cluster they have chosen to explore. (For example: MyCareer Shines: <https://mycareershines.kuder.com>, another on-line resource, an interview with a career counselor.)

Pg. 2C-45 - 46 -- Post-Secondary Catalogue Exploration & Presentation

For this activity, students will choose a program at one of the local educational or vocational institutions that interests them, based on what they have learned about their interests, skills and talents as well as what they now know about post-secondary options. (For example: they might select a certificate program from the local technical center, an Associate of Arts degree program, a community college certificate program or Associate of Science degree, or a four-year college degree.) They will go to the website of the institution which offers a program that interests them to answer the following questions. If they do not have internet access, if possible bring in print catalogues from the local college and vocational / technical center. Have students then prepare to present their information to the class.

Pg. 2C-47 - 49 -- Education & Training Occupation Presentation

Have students study the occupational vocabulary on the handout. Then they can use MyCareer Shines (<https://mycareershines.kuder.com>) and the Occupational Outlook Handbook (http://o*netonline.com) to explore in greater depth one of the jobs in the Education & Training Career Cluster and prepare to present the information to the class.

Image from Creative Commons www.commonswikimedia.org/wiki/File:Globe_icon_Boca.svg

EXPLORING CAREER CLUSTERS:

EDUCATION & TRAINING



WHAT DO YOU KNOW?

JOB TITLES IN EDUCATION & TRAINING

In small groups, discuss each of the job titles in the Education and Training career cluster. What do you think these workers do? What kind of environment do they work in? What tools and equipment do they use? What kind of skills do they need to have?

Audio-Visual and Multimedia Specialist_____

Educational, Guidance, School, and Vocational Counselor_____

Librarian_____

Library Assistant_____

School Psychologist_____

Vocational Education Teachers, Postsecondary_____

Adult Literacy, ESOL and GED Teacher_____

Archivist / Curator / Museum Educator_____

Dietician / Nutritionist_____

Elementary School Teacher_____

Secondary School Teacher_____

Middle School Teacher _____

Postsecondary School Instructor _____

Preschool Teacher _____

Recreation Worker _____

Exceptional Student Education Teacher _____

Teacher Assistant _____

Tutor_____

Coach / Athletic Scout_____

Education Administrator_____

Fitness Trainer_____

EDUCATION & TRAINING

JOB TITLES: Research

In small groups, look up the job titles below on *MyCareerShines* (www.mycareershines.kuder.com) and the *Occupational Outlook Handbook* (www.bls.gov/ooh) and write the definition on the lines below. (Other websites or a dictionary may be used.) How does the research compare with your prior knowledge?

Audio-Visual and Multimedia Specialist _____

Educational, Guidance, School, and Vocational Counselor _____

Librarian _____

Library Assistant _____

School Psychologist _____

Vocational Education Teachers, Postsecondary_____

Adult Literacy, ESOL and GED Teacher_____

Archivist / Curator / Museum Educator_____

Dietician / Nutritionist_____

Elementary School Teacher_____

Secondary School Teacher_____

Middle School Teacher _____

Postsecondary School Instructor _____

Preschool Teacher _____

Recreation Worker _____

Exceptional Student Education Teacher _____

Teacher Assistant _____

Tutor_____

Coach / Athletic Scout_____

Education Administrator_____

Fitness Trainer_____

EDUCATION & TRAINING

JOB DESCRIPTION MATCH-UP

Match the letter of the job from this career cluster with the description of the job duties.

A	Fitness Trainer	Instruct or coach groups or individuals in the fundamentals of sports; evaluate athletes as possible recruits or to improve technique.
B	Educational, Guidance, School, and Vocational Counselor	Teach educationally and physically disabled students, observe and evaluate students' performance, behavior, and physical health. Develop ways to meet the special learning needs of students.
C	Librarian	Plan, direct, or coordinate the academic and administrative activities of public or private elementary or secondary level schools.
D	School Psychologist	Instruct or coach groups or individuals in exercise, fitness, or wellness activities.
E	Secondary School Teacher	Prepare, plan, and operate multimedia teaching aids. Set up, adjust, and operate audio-visual equipment such as cameras and projectors. .
F	Coaches and Athletic Scout	Observe student to assess needs, limitations, and potential. Identify students' educational problems and administer psychological tests.
G	Recreation Worker	Administer libraries and perform related library services. Select library materials for circulation. Classify and catalog materials. Keep references and files up to date.
H	Middle School Teacher	Teach preschool-aged children basic skills such as health, social development, personal hygiene, and good behavior. Instruct in academics needed to prepare them for elementary school.
I	Library Assistant	Compile records, sort, shelve, issue, and receive library materials.
J	Teacher Assistant	Counsel individuals and provide group educational and vocational guidance services regarding educational issues such as choosing courses, scheduling classes, study habits, and career planning. Counsel individuals to overcome personal, social, and behavior problems.
K	Dietician / Nutritionist	Teach students basic academic, social, and other skills at the elementary level. Prepare materials and classroom activities. Establish clear goals for learning and make sure students understand them. Prepare, administer, and grade tests and assignments.

L	Archivists, Curators, and Museum Educator		Teach or instruct vocational subjects at the postsecondary level to students who have graduated or left high school. Train individuals to work in skilled industry-type jobs and how to operate transportation equipment and communications equipment.
M	Education Administrator		Instruct adults in basic skills in reading, writing, and speaking English. Help students earn their high school equivalent (GED) diploma.
N	Adult Literacy, ESOL and GED Teacher		Appraise, catalog, and preserve historically valuable documents. Oversee collections of artwork and historic items. Prepare and restore objects and documents and present exhibits in museums.
O	Vocational Education Teachers, Postsecondary		Plan and conduct nutritional programs to promote health and control disease. Prepare dietary plans for clients based on their needs and counsel them on the principles of nutrition and healthy eating habits.
P	Preschool Teacher		Teach students at the secondary level in one or more subjects, such as English, mathematics, science, or social studies. Plan course content and course materials. Prepare, administer, and grade exams.
Q	Audio-Visual and Multimedia Specialist		Teach students in one or more subjects at the middle school level. Prepare lesson plans for class work. Prepare, administer, and grade exams.
R	Exceptional Student Education Teacher		Teach courses in English, science, mathematics, history, art, music, and many more at the college or university level. Prepare and deliver lectures. Prepare coursework and materials such as syllabi, assignments, and handouts. Prepare, administer, and grade exams.
S	Tutor		Conduct recreation activities with groups, such as arts and crafts, sports, games, music, dramatics, social recreation, camping, and hobbies.
T	Postsecondary Instructor		Assist classroom teachers supervising students, helping students with assignments, preparing lesson materials, and assisting students with special needs.
U	Elementary School Teacher		Provide non-classroom, academic instruction to individuals and small groups who need extra assistance with classwork or test preparation.

ALPHABETICAL ORDER

Put the following Education & Training job titles in alphabetical order.

Recreation Worker
Library Assistant
Middle School Teacher
Librarian
Preschool Teacher
Adult Literacy, ESOL and GED Teachers
Teacher Assistant
Archivist
Coaches and Athletic Scout
Education Administrator
Dietician

Postsecondary School Instructor
Exceptional Student Education Teacher
Fitness Trainer
Tutor
Vocational Education Teacher
Audio-Visual and Multimedia Specialist
Elementary School Teacher
School Psychologist
Educational Counselor
Secondary School Teacher

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____

STRETCH YOUR VOCABULARY

Make new words from the Education and Training Career Cluster vocabulary. Work in small groups to use your own knowledge and a dictionary to see how many forms of the words below you can find. (You will not be able to fill in all the categories for some terms.) The first three are done for you.

JOB TITLE (NOUN)	RELATED NOUN	Present- tense VERB	ADJECTIVE	ADVERB
Fitness Trainer	fitness training	train	fit trained	
School Psychologist	school psychology	school	school psychological	psychologically
Teacher	teaching	teach	taught	
Educational, Guidance, School, and Vocational Counselor				
Librarian				
Coach				
Recreation Worker				
Teacher Assistant				
Dietician				
Nutritionist				

Archivist				
Administrator				
Adult Literacy				

SMALL GROUP STORY

Now write a story about a day in the life of a person who works in the career cluster of Education and Training. Use at least ten of the words above (not including the job titles!)

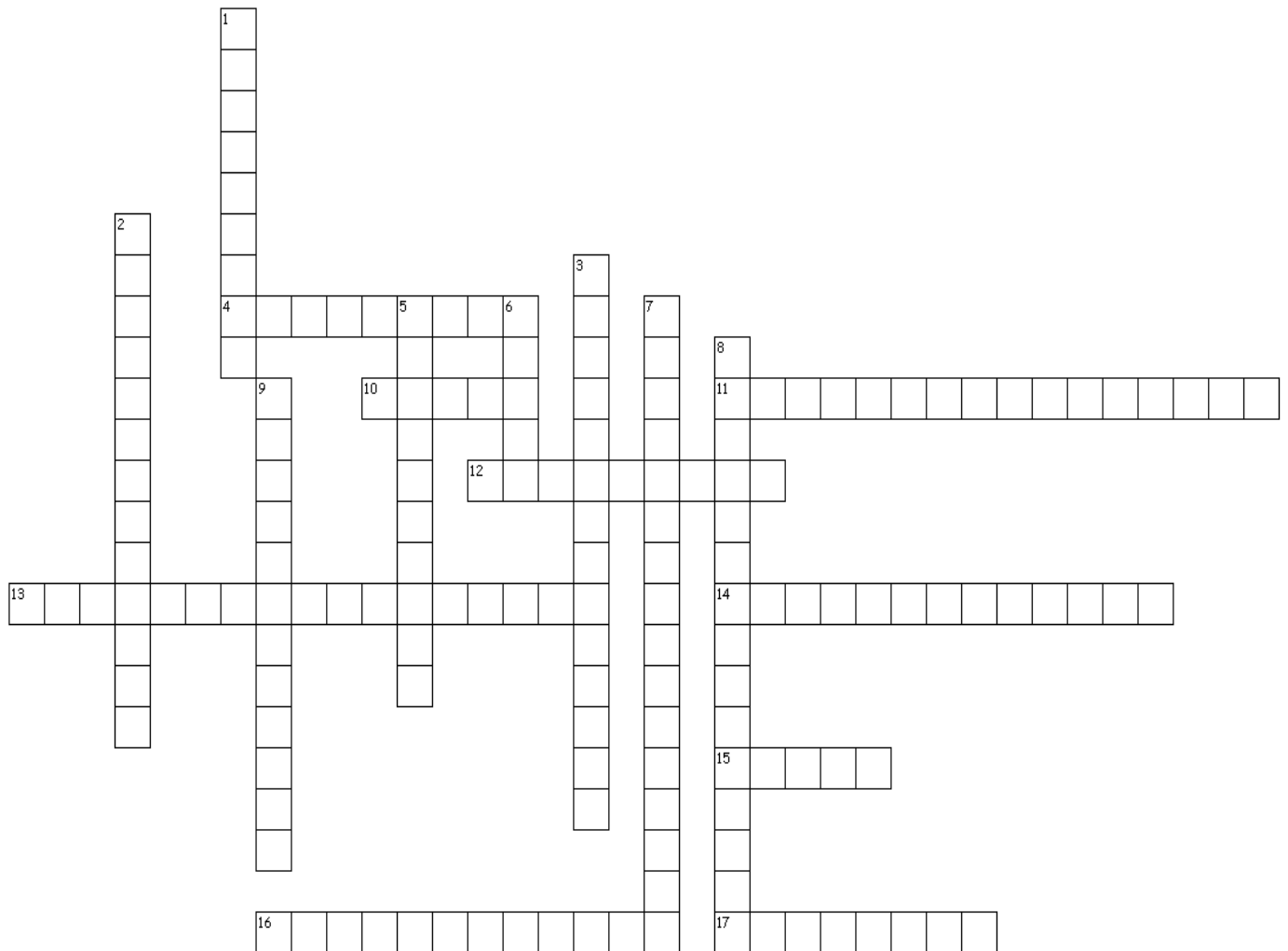
Education & Training Career Cluster Crossword

Use the clues on the following page to help you complete the crossword puzzle. Use the list below or cover it up for more of a challenge.

Coach
Scout
Administrator
FitnessTrainer
GuidanceCounselor

Librarian
Postsecondary
Archivist
Nutritionist
ElementarySchool

SecondarySchool
MiddleSchool
Preschool
TeacherAssistant
Tutor



Education & Training Career Cluster Crossword CLUES

Across

4. One who appraises, catalogs, and preserves historically valuable documents
10. One who seeks possible recruits for high school or college athletic teams
11. School for students in kindergarten through fifth grade
12. School for students up to age five to learn basic academic skills as well as health, social development, personal hygiene, and good behavior
13. One who counsels students about choosing courses, career planning, personal, social, and behavior issues
14. One who coordinates the overall academic and administrative activities of a school
15. One who coaches groups or individuals in the fundamentals of sports
16. The person who plans menus and nutritional programs to assist in the promotion of health and control of disease
17. The ability to read and write

Down

1. The person who selects, classifies, and catalogs books and other library materials
2. Education after high school or GED completion
3. One who instructs groups or individuals in exercise, fitness, and wellness activities
5. Related to skilled industry-type jobs
6. One who provides non-classroom, academic instruction to people who need extra assistance with classwork or test preparation
7. One who assists classroom teachers supervising students, helping with assignments, and preparing lesson materials
8. School for students in ninth through twelfth grade
9. School for students in sixth through eighth grade



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Education & Training Job Cluster Word Search

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

ADMINISTRATOR
ARCHIVIST
AUDIOVISUAL
COACH
COUNSELOR
CURATOR
DIETICIAN
EDUCATOR

ELEMENTARY
FITNESS
INSTRUCTION
LIBRARIAN
LITERACY
MUSEUM
NUTRITIONIST
POSTSECONDARY

PRESCHOOL
PSYCHOLOGIST
RECREATION
SCHOOL
SCOUT
SECONDARY
TRAINER
VOCATIONAL

MATH in the Education and Training Career Cluster

Reading and Interpreting NBA Statistics



As a high school or college basketball coach, you might look at the record of the star player in the NBA in order to help your players better understand what makes him great and to practice important math skills along the way. Using the glossary and the statistics below, work in pairs or small groups to answer the questions about LeBron James' record in the NBA.

Image from www.upload.wikimedia.org/wikipedia/commons/b/b1/Lebron_James_%22The_King%22..jpg

After you have answered the questions, develop five questions for others in the class to solve, based on the statistics in the chart.

LeBron James

Power Forward, Small Forward and Shooting Guard

6' 8", 250 lb. (203 cm, 113 kg)

1. During what season and for which team did James start the most games?
2. During what season did James have the highest 3-Point Field Goal Percentage?
3. To find the percent of field goals made, divide the field goals per game by the attempts per game. In his 2009-10 season with Cleveland, James made _____ field goal attempts and _____ field goals. What percent of his attempts were successful? _____ Approximately what fraction of his attempts were successful? _____
4. Of the three positions James has played, which has he played the most?
5. What percent of his career has James played Power Forward?
6. In his first year with Miami, James made an average of how many more 2 point shots than 3 point shots per game?
7. What is LeBron James' weight in metric units?
8. How many total games did James play in the first ten years of his career?
9. In what year did James score the highest average number of points per game?
10. Of all the games in James' career, what percent of those were played for Miami?

Reading and Interpreting NBA Statistics, continued

**LeBron James ~ NBA Statistics
Glossary of Terms**

Season -- Year the season ended.

Age -- Age on Feb. 1st of that season.

Tm -- Team

Pos -- Position

G -- Games

GS -- Games Started

FG -- Field Goals Per Game

FGA -- Field Goal Attempts Per Game

FG% -- Field Goal Percentage

3P -- 3-Point Field Goals Per Game

3PA -- 3-Point Field Goal Attempts Per Game

3P% -- 3-Point Field Goal Percentage

2P -- 2-Point Field Goals Per Game

2PA -- 2-Point Field Goal Attempts Per Game

2P% -- 2-Point Field Goal Percentage

FT -- Free Throws Per Game

FTA -- Free Throw Attempts Per Game

FT% -- Free Throw Percentage

TRB -- Total Rebounds Per Game

AST -- Assists Per Game

STL -- Steals Per Game

BLK -- Blocks Per Game

TOV -- Turnovers Per Game

PF -- Personal Fouls Per Game

PTS -- Points Per Game

Reading and Interpreting NBA Statistics, continued

LeBron James ~ NBA Statistics

Sea-son	Age	Tm	Pos	G	GS	FG	FGA	FG%	3P	3PA	3P%	2P	2PA	2P%	FT	FTA	FT%	TRB	AST	STL	BLK	TOV	PF	PTS
03-04	19	CLE	SG	79	79	7.9	18.9	.417	0.8	2.7	.290	7.1	16.1	.438	4.4	5.8	.754	5.5	5.9	1.6	0.7	3.5	1.9	20.9
04-05	20	CLE	SF	80	80	9.9	21.1	.472	1.4	3.9	.351	8.6	17.2	.499	6.0	8.0	.750	7.4	7.2	2.2	0.7	3.3	1.8	27.2
05-06	21	CLE	SF	79	79	11.1	23.1	.480	1.6	4.8	.335	9.5	18.3	.518	7.6	10.3	.738	7.0	6.6	1.6	0.8	3.3	2.3	31.4
06-07	22	CLE	SF	78	78	9.9	20.8	.476	1.3	4.0	.319	8.6	16.8	.513	6.3	9.0	.698	6.7	6.0	1.6	0.7	3.2	2.2	27.3
07-08	23	CLE	SF	75	74	10.6	21.9	.484	1.5	4.8	.315	9.1	17.1	.531	7.3	10.3	.712	7.9	7.2	1.8	1.1	3.4	2.2	30.0
08-09	24	CLE	SF	81	81	9.7	19.9	.489	1.6	4.7	.344	8.1	15.2	.535	7.3	9.4	.780	7.6	7.2	1.7	1.1	3.0	1.7	28.4
09-10	25	CLE	SF	76	76	10.1	20.1	.503	1.7	5.1	.333	8.4	15.0	.560	7.8	10.2	.767	7.3	8.6	1.6	1.0	3.4	1.6	29.7
10-11	26	MIA	SF	79	79	9.6	18.8	.510	1.2	3.5	.330	8.4	15.3	.552	6.4	8.4	.759	7.5	7.0	1.6	0.6	3.6	2.1	26.7
11-12	27	MIA	SF	62	62	10.0	18.9	.531	0.9	2.4	.362	9.1	16.5	.556	6.2	8.1	.771	7.9	6.2	1.9	0.8	3.4	1.5	27.1
12-13	28	MIA	PF	76	76	10.1	17.8	.565	1.4	3.3	.406	8.7	14.5	.602	5.3	7.0	.753	8.0	7.3	1.7	0.9	3.0	1.4	26.8
13-14	29	MIA	PF	77	77	10.0	17.6	.567	1.5	4.0	.379	8.5	13.6	.622	5.7	7.6	.750	6.9	6.3	1.6	0.3	3.5	1.6	27.1
14-15	30	CLE	SF	69	69	9.0	18.5	.488	1.7	4.9	.354	7.3	13.6	.536	5.4	7.7	.710	6.0	7.4	1.6	0.7	3.9	2.0	25.3
15-16	31	CLE	SF	76	76	9.7	18.6	.520	1.1	3.7	.309	8.6	14.9	.573	4.7	6.5	.731	7.4	6.8	1.4	0.6	3.3	1.9	25.3
16-17	32	CLE	SF	74	74	9.9	18.2	.548	1.7	4.6	.363	8.3	13.5	.611	4.8	7.2	.674	8.6	8.7	1.2	0.6	4.1	1.8	26.4
17-18	33	CLE	PF	82	82	10.5	19.3	.542	1.8	5.0	.367	8.6	14.3	.603	4.7	6.5	.731	8.6	9.1	1.4	0.9	4.2	1.6	27.5
Career				1143	1142	9.9	19.6	.504	1.4	4.1	.344	8.5	15.5	.547	6.0	8.1	.739	7.4	7.2	1.6	0.8	3.5	1.8	27.2
11 seasons		CLE		849	848	9.9	20.0	.492	1.5	4.4	.337	8.4	15.7	.535	6.0	8.2	.733	7.3	7.3	1.6	0.8	3.5	1.9	27.2
4 seasons		MIA		294	294	9.9	18.2	.543	1.2	3.4	.369	8.7	14.9	.582	5.9	7.8	.758	7.6	6.7	1.7	0.7	3.4	1.7	26.9

View on stats.nba.com

MATH in the Education & Training Career Cluster

Calculating Batting Average

Adapted from <https://www.mathgoodies.com/Webquests/sports>

What is a batting average?

A high school or college baseball coach will work with his or her players to improve their batting average. Batting average (BA) is defined by the number of hits a player makes divided by the number of times at bat.

Batting average is usually reported to three decimal places and read without the decimal. For example, a player with a batting average of .300 is said to be "batting three-hundred."

Players with batting averages above .300 are considered to be very good batters. A batting average of .400 over a season is considered to be the ultimate achievement by a batter and is considered to be nearly impossible.

How is a batting average calculated?

Batting average is calculated by dividing the number of hits by the number of at-bats. For example, if a player had 70 Hits and 200 At-Bats, his or her Batting Average is $70 \div 200 = 0.350$. You can read a batting average of 0.350 as "this player would expect to get 350 hits in 1000 at-bats."

Calculate the batting averages for the following pro baseball players, then order (rank) their batting average in order from highest (1) to lowest (5).

Rank	Player	At-Bats	Hits	Batting Average
	J.D. Martinez	399	130	
	Christian Yelch	380	122	
	Corey Dickerson	346	110	
	Mookie Betts	357	123	
	Jose Altuve	407	134	

SCIENCE in the Education & Training Career Cluster: Nutritionist

A nutritionist studies nutrition science and focuses on health issues surrounding food, eating, and medicine. Nutritionists study chemistry, biology, and the social sciences, as well as behaviors and social factors related to food choices.

Nutritionists are experts in the role food and nutrition play in maintaining a healthy lifestyle and managing disease. They counsel, educate and advise on what to eat in order to achieve health-related goals.

Diabetes is a chronic disease that nutritionists teach people about. As you read the following informational pamphlet published by the Centers for Disease Control on the science of diabetes, imagine that you are a nutritionist preparing to give an educational workshop to people in the community. Take notes on the cards that follow, then take turns presenting the information to the class.

About Diabetes

<https://www.cdc.gov/diabetes/basics/diabetes.html>

Diabetes is a chronic disease that affects how the body turns food into energy. Most of the food you eat is broken down into sugar (also called glucose) and released into your bloodstream. Your pancreas makes a hormone called insulin, which acts like a key to let the blood sugar into your body's cells for use as energy.

If you have diabetes, your body either doesn't make enough insulin or can't use the insulin it makes as well as it should. When there isn't enough insulin or cells stop responding to insulin, too much blood sugar stays in your bloodstream, which over time can cause serious health problems, such as heart disease, vision loss, and kidney disease. There isn't a cure yet for diabetes, but healthy lifestyle habits, taking medicine as needed, getting diabetes self-management education, and keeping appointments with your health care team can greatly reduce its impact on your life.

Diabetes by the Numbers

- **30.3 million** US adults have diabetes, and 1 in 4 of them don't know they have it.
- Diabetes is the **seventh leading cause** of death in the US.
- Diabetes is the **No. 1** cause of kidney failure, lower-limb amputations, and adult-onset blindness.
- In the last **20 years**, the number of adults diagnosed with diabetes has more than **tripled** as the American population has aged and become more overweight or obese.

Types of Diabetes

There are three main types of diabetes: type 1, type 2, and gestational diabetes (diabetes while pregnant).

Type 1 diabetes is caused by an autoimmune reaction (the body attacks itself by mistake) that stops your body from making insulin. About 5% of the people who have diabetes have type 1. Symptoms of type 1 diabetes often develop quickly. It's usually diagnosed in children, teens, and young adults. If you have type 1 diabetes, you'll need to take insulin every day to survive. Currently, no one knows how to prevent type 1 diabetes.

With **Type 2 diabetes**, your body doesn't use insulin well and is unable to keep blood sugar at normal levels. Most people with diabetes—9 in 10—have type 2 diabetes. It develops over many years and is usually diagnosed in adults (though increasingly in children, teens, and young adults). You may not notice any symptoms, so it's important to get your blood sugar tested if you're at risk. Type 2 diabetes can be prevented or delayed with healthy lifestyle changes, such as losing weight if you're overweight, healthy eating, and getting regular physical activity.



Gestational diabetes develops in pregnant women who have never had diabetes. If you have gestational diabetes, your baby could be at higher risk for health complications. Gestational diabetes usually goes away after your baby is born but increases your risk for type 2 diabetes later in life. Your baby is more likely to become obese as a child or teen, and more likely to develop type 2 diabetes later in life too.

Prediabetes

In the US, 84.1 million adults—more than 1 in 3—have prediabetes, and 90% of them don't know they have it. Prediabetes is a serious health condition where blood sugar levels are higher than normal, but not high enough yet to be diagnosed as diabetes. Prediabetes increases your risk for type 2 diabetes, heart disease, and stroke. But through the CDC-led National Diabetes Prevention Program, you can learn practical, real-life changes that can cut your risk for developing type 2 diabetes by as much as 58% (71% if you're 60 or older).

Prevention

There are things you can do to prevent diabetes. Exercise daily, manage your weight and make healthy food choices. It's important to regularly eat vegetables, fruits, and whole grains. Cut back on high-fat foods like whole milk, cheeses, chips, fast food, and fried foods. Limit sugary deserts and sodas. Visit the doctor regularly to have sugar levels checked and get advice on leading a healthy lifestyle.

Image from Creative Commons www.pixabay.com/en/apple-red-apple-food-fruit-fruits-2701789/

Nutrition Presentation: Take Notes

Introduction (your name and title):

What is diabetes?

Diabetes statistics:

What happens inside your body when you have diabetes / role of the pancreas:

The results that can occur when there isn't enough insulin or cells stop responding to insulin:

Nutrition Presentation: Take Notes

What is pre-diabetes?

Symptoms:

Number of people with pre-diabetes:

Risks:

Where to go for prevention information:

Causes of Type 1 Diabetes:

Symptoms:

Steps for Prevention:

Lifestyle Advice:

Nutrition Presentation: Take Notes

Causes of Type 2 Diabetes:

Symptoms:

Steps for Prevention:

Lifestyle Advice:

Causes of Gestational Diabetes:

Symptoms:

Steps for Prevention:

Lifestyle Advice:

Nutrition Presentation: Take Notes

Things you can do to if you have diabetes to reduce its impact on your life:

1.

2.

3.

4.

Lifestyle decisions you can make to help prevent diabetes:

1.

2.

3.

4.

What Do Education & Training Workers Do?

EDITING PRACTICE

Rewrite the paragraph below. Edit for spelling, complete sentences, correct subject / verb agreement, punctuation, and capitalization.

would you like too get paid to help others learn knew things professionals inn the field of education and training guide and train people in skill's they need to succeed in life at whatever level

educator's work with people of all ages preschool elementary middle and secondary school teacher works in public and private schools to teach fundamental skill's related two reading riting math science and social studies they may specialize in art music physical education vocational skills or special education

at the postsecondary level in community colleges four year colleges universities and technical schools instructors teaches a subject area in which they have did advanced study and have special expertise



many people supports the work of teachers teacher assistants help classroom teachers by working with individuals and preparing materials guidance counselors counsel student's regarding educational issues such as choosing courses scheduling classes and planning careers librarians select library materials for circulation classify and catalog materials and keep references and files up to date administrative staff and school principal plan direct and coordinates the academic and administrative activities of educational institutions

due you like to help people expand there understanding of the world dew you like to learn gnu information and find creative ways to share it with others consider a rewarding career in education

Image from Creative Commons www.pixabay.com/en/african-american-afro-american-3692646/

Talk About Jobs!

Small Group Dialogue

Pick one of the jobs in the Education and Training Career Cluster. In small groups, complete the dialogue below, using at least ten of the words from the previous lessons. Write in such a way that the audience learns about the job duties, the work environment, and the qualities a person should possess who holds one of these jobs. Then perform the dialogue for the class.

Jolene: I love being a _____

Sam: Me, too! My favorite part of this job is _____

Jolene: Really? My favorite part is _____

Sam: I got my training for the job _____

Jolene: I got my training _____

Sam: I love working with people. It's fun to help them _____

Jolene: And the environment is so _____

Sam: And you have to be a special sort of person to do this! You have to be _____

Jolene: _____

Sam: _____

Jolene: _____

A Day in the Life: David Marshall, Preschool Teacher

Being a preschool teacher is rewarding, tiring, and stimulating, all at the same time! Some days I feel, “I’m good at this and I love what I do!” On other days my mind and body are so exhausted I wonder how long I can continue. But every day my smart, curious and energetic students inspire me to keep going.



A typical preschool teacher’s day starts early. My fifteen students come at 8 am, but my assistant and I arrive a half an hour early to prepare the classroom and get the materials ready for the day. The morning starts with breakfast, circle time (we talk about the weather, review colors and numbers and the days of the week,) then read a story aloud.

My kids are all three and four years old, so they need lots of time to play. After story time they go outside to the playground and run around. I love watching them play; gross motor activities and imaginary play are so important to child development.

After outdoor play, the kids come in to use the restroom and wash up for lunch. I enjoy those in-between times. They are just as important as academic activities because we teach how to cooperate, wait your turn, use your words instead of hitting or hurting others, and solve problems. Then we have lunch, and my assistant and I sit with the kids and chat with them informally. Kids say the funniest things!

After lunch, we have a phonics activity, sing lots of educational songs (which the kids love), go outside for more play, and then they all lay on their blankets for a nap. That’s just about the time I could use a rest myself, but I use the time while watching the kids nod off to do paperwork and write notes to parents for the kids to take home.

After all the kids are picked up, my assistant and I debrief, plan for a meeting with the principal, and prepare for another busy day with our curious little students tomorrow.

Image from Creative Commons www.pixabay.com/en/font-type-text-kids-children-2111748/

A Day in the Life: David Marshall, Preschool Teacher QUESTIONS

1. What time does David Marshall arrive at work? What does he do to prepare for his day as a Preschool Teacher?
2. What are the activities he leads his students in every day?
3. What other workers in the Education and Training Career Cluster does David Marshall work with as part of his job?
4. What are some of the things that David Marshall likes most about his job?
5. What qualities do you think David Marshall has to make him a good preschool Teacher?
6. What parts of David Marshall's job as a Preschool Teacher do you think you would enjoy? Why? Which would you find challenging?

Career Cluster Research

*Use three resources to research and complete the information pertaining to job titles in the career cluster you have chosen to explore.
(For example: MyCareer Shines: <https://mycareershines.kuder.com>, another on-line resource, an interview with a career counselor.)*

Name of career cluster: _____

Job Title			
Educational level needed: (On-the-job training, apprenticeship, 2-year technical school or community college, 4-year college/university?)			
Salary/Wages: (Beginning, Median, Experienced?)			
Environment: (Outdoors / indoors, school, office, hospital, business?)			
Qualities needed to be successful in this occupation: (Special skills, personal qualities, etc.)			

Post-Secondary Catalogue Exploration & Presentation

Based on what you have learned about your interests, skills and talents as well as what you now know about post-secondary options, choose a program at one of the local institutions that interests you (for example: you might select a certificate program from Lively Technical Center, a TCC Associate of Arts degree program, TCC certificate program, or a FAMU four-year degree.) Go to the website of the institution which offers a program that interests you to answer the following questions. If you do not have internet access, use the print catalogues from the local college and vocational / technical center. Prepare to present your information to the class.

1. What is the name of the website? _____

2. What is the name of the program of study that interests you? _____

3. How many credit hours or clock hours is the program? _____

4. How long will it take in weeks, months or years to complete the program? _____

5. What does the program cost? _____

6. Does the program accept financial aid? _____

7. What are the entrance requirements of the program? (TABE scores? GED? ACT or SAT? Other tests or requirements?)

8. What are some of the classes you will have to take in this program?

9. What do graduates of this program typically earn? _____

10. What questions would you ask of a student who is currently involved in this program?

11. What questions would you ask of a counselor in student services about this program?

12. If this program is right for you, what do you need to do to prepare for it so that you can be successful? (Be specific: what do you need to accomplish academically, financially and personally before you apply?)

EDUCATION & TRAINING

OCCUPATION PRESENTATION

Study the occupational vocabulary below. Then use **MyCareer Shines** (<https://mycareershines.kuder.com>) and the **Occupational Outlook Handbook** (http://o*netonline.com) to explore in greater depth one of the jobs in the Preschool Teacher Career Cluster. Prepare to present the information to the class.

DEFINITIONS:

- ❖ **occupational outlook:** the chance you have of getting a job in a certain field in the current economy. Occupational outlook is related to how many jobs are available in this field and how many workers are needed.
- ❖ **occupational hazards:** working conditions that can lead to illness or death. Often, but not always, people in high-risk jobs are paid more than similar but less risky jobs to compensate for the danger involved.
- ❖ **certification:** evidence that an individual has acquired the skills and knowledge needed to do a job, given by a school or authority after an evaluation or test
- ❖ **mandatory:** required or commanded by authority; obligatory
- ❖ **job prospects:** the range of career opportunities available to a person having a particular combination of skills, knowledge, qualifications, etc.
- ❖ **median earnings:** the middle salary out of all the people in a group (often used to describe people doing a similar job), half having incomes above the median, half having incomes below the median

Occupation _____

1. What are the typical job duties of this occupation?

2. What is the typical environment where this work takes place?

3. What are the typical hours worked by a person doing this job?

4. Are there occupational hazards? What are they?

5. What education and / or training are required to enter this occupation?

6. What licenses or certifications are mandatory for this occupation?

7. What skills should a person in this occupation possess?

8. What is the total number of jobs in this occupation today?

9. What is the projected change in the number of jobs in this occupation?

10. What are the job prospects for this occupation in Florida?

11. What are the median earnings for workers in this field?

12. In your opinion, what are the major advantages of this occupation?

13. In your opinion, what are the major disadvantages of this occupation?

14. Does this job suit you and your talents and interests? How?

15. If you decided to pursue work in this occupation, what steps would you need to take?
