

# ELEMENTARY CAREER STUDIES

## Teacher Notes

Elementary career studies emphasize career awareness and exploration – not career choice. Career exploration at the elementary school level should allow children to become more self-aware of their skills, abilities and interests and how those traits relate to future career goals. Integrating career conversations across the curriculum allows students to connect the classroom to the real world. The goal of elementary career studies is to provide:

- equal access to career exploration
- opportunities to explore interests, abilities, values and goals
- develop the mindset that learning is lifelong for any career they pursue

### CAREER EXPLORATION CONTINUUM

#### PRIMARY GRADES

Students in kindergarten and 1st grade should be introduced to careers in their community. Students in the 2nd and 3rd grade can understand the similarities and differences between groups of careers making this an ideal time to introduce the [sixteen \(16\) career clusters](#). This organizational framework is important to future career development and understanding future career pathways. INTERMEDIATE GRADES

Rather than focusing on a career, students in the 4th and 5th grades should begin the process of self-discovery through exploring the knowledge, skills and working environments common to careers within the 16 clusters. The resource within this document, “Dig Deeper,” provides sample tasks that allow students to explore those skills and knowledge. The resource, “Is a Career in (*cluster*) for Me?” guides students to reflect to determine their interest in this cluster.

### USING THIS DOCUMENT

These activities do not constitute a curriculum, rather they provide a variety of activities to be used within the context of a career studies program that spans K-5. Resources progress by grade level from kindergarten to 5th grade and may be modified to meet student needs. For each cluster, instructional routines may include:

- **Engage** students through videos, online activities, guest speakers or hands on activities
- **Explore** by using texts from the cluster book list as read alouds or part of the classroom library
- **Extend** learning by using resources from this document in learning centers, individual work or group projects

### ACKNOWLEDGEMENTS

Special thanks is given to the [Delaware Career Resource Network](#) and the [Labor Market and Career Information \(LMCI\) department of the Texas Workforce Commission](#) for granting permission to revise and include their resources in this document.

# SCIENCE, TECHNOLOGY, ENGINEERING AND MATH

## Teacher Resource

**Note:** Careers in Science, Technology, Engineering and Math (STEM) are divided into pathways. Although recognized as a separate cluster, STEM careers support most all clusters through research and development of new technologies.

Listed below are some of the careers found in each pathway and range from entry level to those that require post-secondary training, certificates and/or degrees. This list serves only to build educator background knowledge. Students are not introduced to career pathways until the 6th–8th grade band.

### Engineering and Technology Pathway

Engineering can be defined as the process of creating and building structures, products and systems such as roads, cars, machines, computers, etc. Technology can be defined as the tools and machines used to solve realworld problems.

- Aerospace Engineer
- Agricultural Engineer
- Automotive Engineer
- Biomedical Engineer
- Electrical Engineer
- Electronics Technician
- Manufacturing Engineer
- Manufacturing Technician
- Survey Technician
- Transportation Engineer

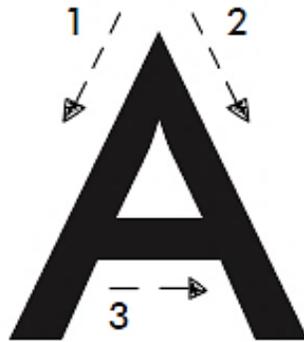
### Engineering Design and Development

The engineering design process is a series of steps that engineers use to solve a problem. There are many versions of this process, but all serve to help engineers find a workable solution.

- Applied Mathematician
- Astronomer
- Biologist
- Chemist
- Environmental Scientist
- Math Teacher
- Meteorologist
- Physicist
- Programmer
- Science Teacher

# Alphabet Letter Printing Worksheet

Practice writing each upper case and lower case letter on the lines below as shown on the sample letters. Then write the name of the occupation.



\_\_\_\_\_

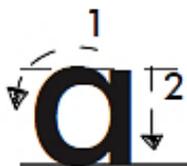
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## Astronaut

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# Alphabet Letter Printing Worksheet

Practice writing each upper case and lower case letter on the lines below as shown on the sample letters. Then write the name of the occupation.



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Scientist

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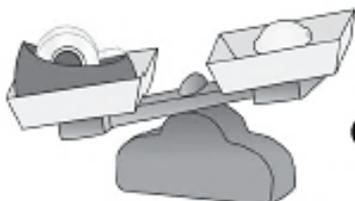
# CHEMIST



Chemists do experiments that require problem solving and record keeping. They work in laboratories and offices.

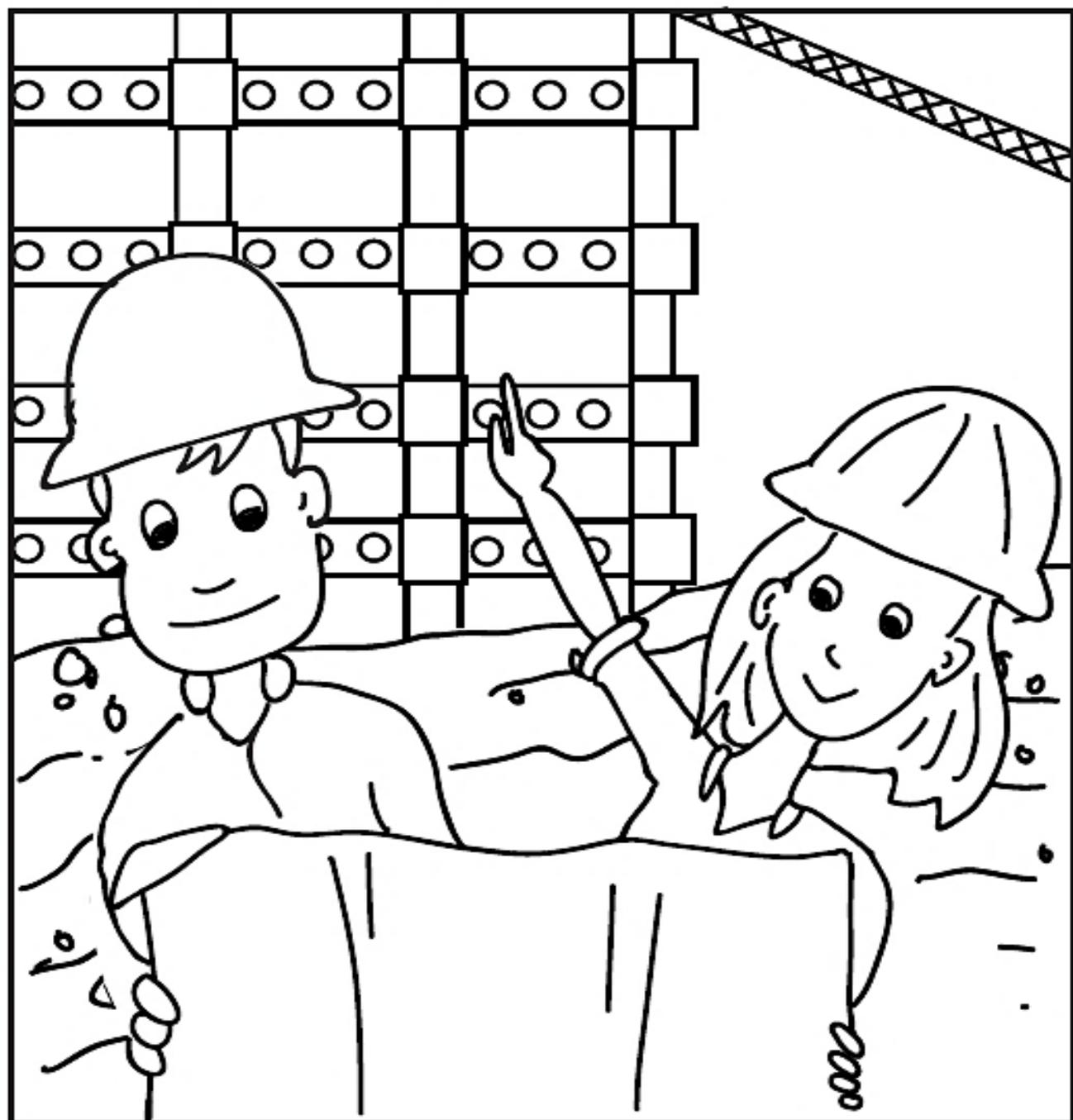
## MATCHING ACTIVITY

Draw a line that matches the words to the pictures.



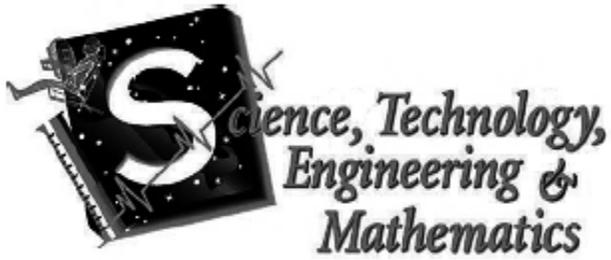
- Scientist
- Magnifying Glass
- Experiment
- Scale
- Goggles
- Test Tubes
- Microscope
- Laboratory

# ENGINEERING



## STRUCTURAL ENGINEER

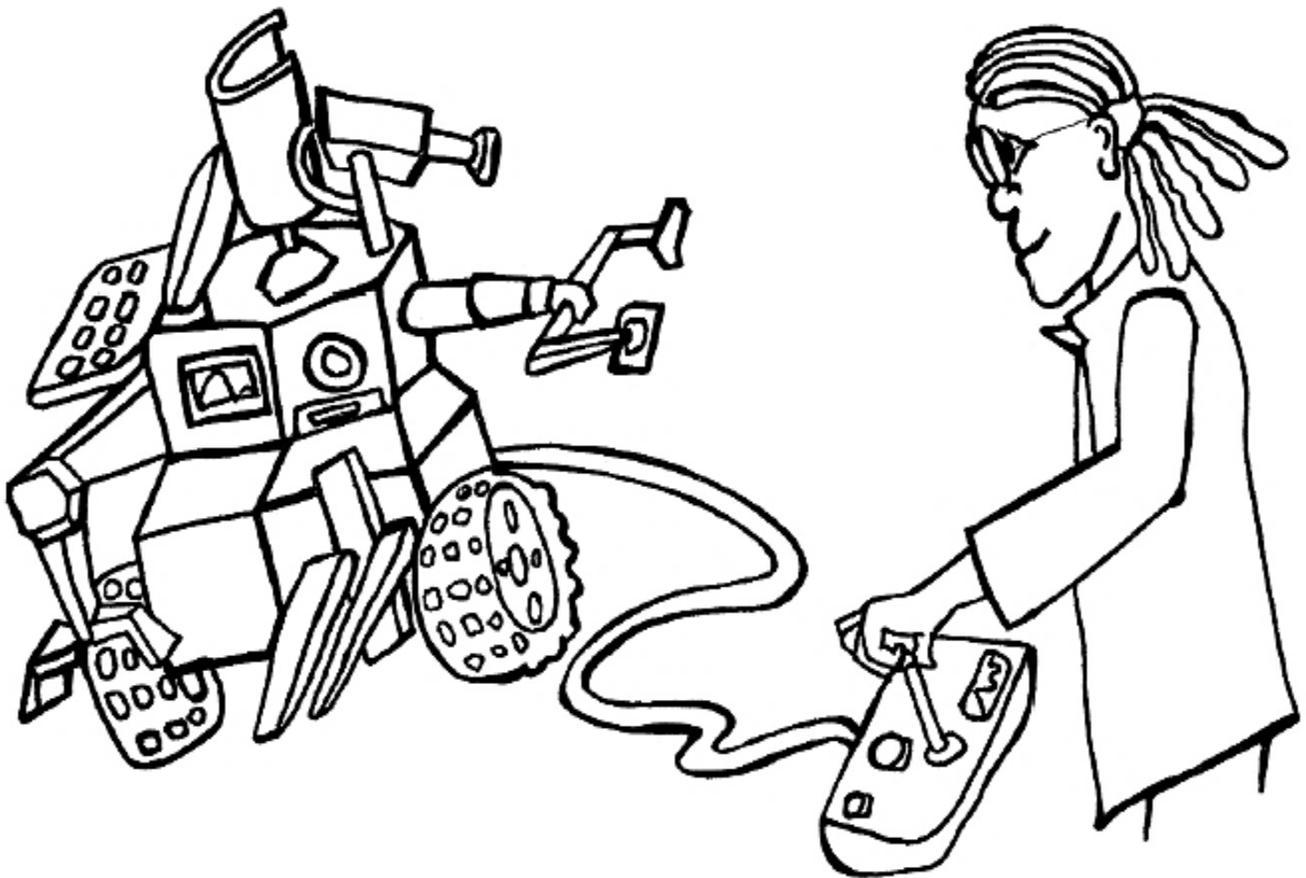
Engineers design buildings, bridges and other structures for construction workers to build.



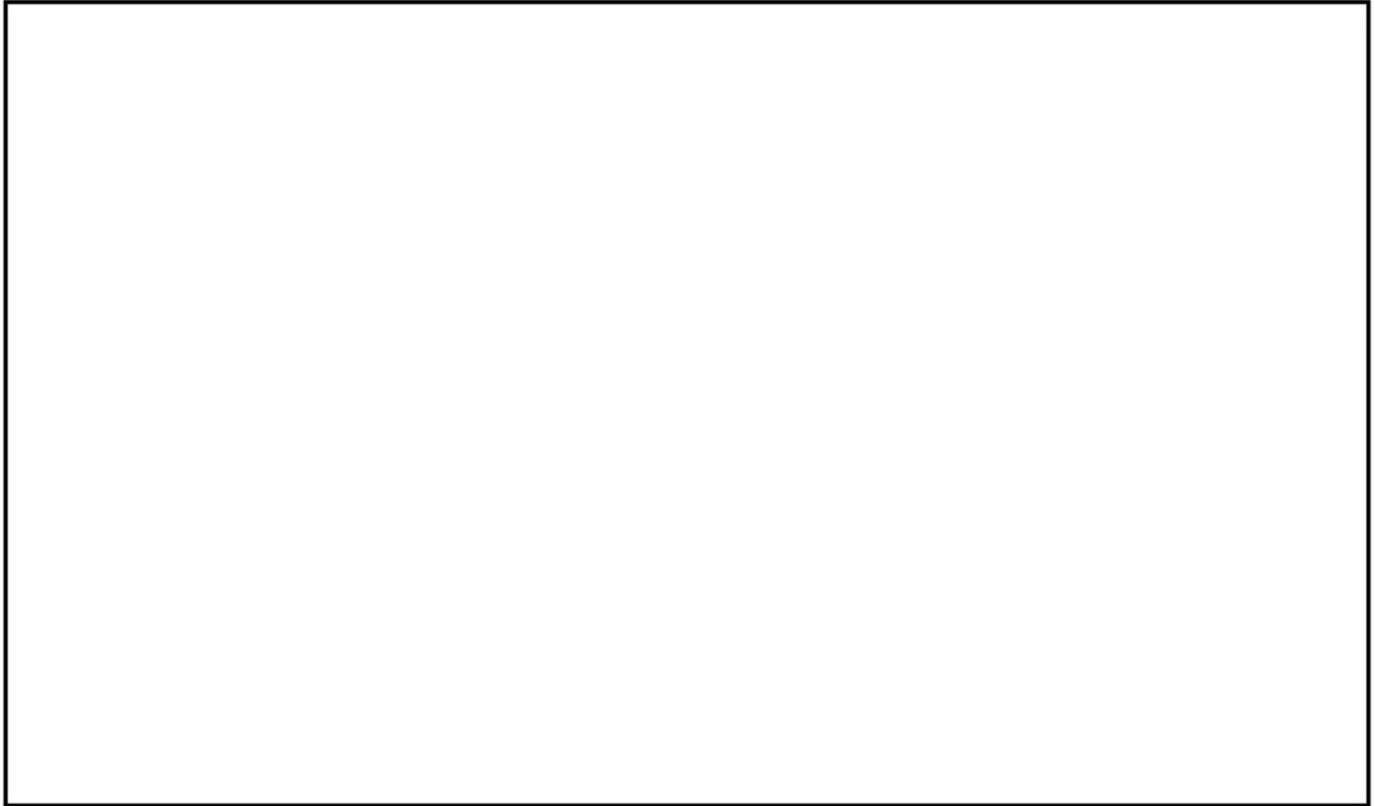
### Sample Careers

1. Biological Scientist
  2. Chemical Engineer
  3. Drafter
  4. Robotics Technician
  5. \_\_\_\_\_
- Can you think of another?

Careers in the Science, Technology, Engineering & Mathematics cluster are usually very technical and employ people who are good at problem solving and measuring things. People in these occupations may do lots of research. They may work in laboratories or in offices. You can be an engineer, archeologist, astronomer or meteorologist and be in this career cluster.



**Could you make a better toothbrush, pencil or toy?  
Choose an object and draw your improvements below.**



**Describe how your changes make the item better.**

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## STEM CAREERS

T	S	I	G	O	L	O	E	H	C	R	A	N	T
S	C	I	E	N	T	I	S	T	I	O	O	S	N
N	B	C	T	G	E	N	E	T	I	C	I	S	T
T	O	S	I	S	S	I	A	A	E	G	H	G	H
E	T	R	T	S	I	M	O	N	O	C	E	O	T
C	A	E	C	T	N	R	T	L	A	B	N	B	T
H	N	M	A	S	T	R	O	N	A	U	T	E	S
N	I	S	T	A	T	I	S	T	I	C	I	A	N
I	S	E	M	T	B	I	C	H	E	M	I	S	T
C	T	T	S	I	G	R	U	L	L	A	T	E	M
I	C	S	R	E	H	C	A	E	T	E	T	T	T
A	T	S	R	E	M	O	N	O	R	T	S	A	S
N	G	E	E	E	N	E	N	G	I	N	E	E	R
A	S	T	R	O	P	H	Y	S	I	C	I	S	T

SCIENTIST  
 TEACHER  
 BIOLOGIST  
 BOTANIST  
 ARCHEOLOGIST  
 ENGINEER  
 STATISTICIAN  
 METALLURGIST

TECHNICIAN  
 ASTROPHYSICIST  
 CHEMIST  
 ECONOMIST  
 ASTRONOMER  
 GENETICIST  
 ASTRONAUT

Play online at: <https://bit.ly/39R2r2R>

## DIG DEEPER

**Note:** These tasks serve only to generate ideas and connect real world activities to academic content. **Exploratory Tasks** may be teacher led through a class project, demonstration or assignment. **Extension Tasks** may be modified to align with ELA, math, science or social studies content through writing, determining/comparing costs, human impact, etc.

Exploratory Tasks	Extension Tasks
Experiment with different styles of paper airplanes.	Test each style to determine which flies the farthest.
Identify items in your room that made from common building materials such as wood, plastic, brick, concrete, metal or fabric. What material was used most often?	Why use one material instead of another? Choose two of the materials. Draw a Venn diagram to compare characteristics of the materials such as strength, hardness, flexibility, durability, etc.
Make a boat out of an everyday material such as aluminum foil, styrofoam or plastic.	Experiment with different sizes or shapes to determine which can hold the most weight.
Use paper to make a three-dimensional object. Create a technical drawing with different views, front, back, etc. Include measurements.	Write step-by-step instructions describing how to make the object. Share with a peer to make the object.
Design a new board game. Create a drawing of the board, instructions and game pieces.	Use your drawings to make the game to play with others. Afterwards, ask them what they liked the best and what could be improved and how.

## Is a Career in Science, Technology, Engineering and Mathematics for Me?

Would you be interested in a career in Science, Technology, Engineering and Mathematics? Below are knowledge and skill statements related to the careers in this cluster. Read each statement. Decide if this describes you by checking the Yes, No or Maybe box.

THINGS I LIKE TO DO	YES	NO	MAYBE
Interpret formulas			
Find the answers to questions			
Work in a laboratory			
Figure out how things work and investigate new things			
Explore new technology			
Experiment to find the best way to do something			
Pay attention to details and help things be precise			
PERSONAL QUALITIES THAT DESCRIBE ME	YES	NO	MAYBE
Detail oriented			
Inquisitive			
Objective			
Methodical			
Mechanically inclined			
SCHOOL SUBJECTS THAT INTEREST ME	YES	NO	MAYBE
Math			
Science			
Drafting or computer aided drafting (CAD)			
Electronics or computer networking			
Technical classes or technology education			

**Did you check YES most often?** If so, continue to explore careers and opportunities in this cluster. And don't forget to focus on your math and science classes to build the academic skills you need for these careers.

**Did you check NO most often?** If so, don't worry. There are hundreds of jobs to explore in the other 15 career clusters.

**Did you check MAYBE most often?** If so, continue to explore this cluster as well as investigating how your skills and interests may be a good match in other clusters.