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

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ARCHITECTURE AND CONSTRUCTION RESOURCES
Teacher Resource

Note: Careers in Architecture and Construction are divided into pathways. 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.

Design and Pre-Construction Pathway

Specialists in this pathway turn a concept into a set of plans that guide other construction professionals as they continue the building process. These plans – or blueprints – include not only the layout for the structure, but also include plans for wiring, plumbing, etc

- Architect
- Building Code Official
- Civil Engineer
- Interior Designer
- Mechanical Engineer
- Regional and Urban Planner
- Safety Director
- Surveying Technician

Construction Pathway

Employees in this pathway literally build our future. These are the people who build homes, buildings and schools. Others in this pathway build highways, bridges, tunnels and power plants.

- Carpenter
- Construction Engineer
- Electrician
- HVAC Mechanic
- Mason
- Plumber
- Project Manager
- Safety Director

Maintenance and Operations Pathway

Employees with these careers keep our future growing as they assemble, install, repair and perform preventive maintenance on equipment and machines. They detect, diagnose and correct minor problems on machinery, keep buildings and structures in good repair and maintain the smooth operation of refineries, power plants, chemical plants and mills

- Construction Engineer
- Construction Foreman/Manager
- Equipment and Material Manager
  Manufacturer Representative
- Millwright
- Security and Fire Alarm System Installer
- Service Contractor
- Wastewater Maintenance Technician

Alphabet Letter Printing Worksheet

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

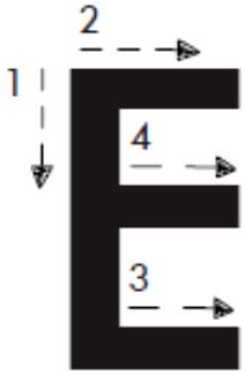
B

b

Builder

Alphabet Letter Printing Worksheet

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



Electrician

Alphabet Letter Printing Worksheet

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

1 2 3 4

W

1 2 3 4

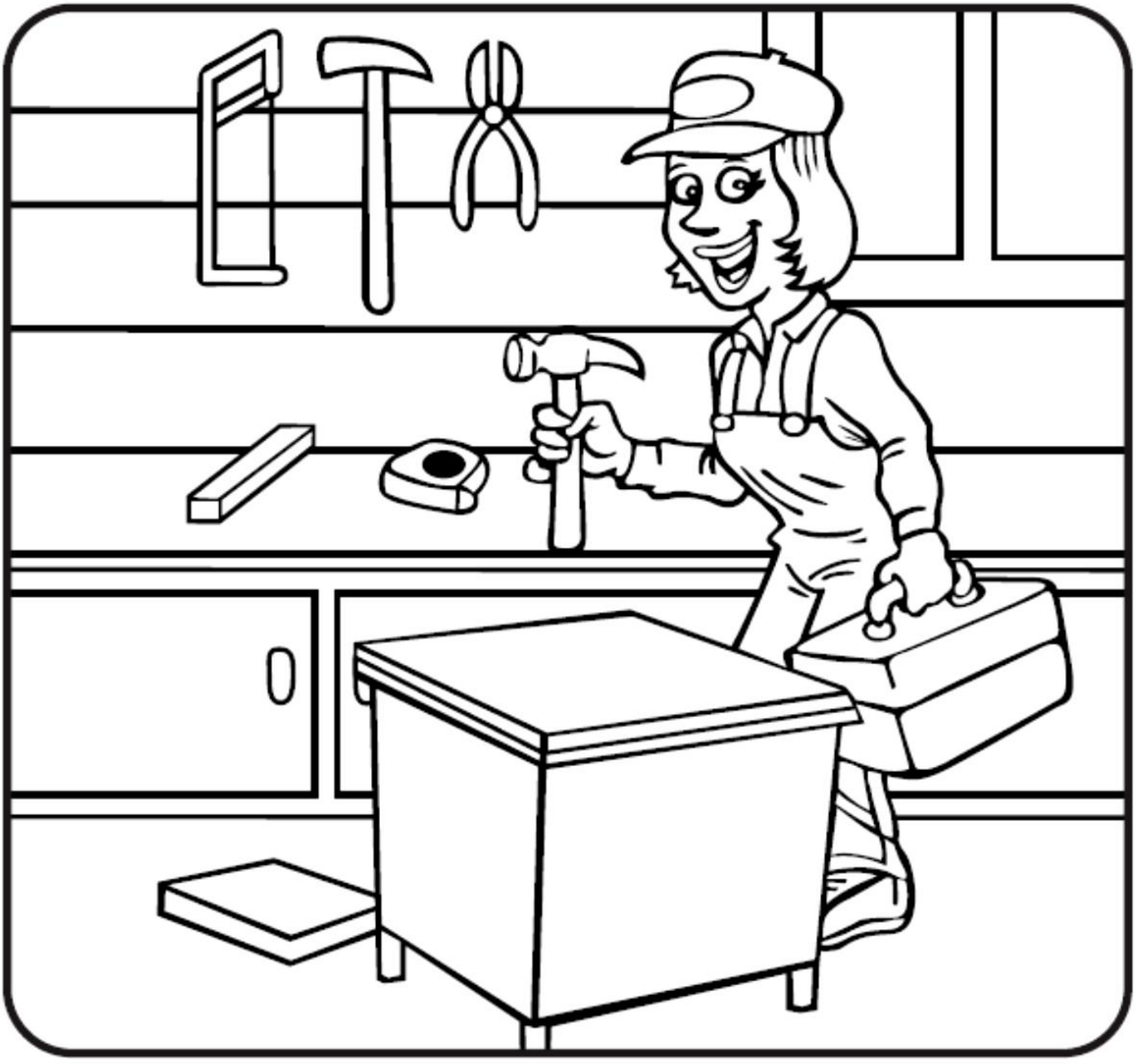
W

Welder

PAINTER

Painters choose colors and apply paint or other finishes to make surfaces look new. They do this using paint brushes, rollers, or sprayers.

CARPENTER



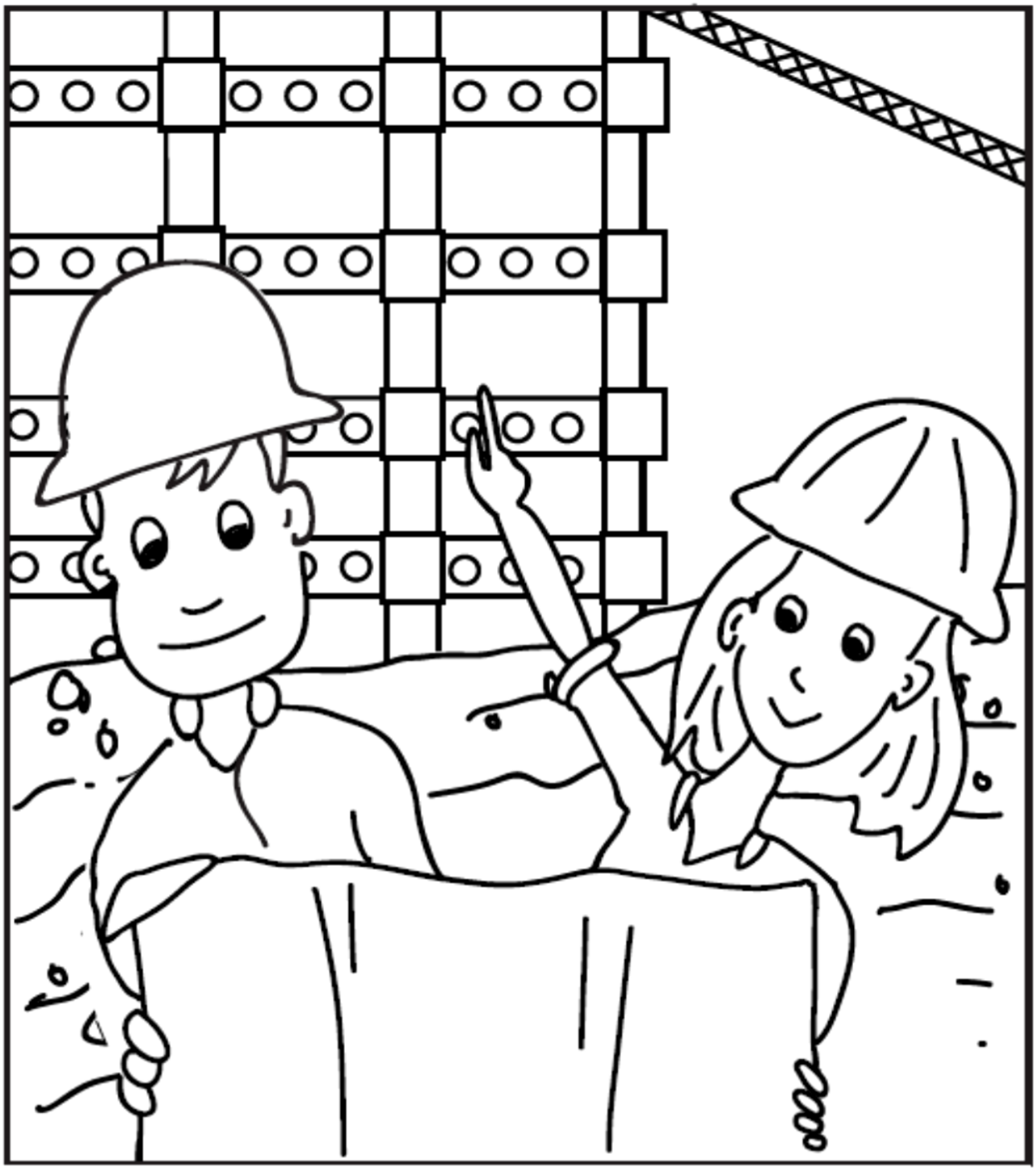
Carpenters build, repair, and install structures made from wood and other materials. They use hammers, drills, saws, and other tools.

CONSTRUCTION

CARPENTER

Carpenters build houses, schools and other buildings. They use many tools, including saws, hammers, tape measures, power tools and large equipment.

ENGINEERING



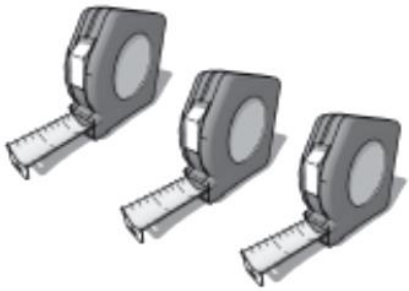
STRUCTURAL ENGINEER

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

COUNTING ACTIVITY

Count the tools in each group and put your answer on the line below them. Add the groups together and put your answer on the line to the right.

_____ + _____ = _____



_____ + _____ = _____

Circle the item below that a carpenter would **not** use.

Architecture & Construction

Sample Careers

1. Roofer
2. Electrician
3. Plumber
4. Architect
5. _____

Can you think of another?

Careers in the Architecture & Construction cluster design and build things. People in these occupations can work with many different tools to help them do their special jobs. They may build or design houses and buildings out of wood, steel or stone. They build highways and bridges too. You can be an engineer, electrician, carpenter or drafter and be in this career cluster.

Name_____

Draw a picture of a house you would like to build in the future.

Describe your house, e.g., number and type of rooms, brick or wood frame, etc.

_____

_____

_____

_____

Would you like to do this type of work? Explain why or why not.

_____

_____

Construction Careers

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

INSULATOR
WELDER
HVAC TECHNICIAN
RIGGER
GLAZIER
MASON
FRAMER
PIPEFITTER
BOILERMAKER
ROOFER
CARPENTER
PAINTER
IRONWORKER
PLUMBER
ARCHITECT
ELECTRICIAN

Play this puzzle online at: http://bit.ly/3ofyWwK

DOGHOUSE

What you learn today will help you tomorrow!

Reading and math are important skills to have. Architects and construction workers need to be able to plan, read and follow directions. They also need to know how to make estimates on how much material they will need and how much it will cost.

Materials Needed		Unit Price	Total Cost
2	sheets plywood	$9.95 each	_____
1	box roofing shingles	$12.45	_____
1	box roofing nails	$1.89	_____
1	box small nails	$1.49	_____
2	8 foot boards	$.89 each	_____
		TOTAL	_____

1. What is the total cost of materials to build the doghouse?

2. Rounding to the nearest 50 cents, what is the estimated cost of materials to build the doghouse?

3. What school subjects would help you build a doghouse? Why?

For A Challenge

4. If there was a 15% increase in prices, how much would each material cost? What would the new total be?

Architecture or Construction?

Architecture is defined as the art and science of designing structures such as buildings, bridges, roads, etc. Construction is process of building the structures.

Directions: Research the following careers and match each to to the correct group.

Architecture	Construction

Mechanical Drafter
Electrician
Pipelayer
Surveyor
Landscape Architect
Roofer

Civil Engineer
Plumber
Architect
Carpenter
Electrical Drafter
Paving Equipment Operator

DIG DEEPER

Note: These tasks serve only to generate ideas and connect real world actitivites 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
Take an architecture scavenger hunt, either in person or virtually, to see how many styles of homes you can find.	Create an infographic to share your results.
Draw and label a map of your street or neighborhood.	On your map, illustrate and label public utitilities, e.g., electrical lines, sewers, water meters, etc.
Create a design for a birdhouse that includes detailed measurements.	Create a materials list. Research prices to determine the cost.
Watch YouTube episodes of “How It’s Made.”	Create a flowchart showing the major steps in the production process.
Create a drawing of your classroom. Include measurements, doors, windows, electrical outlets, etc.	Research blueprint symbols. Add these to your drawing.

Is a Career in Architecture and Construction for Me?

Would you be interested in a career in Architecture or Construction? 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
Read and follow blueprints and/or instructions			
Picture in my mind what a finished product looks like			
Work with my hands			
Perform work that requires precise results			
Visit and learn from beautiful, historic or interesting buildings			
Follow logical, step-by-step procedures			
PERSONAL QUALITIES THAT DESCRIBE ME	**YES**	**NO**	**MAYBE**
Curious			
Good at following directions			
Pay attention to details			
Good a visualizing possibilities			
Patient and persistent			
SCHOOL SUBJECTS THAT INTEREST ME	**YES**	**NO**	**MAYBE**
Math			
Science			
Drawing			

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 in this cluster as well as investigating how your skills and interests may be a good match in other clusters.

Key - Architecture or Construction?

Architecture	Construction
Mechanical Drafter	Electrician
Surveyor	Pipelayer
Landscape Architect	Roofer
Civil Engineer	Plumber
Architect	Carpenter
Electrical Drafter	Paving Equipment Operator