



Architecture & Construction

People in the Architecture & Construction cluster design and build things. Some work with many different tools. They like to work with their hands. Some build or design houses, buildings, highways or bridges.

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Electricians ■ Civil Engineers

First-line Supervisors of Construction Trades & Extraction Workers ■ Cost Estimators
Sheet Metal Workers ■ Brickmasons & Blockmasons

Electricians

Electricians install wires. These wires power lights, TVs, stoves, computers and more. Electricians figure out where to put wires. They also make sure the right amount of electricity is used.



List three things you do everyday thanks to electricity.

- 1.
- 2.
- 3.

Civil Engineers



Civil engineers plan and run big construction projects. They design roads, tunnels, dams, buildings, airports and water supply systems. They spend a lot of time working with computers in their offices. They also go to construction sites.

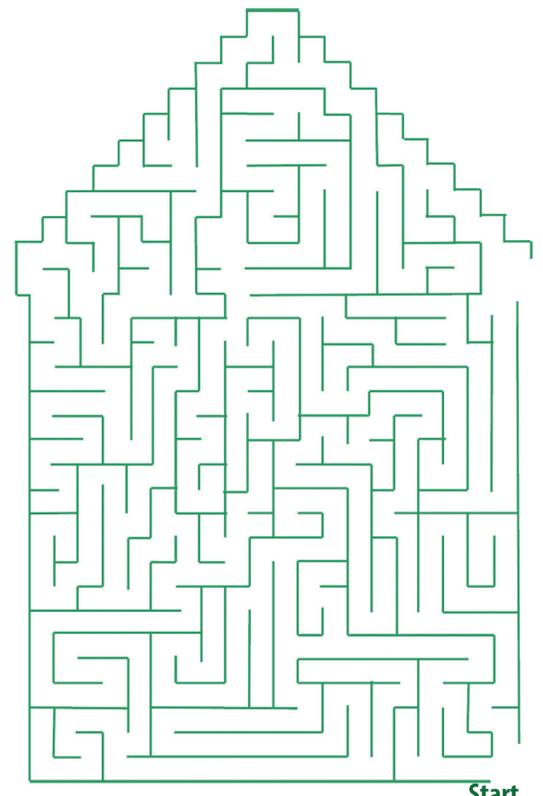
Use two sheets of newspaper to build a tower. Do not use anything else. Make it as tall as you can. You can bend, tear, crumple or roll the newspaper. Can you make one that stands for more than 30 seconds? Then try again, using tape plus two sheets of newspaper. What else could you do to make a paper tower stronger and taller?

First-line Supervisors of Construction Trades & Extraction Workers

First-line supervisors of construction trades and extraction workers watch over construction and extraction workers. They give tasks to these workers. They are bosses on projects like building or maintaining bridges, roads, schools and houses. Some oversee electricians and plumbers. Others are in charge of miners and oil workers.



Guide the supervisor through the maze so he can check on his workers.



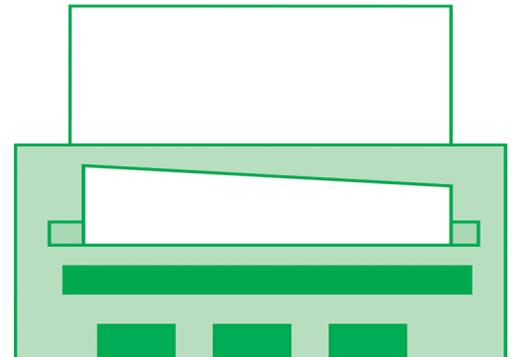
School Rules: (How much education do you need?)

Occupation	High School	Some Beyond High School	Associate Degree	Bachelor's Degree	Advanced Degree
Electricians		✓			
Civil Engineers				✓	
First-line Supervisors of Constr. Trades & Extraction Workers	✓				
Cost Estimators				✓	
Sheet Metal Workers	✓				
Brickmasons & Blockmasons	✓				

Cost Estimators

Cost estimators figure out how much money it takes to do a project. They look at the cost of supplies, workers and equipment. Some estimators figure out how much to charge for a product or project so the company makes money.

Lizzy spent 13 cents per cup for the lemons and sugar. The ice cubes cost 4 cents per cup. Each cup cost 8 cents. She wants to make a profit of 25 cents on each one she sells. How much should she charge?



Sheet Metal Workers

Sheet metal workers use metal sheets to make, install and repair roofs, rain gutters, car bodies, airplane wings and more. Workers use tools and machines to cut, bend and straighten sheet metal.

Sheet metal can be made from many kinds of metal. Circle some of these metals in the word find.

aluminum gold steel
brass nickel silver
copper platinum tin

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

Brickmasons & Blockmasons

Brickmasons and blockmasons use bricks or stone to build or repair walls, floors, fireplaces, walkways, chimneys and more. They lift heavy items. They spend a lot of time standing, kneeling and bending.



Brickmasons and blockmasons have to measure things correctly. They sometimes measure in inches and feet. Complete the table and answer the questions below.

1 foot	2 feet	3 feet	4 feet
12 inches			

- Which is shorter: 2 feet or 20 inches? _____
- Which is longer: 3 feet or 38 inches? _____
- Miranda is 48 inches tall. How many feet tall is she? _____

How Much Does it Pay?

More than \$ 30.00						
\$ 25.00-\$ 30.00						
\$ 20.00-\$ 25.00						
\$ 15.00-\$ 20.00						
Less than \$ 15.00						
Average Hourly Wage in South Dakota (2018)	Electricians	Civil Engineers	First-line Supervisors of Constr. Trades & Extraction Workers	Cost Estimators	Sheet Metal Workers	Brickmasons & Blockmasons

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