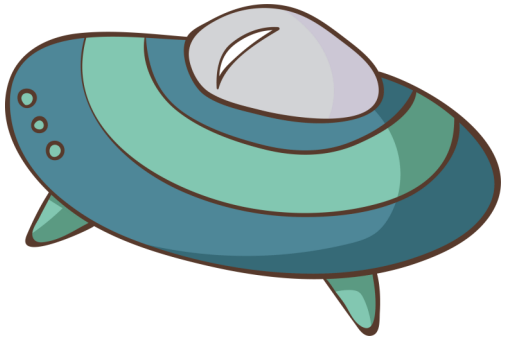
Space Challenge Supply List

- Acrylic paint
- Aluminum foil
- Baggies
- Beads
- Bicycle tubing
- Cardboard
- Casters
- Clothes pins
- Coffee filters
- Cotton balls
- Cotton swabs
- Craft paper
- Craft sticks
- Doilies
- Dryer tubing
- Duct tape
- Fabric
- Faux plants
- Felt
- Flat marbles
- Foam board
- Food coloring
- Funnel
- Gears
- Gems
- Glitter glue
- Glow stars
- Glue
- Golf tees
- Google eyes
- Headphones
- Knobs
- LEGO® bricks
- Lids & Rings (for Mason jars)
- Magnets
- Marbles
- Measuring cups
- Metal tubing
- Needle and thread
- Nuts and bolts
- Paint brushes
- Paper
- Paper cups
- Paper clips
- Paper tubing
- Pencil
- Pinecones
- Pipe cleaners
- Plastic cups
- Plastic spoons
- Plastic wrap
- Pom-poms
- Raffia
- Ribbon
- Rubber Bands
- Sand
- Scissors
- Screws
- Screwdriver
- Shells
- Shredded paper
- Shovels & Pails
- Skewers
- Sponges
- Springs
- Stapler
- Straws
- Styrofoam balls
- Tape
- Tape measure
- Tea lights
- Timers
- Tin can
- Toilet paper rolls
- Toothpicks
- Toy planets
- Twine
- Twist ties
- Washi Tape
- Water
- Wire
- Wooden planks
- Yarn
- Zip ties

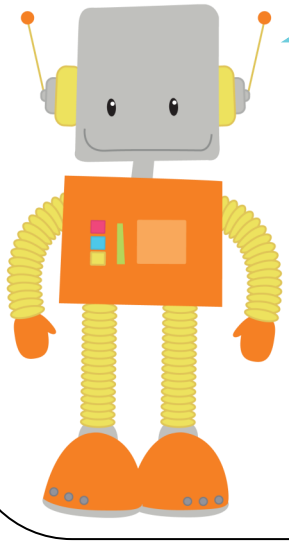
Design & Build a Spacecraft

Design and build a spacecraft with a command module, service module, and lunar module. Research some examples of the three types. Make sure to give each one a name!



Possible Supplies:
Cardboard, plastic wrap, plastic cups, old knobs, nuts & bolts, foil, acrylic paint, paintbrushes, casters, astronaut action figure, timers,

Design & Build a Robot

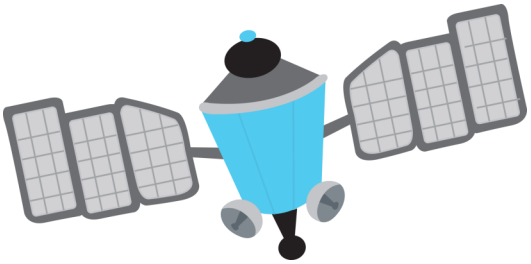


Design and build a robot to go out and explore the moon as well as gather samples. Think about what this robot will need to hold samples and move over uneven terrain. How will you control the robot?

Possible Supplies:
Cardboard, plastic wrap, plastic cups, old knobs, nuts & bolts, foil, acrylic paint, paintbrushes, casters, astronaut action figure
Dryer tubing, wire, knobs

Design a Space Station

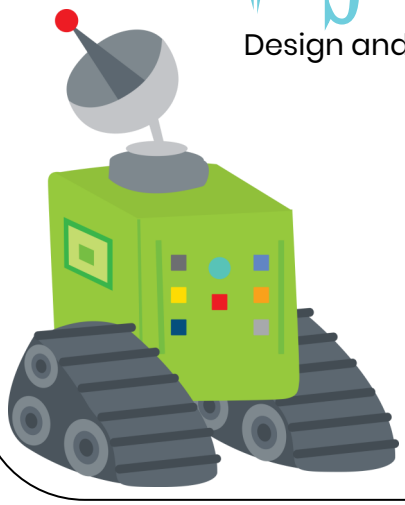
Design a space station for extended stays on the moon. What features would provide comfort and good working conditions for the astronauts?



Possible Supplies:
dryer tubing, toilet paper rolls, straws, toothpicks, skewers, tape, duct tape, glue, cardboard, wheels, gears, K'nex, LEGO bricks, nuts & bolts, springs, foil, plastic cups, plastic spoons

Design & Build a Moon Buggy

Design and build a moon buggy for traveling around the moon.

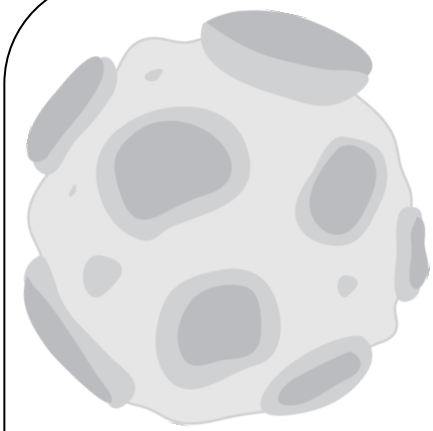


Possible Supplies:
cardboard, plastic wrap, plastic cups, old knobs, nuts & bolts, foil, acrylic paint, paintbrushes, casters, paper bags, action figures, glow in the dark stars, toy planets, timers, wires, metal tubing, paper tubing, bicycle tubing

Design & Build a Flag

Design your own flag to leave on the moon!

Possible Supplies:
Skewers, straws, sticks, fabric, cardboard, paint, paintbrushes, glitter paint, clue, stapler, markers



Craft a Moon Model

Craft a moon model complete with craters and other features you have learned about based on your research of the moon. Learn the names of several craters. How big are they? Can you measure one outside to better understand the size of it?

Possible Supplies:
Styrofoam balls, plastic or paper cups, plastic bowls and spoons, fabric, glue, glitter glue,

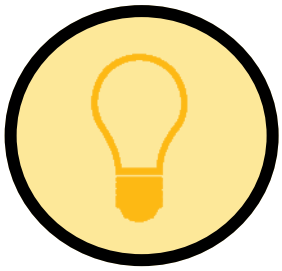
STEM Steps to Success

Observe/Ask

- What is the problem?
- How have others solved the problem?

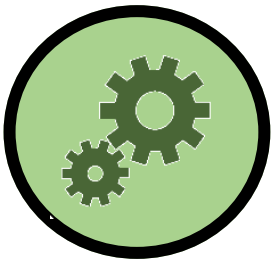
Collect

- What information will I need to solve this problem?
- What resources do I have or need to solve this problem?



Imagine

- How can I solve this problem?
- Have I found an “out of the box” solution?



Plan

- What materials do I have/need?
- What steps will I take to solve this problem?

Create

- I will test my plan!
- I will take notes of my process/observations!

Improve

- I will reflect on my design.
- What changes can I make to improve my plan/solution?