Engineering design is an iterative process used to identify problems and develop and improve solutions.
CAMP CHALLENGE
BUILD A BRIDGE

**Challenge:**
Plan, design and construct a bridge that can hold the weight of five toy cars. Test, evaluate and modify your design as needed.

**Materials:**
Cardboard
Paper straws
Tape

**Test:**
Can it hold the weight of five toy cars? How long is its span? Does it stand on its own?

**Communicate:**
Describe your creation. What did you like about your design? What would you do to improve it next time?

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**CAMP CHALLENGE**

**BUBBLE WAND**

**Challenge:**
Plan, design and construct a bubble wand using pipe cleaners. Test your design in bubble solution. Modify if required.

**Materials:**
Pipe Cleaners  
Bubble Solution  
Tray for Solution

**Test:**
Does your wand remain intact when blowing bubbles? Can you make bubbles consistently?

**Communicate:**
Describe your creation. What did you like about your design? What would you do to improve it next time?
CAMP CHALLENGE
MOVING TOY

**Challenge:**
Plan, design and build a toy. Your toy must be able to move. Test and modify your design throughout the build.

**Materials:**
Cardboard
Masking tape
Recycled junk

**Test:**
Is your toy able to move? Does it move the way you planned? Is the movement smooth and reliable?

**Communicate:**
Describe your creation. What did you like about your design? What would you do to improve it next time?
Challenge:
Plan, design and construct a boat using recyclable materials. Test and modify your design throughout the build.

Materials:
Tape
Recycled items like plastic bottles, cardboard, etc.

Test:
Does your boat floats? For how long? Can it carry cargo? If so, how much weight can it carry?

Communicate:
Describe your creation. What did you like about your design? What would you do to improve it next time?
**Challenge:**
Plan, design and construct a famous building using marshmallows and toothpicks. Your structure must be able to stand freely.

**Materials:**
- Marshmallows
- Toothpicks
- Cardboard base

**Test:**
Does your design resemble the structure you modeled it from? Was it freestanding?

**Communicate:**
Describe your creation. What did you like about your design? What would you do to improve it next time?
**Challenge:**
Plan, design and build a castle using blocks. Consider the different features of the castle. Test and modify your design throughout the build.

**Materials:**
- Wooden blocks
- Legos

**Test:**
Did your design reflect your plan? Can you add additional features like tower or moat?

**Communicate:**
Describe your creation. What did you like about your design? What would you do to improve it next time?