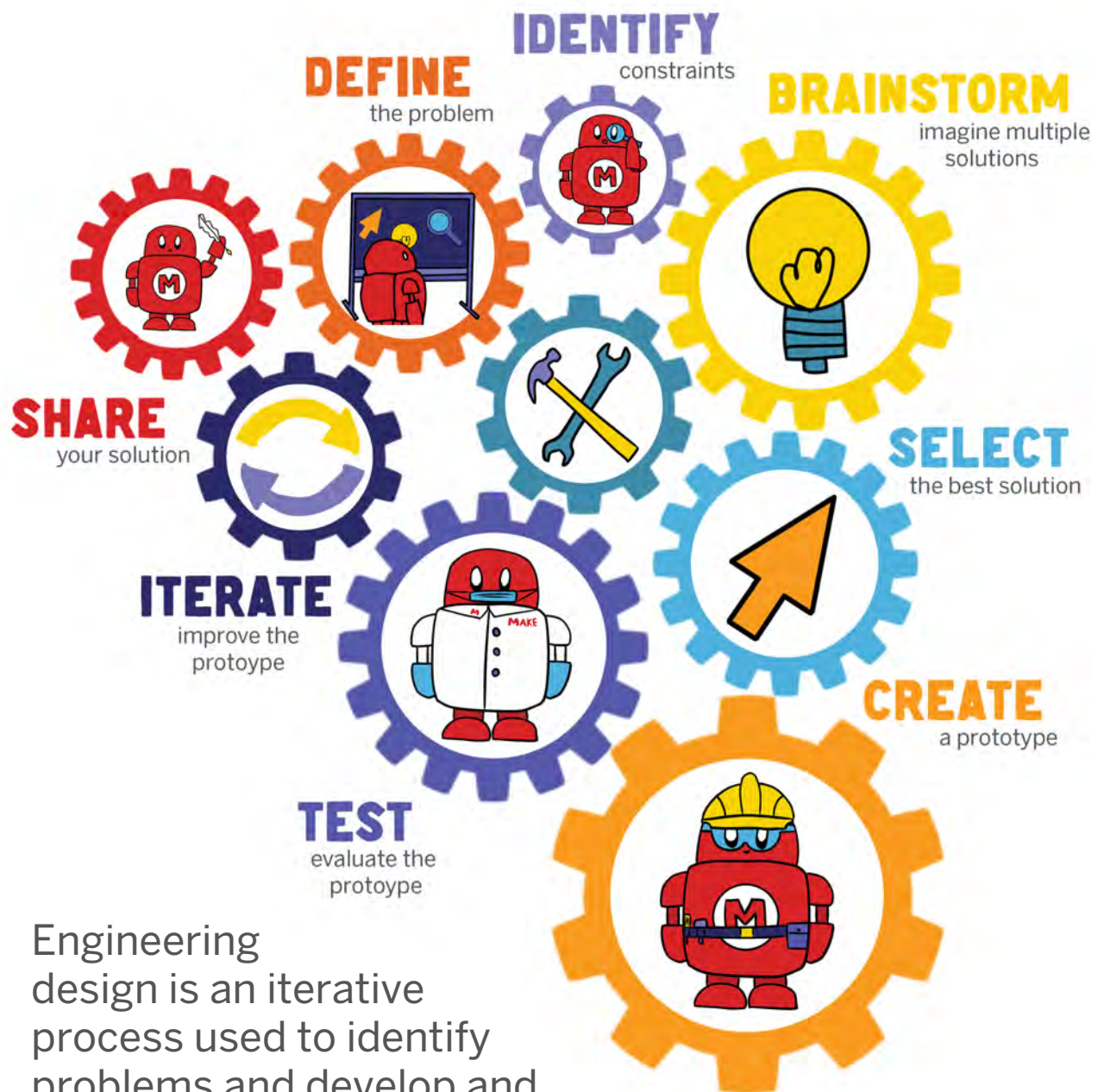


ENGINEERING DESIGN PROCESS



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.

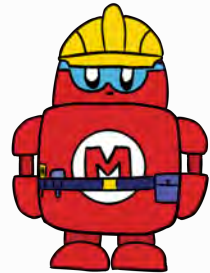


Materials:

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?

CAMP CHALLENGE

BUBBLE WAND

Challenge:

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

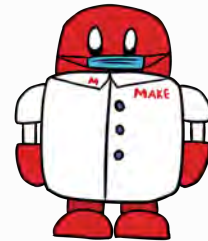


Materials:

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.

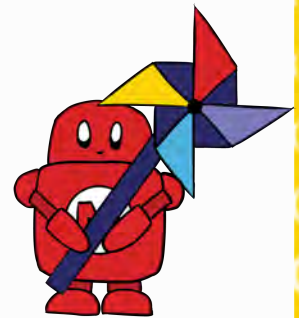


Materials:

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?

CAMP CHALLENGE

BUILD A BOAT

Challenge:

Plan, design and construct a boat using recyclable materials. Test and modify your design throughout the build.

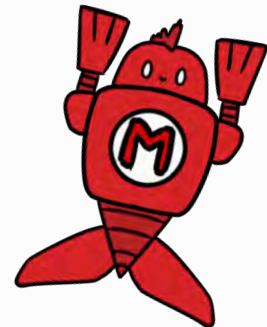


Materials:

Tape
Recycled items
like plastic bottles,
cardboard, etc.

Test:

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



Communicate:

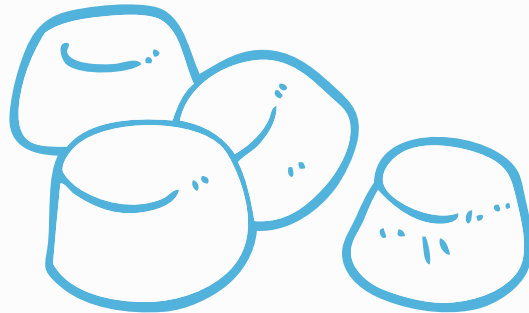
Describe your creation. What did you like about your design? What would you do to improve it next time?

CAMP CHALLENGE

MARSHMALLOW STRUCTURES

Challenge:

Plan, design and construct a famous building using marshmallows and toothpicks. Your structure must be able to stand freely.

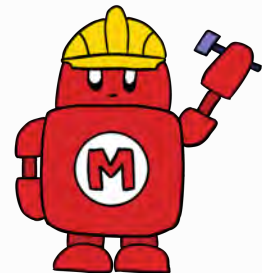


Materials:

Marshmallows
Toothpicks
Cardboard base

Test:

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



Communicate:

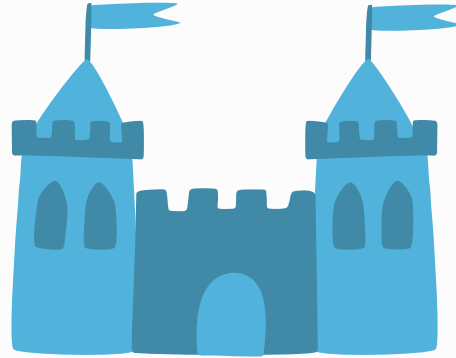
Describe your creation. What did you like about your design? What would you do to improve it next time?

CAMP CHALLENGE

BLOCK CASTLES

Challenge:

Plan, design and build a castle using blocks. Consider the different features of the castle. Test and modify your design throughout the build.

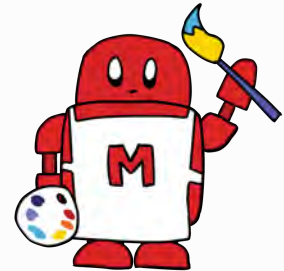


Materials:

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?
