



**Cannon Elementary**  
**A GCISD STEM School**

Push, Pull, Go

Design Challenge

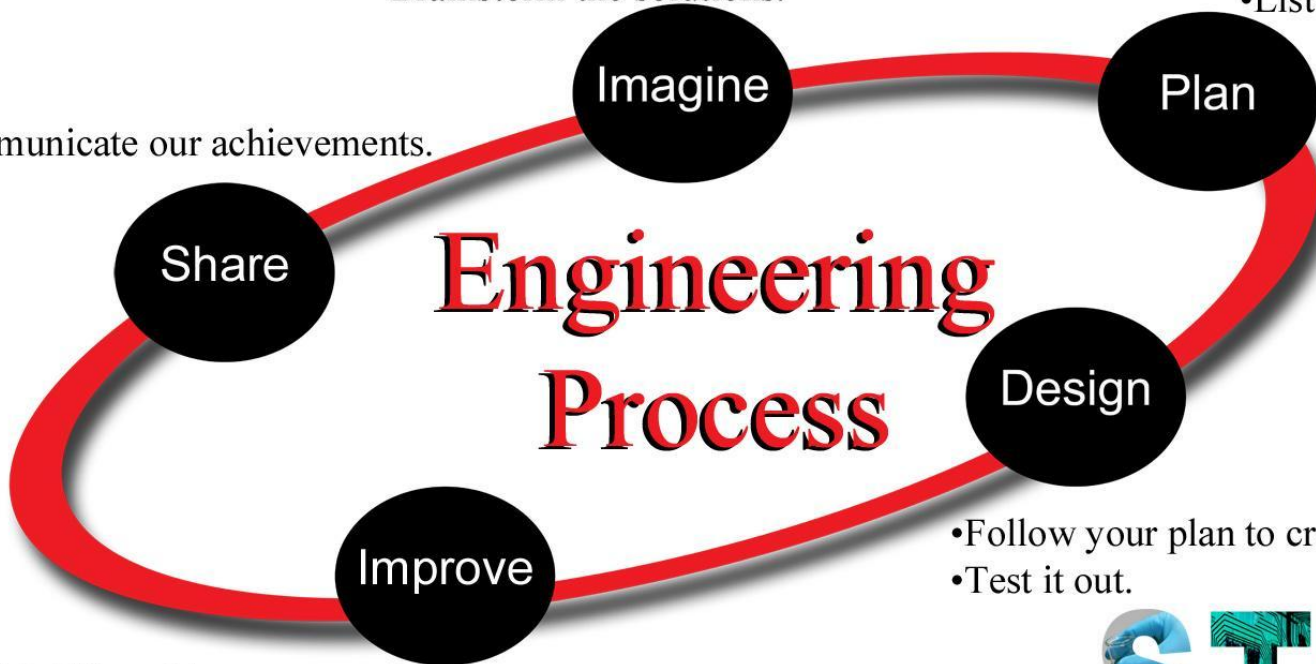
# Engineering Design Process



- Identify the problem.
- Brainstorm the solutions.

- Draw a diagram.
- List materials.

- Communicate our achievements.



- Modify and improve our design.
- Test it out.

- Follow your plan to create the design.
- Test it out.

# IMAGINE

## IDENTIFY THE PROBLEM

Families must construct a model (an invention, Rube Goldberg style) that is set in motion with force.

# IMAGINE

## MATERIALS:

KNEX

Ball

Dominos

Any furniture in the room

## CRITERIA/CONSTRAINTS:

The invention must push the dominos over without using your hands.

The invention must have at least three components.

The invention must have at least one high to low component.

# IMAGINE

## BRAINSTORM THE SOLUTIONS

Use your scholar's learning from the previous unit lessons:

push, pull, roll: ramp

push, pull, swing: swing

push, pull, tumble: domino systems

push, pull, spin: tops

How many ways can you use the toys you built to knock down the dominos?

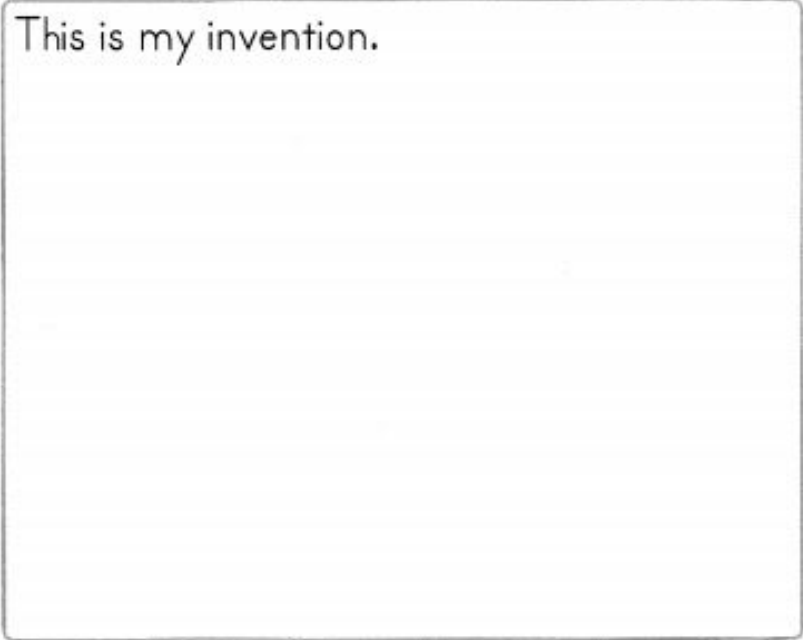
# PLAN

Use the “My Invention” sheet to draw a diagram. Make sure to list and label your materials.

Student Activity Sheet 5A: My Invention

Name: \_\_\_\_\_ Date: \_\_\_\_\_

This is my invention.



First \_\_\_\_\_

Next \_\_\_\_\_

Then \_\_\_\_\_

Lesson 5 Push, Pull, Invert © Carolina Biological Supply Company

# DESIGN

- Follow your plan to create your invention.
- Test your invention.

# IMPROVE

- Modify and improve your design.
- Test your improvements.



# SHARE

## COMMUNICATE YOUR ACHIEVEMENTS

- Record your complete invention in SeeSaw and share it to your feed.
- Use two sticky notes to answer the following questions:
  1. What was one problem you encountered?
  2. How did you fix it?

Add these to the class chart.