Name: _____

Observational Drawing & Notes 👀: Balloon Experiment

I observe... 🎨

I think.... ✏️

- _____
  _____
- _____
  _____
- _____
  _____
- _____
  _____

Name: _____

Observational Drawing & Notes 👀: Molecule Simulation

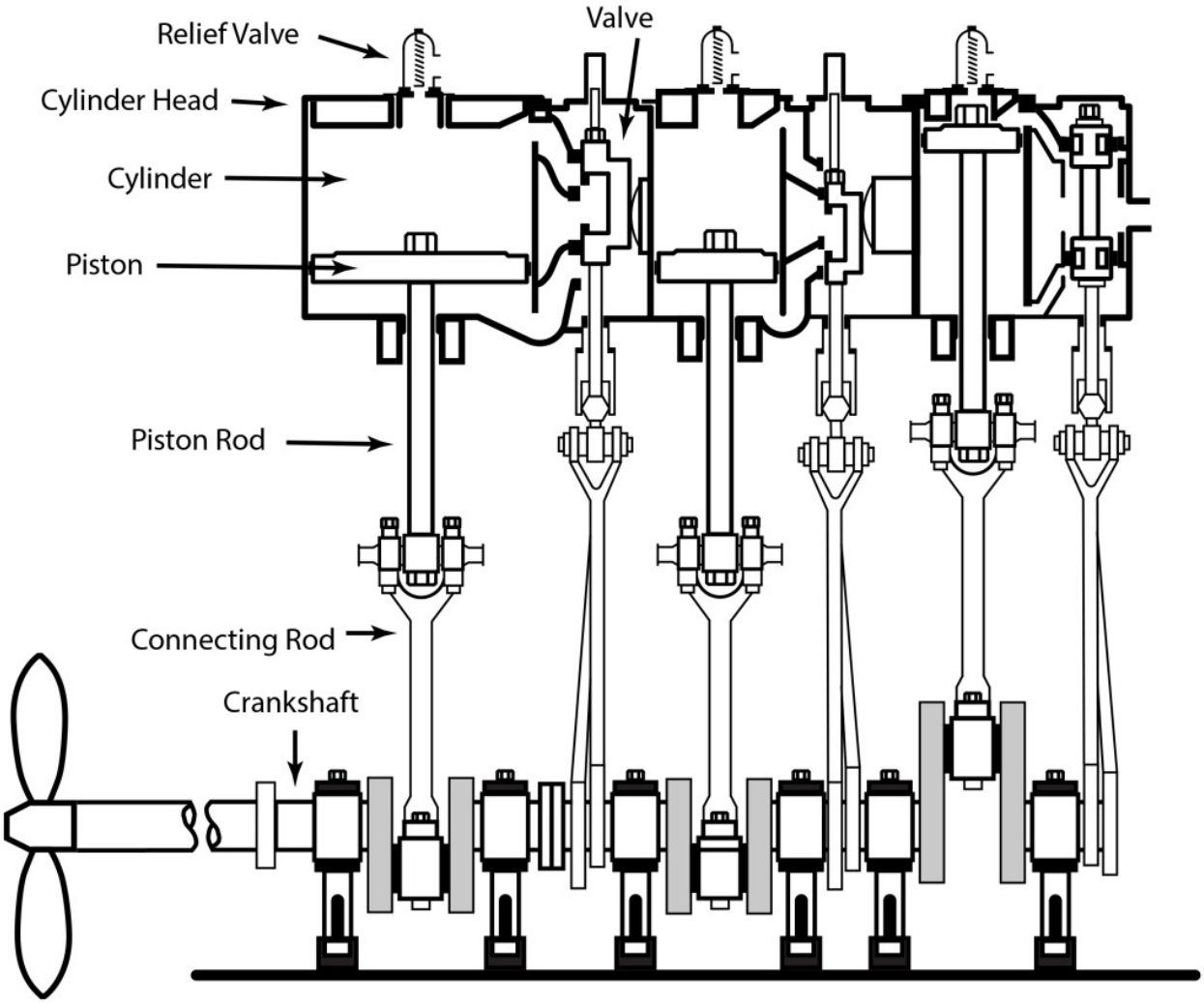
I observe... 🎨

I think.... ✏️

- _____
  _____
- _____
  _____
- _____
  _____
- _____
  _____

Name: _____

What's Going On In The Engine?



1. Draw a green arrow ← to show where steam enters the engine.
2. Draw a blue arrow ← to show which direction the valves move.
3. Draw a purple arrow ← to show how steam enters the cylinder.
4. Draw an orange arrow ← to show which way the pistons move.
5. Answer the question: How do steam and pressure help the piston move? _____
   _____
   _____
6. Draw a red circle ◌ around the parts of the engine that spin when the pistons move.

Cause & Effect Graphic Organizer
Name: _____

Example:

Topic: <u>Boiling Water</u>

Cause: The reason WHY something happened.	**Effect: What happened.**
Fire heats up the water.	**Water converts to steam.**

Topic: Valve → _____

Cause: The reason WHY something happened.	**Effect: What happened.**
The valve opens.	_____ _____ _____ _____ _____ _____ _____

Topic:_____

Cause: The reason WHY something happened.

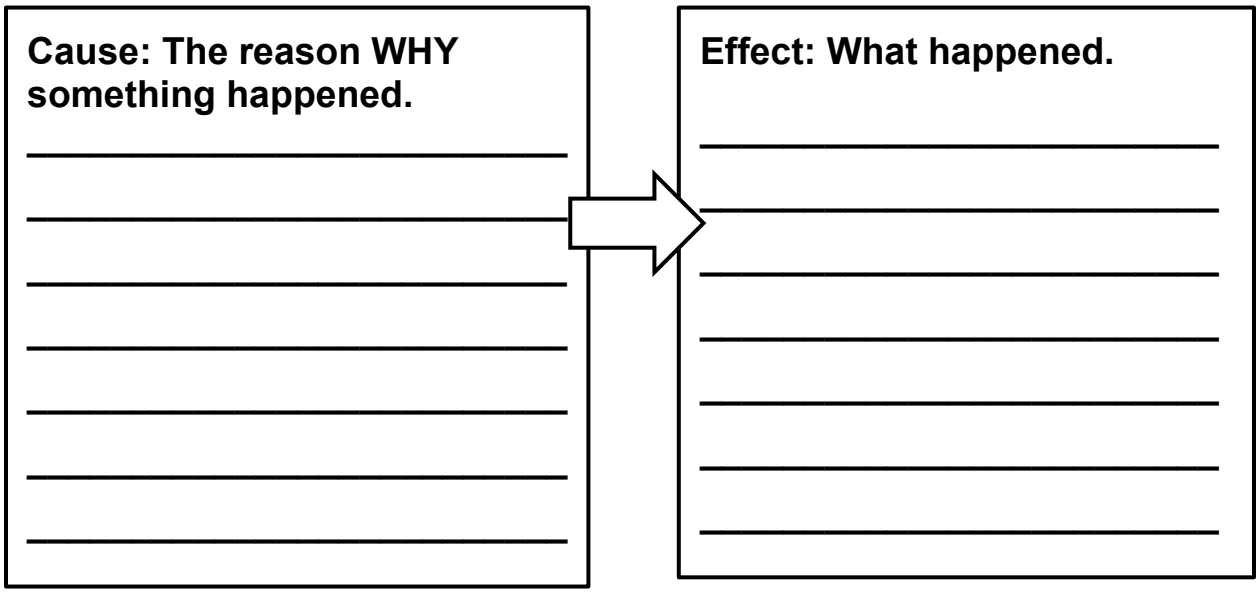
Effect: What happened.

Topic:_____

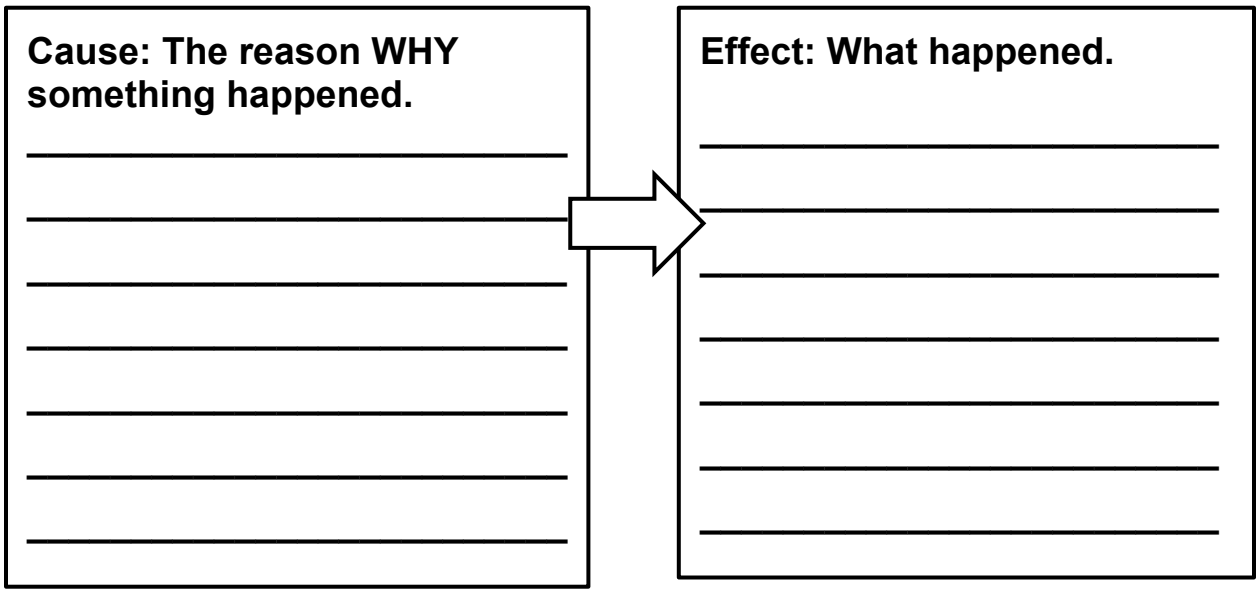
WHY something happened.

Effect: What happened.

Topic:_____

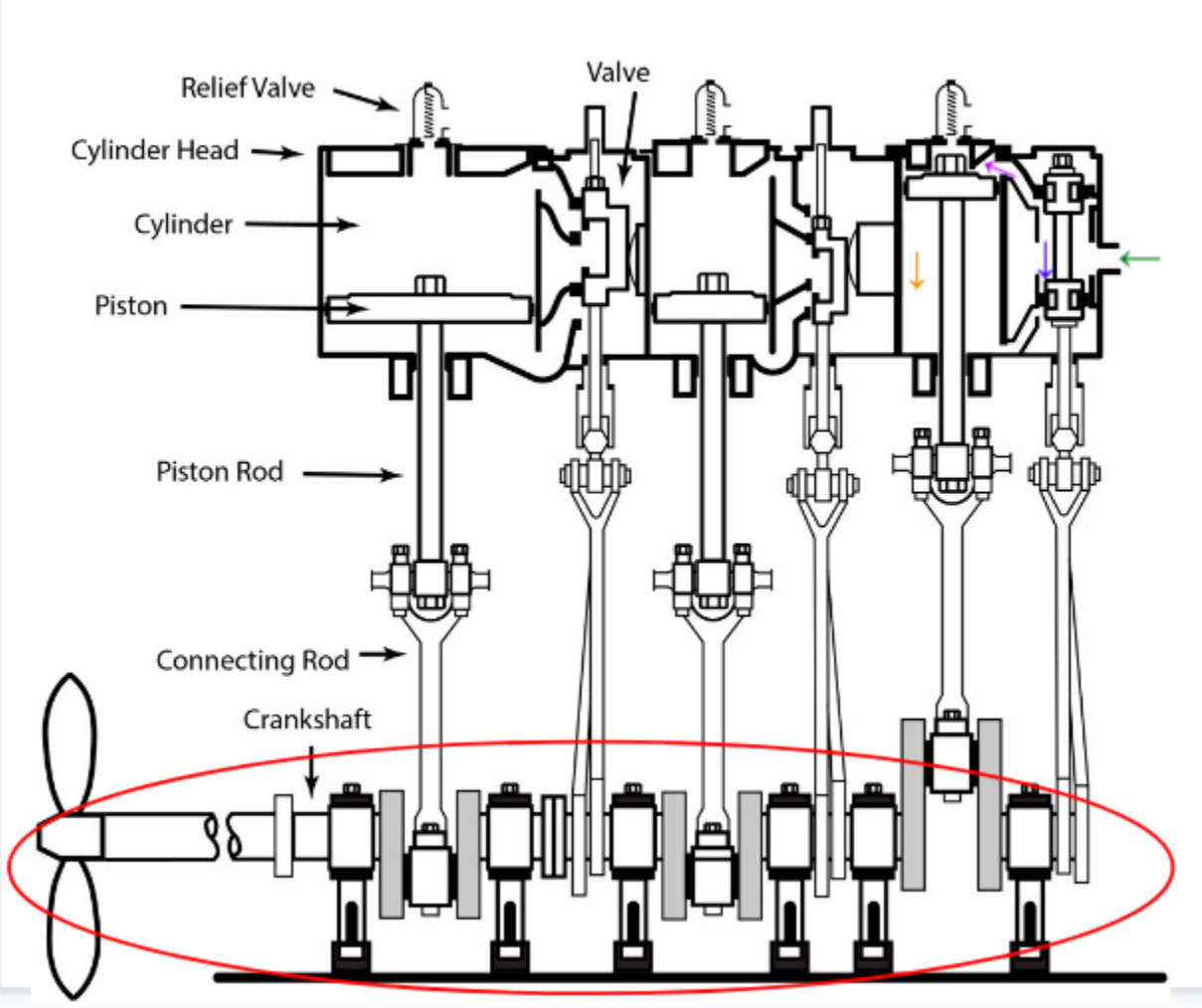

Cause: The reason WHY something happened.
Effect: What happened.

Topic:_____


Cause: The reason WHY something happened.
Effect: What happened.

Name: _____

What's Going On In The Engine? ANSWER KEY



1. **Draw a green arrow ← to show where steam enters the engine.**
2. **Draw a blue arrow ← to show which direction the valves move.**
3. **Draw a purple arrow ← to show how steam enters the cylinder.**
4. **Draw an orange arrow ← to show which way the pistons move.**
5. **Answer the question: How do steam and pressure help the piston move?** Steam is compressed in a very small space. Using its mechanical energy, it pushes against the piston to create pressure and push the piston down.
6. **Draw a red circle ◌ around the parts of the engine that spin when the pistons move.**

Name: _____

Cause & Effect Graphic Organizer ANSWER KEY

Example:

Topic: Boiling Water

Cause: The reason WHY something happened.	Effect: What happened.
Fire heats up the water.	Water converts to steam.

Topic: Valve → Cylinder

Cause: The reason WHY something happened.	Effect: What happened.
The valve opens.	Steam enters the cylinder.

Topic: Cylinder→ Movement of Piston

Cause: The reason WHY something happened.	Effect: What happened.
Steam in the cylinder has very little room. The kinetic energy in the steam molecules push against the piston to create pressure.	The piston moves down.

Topic: Movement of Piston→ Crankshaft

Cause: The reason WHY something happened.	Effect: What happened.
The piston gets pushed down. It is connected to the piston rod.	The crankshaft is turned.

Topic: Crankshaft→ Propeller

Cause: The reason WHY something happened.	Effect: What happened.
The crankshaft turns.	The propeller turns.

Topic: Propeller→ Movement of Boat

Cause: The reason WHY something happened.	Effect: What happened.
The propeller turns.	The boat moves.