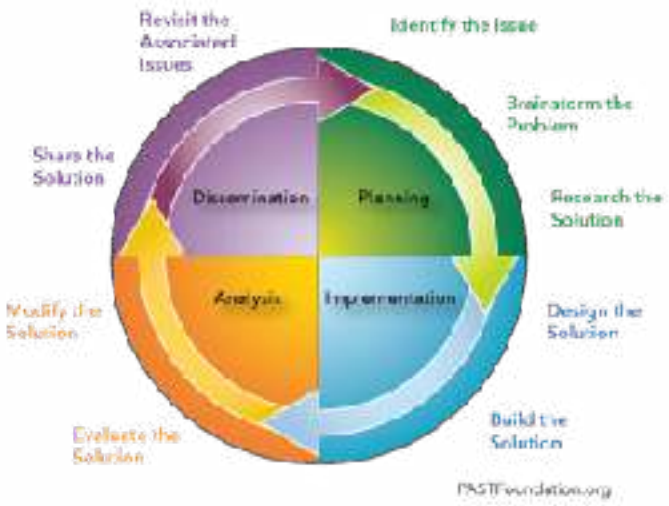
Name:_____

Date:_____

# Catapult
# Mini Challenge




**Problem Scenario:**
Students will build and operate a catapult using directions provided. Once constructed students will enter into a competition to fling marshmallows at a set of fixed targets.

**Challenge:** Using the materials create a catapult to fling a marshmallow the greatest distance. Once the first iteration is completed create a catapult to overcome heights and other obstacles.

**Criteria:**

- popsicle sticks/ rubber bands/ plastic spoon
- Be able to explain how the construction allows the catapult to throw the marshmallow high or at a far distance.
- Explain how a catapult was able to be used for things other than as a weapon.
- Be able to trace the flight pattern of the marshmallow and how that flight pattern can be adjusted.

**1. Brainstorm:** Use the space below to brainstorm the design and approach to building a strong stain glass panel.

- How do Catapults work?
- What simple machine is a catapult?
- What launch angle produces the greatest distance?
- What force provides the main power for a catapult?

**2. Design:**
Design your catapult (see attached for suggestions) and identify each part of the catapult's job.

**4. Evaluate:**
- What is the average maximum range achieved?
- How does each part of the catapult's construction lead to its capability?

**5. Modify:**
- What if the popsicle sticks were longer or shorter? What will happen to the range?
- If you were to use fewer or more rubber bands what will happen to the range?

**3. Build:**
Using the materials build the catapult from your design.

**6. Share:**
Share your creation on Social Media!

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