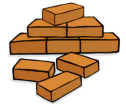


# Foundation

"If I have seen further, it is by standing on the shoulders of giants." –Sir Isaac Newton



## Group Initiative— Paper Tower Challenge

**Objective:** Students will design and build the tallest possible tower using nothing but paper and tape, but there's an additional twist on this classic activity. The tower must support a heavy weight at the top without collapsing! The goal is to hold your weight as long as possible.

### Materials:

- Paper (maximum 15 sheets). Cardstock and newspaper are not allowed.
- 2 feet of masking tape
- Hard, smooth surface, such as table or countertop
- Whiteboard, Scissors, Ruler, Pencil (use but not included in structure)
- To test: Unopened can of food, 14–16 oz or 400–450 g. Glass jars are not allowed for safety reasons (they could shatter if they fall off your tower).

**Skills:** engineering design, collaboration, ingenuity, creativity, perseverance

### Procedure:

1. Students will be provided with a design challenge sheet and acceptable materials.
2. Students have 5 minutes to review the challenge and sketch out plans on their whiteboard. This could be both brainstorm and planning time, but try to let students figure out how to utilize their time. (Do not use roles, maybe students will recognize that this would help their team during the debrief).
3. Students have 15 minutes to build out their structures. (they are allowed to test their structure as they go, if they want). This may encourage remodeling (which is great :))
4. When timer goes off, we will test each groups' models individually and see how long they can hold up the can.
5. Students have 3 minutes to reflect (individually or as a group) about what they would change about their groups' process or their model if they did this again.

### AOP:

- What characteristics made a successful design?
- What skills did your group demonstrate that helped you in collaborating?
- What would have made your group collaboration or group's design better?
- What does this activity have to do with our theme of foundation?
- How does this process relate to the process of science?
- What core values did you demonstrate today?