

CHALLENGE: Standing the Test of Time

GRADE 3

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

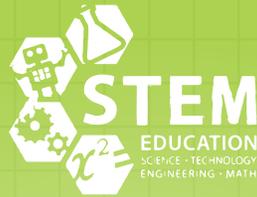
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1. **CHALLENGE:** Can one sheet of paper hold up many? Use one piece of paper to hold up a heavy book. Study examples of ancient Roman buildings that have stood for thousands of years. Use them to figure out how you can make a single sheet of paper strong enough to support a heavy book.

2. **Materials:** Paper, book

3. **Tools:** Scissors, tape



CHALLENGE: Magic or Magnets?

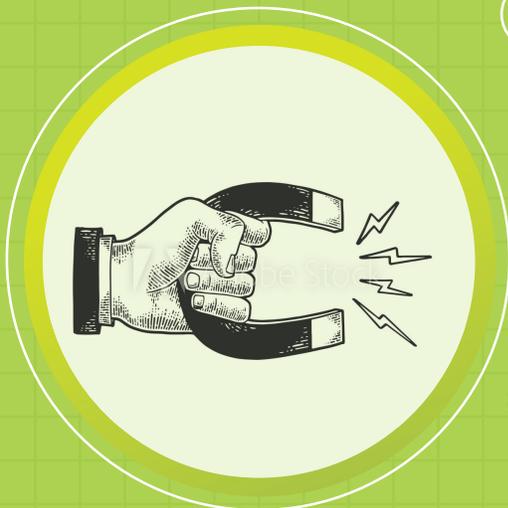
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3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects in contact with each other.

3-PS2-4/ Define a simple design problem that can be solved by applying scientific ideas about magnets.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

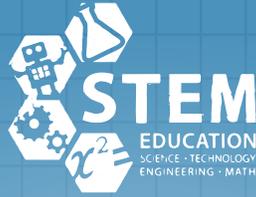
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1. **CHALLENGE:** Can you use magnets to do a magic trick? Magnetic forces are there even if objects are not touching. Work with a partner to develop a “magic” trick that shows how magnetic force can move an object from one place to another.

2. **Materials:** Paper, cardboard, magnet, metallic objects (paper clips, screws).

3. **Tools:** Scissors, tape



CHALLENGE: Oil Spill

GRADE 3

3-5-ETS1-2. Generate and compare multiple solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

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1. **CHALLENGE:** Can you clean up the oil spill in the ocean? Oil spills can happen and can cause great pollution to the oceans and the animals that live in them. We need to be able to clean up these oil spills as quickly as we can. Use different tools to figure out the best way to clean and work to clean up your ocean.

2. **Materials:** Plastic bin, water, vegetable oil, food coloring, dish soap

3. **Tools:** Assorted supplies for clean up (cotton balls, straws, paper towels)