Straw Rocket Design Challenge

Lesson Objective: Students will use the Engineering and Design Process to create rockets that can reach the planet of Mars. Students will work in groups of 3 and 4, then independently to design a model rocket. They will test their rockets on a straw launcher and measure the distance the rocket travels.

Ask: NASA has asked you to be part of the Mars Rocket Design Team! Your mission is to design a rocket that can travel the furthest distance.
Read: I Can Be A Rocket Scientist: Fun STEM Activities for kids by Anna Claybourne

Materials List:

- 1 plastic straw
- 4 pieces of construction paper
- 12 inches of masking tape
- Scissors
- Chalk
- 30' tape measure
- 2 Pitsco Straw Rocket Launchers
- Science Notebook

Imagine: How will you use the materials to help design the rocket that flies the farthest distance? Brainstorm ideas for a rocket that could travel at least 50 feet. Make sure to consider the following:

- What will the body and size of my rocket look like?
- What shape and quantity of fins will my rocket have?

Draw a diagram of at least one of your ideas. Don't forget to label your rocket and its parts.

Build, Test and Improve

	Does your rocket fly?	Distance traveled?	How can you improve your rocket design?
Trial 1:	Yes/No		
Trial 2:	Yes/No		
Trial 3:	Yes/No		

Reflect:

- What did we do and what did we learn?
- What materials did we use and who did you work with?
- Why did we do this and how did you feel doing this?
- What was the most difficult part of this challenge?
- What was your favorite part of this challenge? Why?
- What was your least favorite part? Why?
- What would you change if you could do this challenge again? Why?