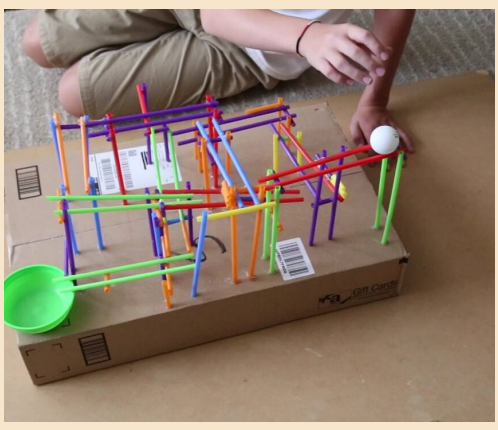
STRAW ROLLER COASTER CHALLENGE

STEM ACTIVITY

INTRODUCTION:

1

A roller coaster is a type of amusement ride that employs a form of elevated railroad track designed with tight turns, steep slopes, and sometimes inversions. ... Most roller coasters have multiple cars in which passengers sit and are restrained. Two or more cars hooked together are called a train.Civil engineers are engineers who design structures,from bridges and buildings to train tracks and roller coasters.



2

YOUR CHALLENGE!

Build a roller coaster for a ping pong ball out of straws, hot glue, and a cardboard box for a base.Design a safe and fun roller coaster using available materials.

REFLECTION QUESTIONS:

3

What surprised you about the challenge?
What was frustrating about the challenge?
How does this challenge apply to real life?
What are the similarities between the designs that worked well?
If you were to do this challenge again what would you do differently?

4

THINGS TO THINK ABOUT:

What is civil engineering?How does a roller coaster work?What is gravity?What is potential and kinetic energy? How high are you going to start your roller coaster?How are you going to make sure thatyour ball doesn't move that fast it falls off?How are you going to make your ball go round corners?

5

TO BUILD THIS STRAW ROLLER COASTER YOU WILL NEED:

A cardboard box or a piece of cardboard for the base
Straws - solid color ones are fun!
Scissors
A hot glue gun and glue sticks
A ping pong ball
A bowl to catch the ball at the bottom (optional)