



Summer 2020 Lesson

Class: Innovation Club

Grade Band: Grades 2-6

Teacher: Mrs. Richey

Lesson: Cup Racers

Objective: Create potential energy by winding up your rubber band then release your cup car to fly across the room in a remarkable display of kinetic energy!

Materials: 2 coffee cups with lids, 3 rubber bands, 1 straw, 1 bead, 1 washer, 1 paper clip, duct tape, 1 quarter, scissors, pencil

Process:

1. Find 2 clean disposable empty coffee cups with lids. Beg your parents to take you to Starbucks, if you don't have any at home (just kidding).
2. Trace a quarter in the center of the bottom of both cups and carefully cut them out with scissors.
3. Use duct tape to tape your cups together with both cup bottoms connected together, and the cup openings (the part you drink out of) facing out.
4. Poke a hole into each coffee cup lid with a pencil. The opening should be only as big as your pencil.
5. Link 3 rubber bands together to make a rubber band chain. Place the rubber bands down with 2 ends overlapping, then loop the bottom rubber band through the top rubber band and pull it tight. Do this a second time so all three rubber bands are looped in a row.
6. Thread the rubber band chain through the quarter-sized cup openings.
7. Pull one side of the rubber band through a lid and secure it in place by attaching it to a paperclip. Secure this lid to a coffee cup with the paperclip on the outside.
8. Thread the opposite end of the rubber band chain through the other coffee cup lid and then through a washer and then through a small bead. Insert your straw through the rubber band loop and leave one inch of the straw sticking out on one side.
9. Put that second lid securely on your second coffee cup and wind up your straw by twirling it around your bead until you create tension.
10. Put your racer on the floor and watch it roll!!!

Vocabulary: potential energy (stored energy), kinetic energy (moving energy)