BPA SCIENCE LAB

The Great Marble Drop

Learning objective: for students to analyze a problem, and test and refine solutions. This will demonstrate a key skill needed in engineering and scientific disciplines.

Supplies you will need

- ★ 1 Dixie cup
- ★ 1 Marble
- ★ 4 Foot length of fishing line or fine string
- ★ 1 Roll masking tape
- ★ 4 Index cards
- ★ 12 Paper clips
- ★ 1 Paper bull's-eye target

Instructions

1. Students form teams
2. Distribute materials to each team.
3. Teams tape the string to the wall, then to a lower point so it forms an incline. You can use a desk or chair back.
4. Set the bull's-eye paper target on the floor about halfway between the wall and the chair.
5. Challenge the teams to come up with a way to transport the marble from the top point of the string, and then have it drop so it hits the target.
6. Go! You can circulate around the room, giving hints if needed. They may ask about different ways they can proceed—you are free to make up your own "rules" depending on the age of the kids. The objective is simply to engage them in an engineering problem-solving exercise.
7. When there are about 10 minutes left, ask each team to present its results. The other teams may move around the room to see what their classmates did. Tell them that this is what scientists do at a conference—they get together to share what they've learned and compare results.

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