

Don't Lose Your Marbles

Lesson at a glance:

Students will explore the effects of force and seatbelt safety.

Grade:

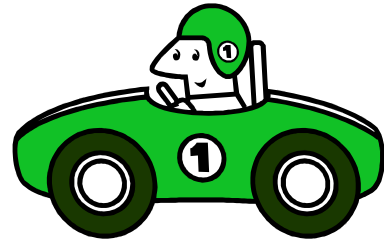
K-2

Skills:

Observing, Cooperating, Drawing

Materials:

- A plastic or paper cup for each student
- A marble for each student
- Masking tape
- White paper
- Crayons



Background:

Forces start something moving, change its speed or change its direction. When riding in a car, a seatbelt helps keep the passenger safe. In this activity, the cup represents the car, and the marble is the passenger. Through this activity your students will understand more fully that a loose marble (passenger) will continue to roll even when the cup that was holding it is stopped and that when it is secured with a "seatbelt" the marble will not be ejected from the car.

Activity:

1. Give each student a marble and a cup.
2. Have the students get down on the floor on their hands and knees. Explain that the cup is going to be a pretend car that they will be driving around on the floor. They are the driver and they have a passenger in the car, the marble. Have them place the cup on its side and the marble in the cup and drive the car around with the opening of the cup, facing in the direction of travel.
3. Now, have the students suddenly stop the car. Ask your students to describe what happened to their passenger. (It should have rolled out of the cup.)
4. Repeat the activity with them driving slowly and then quickly. Was there a difference to what happened to the passenger when they stopped their vehicle when they were traveling different speeds?
5. What could they do to make their car safer for the passenger? A seatbelt is the answer you are looking for.
6. Give each student a piece of tape.
7. Have the students place the tape across the opening of the cup.
8. Have the students drive their car again.



AMERICA'S CAR MUSEUM®

9. Have them abruptly stop again. What happened to their passenger?
10. Now give the students another piece of tape. Have them tape the marble to the side of the cup.
11. Have the students once again drive their car and stop it quickly. What happened this time?
12. Which of the three trials was the safest for the passenger? Discuss the importance of making sure that their seatbelt fits snugly across their lap when riding in a car.

Assessment:

1. Have each student fold a piece of paper in half. On one half, have them write the word unsafe and draw what they would look like riding in a car unsafely. On the other half of the page have them write the word safe and draw a picture of themselves riding safely in a car.

This activity was adapted from a blog entry on the *NSTA The Early Years Blog*



AMERICA'S CAR MUSEUM®