

Springtide Sports: Keep Moving Forward

Grade 5 Science

Name: _____

Date: _____



Activity 1: What goes up, must come down. Do the following experiments and observe how gravity affects the objects, and the forces needed to move them.

A. Roll a ball across the floor

B. Toss a ball into the air

1. How do you need to apply force differently when you roll the ball from when you throw the ball?



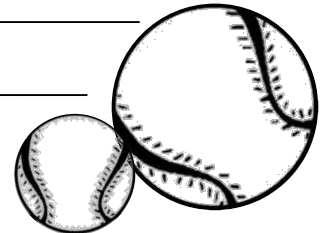
A. Roll the ball up a hill

B. Roll a ball across the floor

2. Explain why you must use more force to roll the ball up the hill than along the flat ground.

3. What force causes the ball to come back when you roll it up the hill?

4. Explain why it is more difficult for a ball to roll in the grass than a polished floor?



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Activity 2: Make predictions to answer the following questions based on what you know about forces and mass.

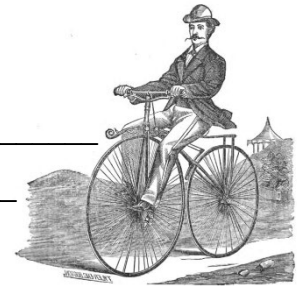
1. How can these brothers make the hoop roll slower? (list 2 ways)



2. How can the sisters make the hoops go higher?



3. What forces can Ben use to slow the bicycle down?



4. Explain how a ball with more mass will they have to apply more or less force to the ball in order to get it to the other player?





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Activity 3: Explain how factors such as friction, gravity, and change in mass affect the movement of the following objects.

1. Imagine a place far from all gravitational and frictional influences. Suppose that you visit that place (just suppose) and toss a grace ring. The ring will: (circle the best answer)

- a. gradually stop.
- b. continue in motion in the same direction at constant speed.

Why? _____

2. Brother Clewell and Brother Reuz are arguing at the Toy Store. Brother Clewell says that if he flings the shuttlecock with a greater force it will travel further. Brother Reuz argues that force does not affect the distance an object travels. Who is right?



3. Ben dropped a ball in the woods and is being chased by a very large buffalo that he startled. The enormous mass of the buffalo is extremely intimidating. Yet, if Ben makes a zigzag pattern through the woods, he will be able to use the large mass of the animal to his own advantage. Explain how?

