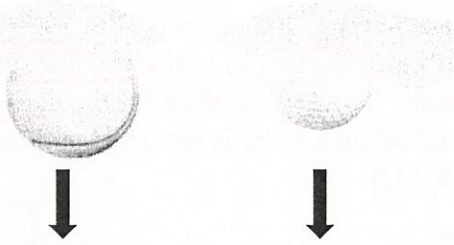


Name \_\_\_\_\_

Date \_\_\_\_\_

1. A teacher drops a tennis ball and golf ball at the same height to see if they will land at different times.



What force causes the tennis ball and the golf ball to land on the ground?

- A. magnetism *No magnets*
- B. air pressure ?
- C. gravity *pulls towards ground*
- D. friction *stops + slows motion*

2. Students design three different ramps that are at different heights. They release a car down each ramp and then record the distance the car travels. The chart below shows their results. (5.2.B)

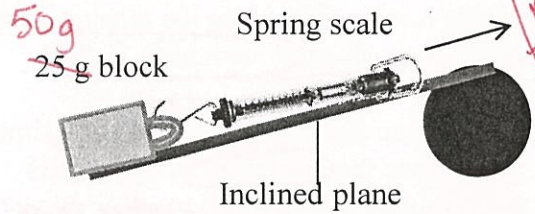
*variable*      *what was measured*

Ramp Height	Distance Traveled
3 cm	26 cm
6 cm	57 cm
12 cm	100 cm

Which question was this investigation most likely designed to answer?

- F. How do cars affect ramps?
- G. How does the height of a ramp affect the distance a car travels? *what is variable?*
- H. How does the type of car affect the distance it travels down a ramp?
- J. How do different surfaces affect the distance a car travels down a ramp?

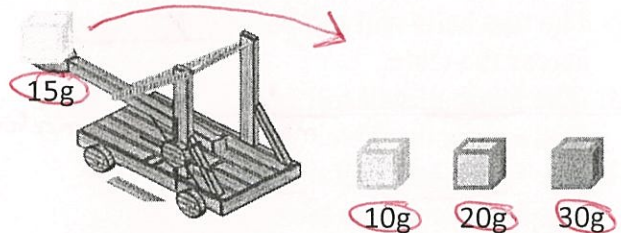
3. A student pulls a 25 gram block up an inclined plane using a spring scale. While pulling the block, the spring scale will display the amount of force being applied. (5.2.D)



If the 25 gram block is changed to a 50 gram block, what would happen to the amount of force needed to pull it up the inclined plane?

- A. The amount of force needed would decrease.
- B. The amount of force needed would increase.
- C. The amount of force needed would not change.
- D. None of the above.

4. A student designs an experiment to test the force of a catapult using four cubes with the same volume, but with different masses. (5.4.A)



What other scientific equipment would the student most likely use for this experiment?

- F. A metric ruler to measure the distance each cube travels after being launched.
- G. A stop watch to see how much time it takes to load each cube on the catapult.
- H. A beaker to measure the volume of each cube. *volume is all the same*
- J. A triple beam balance to measure the mass of each cube. *already know mass of blocks*



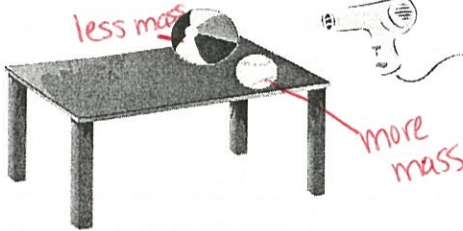
Name \_\_\_\_\_

Date \_\_\_\_\_

1. A science class is designing an experiment that tests the effect of force on an object. They drop the same ball from different heights and use a meter stick to measure how high the ball bounces. The class repeats the experiment three times and record the results. Why does the science class repeat the experiment three times? (5.2.E)

- A. so they can use a ~~different~~ <sup>same ball</sup> ball each time
- B. to increase the reliability of the results
- C. to formulate a hypothesis = before experiment
- D. to demonstrate safe practices in the class

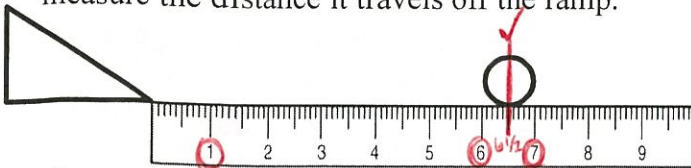
2. A teacher uses a hair dryer set on high speed to move a beach ball and a baseball.



How will the motion of the beach ball compare to the motion of the baseball?

- F. The two balls will roll at the ~~same~~ speed across the table.
- G. The baseball will roll faster than the beach ball across the table. <sup>more mass needs more force</sup>
- H. The beach ball will roll faster than the baseball across the table.
- J. ~~Neither~~ ball will roll across the table.

3. A marble rolls down a ramp and students measure the distance it travels off the ramp.

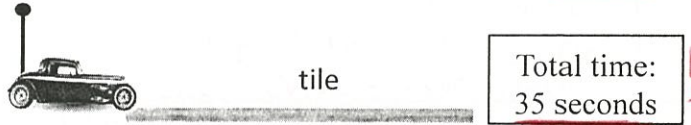
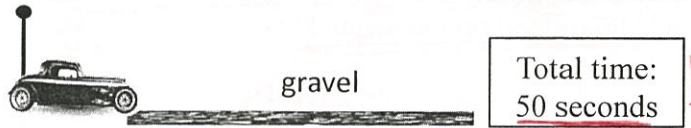


How many centimeters did the marble travel?

- A. 6 cm
- B. 1 cm
- C. 6.5 cm
- D. 7 cm

**Use the paragraph below and your knowledge of science to answer questions 4 and 5.**

Students test how friction affects the speed of a radio-controlled toy car. They create three tracks of the same length with different surfaces on each. The time it takes for the car to travel to the end of each track is recorded and shown below. (5.2.D)



most friction

least friction

4. What can be concluded from these results?(5.2.D)

- F. The more friction on the track, the more time it takes to reach the end.
- G. The less friction on the track, the more time it takes to reach the end. <sup>fastest</sup>
- H. Friction does not affect the speed of the car.
- J. None of the above.

5. What is the variable in this experiment? (5.2.A)

- A. The radio-controlled toy car. <sup>same</sup>
- B. The total time it took each car to travel. <sup>what is measured</sup>
- C. The length of each track. <sup>same</sup>
- D. The surface of each track. <sup>different</sup>

6. Which of the following is an example of a force affecting an object? <sup>push or pull</sup>

- F. A fan blows a piece of paper off a desk.
- G. The air from a balloon pushes a toy car.
- H. A car rolls down a hill. <sup>gravity</sup>
- J. All of the above.