Experimenting with Forces Force, Motion, and Energy

Progress Monitoring Assessment

Name:	Date:

1 Students wanted to see if the distance a marble rolled down a ramp changed the force it had. They allowed a marble to roll down the ramp from different starting points and strike a second marble.



To determine if the force of the rolling marble changed, what should the students measure?

- A The mass of Marble #2 before and after being struck by Marble #1.
- **B** The distance Marble #2 moves after being struck by Marble #1.
- **C** The time it takes Marble #2 to move after being struck by Marble #1.
- **D** The direction Marble #2 moves after being struck by Marble #1.

2 Students hung three washers on a string 20 cm long off the edge of a desk and timed how long it took the washers to swing back and forth one time.

They repeated the investigation, using the same three washers, with string that was 30cm and 40 cm long.



The students are testing the effect of which factor on the time it takes the washers to swing?

- A Height of desk
- **B** Length of string
- **C** Number of washers
- D Number of swings

- **3** Some students wanted to find out if a tennis ball and a baseball dropped from the same height hit the ground at the same time. This investigation tests the effect of which of the following?
 - A Wind
 - **B** Friction
 - **C** Gravity
 - D Magnetism

4 Students taped a rubber band to a box of washers, then dragged the box across four different surfaces, using the rubber band.



The students are using the distance the rubber band stretches to measure the amount of friction each surface exerts on the box. Based on the observations shown here, which surface had the greatest amount of friction?

- A Surface AB Surface BC Surface C
- D Surface D

5 Some students launched an air rocket several times. Each time they increased the number of pumps before releasing the rocket.



What data should they collect in order to test how the number of pumps affects the movement of the rocket?

- **A** The height the rocket rises each time.
- **B** The width of the rocket on its base.
- **C** The distance from the pump to the rocket.
- **D** The volume of air the pump holds.