Energy and Motion

Grade 4 Science Worksheet - Challenge Me

Name _____ Date _____

Read the investigation. Write the answer on the line.

READ THIS FIRST

A marble and clay test

Kai dropped the same marble from three different heights onto flat, soft clay. The higher a marble starts, the faster it is going when it lands. He measured how wide a dent each drop made.

10 cm drop: 4 mm
30 cm drop: 7 mm
60 cm drop: 11 mm

1. What did the tester change to give the marble different amounts of energy of motion?

_____

2. Which gives the marble more energy of motion: the 10 cm drop or the 30 cm drop? Write the word.

_____

3. Which result shows the most energy of motion passed to the clay? Write the number.

_____

4. A faster marble lands on the soft clay. Will the dent be wider or narrower? Write wider or narrower.

_____

5. When the marble hits the clay, some of its energy of motion moves to the _____ . Write the word.

6. After the marble hits and stops, some of its energy turns into sound and heat. Did all of its energy go to the clay? Write yes or no.

_____

7. The faster an object moves, the _____ energy of motion it has. Write more or less.

8. The tester gives the marble even more speed than in the fastest trial. Will the result be more than 11 mm or less than 11 mm? Write more or less.

_____

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Answer Key - Grade 4 Science Worksheet - Challenge Me

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1. What did the tester change to give the marble different amounts of energy of motion?

drop height

2. Which gives the marble more energy of motion: the 10 cm drop or the 30 cm drop? Write the word.

30 cm

3. Which result shows the most energy of motion passed to the clay? Write the number.

11

4. A faster marble lands on the soft clay. Will the dent be wider or narrower? Write wider or narrower.

wider

5. When the marble hits the clay, some of its energy of motion moves to the clay . Write the word.

6. After the marble hits and stops, some of its energy turns into sound and heat. Did all of its energy go to the clay? Write yes or no.

no

7. The faster an object moves, the more energy of motion it has. Write more or less.

8. The tester gives the marble even more speed than in the fastest trial. Will the result be more than 11 mm or less than 11 mm? Write more or less.

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