

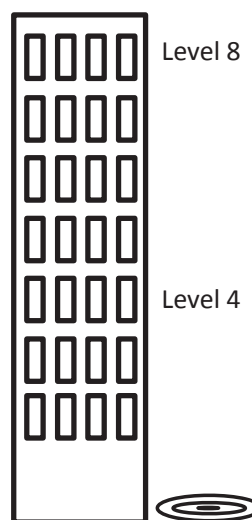
LAB 2

Checkout Questions

Lab 2. Acceleration and Gravity: What Is the Relationship Between the Mass of an Object and Its Acceleration During Free Fall?

For questions 1–3, assume air resistance can be neglected.

1. The picture at right shows a tall building. A physics class is investigating the time it takes for different objects that are dropped out of a window to fall to the ground. They release four objects from rest. Object A (mass = 5 kg) and object B (mass = 10 kg) are dropped from level 8. Object C (mass = 5 kg) and object D (mass = 10 kg) are dropped from level 4. What is the order in which they hit the ground?
 - a. Object D, then object C, then object B, then object A
 - b. Object D, then objects C and B at the same time, then object A.
 - c. Object D, then object B, then object C, then object A
 - d. Objects C and D at the same time, then objects A and B at the same time



How do you know?

2. Determine the amount of time that object A would take to fall if level 8 is 50 meters above the ground.

3. How long would it take object C to hit the ground if level 4 is half as high as level 8?

4. A theory turns into a law once it has been proven to be true.
- I agree with this statement.
 - I disagree with this statement.

Explain your answer, using an example from your investigation about the relationship between the mass of an object and the acceleration due to gravity during free fall.

LAB 2

5. *Data* and *evidence* are terms that have the same meaning in science.
 - a. I agree with this statement.
 - b. I disagree with this statement.

Explain your answer, using an example from your investigation about the relationship between the mass of an object and the acceleration due to gravity during free fall.

6. Why is it useful to understand the factors that control rates of change during an investigation? In your answer, be sure to include examples from at least two different investigations.