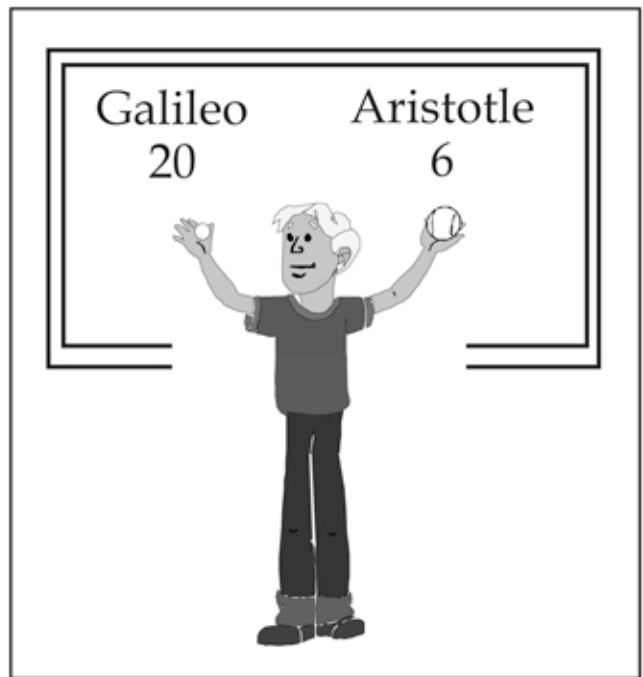


18. A Question of Gravity

“Aristotle, famed scientist and philosopher, argued that heavy objects fall faster than light objects. Mathematician, astronomer, and physicist, Galileo, stated that light and heavy objects fall at the same rate. Who was right? Today, I will test these theories and let you, my fellow classmates, see who’s theory is correct.”

“I have in my hands two objects: a hardball and a pingpong ball. If dropped at the same time, how many of you think the hardball will hit the floor first?” Jarrod asked his captive audience. “How many of you think the balls will hit at the same time?” Jarrod recorded the results on the chalkboard, alot more students agreed with Aristotle. “I will now drop both objects at the same time and from the same height. I want you to closely watch”! Jarrod dropped the objects. As the majority of the class had anticipated, the balls hit the ground at different times. “Very good, you’ve been as studious as me. Alright, I have one more experiment to perform. This should be a piece of cake for smart students like ourselves.”

Jarrod pulled out two pieces of paper from his binder and crumpled one of them up. “How many of you think these two pieces of paper will hit at the same time?”. A few students agreed that both pieces of paper would hit at the same time. Several more were undecided. “I am holding both papers at the same height, and I am



Using a pingpong ball and a hardball in the first part of his demonstration, Jarrod proved that objects of differing weights fall at the same rate.

now dropping it at the same time.” The crumpled paper landed first. “I ask you now Was Galileo right only some of the time? Is gravity not constant?” Jarrod paused momentarily. “Yes, gravity is constant! What you have witnessed here is air resistance. The flat unaltered sheet has more air resistance than the crumpled sheet of paper, so it falls more slowly. Galileo’s law of falling objects, therefore, can be proven only when there is no air resistance.”

The class applauded. Jarrod’s demonstration was sure to recieve high marks.

Find the 18 errors in this activity.

There are no errors in the illustration or the caption.