



HOME DEMO NO. 24

Falling For Science

Which falls faster? A baseball or a golf ball? You might think that a golf ball is heavier, so it should fall faster than a baseball. In the 1500's, a scientist named Galileo suggested that all objects on Earth fall at the same speed, regardless of how much they weigh. Try this:

What you need:

1. Metal cookie tray
2. Tennis ball
3. Golf ball
4. Feather (optional)
5. Sturdy chair or stepladder

What you do:

1. Set the cookie tray upside down on the floor in front of a sturdy chair. It's a sound amplifier.
2. Stand on the chair, and hold the golf ball and the tennis ball at the same height.
3. Drop the balls at exactly the same time. Which hits the tray first? Do you hear one sound (bang) or two sounds (bang-bang)?
4. If you can, try the experiment again, holding the feather in one hand and a golf ball in the other. Which one hits first this time?

What's happening?

The tennis ball and the golf ball hit the ground at the same time. The Earth's gravity is so strong that it pulls objects like these at the same speed. The feather falls more slowly than a golf ball. The air in the room pushes against the feather, making it float down slowly rather than fall quickly. By the way, if you drop a feather and a golf ball on the Moon, they do hit at the same time. Astronaut Gregg Scott ran this experiment on the Moon in 1972. There's no air on the Moon, and just like Earth, the Moon's gravity pulls objects there down at the same speed.