Falling for Gravity

Gravity is the force that pulls on every object on earth. Have you ever wondered if the pull is always the same for every single thing?

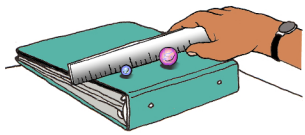
If you drop a penny and a pen from the same height, they'll hit the ground at the same time, too. But if you drop a pen and a piece of paper, the paper may drift and take a lot longer to fall than the pen does. Can you guess why?

Let's test gravity!

Here's what to do:

Here's all you need

- a desk or table
- a ruler or pencil
- different-sized marbles
- a binder notebook, or books and a small table



1. First make a ramp. You can use a binder notebook, or tilt a small desk or table by putting books under two of the legs. Make sure the ramp is tilted just a little bit, so the marbles will roll slowly -- then you'll be able to watch them better. The smoother the surface, the better it is!
2. Take two marbles, a big one and a small one. Line them up evenly at the top of the ramp.
3. Use a ruler or meter stick as a gate. If you don't have a ruler or meter stick, use anything that is straight, like a pencil or a rolled up piece of paper. Hold the starting gate and lift it quickly so that both marbles start to roll at the same time.
4. Watch the finish line closely to see if one marble comes in first or if it's a tie. Keep a sharp eye out to see if there is a winner!
5. Do the race at least 3 or 4 times to check for accuracy. It doesn't hurt to try it even more times than that!

   Does one marble win the race, or is it a tie? Are the results the same for every race?

Here's more about gravity:

Have you ever noticed the *force* of a magnet? If you put two magnets next to each other, they will either push or pull on one another. The push or pull is the force of magnetism. Gravity is a force, too. It makes all things attract each other. The bigger the object, the stronger the force is.

The gravity of earth has a really strong pull, because earth is such a big planet. That's why things fall to the ground instead of floating around. It might seem strange, but objects that weigh a lot fall at the same speed as objects that weigh just a little.

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