

Children's University Club Challenge: Gravity!



Gravity is the force that pushes things downwards. It's the force that keeps us on earth and stops us from floating away into space. There's no gravity in space and that's why astronauts are always floating around. This challenge helps you to learn about gravity and how you can test it with balls and water.

You will need:

- An empty box or piece of cardboard
- Cardboard tubes (kitchen roll or wrapping paper etc.)
- Sticky tape, string
- Scissors
- Small balls
- Empty plastic bottles
- Water
- Container or bucket



Step 1: Cut your cardboard tubes in half down the length of the tube. Ask an adult to help. Cut them into shorter lengths if necessary.

Step 2: Arrange them in a zig-zag layout, so that a ball could roll from one down to the next, down to the next and so on, until it reaches the bottom. Gravity will be playing its part in pulling your ball down towards the floor. Stick each of your tubes in place with sticky tape.

Step 3: Try rolling a small ball from the top - does it roll along every tube? Keep adjusting the tubes until it works. Now, try a different ball - does that roll faster or slower? What could you do to make the balls down the tubes even faster or even slower?



Step 4: Why not try to make a similar experiment with empty plastic bottles? Ask an adult to help you find somewhere you could attach your plastic waterfall to - a garden fence perhaps? Ask them to help you cut out a section of the bottle on one side only, near to the bottom. Remove the lids and recycle them.

Step 5: Arrange your bottles so that holes are on the top side, then each bottle is angled towards the ground (in the direction of the pull of gravity). Ask an adult to help you fix the bottles in place using sticky tape or string.

Step 6: Test it out - pour a little water into the top bottle and see where the water flows. You might need to adjust the position or angle of the bottles until the water flows through them all and into the bucket or container at the end. How can you alter your waterfall to make the water flow faster or slower?



1 CU Credit for completing this task.

To claim your credit, please complete your CU Club Challenge Reflection Diary and return to your school along with a photo of your experiment.



Finally: Add the Learning Stamp to your Digital Dashboard once you receive it from your school.