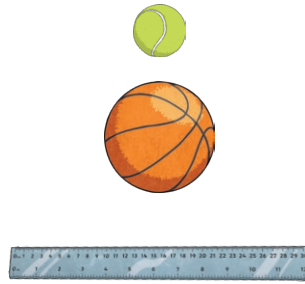


Bouncing Balls

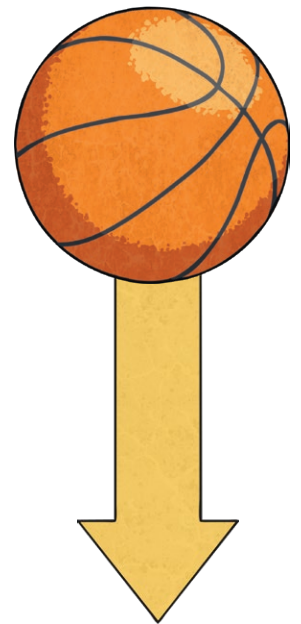
You will need:

- tennis ball
- basketball
- smooth surface outside to bounce the balls
- ruler (optional)



Steps:

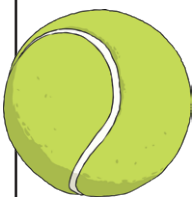
1. Decide a height you want to drop the basketball and tennis ball from. Use the ruler to measure the height. If you don't have a ruler, use a person to mark a height e.g. waist or shoulders.
2. Drop one ball at a time from the height you have chosen. Watch how high each ball bounces.
3. Next, place the tennis ball on top of the basketball and drop them together from the same height. Watch how high each ball bounces again.



Variations:

1. Replace the tennis ball with an object that doesn't normally bounce. Put the object on top of the basketball and see if it bounces.
2. Use different balls and bounce them from different heights.
3. Try the experiment on different outdoor surfaces.
4. Video your balls bouncing and watch them back in slow motion.

Explanation:



Gravity makes the balls fall to the ground when they are dropped. When a ball bounces, it has momentum and energy. When the two balls are bouncing together, the energy from the basketball transfers to the tennis ball. This makes the tennis ball bounce off with even more energy.