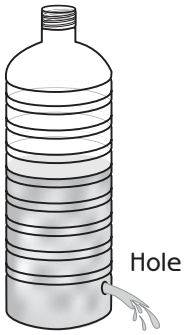
Water Bottle Drop

Before drop/toss

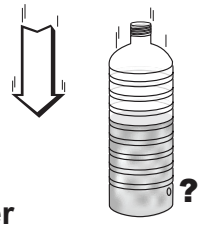
Clear plastic pop bottle (no cap)



1. Why does the water flow out the hole before the bottle is dropped or tossed?

2. When the water bottle is *dropped* the flow of water:

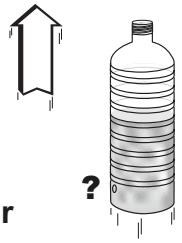
a) becomes faster
b) stays the same
c) becomes slower
d) stops



Explain why the flow of water behaves this way.

3. When the water bottle is *tossed upward* the flow of water:

a) becomes faster
b) stays the same
c) becomes slower
d) stops



Explain why the flow of water behaves this way.

4. What is meant by 'free-fall'?

5. What do freely falling objects experience?

How to Do It Yourself

Materials:
- Clear plastic pop bottle (about 0.5 liter)
- Water

Instructions: (It is best to try this outdoors)

1. Have an adult, with a knife or awl, poke a small circular hole in the side of the bottle, near the bottom.
2. Cover the hole with your thumb and fill the bottle with water.
3. Uncover the hole and the water streams out (with the cap off).
4. Before the water runs out, drop the bottle. Watch whether the water comes out faster, slower, or the same.
5. Refill the bottle, uncover the hole, and toss the bottle straight upward or upward at an angle (while keeping the bottle upright). Again watch the water stream.

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M-0622
03-27-00