High Bouncy Ball Lesson Plan

Amount of time Demo takes: 3-10 mins.
Try this at home!

Materials
- Small water balloons filled with water (25/hr) (fill at a faucet)
- Scissors
- Water
- Small Rubbermaid container
- 9" or 7" balloons with ends cut off to have students put over the water balloons (200/hr)

(Note: balloons cost 5 cents each, bouncy ball total cost 25 cents/ball. Plan total event amount and ration accordingly throughout event)

Set-up Instructions
1. Prep water balloons: Fill water balloons with a small amount of water, 25 or more for every hour.
2. Snip off the end of the balloon, but not the knot.
3. You want your water balloon to be as round as possible so that your high bouncy ball will be round when you're done.
4. Place round water balloons in the small container.
5. Snip off the ends of several dozen other balloons (these will be wrapped around the water balloon).

SAFETY!
- Designate a particular area for the students to bounce the balls so people don't get hit.
- If balloons pop, clean up all water so that no one slips.

Lesson’s Big Idea
- **Gravity:** The force that pulls everything on our planet towards the center of the Earth. In the case of bouncing balls, gravity is what pulls the falling ball towards the ground!
- **Energy:** As the ball falls it gains energy from its movement. It uses the energy from falling to push off the ground.
**Instructional Procedure**

1. When students arrive: Tell students to wrap the balloons around the water balloon core one balloon at a time. *It’s good to have someone help you. It helps to use four fingers (indexes and middles) to spread open the balloon shell. The water balloon should then be dropped into the shell.* Use up to 4 balloons, and use teamwork for feisty balloons.

2. Keep doing this and wrap from different directions. When you wrap new balloon shells around the core from different directions, it helps keep the bouncy ball from being oddly shaped. Try to keep the balloon ball as round as possible so it will bounce normally. It helps if you find the wrinkles and cover them each time you wrap.

3. Invite the students to (carefully) bounce the balls!

4. **The more layers you wrap the harder the ball gets and the higher it bounces.** However, resources don’t really allow us to give away infinite balloons. Try to contain students’ enthusiasm by reminding them to only use a few balloons per ball.

**Clean Up**

- Clean up between demos. When completely finished gather all materials listed for this demo and make sure everything is accounted for. If something was used up, broken, or damaged, let someone know so it can get replaced or fixed.

**References**

- P:\Youth Programs-General\Hands-on Activities\Pdf files

**Next Generation Science Standards**

- K-5
  - 5-PS2-1
- 6-8
  - MS-PS2-1
- 9-12
  - HS-PS2-1