



Play Balloon Ball!

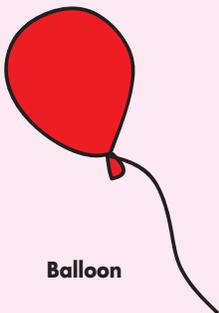
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Find What You Need..

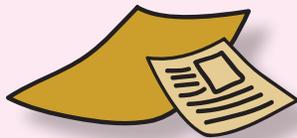
- A balloon
- A scrap of paper
- A ball
- Masking tape
- Something to use as a basket: a box, a wastepaper basket, a pail



Would balloon baseball work better on Earth or Mars? Find out with our balloon toss activity, then design a Balloon Ball game for each planet.



Balloon



Scrap of Paper



A Ball



Masking Tape



Wastepaper Basket

How could air help you win a ball game?

Last time your team played well, did you thank Earth's air pressure for helping? Maybe you should have. This activity will show what ball sports might look like *without* that pressure. Air pressure is the weight of Earth's atmosphere, pressing on everything on the planet. When you throw a ball, the ball rubs against Earth's air and slows down. Air pressure slows some moving objects more than others. The effect depends on the object's mass and shape. In this activity, you'll experiment with the effects of air pressure on a balloon.

Mars has a thinner atmosphere than Earth. So its air pressure is much lower. How do you think a balloon will

fly on Mars? Come back to the question after doing the activity. Then design two "Balloon Ball" games: One that works on Earth, and one that would be popular on Mars!

Fact:

Balls - or balloons - would fly all more slowly on Mars, since Mars has only about 1/3 as much gravity as Earth.

Activity Instructions

1. Use about an inch of masking tape to mark a spot on the floor. Drop the ball from a standing position. Can you hit the tape?
2. Now try to hit the tape by dropping first a piece of paper, then a balloon. Did you come close? Which was closer?
3. Now crumple the piece of paper into a ball and try again. What happened?
4. Now shoot some hoops: Stand a few feet from your basket and try throwing in the ball, then the balloon. What, if anything, helps you get the balloon closer to the hoop?
5. Now that you know how a balloon behaves in the air, design a game that you *could* play with it. Think: What works best – tossing it or whacking it, dropping it or lofting it high? Draw a picture of people playing your game.
6. Now, think of a game that would work with a balloon on Mars – it could be your invention, or an ordinary Earth game. Remember, air pressure wouldn't have such a big effect on a Martian balloon. And gravity would let you jump, or throw, super high! Draw a picture of your Mars game.

Conclusions

Did anything surprise you about this activity? What are at least two ways you can “prove” that air pressure exists? What might happen if you tried this activity on Mars?

Brain Buster:

**There are still some problems to solve
before playing sports on Mars.**

**There's not enough air to breathe, for example,
and the dust storms are terrible!**

How could you solve those problems?



*Kids' Science Challenge
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are presented by
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Pulse of the Planet*



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