**Make a Balloon Rocket**

*What You Need:*

* 6 feet (1.8 m) of string
* 4-inch (10 cm) piece of drinking straw
* 2 chairs
* 9-inch (23 cm) round balloon
* Spring clothespin
* Transparent tape

*What You Do:*

1. Thread the string through the straw.

2. Tie the ends of the string to the backs of the chairs.

3. Position the chairs so that the string between them is as tight as possible.

4. Inflate the balloon. Twist the open end of the balloon and secure it with the clothespin.

5. Move the straw to one end of the string.

6. Tape the inflated balloon to the straw.

7. Remove the clothespin from the balloon.

*What Happened:*

* The straw with the attached balloon quickly moves across the string.
* The movement stops at the end of the string or when the forces acting on the balloon are balanced.

*Why?*

* When the inflated balloon is closed, the air inside pushes equally in all directions.
* The balloon doesn't move because all the forces are balanced.
* When the balloon is open, the action-reaction pair of forces opposite the balloon's opening is unbalanced.
* One force is the walls of the balloon pushing on the gas inside the balloon. This force pushes the gas out of the balloon's opening.
* The other force is the gas pushing on the balloon's wall opposite the opening. This force pushes the balloon in the direction opposite the opening.

****

**Office of Strategic Partnerships**

**Family & Community Relations**