

## STATIONS JOURNAL

Rotate to and complete three different interactive stations.

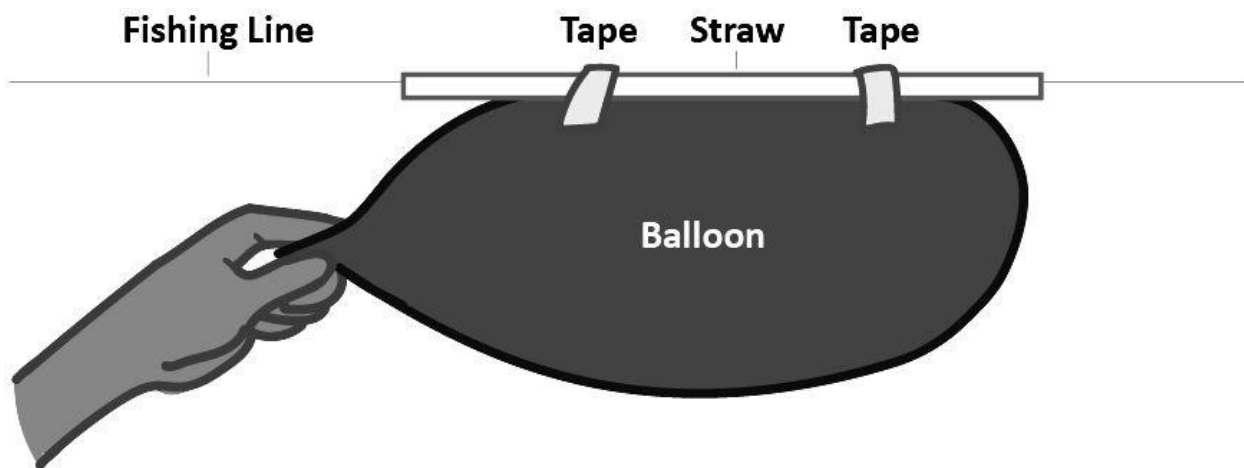
### Balloon Rockets

#### Materials

- 1 Balloon
- 10-15 foot strand of fishing wire
- 1 plastic straw
- Tape

#### Directions

- Tie one end of the fishing line to a chair, doorknob, or other support anchor.
- Put the loose end of the fishing line through the straw. Then, tie the loose end to another chair, doorknob, or other support anchor.
- Blow up the balloon—don't tie it! Pinch the end to keep the air from escaping.
- Tape the balloon to the straw, as shown in the diagram below.
- Release the end of the balloon to launch!

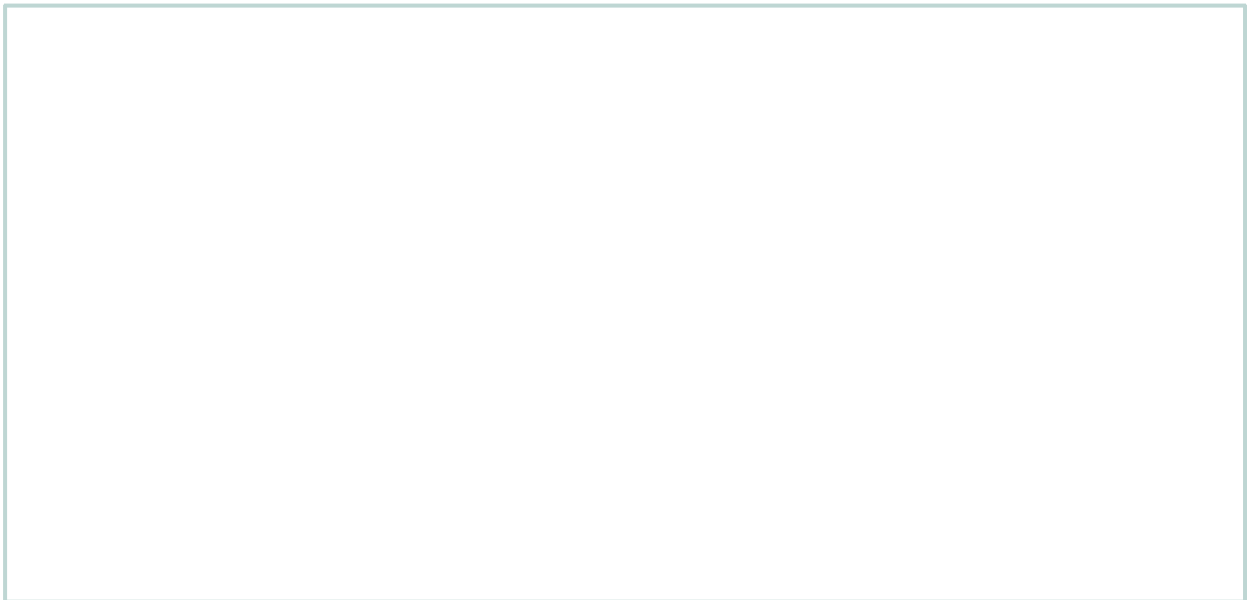


*Analysis*

1. Draw a diagram of your observations of the experiment. Label the balloon, fishing line, and straw. Include arrows to show the direction of forces interacting, air flow, and the balloon's movement.



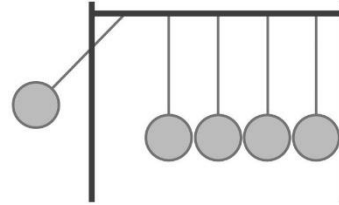
2. Describe what causes the balloon to move. Then, explain what direction the balloon is moving in versus the direction of the air released from the balloon.



## Newton's Cradle

### Materials

- Newton's Cradle



### Directions

Perform each task below and answer the following question.

1. What happens when you pick up and release one marble, as in the image above? Why?

2. What happens when you pick up and release two marbles on the same side? Why?

3. What patterns do you notice about the two questions above?

4. Name an example familiar to you, or one you have experienced, that follows the pattern you describe in your answer above.

## Double Dice

### Materials

- 1 Double Die

### Directions

Perform each task below and answer the following question.

1. Roll the double die. What number turned up on the outside and inside die?

2. Roll the dice again. Did the number on the inside die change?

3. How might the double die be like a brain inside a skull?

4. What would happen if the internal die were similar in size to the external die?