

Whenever an object's momentum changes, it experiences an impulse. Even something as small as a spitball must experience an impulse in order for its momentum to change. In this activity, you will determine the impulse that is exerted on a spitball as it is fired through the air.

Materials:

- meter stick
- balance (triple-beam or electronic)
- projectile (spitball)
- straw

Questions to consider:

1. What is the initial momentum of the spitball in the straw?

2. What information do you need to determine the impulse experienced by the spitball in the straw?

3. What can you measure with a meter stick?

Name:

Date:

4. How can you use these measurements to determine the impulse experienced by the spitball?
Hint: Think about two-dimensional motion.

5. Extension question: Use the length of the straw to determine the amount of time the spitball is in the straw and the average force that is applied to the spitball.