

## The Egg-cellent Egg Launch

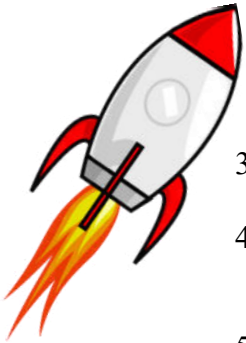
In this activity you will apply and identify some of the physics concepts that you have learned about this year.

**Problem:** Because of a famous scientist named Sir Issac Newton, we know that for every action there is an equal and opposite reaction. We also know that a falling object gains kinetic energy as it falls. How can we safely package an object so that it may be launched into the air and survive the landing?

**Procedure:** Each student will design a package around one egg so that it can be launched at least 7 meters (approximately 21 feet) and survive (not break) the landing.

The student will abide by and be graded on the following conditions:

1. Each student will be given one large egg, uncooked, and crack free. The egg will not be changed in any form.
2. All materials will be placed around the egg and contained in the bottom of a 20 oz. plastic bottle that measures the length of 9.5 cm. This will be attached to the bottom of another 20 oz. plastic bottle that will be used as the “fuel vessel/booster.” \*\*\*Students must provide these - Coca Cola ® bottles are recommended because of their shape – Pepsi ® bottles are too narrow.
3. The package must include at least two types of packing material.
4. No materials will be handed out the day of the launch. Be ready on the date announced. You will be given a maximum of 10 minutes at the beginning of the class for final preparation.
5. Your “rocket” contraption will be launched using the water rocket mechanism provided. **Your “rocket” must launch at least 7 meters.** You will get a maximum of 3 chances to achieve this height requirement.



\*\*\*\*\*Please keep in mind that the mass of your contraption will directly affect the height of the launch - **build light!!!!!!**

6. You will have one minute after the launch to determine the post-launch condition of the egg.

**SUGGESTION:** Do some research and test some of your ideas at home.  
Please ask permission before you do any trials with eggs.

**Items that you may NOT use:**

peanut butter  
marshmallow fluff

crisco - grease  
glass

spray foam  
jello



**ALL “ROCKETS” ARE DUE ON \_\_\_\_\_, NO EXCEPTIONS!!!!!!** \*\*\*Excuses will NOT be accepted including -forgetting your materials or not being in school on the due date.