

# The Science of the Atomic Bomb

## Activity Sheet

### Simulating Atomic Bombs Lab Report

#### Objective

Students will simulate what it is like to be in warfare and the use atomic bomb. Students should be able to identify isotopes, protons, electron, and neutrons of an element.

#### Materials

- Large water balloons
- Water
- Lab sheet
- Large outside space
- Optional: trash bags or raincoats to cover students

#### Pre-Lab

---

1. What are the two main isotopes used in atomic bombs?

---

2. Read the article "Nuclear Explained" from the following link:  
<https://www.eia.gov/energyexplained/nuclear/#:~:text=In%20nuclear%20fission%2C%20atoms%20are,form%20of%20heat%20and%20radiation.>

How does nuclear fission work to cause an atomic bomb to explode?

---

3. Fill in the table using a periodic table.

ISOTOPE	NUMBER OF PROTONS	NUMBER OF NEUTRONS	NUMBER OF ELECTRONS
URANIUM 235			
URANIUM 238			
PLUTONIUM 239			
PLUTONIUM 244			

Name \_\_\_\_\_

Date \_\_\_\_\_

The Science of the Atomic Bomb - Activity Sheet

## Simulating Atomic Bombs Lab Report

Document B 

### Procedure

Students will fill at least 3 balloons with water and have a bucket prepared to carry water balloons outside.

Class will travel to large outside area that has trees or bushes around which the “bombers” can hide.

Students will begin to walk around or walk low to the ground.

“Bombers” will throw water balloons into the crowd of students.

Divide into small groups to discuss how it feels to be bombed.

### Post Lab Questions

Answer in complete sentences.

---

1. What did the water balloons represent?

---

2. What were the “effects” of the balloon bursting in the middle of the group of students?

---

3. If this were a real bomb, would anybody be able to visit this area when it is cleaned? Why or why not? Feel free to research.