



a WOW Lab

**BLUEPRINT**

Polymer Bouncy Balls

## Achievements and Competencies

### Learning Outcomes

Grades 9-10	Grades 11-12
Atoms and Elements	Organic Chemistry

Achievements and Competencies are based on the Common Framework of Science Learning Outcomes (K-12) set by the Canadian Council of Ministers of Education (1997).

### Specific Expectations

#### **Grades 9-10**

##### PHYSICAL SCIENCE

###### Atoms and Elements

307-12 Investigate materials and describe them in terms of their physical properties.

In this activity, students will create their own bouncy balls. Two types of balls will be created and although the balls are similar in appearance, they have different physical properties. The students will observe these different properties while testing which the bouncing ability of the balls.

307-13 Describe changes in the properties of materials that result from some common chemical reactions.

When student add vinegar to the liquid latex, a new substance is formed which means a chemical change has occurred.

#### **Grades 11-12**

##### CHEMISTRY

###### Organic Chemistry

319-9 Describe processes of polymerization and identify some important natural and synthetic polymers.

In this activity students create two different polymers and should be able to describe the process of polymerization as a process of reacting monomer molecules together in a chemical reaction to form polymer chains or three-dimensional networks. The students should use this information to describe the different properties of each polymer ball and explain why one bounces higher (has more elasticity) than the other.