

a WOW Lab

**BLUEPRINT**

Polymer Bouncy Balls

## Achievements and Competencies

### Learning Outcomes

<b>Grades 4-6</b>
Properties and changes of materials

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

#### **Grade 5**

#### PHYSICAL SCIENCE

##### Properties and changes of materials

104-2 Demonstrate and describe processes for investigating scientific questions and solving technological problems (e.g., demonstrate techniques, such as tearing, breaking and pounding, to investigate physical properties; prepare putty and demonstrate how it can be used to repair a window).

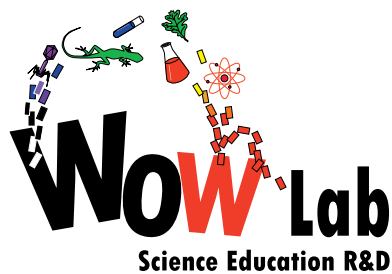
While creating their own bouncy balls using latex, cornstarch, borax and white glue, the students will use different techniques to form and shape the bouncy balls. The students will be able to investigate the physical properties of the materials used in the preparation of the two types of bouncy balls.

104-5 Describe how results of similar and repeated investigations may vary and suggest possible explanations for variations (e.g., compare different pieces resulting from tearing or breaking an object, and relate their form and size to the force and direction applied).

Two different types of bouncy balls are created using different materials. The students will investigate and suggest an explanation for the variation between the bouncy balls.

104-7 Demonstrate the importance of using the languages of science and technology to communicate ideas, processes and results (e.g., use appropriate terminology, such as texture, hardness, solubility and flexibility, to describe the properties of materials).

The texture, hardness, flexibility, colour, smell and other various properties of the bouncy balls can be investigated and described by the students using appropriate scientific language.



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205-3 Follow a given set of procedures (e.g., follow a given set of procedures to determine whether changes caused by wetting materials are reversible or irreversible).

Different starting materials will be mixed together and altered to create bouncy balls. While following a procedure, the change in materials can be categorized as reversible or irreversible.

300-9 Group materials as solids, liquids or gases based on their properties.

300-10 Identify properties, such as texture, hardness, flexibility, strength, buoyancy and solubility, that allow materials to be distinguished from one another.

Properties such as texture, hardness, flexibility, colour and smell will be used to distinguish between the various starting materials. The students can group the starting material according to their properties.