**EXPERIMENT: Turn milk into plastic**

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**Aim**: To create a polymer (plastic) by combining warm milk with vinegar

**Age**: 8+

**Complexity**: Medium

**Cost**: Low

**Location**: Indoor

**Materials & Equipment** Milk (1 cup), white vinegar (4 teaspoons), measuring cup, measuring spoons, a pot large enough to hold at least 1 cup of milk, a heat resistant mug/bowl, paper towels, heating stove or microwave, optional: cookie cutters, glitter, food colouring.

**Outline:**

1. Heat 1 cup of milk in a pan or microwave until the milk is steaming. It should be about the same temperature as you would want milk to be for making hot cocoa.

2. Add 4 teaspoons of white vinegar to a separate heat resistant mug/bowl.

3. Add 1 cup of hot milk to the mug/bowl. You should see the milk form white clumps.

**Learning outcomes:**

- Learn about the structure of plastics (i.e. chains of repeating molecules)

- Learn about the process of polymerisation

- Learn about the mouldable nature of plastics

**RISK ASSESSMENT**

**Adult supervision is required for any experiment!**

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| HAZARD | Likelihood and Seriousness of Injury | Control Measures | Remaining Risk |
| Burns | Medium | Appropriate age group and parental supervision | Low |

**First Aid: this experiments uses household products; in case of burns, make sure to be close to a sink.**

**Remember - never do experiments alone!**