**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Period\_\_\_\_\_\_\_\_\_**

**The sublimation of air freshener**

**Introduction**

Sublimation is an interesting physical change. When a substance sublimes, it changes directly from a solid to a gas without passing through the liquid state. Dry ice sublimes, as do iodine and mothballs. This experiment involves the study of another common substance that sublimes – air freshener.

**What to do**

1. Place a few lumps of air freshener in the bottom of the100 cm3 beaker.

2. Put the100 cm3 beaker carefully on top of the other100 cm3 beaker.

3. Fill the top beaker three quarters full with ice. Ensure no ice enters the beaker below.

4. Fill the shallow dish or pan about one-third full of hot water (at a higher temperature than 45 °C).

5. Place the sublimation apparatus in the shallow dish in a fume cupboard.

6. Observe what happens to the solid. Be patient, it may take a while.

**Safety**

Wear eye protection.

**Questions**

1. What might be the significance of 45 °C? Try lower and higher temperatures if there is time.

2. Define ‘sublimation’.

3. Use the particle theory of matter to explain what is happening and include a particle diagram.