a WOW Lab BLUEPRINT

The Chemical (KNO_3)-How

Activity Instructions

The following items will be needed for this activity:

- hot water
- potassium nitrate (KNO_3)
- thin paintbrush
- sheet of paper
- needle or paper clip
- cork or rubber stopper
- candle

Figure 1

Figure 2

Step 1

Dissolve 2 tablespoons of KNO_3 in 40 mL of hot water (**Figure 1**).

Step 2

Using a thin paintbrush, paint some text or a pattern onto a sheet of paper. Make sure that the lines in the painting are connected to each other (**Figure 2**).

Step 3

Wait until the paper is completely dry. While waiting, put a needle in the centre of the cork. A paper clip and rubber stopper can be used in place of a needle and cork, but thicker metal objects will be harder to heat up (**Figure 3**). The purpose of the cork or rubber stopper is to act as a handle so that the needle or paper clip can be held without burning the hands.

Figure 3

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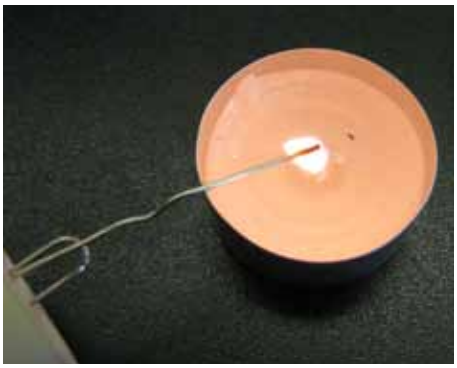

Figure 4

Step 4

When the paper is dry, trails of KNO_3 crystals should be visible on the paper.

Step 5

Heat up the needle with a burning candle (**Figure 4**). When the needle is red hot, touch it to a trail on the paper (**Figure 5**). Make sure to hold the paper in the air so that the surface of the table does not burn. Doing this outside or near a fume hood is advised as burning the paper produces a lot of smoke and can set off fire alarms.

Figure 5

Figure 6

Figure 7

Step 6

Watch the KNO_3 burn a pattern into the paper (**Figure 6 and Figure 7**). Have water nearby in the small chance that the paper catches on fire.

Step 7

If the trails do not all burn on the first try, repeat Step 5. The final product will resemble **figure 8**.

Figure 8