



Alien Invasion

Aliens have invaded the local sweet factory and poisoned some of the coloured coated chocolates.

You have to find out what they have been poisoned with.

You have:

Black Hole Fluid (black food colouring)

Squashed Martian (green food colouring)

Water and salt solution

Filter paper or kitchen towel in strips and circles

Space Juice (blue food colouring)

Alien Blood (red food colouring)

Plastic beakers and Pipettes

Before the workshop dye some coloured coated chocolates with food colouring. (Place in shallow dish, turn frequently and then dry.)

Activity

1. Introduce chromatography by placing drop of food colouring near the bottom of a strip of filter paper. Put a small amount of salt solution in a beaker and dip the filter paper in. Make sure the drop of food colouring is above the solution. The solution will rise up the filter paper by capillary action and carry the colours up the paper at different rates causing the colours to separate into bands on the strip.
2. Provide mixtures of the colourings and ask the children to investigate which ingredients are in the potions - e.g. red mixed with blue colouring looks black, but will separate into the composite colours.
3. Give the children the "Poisoned" coloured coated chocolates. Place one chocolate in the middle of a circular filter paper on a plate and slowly drop salt solution on to the sweet using a pipette (if you don't have a pipette then use end of a straw or a pencil to drip the solution). The colours will separate in concentric bands showing the 'poisons' used. At this stage you can also investigate uncontaminated sweets for comparison.

Useful Questions

- What can you see happening?
 - Why do you think the colours are separating?
 - Which colour moves the furthest?
 - Would this work without the water? Why not?
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Investigate!

- How can you make this a fair test? (Clue: test the untreated coloured coated chocolates and compare difference, rate of water dropping)

Extension Activities

- Use different sweets, washable inks/felt tips, plant sources
- Use patterns produced in art activity

Research Opportunities

- Uses of Chromatography in industry
- Particle movement

Useful Websites

www.rpi.edu/dept/chem-eng/Biotech-Environ/CHROMO/chromintro.html

www.woodrow.org/teachers/chemistry/institutes/1986/exp3.html

creativeminds The Creative Minds project works with museums libraries and archives across the Yorkshire region, to provide young people with learning opportunities in Science, Technology, Engineering & Maths (S.T.E.M.). This ground-breaking project is the first of its kind in the country and is managed by MLA Yorkshire. This pack was developed by Creative Minds and Eureka! The Museum for Children with funding from Yorkshire Forward.

