

## Separating felt pen ink colours

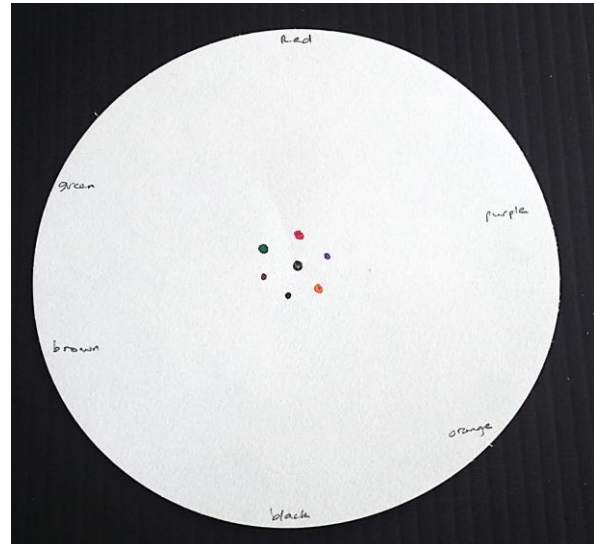
### Why do this?

The ink in water based felt tip pens consists of different pigments. This practical describes how to separate mixtures of liquids in order to investigate colour.

Curriculum links: - *separating liquids*

### Suitability

Y5 – 6 and transition



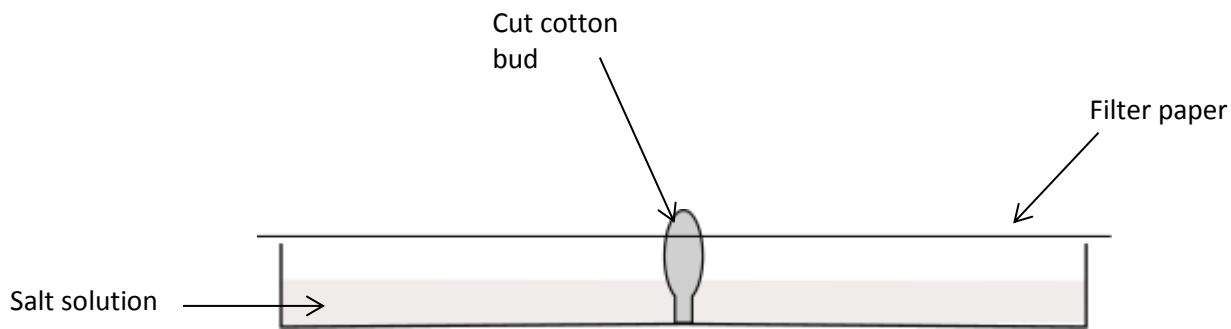
### Practical details

#### Suggested equipment (per table or each)

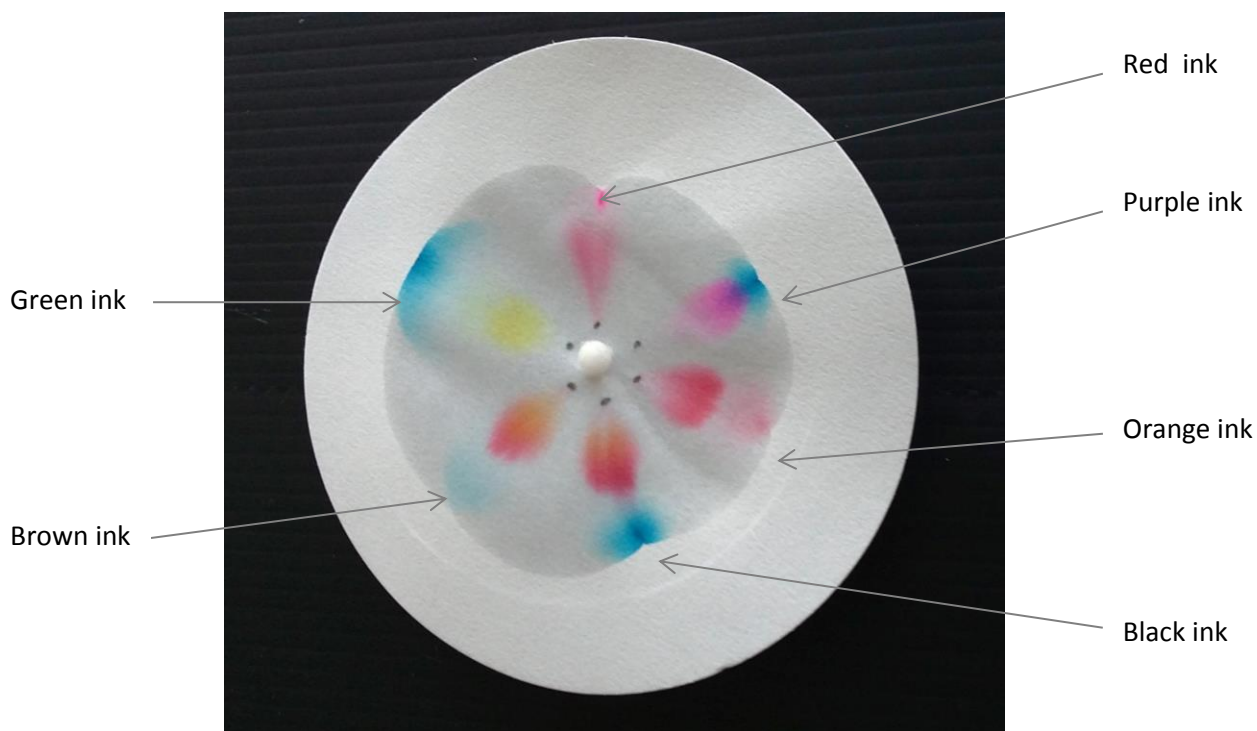
- 9cm Petri dish bases (available from educational suppliers)
- Filter paper (11cm, or diameter larger than the Petri dish)
- Pencils
- 6 different colour water-based felt tip pens (browns and purples are particularly good)
- Cotton bud tips (cut the ends off where the cotton wool meets the stick)
- Salt solution (about 1 tsp per 250ml)

#### Procedure

1. Lay the filter paper over the stencil (see page 3). Using a pencil gently mark the 6 dots and the central dot.
2. With the pencil carefully make a small hole through the centre dot.
3. Mark each of the 6 other dots with a different felt tip pen, ensuring the dots remain very small. Do not mark the centre dot.
4. Using a pencil, write the colour of each dot on the edge of the filter paper.
5. Push the cotton bud tip through the centre hole, leaving about half the cotton wool sticking up. The filter paper should sit just on top of the Petri dish, adjust the cotton bud if necessary.
6. Add the salt solution to about half way up the Petri dish. Gently place the filter paper and cotton bud on top of the Petri dish ensuring the cotton wool is in the liquid. Then watch what happens.
7. Full separation should occur within 10 minutes



## Expected observations and results



## Possible further activities

Different solutions can be used to see if the results vary. You could try:

- Different concentrations of salt solution
- Plain tap water
- Clear vinegar (acid)
- Sodium bicarbonate solution (alkali)

**Note:** Do not use stronger acids or alkalis found in household cleaning products

- Non-water based inks e.g. permanent markers or board pens

**Note:** Do not use alcohol-based solvents to separate non-water based inks.

- Investigating different types of paper for separation.

# Stencil

