

# S science Table Activities

## five science tasks for your classroom learning centre

curriculum strands:

### Science

- Making Sense of the Material World
- Making Sense of the Physical World

Levels 2-4

### Skill Development

- identify and process information
- present information clearly, logically and accurately
- communicating information clearly and logically
- working cooperatively
- inquire, research, develop and test ideas

### TASK SHEET ONE

#### DYING TO TRY

How can we separate pigments from a mixture of two liquids?

**EQUIPMENT** - 2 test tubes - filter paper - 2 eye droppers - coloured food dyes - dish

- Add four drops of one coloured food dye to a quarter of a test tube of water.
- Do the same with another coloured food dye in another test tube. Mix together.
- Discuss with your group, how you would separate out the two pigments?
- Try this and report your results and what you did.
- Now place a filter paper on the dish and drop by drop, place the mixture on the paper until it has spread nearly to the edges. Watch and note down what happens.
- Display your results and present to the class.
- Can you think of any other way to do this? Try it and report back.

**Teachers Notes** - The different dyes will spread and separate out in bands.

### TASK SHEET TWO

#### WALKING ON WATER

What objects and materials will float?

- Equipment - Collect the following materials - a cork, ebony, lead, a coin, different types of wood like pine, mahogany, a plastic ball, crayons, polystyrene, metals etc. a tray of water.
- Before you begin testing, make a guess as to which materials you think will float.
- Use a tray of water to test your guesses.
- Why do you think some materials float and others do not?
- Now try making a different shape with the Plasticine to make it float.
- Make a pictograph to show what you did and give your results.

### TASK SHEET THREE

#### OTHER LIQUIDS

Can we find liquids that will allow our sinking objects to float?

**Equipment** - all our sinking objects, water, golden syrup, oil, a large flask or jar.

- Pour the liquids carefully into the flask or jar one after another. Let them run down a spoon or ruler so they don't splash.
- Now take your materials and test them for floating.
- Do they now float? Where do they float? What liquid do they float on, float in?
- Try some other liquids and test your sinking objects.
- Make a large chart to present your results.
- Can you think of any reasons for what happened? How would you find out?

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### TASK SHEET FOUR

#### SURFACE TENSION

- What do you think surface tension is? Sometimes it is described as a skin on the surface of the water.
- Can you very carefully try and make a small needle float on the surface of the water? It is possible!
- We can use surface tension to have some fun with a boat.
- Equipment - cardboard, scissors, small pieces of soap, a bowl of clean clear water.
- Cut out a boat of cardboard and cut a notch in the middle of the back. Put a tiny piece of soap in the notch.
- Gently put your boat in the water and watch what happens.
- Cut out another boat shape but put the notch at the back to one side. What happens now?
- Try adding a rudder of paper clips to steer your boat.
- Why is this happening?
- Draw diagrams to show what you did. Use arrows to show what happened.
- Have some boat races.

**Teachers Notes - Surface tension acts like a skin on the surface of the water. Soap weakens this skin - it allows the water to "stretch" and makes it possible to blow bubbles. The soap on the boat weakens the surface tension behind the boat and it is pulled forward by the stronger surface tension in front.**

### TASK SHEET FIVE

#### MAKING A SUBMARINE THAT WORKS

**Equipment** - you will need a plastic softdrink bottle, plasticine, plastic tubing, masking tape and weights such as coins.

- Try and explain to your group how a submarine goes up and down. How do you think this is possible?
- Cut two small holes about the size of a 20c coin in the one side of the bottle. Tape two coins on to the same side. Put the plastic tubing into the neck of the bottle and seal it with plasticine.
- Lower the bottle into the water and let it fill with water.
- When it is full, blow air into the submarine.
- Watch what happens and record your results as a flow chart. Why does this happen?
- Try improving your design. Try your new design out.

evaluation:

#### Science and Skills Evaluation

- could the students identify and note changes before and after experimentation?
- could the students offer reasoned explanations for things they observed?
- were the students able to present their information clearly, logically and accurately?
- did the students enjoy working cooperatively together?
- did the students show evidence of being able to understand and follow simple instructions in the sequences given?
- could they understand and explain the different properties of different substances?