

STEM Challenge – 2

Floating Garden

Can you investigate the properties of materials using the following activities?
These activities are suitable for all the family so you can work together.

Task 1 - Investigate

- Fill a basin or sink with water
- Choose some materials from around your home and garden to test.
- Place each material in the water and watch what happens.
- What were the best materials for floating?
- Which materials sank?

Remember to ask permission before you try this task.



Task 2 - Design

- Make a simple plan to solve the floating garden challenge. You can use the sheets provided.
- Collect together the materials you will need and begin constructing your garden.
- Test your garden in a basin or sink with water.
- How successful is your garden?

Learning Tools

Early Level – Nursery/P1

Allow your child to explore floating and sinking through play. This could take place at a sink or water tray outdoors or even at bath time. Encourage your child to investigate a wide range of materials including natural and man-made.

Some questions to ask your child to prompt learning:

- Why is this staying on top of the water?
- Why is this going under the water?
- What do you think will happen if we try this material?
- Do heavy things always sink?
- Can we make something to carry other materials? (Like a boat)
- Can we sort the materials into two groups? (Float/Sink)

Learning Tools

First Level (P3/P4)

Task 1: Record your results here.

<u>Materials that float</u>	<u>Materials that sink</u>

Task 2: Design your floating garden

What materials are you going to use?

Draw a plan of your garden here:

Results: Was your garden successful? Why?

What would you change to improve your garden?

Learning Tools

Second Level (P5, P6, P7)

Task 1: Record your results here.

<u>Materials that float</u>	<u>Materials that sink</u>

Task 2: Design your floating garden.

How will your garden float?

What materials are you going to use for the base?

What materials will you use for the top of the garden?

Draw a plan of your garden here:

Learning Tools

Second Level (P5, P6, P7)

Task 2: Results

Was your garden successful? Explain why.

What would you change to improve your garden?

Plan how you would make your model in real life for Tara and her family. Think carefully about the materials that you could use. Your garden needs to last long enough to grow crops. Your garden should be cheap and easy to build.

Make notes or draw a diagram here. Remember to add labels to your diagram.