

Twig Rafts

Further develop mathematical skills with this activity through making, observing and measuring the weight and distance of a twig raft.

Learning aims

- Mathematical Development
- Expressive Arts & Design
- Communication & Language
- PSED
- Physical Development
- Understanding the World
- Literacy (if recording your results).



Resources

- A range of twigs and leaves
- String
- Scissors
- Paper and coloured pencils or printing stamps and ink pads
- Paper, pens and clipboards if you're recording your results.

Activity Outline

- Take the children on a nature walk and collect a range of twigs and leaves
- Create your own model raft (instructions below) to show the children
- Talk about the materials you have used and ask the children to predict whether it will sail on water
- Test the raft in a water tray or outside if you have some nice big puddles
- Encourage the children to make their own raft that they can test on water
- Talk about how big or small their raft is, the patterns or numbers on the sail to identify their own boat, the distances their raft sails etc.

How to make the Twig Raft:

- Choose a number of twigs (cut your twigs so they are all a similar size before starting the activity)
- Line them up and use the string to tie them all together
- Take two further sticks and lay them across each end of your raft to add stability. Attach them to your raft with string
- For the sail take another twig and attach it to your sail. You can use a leaf by putting a hole at each end of the leaf and threading it onto the sail stick or you can cut out a sail shape from paper and encourage the children to decorate their sail with coloured pencils, printing or by drawing their name or adding numbers
- Insert your sail stick into the centre of your raft. There should be a space to insert it between your raft sticks, if not use a ball of blu-tac to ensure it stays in place
- The rafts are now ready to be tested/raced on water
- Take photographs of each stage of the activity and create your own project book showing how to make the rafts, share the book with parents so they can try the activity at home.

Extending the activity

- Ask the children to add objects, e.g. pebbles to their raft and observe the effects, how much weight can the raft take before it sinks?
- To promote mathematics, ask the children to add a number/s to their raft and create a large raft chart (pinned at child level outdoors) with each raft's number on it. Record how many pebbles each raft could carry before sinking etc.
- Ask the children to think about how they can make their rafts move and let them test out a range of options such as blowing them, fans, wafting paper, movement in the water etc.