



E23



15-20 minutes



- ❖ Pictures: boats with sails, windmill, aeroplane, birds



- ❖ A clear drinking glass
- ❖ A large transparent container filled with water
- ❖ A paper boat small enough to fit comfortably within the glass (you could do this with your child before the session – how-to videos are available on YouTube)
- ❖ A stone and a piece of A4 paper
- ❖ Some coloured paper and a simple procedure for making paper aeroplanes (see videos on YouTube)
- ❖ Toy windmill (optional)

AIR AROUND US



- To know that air is all around us
- To know that air is invisible
- To know that people can use the power of wind (moving air)
- To know that air supports birds and planes when they fly



Start by showing your child a glass that is apparently empty, and explain that if it is truly empty, we should be able to get water into it. To test this, turn the glass upside down and put it over the water in your transparent container full of water, then push it down slowly. Ask your child what they notice, and establish that the water does not get into the glass, and that this is because the glass – although it looks empty – actually contains air.

To further prove this, float your small paper boat on the water in the container. Then put the upturned glass down over the boat and push it down slowly with the boat inside it. Ask your child what they notice, and agree that the boat stays on the surface of the water but goes down as you push it down because the air inside the glass is pushing it downwards. Lift it up and down again a few times so that they can really see what is happening, and then get the boat out again, showing that it is dry except for the part that floated on the water. Reiterate how air is always there, but it is invisible.

If you have a toy windmill or other similar wind toy, demonstrate by blowing on it how the wind/air can move sails.

Now show your child the pictures provided, and explain that these show some of the ways that people have learned to use air and how animals such as birds use it too:

- 1) We use wind (moving air) to inflate sails to move a ship along the water
- 2) We use wind to move the sails of a windmill – and this movement turns a grindstone for making flour.
- 3) Planes use wind to help them fly – the wings support them because of the invisible air pushing upwards on their wings. The same happens with birds, and that is how they are able to fly.

To demonstrate this further, show your child what happens when you drop a stone and a piece of paper at the same time (the stone drops faster because the paper is wider than the stone; there's a bigger surface area of paper and so when we drop it, there is more air pushing against the paper than the stone and this slows the piece of paper down).

Lastly, make a variety of different kinds of paper aeroplane together. Launch each one in turn, and see how far it flies. Discuss the designs and what happened – in terms of the air 'pushing' on the wings of each and affecting how far they flew or how long they stayed in the air.



- Your child knows that air is invisible and all around us.
- Your child knows some ways that people can use the power of wind (moving air).
- Your child knows that air supports birds and planes when they fly.



