

AIR MAKES THINGS HAPPEN

KEY IDEAS

- Moving air exerts a force on other objects and can make them move
- Wind is a large volume of moving air
- Air exerts a force in all directions
- Air can be used to inflate objects

EXAMPLE QUESTIONS

- How can you tell air is moving?
- How could you make air move?
- How is moving air useful?
- What do you think happens when air is pushed into an inflatable container?

AIR CAN MAKE THINGS HAPPEN

- Moving air can make objects move.
- Air movements can be used as a source of energy to drive machinery, such as windmills or sailing boats.
- Wind is a large volume of moving air.
- We can make air move with fans, hair dryers, vacuum cleaners and bicycle pumps.

AIR PUSHES IN ALL DIRECTIONS

- Air presses on objects from all directions.
- This phenomenon is called air pressure or atmospheric pressure.
- One way to understand atmospheric pressure is to think of the Earth as being surrounded by a deep 'ocean' of air.
- Above this ocean is the emptiness of space where there is no air.
- The pull of the Earth's gravity keeps this ocean of air round it.

- At the bottom of the ocean (at the Earth's surface), there is pressure from the air pressing down.

AIR CAN BE COMPRESSED

- When air is forced into a closed container, it squashes or becomes compressed (as in a balloon or a bicycle tyre, for example).
- If the material of the container is stretchy, or has elasticity, the air inside will make the container bouncy.
- Compressed air has a greater density than the air outside the container. This makes the air rush out if it released from its container.
- This is why tyres hiss or balloons 'pop' when punctured.
- Compressed air is used in air mattresses and tyres and also for devices that need a supply of rushing air, such as paint sprayers or air-jet cleaners.
- The collisions of the molecules of the gases that make up the air within the container produce what is called pressure.

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