



RENEWABLE ENERGY WORKSHEET - MODULE 3

NAMES:

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RENEWABLE ENERGY

1. What proportion of our energy is used in transport?

Roughly 25% of our energy is used in transport.

2. 90% of this energy comes from the same source - what is this source?

Burning fossil fuels.

3. Suggest an advantage of changing over to electric vehicles

Electric vehicles have a battery so they can use it to store electricity, which could come from renewable sources. Another advantage is less air pollution.

MATERIALS

4. Suggest some reasons why polystyrene foam sheet is useful for making a model boat

Polystyrene foam sheet is very buoyant (floats well), doesn't absorb water and is also easy to cut and join.



FORCES

5. Which force acts downwards on the boat?

Gravity pulls the boat downwards.

6. Which force opposes this?

Upthrust (or the buoyancy) of the water acting on the boat opposes this.

7. Which force acts to slow the boat down?

Friction, mainly produced by the water resistance or 'drag'.

MATHS

8. How do you calculate average speed?

Divide the distance travelled by the time taken to obtain average speed.

EXTENSION QUESTIONS

9. What causes the boat to move forwards?

The fan pushes the air backwards, and the opposing force from the air acting on the fan pushes the boat forwards (propulsion).

10. Explain what is meant by a 'streamlined' boat

A streamlined boat has a hull shape designed to feel less resistance from the water as it travels, so it is able to move through the water more easily and quickly.