

# Pedestal Fan Worksheet – Module 1

Names: \_\_\_\_\_

| ENERGY                                    |  |
|---|--|
| Name some things we use energy for.       |  |
| Where does most of our energy come from?  |  |
| Suggest a problem with this.              |  |
| Suggest an advantage of renewable energy? |  |
| Name some sources of renewable energy.    |  |

## ELECTRICITY

When you connect up the motor, how can you get it to rotate in the opposite direction?

To get as much electricity as possible from a solar panel, what orientation should it be at relative to the sun's rays?

## LIGHT

What could happen if you look directly at the sun?

What causes shadows to form?

## EXTENSION QUESTION

Explain how a solar powered electric fan works.

## Suggested Answers

| ENERGY  |  |
|---|--|
| Name some things we use energy for.   | <i>Transport, houses (e.g. heating), industry and many other things!</i>   |
| Where does most of our energy come from?  | <i>Burning fossil fuels</i>  |
| Suggest a problem with this   | <i>This produces greenhouse gases which cause climate change; also the fossil fuels are used up and not replaced.</i>  |
| Suggest an advantage of renewable energy?   | <i>It does not produce greenhouse gases which causes climate change; renewable energy does not get used up</i>   |
| Name some sources of renewable energy   | <i>Water (e.g. hydro-electric), wind, solar</i>  |
| ELECTRICITY   |  |
| When you connect up the motor, how can you get it to rotate in the opposite direction?                                  | Swap over the motor connectors attached to the solar panel.  |
| To get as much electricity as possible from a solar panel, what orientation should it be at relative to the sun's rays? | The solar panel should be at right angles to the sun's rays to optimise its performance.   |
| LIGHT   |  |
| What could happen if you look directly at the sun?  | You could damage your eyes   |
| What causes shadows to form?  | Shadows are formed when the light is blocked by an opaque object.  |
| Extension Question  |  |
| Explain how a solar powered electric fan works  | Sunlight falling on the solar panel causes electricity to be produced. The solar panel is connected to the motor, and electricity travelling round the circuit makes the motor turn. A propeller is mounted on the motor. The propeller is shaped so that when it rotates the blades push the air, making a breeze. This breeze makes you feel cool. |