

- Whole class in groups
- Small photovoltaic cells, motors, crocodile clips and propellers ([available from the Centre for Alternative Technology shop](#) and other education suppliers)
- Clean floatable materials – eg plastic bottles (with lids), cartons and cups and containers, rubber bands

In pairs pupils can experiment making circuits with small solar photovoltaic panels. Let the children experiment by taking them inside, outside, using artificial light and natural daylight, different angles, shading, etc. They can also try connecting the panels together.

As an alternative to plastic propellers, you could ask the pupils to decorate or cut shapes into small pieces of card. Use a needle to make a hole in the card to attach to the motor. Younger children especially will enjoy doing this.

After experimenting with the photovoltaic panels, you can let the children make model boats out of floatable materials to attach their solar rigs to. You can either use very small efficient plastic propellers underwater, or larger propellers which work best if their tips brush the surface of the water. The pupils will need varying degrees of help – many will be perfectly capable of connecting several panels together and building complex constructions without any guidance. Others will need more support. Once all the boats are finished you could have a race.

You might be surprised at what low levels of light photovoltaic panels can operate in, but obviously these activities will work better on a sunny day!

The role of solar electricity in Britain is important but can only contribute a very small percentage to the overall renewable energy mix that is needed, due to our climate and the sheer amount of electricity we consume.



