



Learning about solar power

Investigate solar powered toys

Learning objectives:

FS / KS1 Children will understand that energy from the sun can be used to power toys. They will understand that these toys work best in bright sunlight and that they do not work in dark or shaded places.

Start learners off:

Take a solar powered toy (such as a 'dancing' flower or animal) where the solar panel is clearly visible. Ask the children how they think the toy is moving. Can they suggest a place that the toy will work best? Are there any places where it won't work well?

Move learners on



Explore placing the toy in different places (such as a sunny windowsill or a dark cupboard) and observing the effect.

Gather ideas about how the sun is making the toy move.

If possible, allow children the opportunity to see the different parts of a solar cell by taking a toy or a cheap solar lamp apart and looking at the components (make sure that an adult is present to ensure that children can carry this out safely).

Have the children seen any other uses of solar panels like these? Gather ideas and examples.

Challenge learners further by:

Ask the children if there is a way that they can prevent the toy from working even if it is placed on a sunny windowsill. See whether they are able to find ways to block the sun from shining on the solar cell.

What can we learn about solar panels from this activity? Where would be a good place to put a solar panel on your house, and where would be a bad place to put one? What type of weather is best for getting lots of solar energy? Do solar panels work at night time?

At the end of this activity:

All children will be able to explain that the sun can make some toys move.

Most children will be able to suggest ways to make the toy work best, such as placing it in bright sunlight. They will know that a solar powered toy won't work in the dark.

Some children will be able to draw out ideas about solar panels more generally, understanding that they need to be positioned in spots that will get maximum sunlight.