

Solar energy live



You will need:

- A live solar PV generation site.
We suggest <https://www.solar.sheffield.ac.uk/pvlive/>
- A reliable weather forecaster that gives temperatures and cloud cover. We suggest <https://www.metoffice.gov.uk/>
- Some graph paper, a pencil and ruler - or a computer with Excel

Premise: Energy from the sun allows plants to photosynthesise, grow, and thus provide food. As the climate is changing, some plants will grow better, and some worse.

What effects does climate change have on weather and climate? Discuss with your family or classmates and jot down as many things as you can think of. Remember to consider the impacts all around the world, at the equator, the poles, in the deserts, by the sea and inland.

Key stages 2 -4
1 hour

Image: Pixabay
<https://pixabay.com/vectors/sun-cartoon-character-5277486/>

More reading:
<https://www.envchemgroup.com/solar-fuel-technology-in-the-uk.html>

One way to mitigate anthropogenic (manmade) climate change is to use renewable energy resources like solar photovoltaic (solar PV), which generates energy from the sun.

Many live online sites report how much power they are generating from solar PV in GW. You can look back a few hours or a few days, or you can read off how much is being generated right now. Take a look.

Easy: What is a GW?

Hard: How do solar photovoltaic panels (solar PV) turn sunlight into energy?

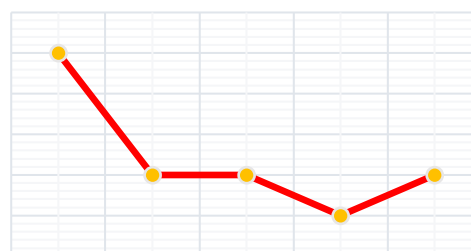
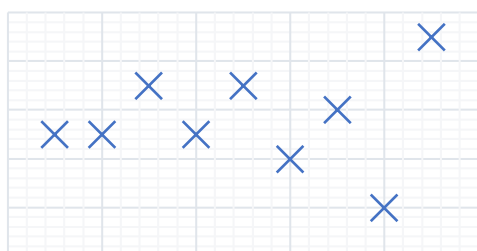
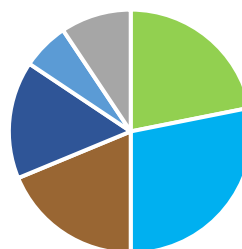
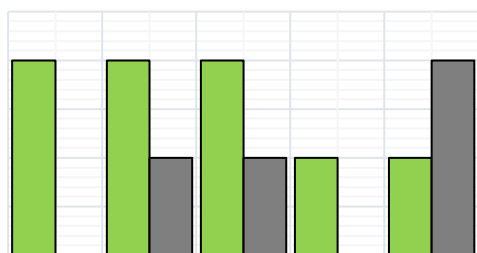


Key stages 2 -4
1 hour

Instructions:

- Draw a graph to show the power generation over the last 1 week.

Which kind of graph would be suitable and which would not be suitable?



What is the difference between **continuous** and **discontinuous** data?

What is a **dependent variable** and what is an **independent variable**?

Choose your axes and scales carefully. How often will you plot points? Can you justify your choices?

Key stages 2 -4
1 hour

Initial prediction:	Prediction based on temperature forecast:	Prediction based on cloud cover forecast:

Why do these prediction vary?

Remember to look up the power generation to see how close your prediction is.
Can you calculate the error on your prediction/s?

Why can't you use the data you have presented to predict the power generation in 6 months' time?

Compare your predictions to others.
Compete for who is closest!

Key stages 2 -4
1 hour

