



Solar collection investigation

Solar collectors collect solar radiation (sunlight) and convert it into heat and hold onto it. This can then be captured and turned into energy.

Prediction: Which collector heats the water to the highest temperature and is therefore the most efficient? Record this in the box below.

You will need to take 4 water temperature readings, one before placing the pots in direct sunlight, and then three at agreed intervals, for example after 5 minutes, 10 minutes and 20 minutes but before you do this, make a prediction of what you think the temperature will be and chose which of the 4 collectors will have the highest temperature increase.

	Before placing in direct sunlight		After placing in direct sunlight						Average temperature (add actual readings 1, 2 & 3 and divide by 3)	Temperature increase (actual reading 3 minus actual reading 1 in degrees Celsius)
	Prediction Water temp	Actual Water temp	Prediction Water temp 1	Actual Water temp 1	Prediction Water temp 2	Actual Water temp 2	Prediction Water temp 3	Actual Water temp 3		
White - no cover										
Black - no cover										
White - with cover										
Black - with cover										



What was your prediction and how accurate were you?

Blank area for student response.

Looking at your data, what conclusions can you make about collecting and storing solar radiation?

Blank area for student response.

How could you improve your solar radiation collection or what would you do differently if you carried out the experiment again?

Blank area for student response.

Looking for more learning resources, information and data?

Please contact: education@naturalresourceswales.gov.uk or go to <https://naturalresources.wales/learning>

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