

Complete the table below:

	Definition	Units
Temperature		
Internal Energy		

Describe what determines the amount of **internal energy stored** in an object.

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Explain why **sweating** cools you down.

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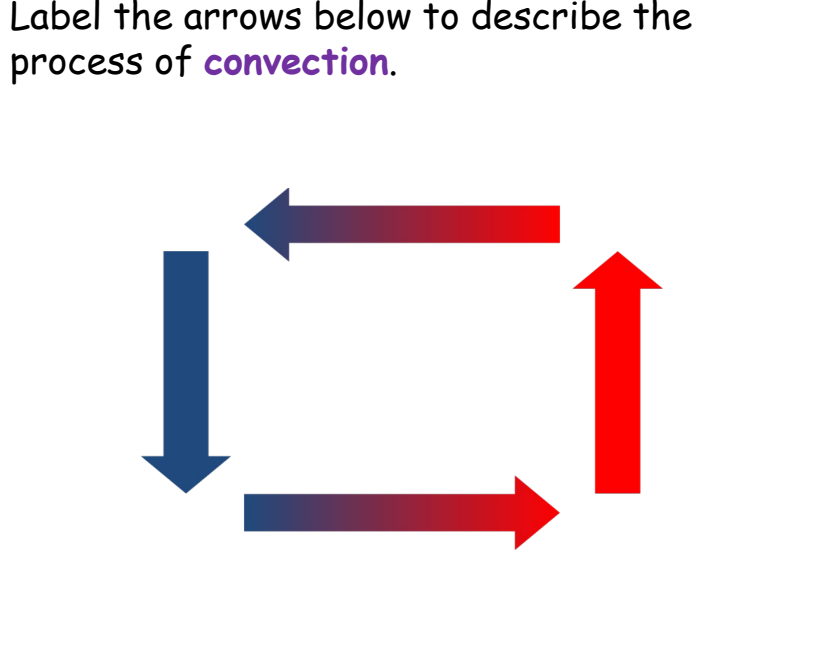
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Describe what happens when a **cool** drink is placed in a **hot** room.

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.....



Describe how **radiation** is different to **conduction** and **convection**.

.....

.....

Describe what determines how much **infrared radiation** an object **emits**.

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Describe, using a diagram to help you, what **conduction** is.

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Define the following words:

Conductor	
Insulator	

Explain why **air** is such a poor **conductor**.

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Describe how people in **cool** countries can keep **warmth** inside their homes..

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Describe how people in **hot** countries can keep their homes **cool**.

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.....

Explain how a **vacuum flask** is designed to keep the **heat** inside.

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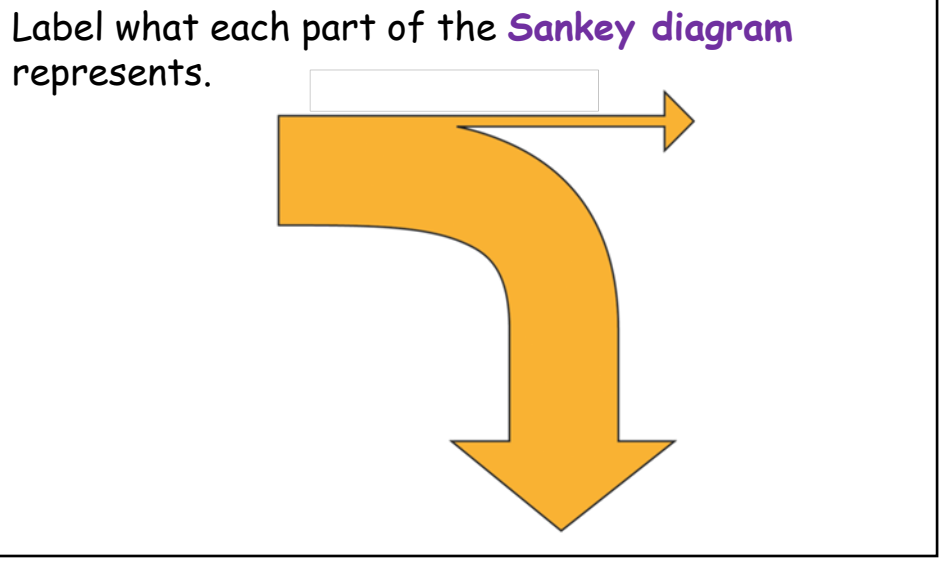
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Define the following words:

Accuracy	
Precision	



Explain how **efficient** the device with the **Sankey diagram** above is.

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State what an appliances **power** is.

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State the **units** used for **power**.

State the **formula** for calculating **efficiency**.

Calculate the **energy use** from the following **power ratings** and **time**.

- a) 3kW, 3 hours
- b) 0.4kW, 2 hours
- c) 1.5kW, 12 hours
- d) 2kW, 0.25 hours

Rate the following on how well you think you can do them:



Describe what an appliances **efficiency** means.

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Describe what a **kilowatt-hour** is.

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Calculate the **efficiency** of a light bulb that transfers 7J of energy by light every second, using 20J to do this

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Complete the missing numbers on the **electricity bill** below:

Reading last time	2520
Reading this time	3105
Units used
Total cost (15p per unit)

I can...

- Explain how internal energy and temperature are different.
- Identify the direction in which energy will be transferred.
- Explain what happens to particles when a liquid evaporates.
- Use language appropriate for the audience in scientific writing.
- Describe how energy is transferred by radiation, conduction and convection.
- Use the particle model to explain energy transfers in matter.
- Recall ways of reducing energy transfers.
- State the meanings of accuracy and precision.
- Explain how to avoid random and systematic errors.
- Describe what power and efficiency mean.
- Calculate efficiencies.
- Interpret Sankey diagrams.
- Explain how power companies charge for energy used.
- Describe what a payback time tells you.
- Work out payback time.

Describe what is meant by **payback time**.

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Complete the table below:

	Cost	Yearly Saving	Payback Time
Solar Panels	£3500	£70	
Loft Insulation	£150	£150	
Double-Glazing	£3700	£200	

Give advice to a family on who to save money on their **electricity / gas bills**.

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Explain which method above is the most **cost efficient**.

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