

Energy Stores and transfers

Complete the table summarising types of energy and examples

What does the law of conservation of energy state?

What are the energy transfers in a battery torch?

What are the energy transfers when a ball is thrown upwards into the air and then falls back down?

Sankey Diagrams:

What is the equation for calculating the efficiency of an object?

Calculate the efficiency for the above Sankey diagram.

What is efficiency?

What happens to wasted energy?

How can you reduce the amount of wasted energy on an engine?

Keeping Warm:

What does thermal conductivity mean?

State a material that has poor thermal conductivity.

State a material that has high thermal conductivity.

Describe how energy is transferred by heating for the following processes:

Conduction

Convection

Radiation

Explain ways in which walls can be built to keep a house warmer

Stored energies:

What is the equation to calculate GPE?
Don't forget the units.

Draw a triangle to change the subject

Calculate the GPE when a 30kg object is lifted 2m high on Earth.

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A 4kg box stores 400J of GPE when it is lifted on Earth (10N/kg). Calculate how high it was lifted.

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What is the equation to calculate KE?
Don't forget the units

Draw a triangle to change the subject

A 50kg girl is running at 2m/s. Calculate the KE.

Renewable and Non-renewable resources

What is meant by the terms renewable and non-renewable?

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Complete the table stating examples of renewable and non-renewable resources

What are the disadvantages of using fossil fuels?

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What are the disadvantages of using nuclear energy?

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What are the disadvantages of wind and solar energy?

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Bio-fuels are said to be carbon neutral. Explain what this means.