**Energy Revision Mat**

**Keeping Warm:**

What does thermal conductivity mean?

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State a material that has poor thermal conductivity.

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State a material that has high thermal conductivity.

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

1. Conduction

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1. Radiation

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

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**Sankey Diagrams:**



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

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Calculate the efficiency for the above Sankey diagram.

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What is efficiency?

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What happens to wasted energy?

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

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**Energy Stores and transfers**

Complete the table summarising types of energy and examples

|  |  |
| --- | --- |
| **Energy** | **Example** |
| Light |  |
| Sound |  |
|  | Food, batteries, fuel |
| Kinetic |  |
|  | Hot objects |
|  | An object up high |
| Elastic potential |  |
| Nuclear |  |

What does the law of conservation of energy state?

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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?

**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

|  |  |  |
| --- | --- | --- |
| Renewable Resources | How it works | Non-renewable resources |
|  |  | C |
|  |  | O |
|  |  | G |
|  |  | N |
|  |  |  |

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.

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**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.

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