

Apply the law of conservation of energy to analyse system...

apply the law of conservation of energy to analyse system efficiency in terms of energy inputs, outputs, transfers and transformations

Learning intention

- apply the law of conservation of energy to analyse system efficiency in terms of energy inputs, outputs, transfers and transformations

Teach and model

- explaining that the law of conservation of energy explains that total energy is maintained in energy transfer and transformation in a system
- explaining efficiency and recognising that in energy transfer and transformation a variety of processes can occur, so that the amount of usable energy is reduced and the system...
- using and critiquing representations such as Sankey diagrams to show energy inputs, changes and outputs in a system

Check understanding

- Explain the main idea in apply the law of conservation of energy to analyse system... using an example.
- Show the idea in a second way: with words, a model, a diagram or symbols.
- Apply the idea to a short unfamiliar situation and justify the result.

Teaching cautions

- Ask the student to explain their choice, not only state an answer.
- Check that key vocabulary is understood in a new example.
- Mix representations so the skill is transferred rather than copied.

Quick lesson sequence

- Connect to prior knowledge and introduce the key vocabulary.
- Model one clear example, then solve a second example together.
- Finish with an independent check and a short student explanation.