

Student worksheet

3.5 Energy cannot be created of destroyed

Pages 50–51 and 172

Energy efficiency

- 1

What is energy efficiency?
- 2

Why aren't any energy conversions 100% efficient?
- 3

What is the law of conservation of energy?
- 4

Why aren't light globes 100% energy efficient?
- 5

What would a 100% efficient light bulb do?

Name: _____

Class: _____

- 6 Complete the table below to compare the efficiency of the three different types of light globes shown:



	INCANDESCENT BULB	COMPACT FLUORESCENT LIGHT	LIGHT-EMITTING DIODE
% LIGHT CONVERSION			
% HEAT CONVERSION			

- 7 Which of these three bulbs is the most energy efficient? Why?

- 8 Using the equation for energy efficiency, calculate the efficiency of each of the light bulbs:

- 9 Does your answer for question 7 match the calculations you completed in question 8? Why or why not?

10 Name two energy transformations that result in energy being wasted as heat and/or sound.

Extend your understanding

11 How does the law of conservation of energy relate to energy efficiency and waste energy?

12 If energy cannot be created, state three places that it comes from.

13 When energy is lost, it is usually lost as heat. What happens to the heat from light bulbs when it has been lost?

14 Why is it difficult to get this energy back once it is lost?
