

Energy forms, changes and sources

Grade 6 science (Year 7 · Class 6) · Test

Name: _____ Date: _____ Class: _____ Mark: ____ / 20

This test lasts 45 minutes and is worth 20 points. Show your working for calculations and give units. Write energy chains with arrows and name the forms of energy carefully. A calculator is allowed.

Level: Grade 6 science (Year 7 · Class 6) · **Curriculum:** MS-PS3

Time: 45 minutes · 8 questions · Total: 20 marks · Calculator allowed

Question 1 Naming forms (2 marks)

Name the main form of energy stored in a gas cylinder, and the main form of energy of a cup of hot milk.

Question 2 Solar street lamp (3 marks)

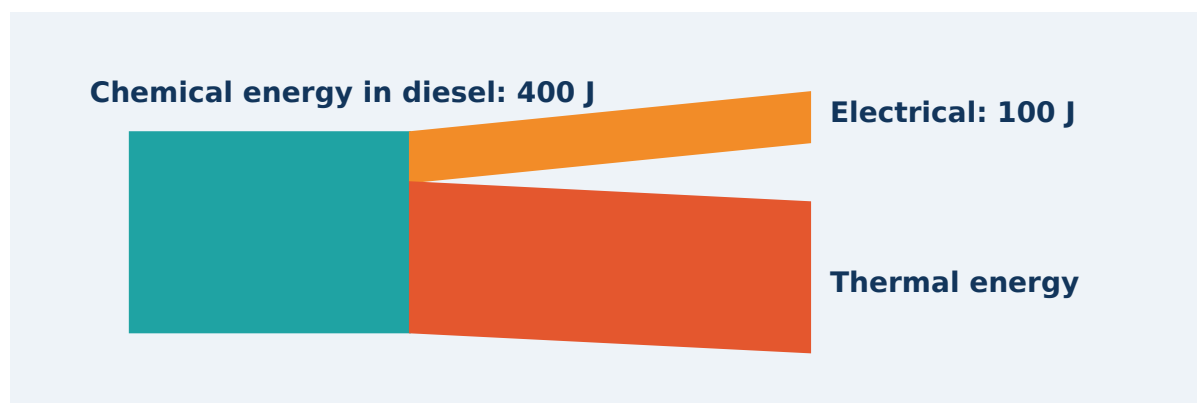
A solar street lamp stores energy during the day and shines at night. Write the energy chain for the day and the energy chain for the night.

Question 3 Conservation (2 marks)

A football rolls to a stop on grass. State the law of conservation of energy and use it to explain where the kinetic energy went.

Question 4 Diesel generator (4 marks)

The diagram shows the energy flow in a diesel generator.



Energy flow in a diesel generator.

- a. Calculate the thermal energy output. (1 mark)
- b. Calculate the useful percentage. (1 mark)
- c. State what happens to the thermal energy. (1 mark)
- d. Suggest one way to reduce the wasted energy. (1 mark)

Question 5 LED torch (2 marks)

An LED torch takes in 12 J of electrical energy and gives out 9 J of light. Calculate its useful percentage.

Question 6 Energy sources (3 marks)

Give two examples of renewable sources and two examples of non-renewable sources, and explain the difference between them.

Question 7 Cooking choices (2 marks)

A family in rural Kenya can cook with charcoal or with a solar cooker. Give one advantage of each.

Question 8 Campfire (2 marks)

Name the two main forms of energy given out by a burning log.