

# Year 7 Topic Test *Energy changes*

## Questions paper

*(Do not write on this paper)*

### Section A: Multiple choice

- 1).** The statement which is INCORRECT is:
  - a.** Energy is the ability to do work.
  - b.** Energy makes things happen.
  - c.** Energy causes changes.
  - d.** Energy is lost when it changes forms.
  
- 2).** The unit of measurement of energy is the:
  - a.** joule
  - b.** centimeter
  - c.** volt
  - d.** ampere
  
- 3).** Electrical energy is the movement of:
  - a.** heat
  - b.** electrons
  - c.** light
  - d.** radiation
  
- 4).** The type of potential energy stored in a spring when compressed (squeezed), is:
  - a.** elastic
  - b.** gravitational
  - c.** chemical
  - d.** kinetic
  
- 5).** The “law of conservation of energy” states:
  - a.** we should always turn off lights when not in use.
  - b.** energy cannot be created or destroyed, just change form.
  - c.** electricity should be produced by using solar cells
  - d.** all energy must return to the earth.
  
- 6).** Rice (or bits of paper) was placed in a beaker of water to show how the heat moved through the water. The arrows show the way the rice moved. Heat is moving through the water using the process of :
  - a.** reflection
  - b.** conduction
  - c.** radiation
  - d.** convection

- 7). Which of the following involves an energy change from one form to another?
- a. wood burning
  - b. wind blowing leaves from the tree to the ground
  - c. lightening causing a fire
  - d. all of the above
- 8). All animals get their energy from food. The chemical energy stored in food originally comes from:
- a. the Sun
  - b. the water used to grow the plant
  - c. the soil used to grow plants
  - d. the chloroplasts in the leaves of plants
- 9). The nuclear reaction which produces radiant energy on the sun is called:
- a. combustion
  - b. lightening
  - c. friction
  - d. fusion
- 10). The type of heat transfer that does not need a material is:
- a. convection
  - b. conduction
  - c. radiation
  - d. reduction

### Section B: Cloze Passage

Complete the following passage with the words given below. Some words may be used more than once.

*store, gravitational, potential, kinetic, chemical*

- 11). Energy which is stored is called \_\_\_\_\_ energy.
- 12). A boulder rolling downhill is losing \_\_\_\_\_ energy, but gaining \_\_\_\_\_ energy.
- 13). Burning coal changes \_\_\_\_\_ into heat and light energy.
- 14). Springs can \_\_\_\_\_ energy which can be released later.
- 15). When a car is moving it has \_\_\_\_\_ energy.

### Section C: True or False

Answer the following questions True or False.

- 16). Light needs a material to travel through.
- 17). Living things need energy.
- 18). Energy cannot be stored.
- 19). Electricity is a type of energy.

**20).** Only moving things have energy.

### Section D: Short answer

**21).** Identify the three ways in which heat may be transferred.

**22).** How fast does light travel?

**23).** Identify the two main types of energy.

**24).** State the law of conservation of energy.

**25).** What forms of energy do the following have?

- a.** a burning match
- b.** ocean waves
- c.** a slice of bread
- d.** a wound up toy
- e.** a TV (turned on)

**26).** Identify what is said to be the source of all energy on Earth.

**27).** Write a sentence about the first word using the other two.

- a.** parachute *potential, gravitational*
- b.** food *body, energy*
- c.** battery *chemical, energy*
- d.** sound *vacuum, travel*
- e.** transformation *electrical, heat*

**28).** Describe the energy transformations that take place in the following situations. Remember, the energy may be transformed to more than one type or form of energy.

For example; a CD player = chemical energy → sound energy

- a.** toaster
- b.** light globe
- c.** a person parachuting out of an aeroplane.

**29).** Write a short paragraph on four things we can do to save energy in the home.

**30).** Using the information given in the Table, create a column graph.

Step 1: Label the horizontal axis Age (years)

Step 2: Level the vertical axis with Energy Use (megajoules).

Step 3: Plot (using columns) the Male and Female information, make sure to use two different colours or patterns.

Step 4: Complete the Key.

Table: Daily Human Energy Use

<b>Age (years)</b>	<b>Male (megajoules)</b>	<b>Female (megajoules )</b>
0	5	5
3	6	6
6	7.5	7.5
9	9.5	9
12	11	9.7
15	12.5	9.7
18	12.6	9.5
21	12.6	9.2
24	12	8.8

# Year 7 Topic Test

## *Energy Changes*

### Answer Sheet

Class: \_\_\_\_\_ Name: \_\_\_\_\_

#### Section A: Multiple choice

- 1). a.      b.      c.      d.
- 2). a.      b.      c.      d.
- 3). a.      b.      c.      d.
- 4). a.      b.      c.      d.
- 5). a.      b.      c.      d.
- 6). a.      b.      c.      d.
- 7). a.      b.      c.      d.
- 8). a.      b.      c.      d.
- 9). a.      b.      c.      d.
- 10). a.      b.      c.      d.

#### Section B: Cloze Passage

- 11). \_\_\_\_\_
- 12). \_\_\_\_\_
- 13). \_\_\_\_\_
- 14). \_\_\_\_\_
- 15). \_\_\_\_\_

#### Section C: True or False

- 16). \_\_\_\_\_
- 17). \_\_\_\_\_
- 18). \_\_\_\_\_
- 19). \_\_\_\_\_

20). \_\_\_\_\_

Section D: Short answer

21). \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

22). \_\_\_\_\_

23). \_\_\_\_\_ and \_\_\_\_\_

24).

\_\_\_\_\_  
\_\_\_\_\_

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25). a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_

26). \_\_\_\_\_

27). a.

\_\_\_\_\_  
\_\_\_\_\_

b.

\_\_\_\_\_  
\_\_\_\_\_

c.

\_\_\_\_\_  
\_\_\_\_\_

d.

\_\_\_\_\_  
\_\_\_\_\_

e.

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28). a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

29).

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30). Table: Daily Human Energy Use

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Step 1: Label the horizontal axis Age (years)

Step 2: Level the vertical axis with Energy Use (megajoules).

Step 3: Plot (using columns) the Male and Female information, make sure to use two different colours or patterns.

Step 4: Complete the Key