Review 1.8

1. a. Explain why people who do different jobs or sports need different diets. **[1]**

b. List these activities in order of energy required. Explain why they are in the order that you have chosen. **[2]**

cycling sitting walking slowly

2. List these amounts of energy in order from smallest to biggest. **[1]**

20 J 20 kJ 2000 kJ 0.2 kJ 2000 J

3. a. Give one reason why a question might *not* be a scientific question. **[1]**

b. Choose the scientific question from these examples. Explain your choice.

A Which is the best type of bread?

B How much energy do different types of bread contain?

C Should I have bread for breakfast? **[1]**

4. Match each word or phrase to its definition. Write out the numbers and the letters.

Definitions:

1 the energy that something has because of its positior

2 energy transferred so it is no longer usefu

3 energy stored in food or fuels

4 the energy that something has because it is moving

Words and phrases:

A dissipation

B energy stored kinetically

C energy stored gravitationally

D energy stored chemically **[4]**

5. Which of these statements is *not* correct?

A Energy is stored chemically in fuels.

B Energy stored thermally is what some people call heat.

C GPE depends on the mass of the object.

D Kinetic energy does not depend on the mass of the object. **[1]**

6. A boy is riding his bike. Complete the sentences using the words below. You may need to use each word once, more than once, or not at all.

thermal chemical heat light GPE kinetic

a. The food that he ate for breakfast is a store of ___ energy. **[1]**

b. The useful energy is ___ energy. **[1]**

c. The wasted energy is ___ energy. **[1]**

d. As he moves up a hill and down again energy is transferred between ___ and ___ energy stores. **[2]**

e. The energy stored ___ in the battery decreases when he uses his lights. **[1]**

7. A car transfers energy in the fuel to kinetic energy so the car moves.

a. Name two ways in which energy is wasted. **[1]**

b. Draw an energy transfer diagram for the car. **[1]**

8. a. Write down the two things on which the kinetic energy of an object depends. **[1]**

b. Describe a situation in which your kinetic energy increases. **[1]**

c. A student says: 'If your kinetic energy is increasing that means that your gravitational potential energy is decreasing'. Is this true? Explain your answer.

9. List the following in order of amount of GPE, starting with the one that you think has the least.

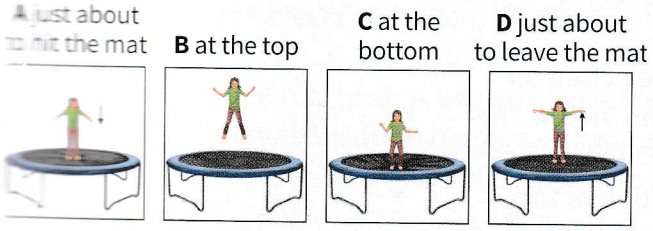
A Josie lying in bed

B Josie about to jump out of a plane to do a sky dive

C Josie lying on the floor

D Josie on the top diving board [1]

10. Here are some pictures of a girl jumping on a trampoline. Choose the picture or pictures that match each statement below.



a. Here the girl has the most GPE. [1]

b. Here the girl has the most kinetic energy. [1]

c. Here there is the most EPE stored in the trampoline. [1]

11. Chinonye is timing his friends on a swing. He measures the time it takes for 10 swings.

a. The time for 10 swings is 6 seconds.

Calculate the period of the swing. [1]

b. Explain why Chimonye should measure the time for several swings and divide by the number of swings. [1]

Chinonye measures the time for different children to complete 10 swings and calculates the periods. Here are his results:

Mass (kg)	Period (s)
35	1.2
40	1.3
45	1.1
60	1.2

c. Write a conclusion that gives the link between the mass and the period. [1]

12. Some students are thinking about questions to ask. For each question write down:

a. Is it a question that science can answer? [3]

b. If so, how could you collect data to answer it? If not, explain why not. [3]

These are the questions:

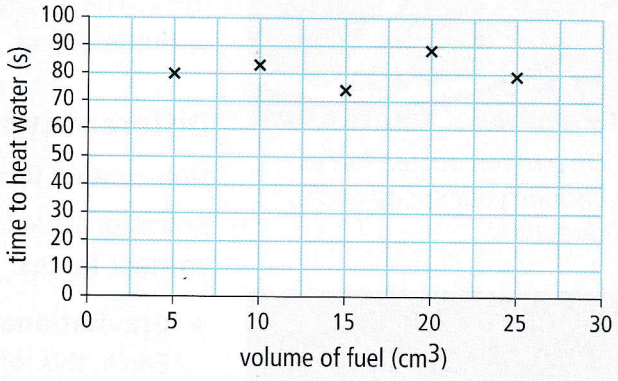
A Which elastic band is strongest?

B Do girls or boys have a better memory?

C How should we grow enough food for everybody in the future?

13. A student has completed an investigation about heating water with liquid fuels. This is her prediction: 'I predict that the more fuel I use the faster the water will heat up.'

This is a graph of her results:



a. Suggest what the student has missed out in her prediction. [1]

b. Do the results support her prediction? Explain your answer. [1]

c. Describe a method that the student could have used to get these results. [1]

14. You are planning an investigation. Which of these things do you *not* do? [1]

a. Write down what you have found out.

b. Work out how to take precise and accurate results.

c. Decide which results to record.

d. Describe how to work safely.

TWS