

P1g-h assessed task

Q1) Which of these produces a narrow intense beam of light?

A light emitting diode
C match

B light bulb
D laser

[1]

Q2) Complete the sentences. Choose from:

code mirror colour shade

When light is used to send a message, a _____ must be used.

[1]

Q3) A sound wave with a frequency of 680Hz has a wavelength of 0.5m. Use the rule below to calculate the speed of the wave:

Speed = wavelength x frequency

[2]

Q4) Match up the start and end of the sentences.

The frequency of the wave is
The amplitude of the wave is
The wavelength of the wave is

the height of a crest
the distance between troughs
the number of waves in a second

[3]

Q5) Describe how light can be used to send messages in Morse code.

[2]

Q6) Which of these instruments can be used to detect an earthquake?

A joulemeter
B seismometer
C thermometer

[1]

Q7) Complete the sentences.

There are two types of seismic wave, called _____ and _____.

They are produced by earthquakes. _____ are transverse and can only travel through _____.

_____ are longitudinal, so they can travel through both solids and _____.[6]

Q8) Explain why people with darker skins have less risk of skin cancer.

[2]

Q9) A sun block has an SPF of 4. What does this mean?

[2]

Q10) Complete the sentences. Choose from:

**carbon dioxide ground heat infrared more Sun
temperature**

Light energy from the _____ passes straight through our atmosphere.

It is absorbed by the _____ and transferred to _____ energy.

The warmed ground emits _____ which is partly reflected by _____ in the atmosphere.

Increasing the amount of carbon dioxide results in _____ infrared from the ground being trapped, raising the _____ of the atmosphere.

[7]

Q11) Name 3 greenhouse gases.

-
-
-

[3]

Q12)

(a) Earthquakes produce shock waves in the Earth's crust.

(i) Write down **one** effect of shock waves on the Earth.

.....[1]

(ii) Write down the name of the instrument used to detect shock waves.

Choose from:

- ammeter**
- anemometer**
- barometer**
- thermometer**
- seismometer**

.....[1]

(b) The waves produced by earthquakes can travel inside the Earth.

They are called seismic waves.

There are two sorts of seismic waves: p-waves and s-waves.

Look at the table.

It compares p-waves and s-waves.

Complete the table.

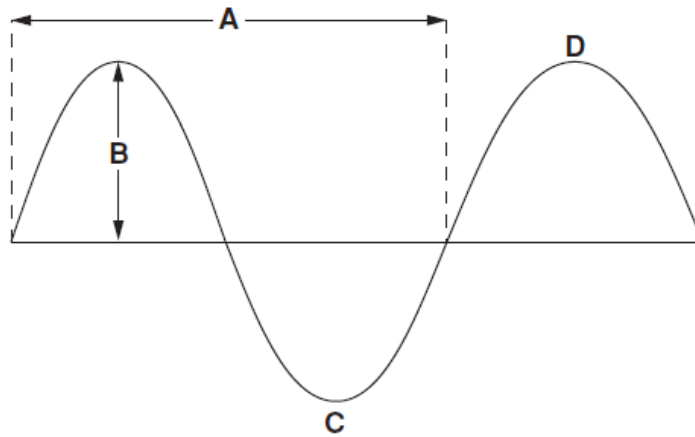
feature of wave	p-waves	s-waves
speed	faster	slower
travel through	solids and liquids	
type		

[3]

Q13)

This is a question about waves.

(a) Look at the diagram of a wave.



(i) Which letter shows a crest?

Choose from: A B C D

.....

[1]

(ii) Which letter shows the amplitude?

Choose from: A B C D

.....

[1]

(b) (i) In the past, people carried messages on foot or on horseback.

It took a long time for the message to get to where it was going.

It is better to use light for sending messages.

Give **two** reasons why.

reason 1

reason 2

[2]

(ii) We cannot hear messages sent using light.

When light is used to send a message, a code is needed.

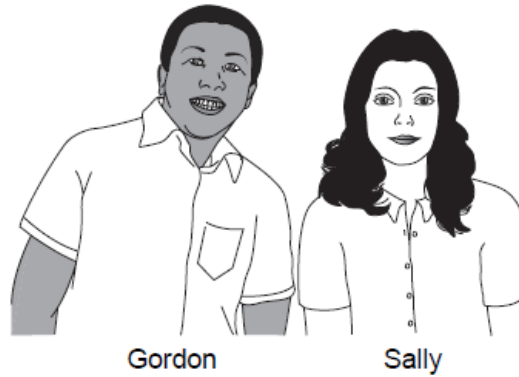
Write down the name of the code that uses flashes of light.

.....[1]

Exposure to the Sun can cause a suntan.

This exposure can also cause skin cancer.

Gordon and Sally like to sunbathe.



(a) Gordon's skin is **darker** than Sally's.

Because of this, he has **less** chance of getting skin cancer.

Explain why.

.....
.....[2]

(b) Gordon and Sally decide to use sun cream.

Sally needs to know how long she can safely stay in the Sun.

Without sun cream, Sally can safely stay in the Sun for just 10 minutes.

She wants to stay in the Sun for 200 minutes.

Which sun factor cream should she use?

Choose from the list.

- 5 10 15 20

..... [1]

(c) The ozone layer can protect people from harmful radiation.

(i) How does the ozone layer protect people?

.....
.....[1]

(ii) The ozone layer can be depleted.

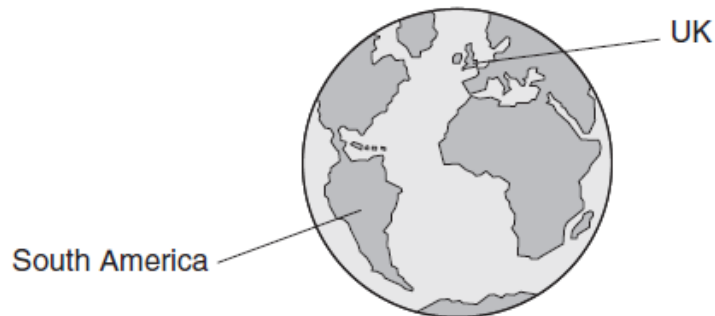
What causes this?

.....
.....[1]

It is possible to transmit a radio signal from the UK to South America, even though the Earth is curved.

Explain how.

Drawing on this diagram may help your answer.



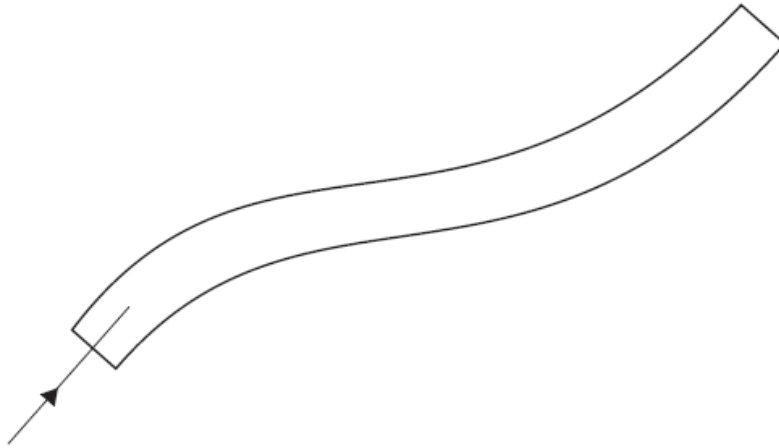
.....
.....
..... [2]

Q15)

Telephone signals are often transmitted through optical fibres.

Look at the diagram of a piece of optical fibre.

Light goes in at one end and comes out at the other end.



A ray of light is going into the fibre.

Use a ruler to draw its path along the fibre.

[2]