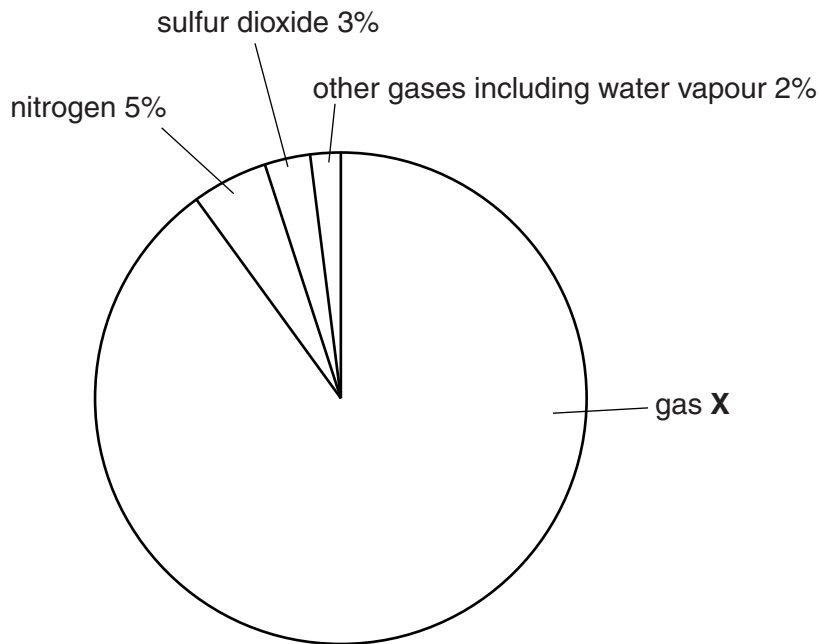


- 3 Scientists have estimated the percentage of different gases in the atmosphere before plant life on Earth began.

The pie chart shows this estimation.



- (a) What is the gas X that made up most of the atmosphere before there was life on Earth?

Put a ring around the correct answer.

argon **carbon dioxide** **nitrogen oxide** **oxygen** [1]

- (b) Explain why the composition of the Earth's atmosphere changed after plant life on Earth began.

.....

.....

.....

..... [2]

[Total: 3]

Answer **all** the questions.

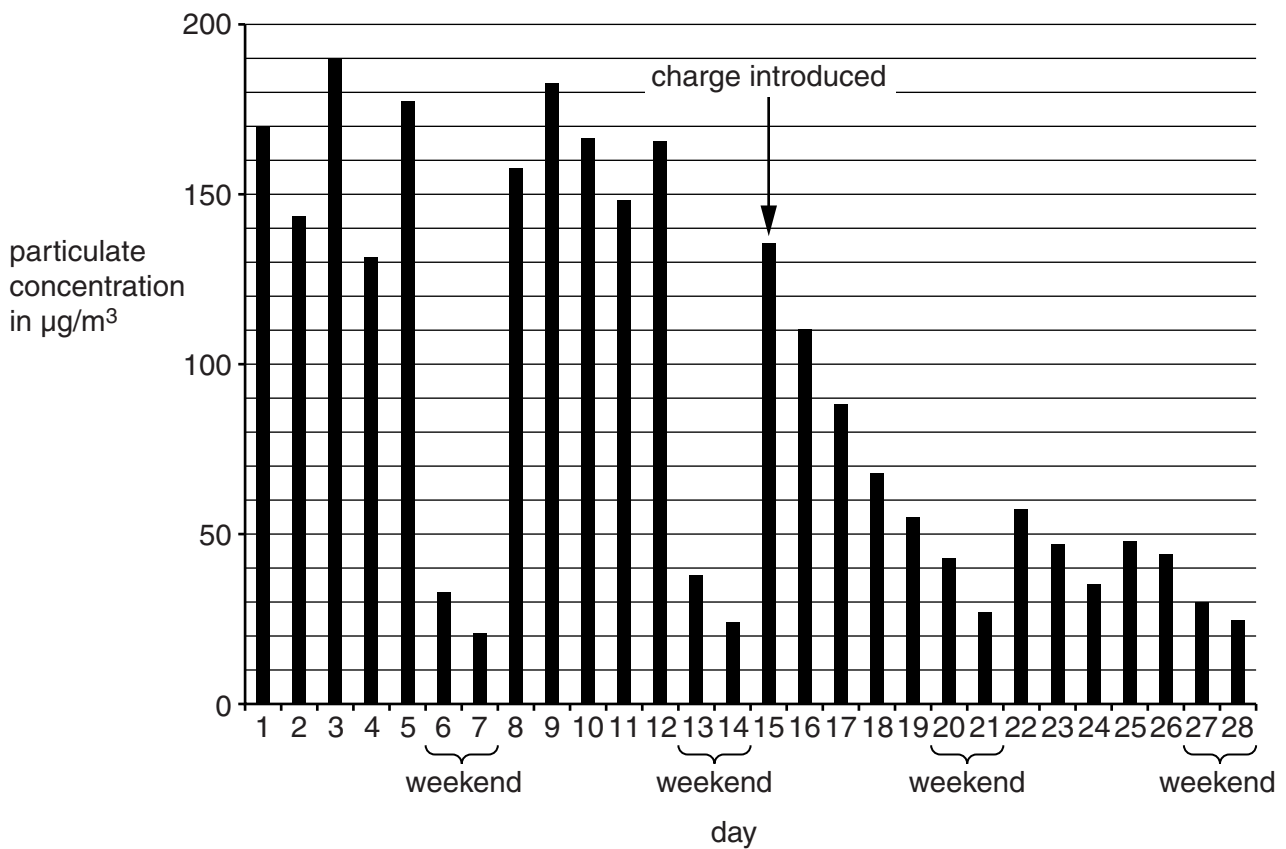
- 1 A town council decided to make drivers pay a charge for each vehicle entering the town on weekdays (Monday to Friday).

The council did this to reduce air pollution. Scientists were asked to see if this did reduce air pollution.

They made measurements for 14 days before the charge was introduced.

They continued to make measurements for 14 days after the charge was introduced.

The scientists recorded the average concentration of particulates in the air for each day.



- (a) (i) What was the highest particulate concentration measured during the 28 days?

highest particulate concentration = $\mu\text{g}/\text{m}^3$ [1]

- (ii) The World Health Organisation limit for particulate concentration is $150 \mu\text{g}/\text{m}^3$.

On how many days was the particulate concentration higher than this?

number of days = [1]

(b) (i) Was the town council right to introduce the vehicle entry charge?

Use the graph to explain your answer.

.....
.....
.....
.....
..... [3]

(ii) Suggest why the introduction of the vehicle entry charge caused a change in the particulate concentration in the town centre.

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

(c) Complete these sentences about burning hydrocarbons.

Use words from the list.

- carbohydrate carbon dioxide carbon monoxide
- nitrogen oxygen water

During the **complete** combustion of a hydrocarbon the hydrogen burns to make and the carbon burns to make

During **incomplete** combustion some of the carbon does not join with

.....

Instead it forms solid carbon particulates. [2]

[Total: 9]

Answer **all** the questions.

1 This question is about the gases in the air.

(a) Finish this table to show the percentage of each of the three main gases in the Earth's atmosphere today.

Gas	Percentage in the atmosphere
oxygen%
.....	78%
argon%

[2]

(b) Many scientists are worried about the rise in carbon dioxide in the air.

One cause of extra carbon dioxide is burning fuels.

Some people grow trees to burn as firewood.

Sue is talking about how growing and burning trees affects the levels of carbon dioxide in the air.

