



Science Faculty HOMEWORK BOOKLET Year 7 Block B 'Global Warming'



Name: _____ Form: _____

Subject Teacher: _____

Date Given: _____ Date to Hand in: _____

Effort Comment:

House Points:

WWW:

IOTI:

Parent / Guardian Comment:

Yr 7 Science Homework Pack - Global Warming

Introduction

This week your homework booklet is about global warming. You will learn:

- what is causing global warming.
- what evidence we have for it.
- some of the effects it is having on our planet.

You must:

- complete all writing tasks in the book in **blue** or **black** ink.
- write neatly in full sentences. Single-word answers are not appropriate.
- Use a pencil and ruler to construct tables and graphs.

If you are in Set 1 or 2, complete all of the exercises. If you are in set 3 or 4, complete the first three exercises.

If you have any problems with any of the tasks, you should see one of your Science teachers to get help.

Remember! Leaving questions blank will mean you have to repeat the work. Asking for help from a teacher is not cheating!!!

Find the Global Warming keywords in this wordsearch!

I J G R V R R L O S F A C C S
N Q L Q U A J M P L Z A X E L
F O O T J O Z O O C R Q S R E
R Z B P A G P O V B T U V C U
A U A Q D E D A O P O J B T F
R I L V Y I H N V H N Y I P L
E Z W G N P D N N R E L R C I
D Y A G L I O E V N E I I N S
M Z R P O C E L R U D T N Z S
V N M X M R K K L S R W A B O
N Q I L G N I N R U B I Y W F
W D N H I J H J Q J T W D Y V
E E G N A H C E T A M I L C U
A T M O S P H E R E S I O M Q
Y R T Y T H X X C T D L T N C

ATMOSPHERE

CLIMATECHANGE

GLOBALWARMING

INFRARED

BURNING

FLOODING

GREENHOUSE

POLLUTION

CARBONDIOXIDE

FOSSILFUELS

HEAT

SUN

What can we do about global warming?

For your next task this week, you will be designing a poster to encourage people to try and reduce their own greenhouse gas emissions.

This task should take you about 40 minutes.

It is easy for us all to do something about producing fewer emissions of Carbon Dioxide, by doing such simple things as

- using the car less and taking public transport.
- switching off lights when we don't need them.
- turning the temperature down on our central heating.
- recycle glass, paper and metals so they can be reused.

Task for today

On the next page of the homework booklet, design a poster which advises people on how to reduce their CO₂ footprint using the ideas above.

You will need to make the poster colourful, with a simple, clear message on reducing the amount of carbon dioxide we release.

Poster Task

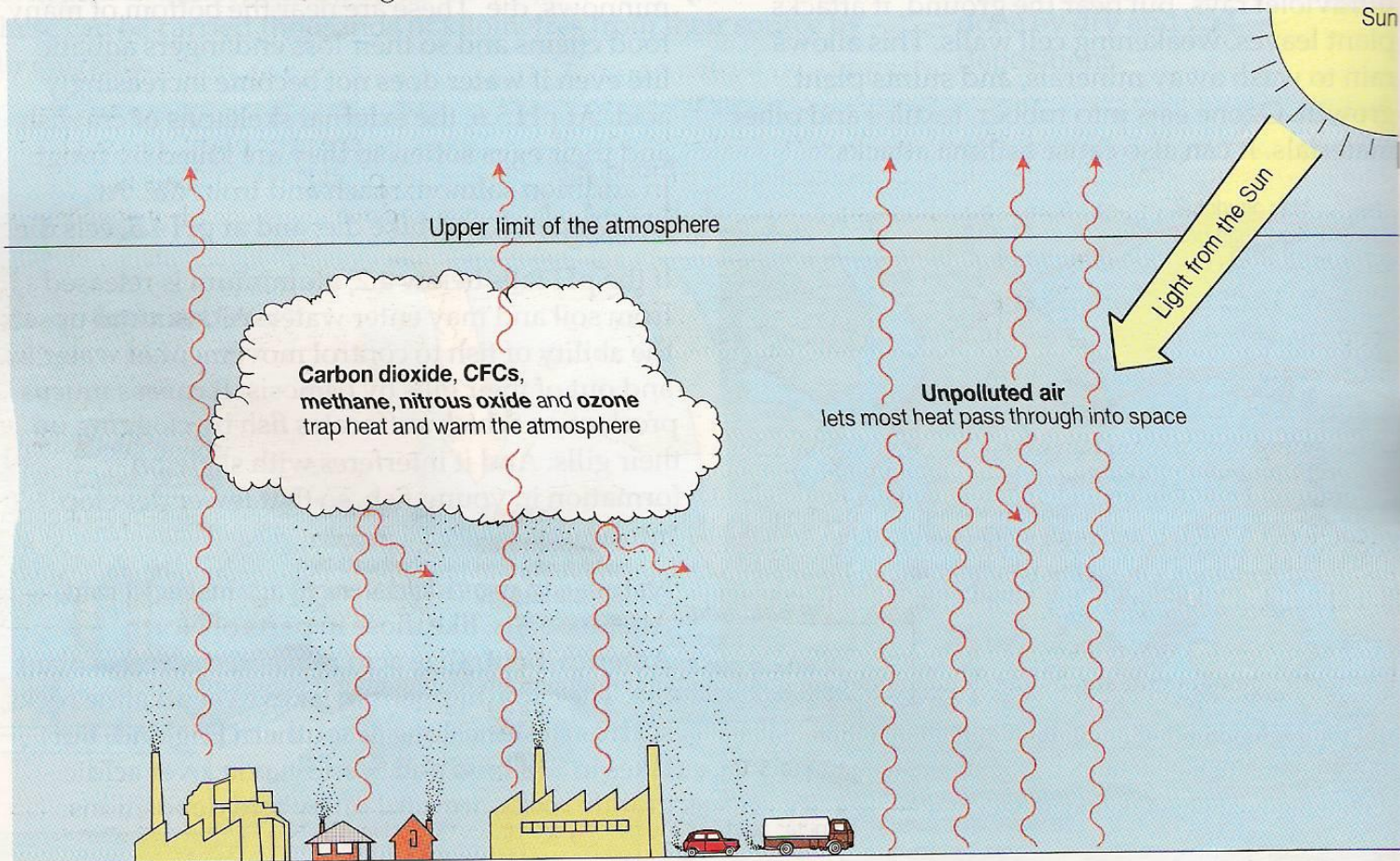
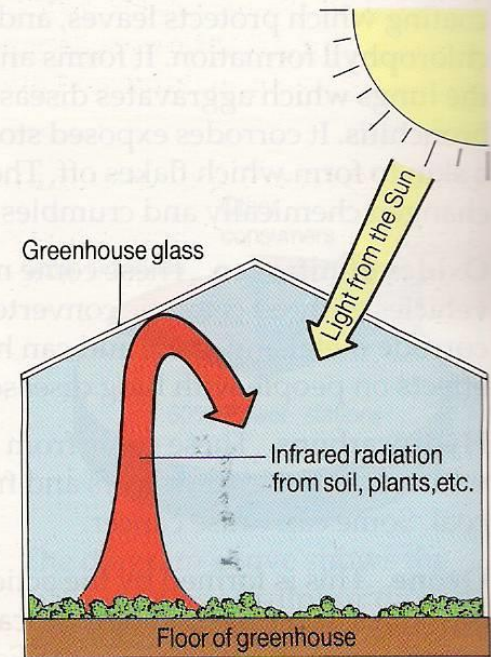
9.10 The greenhouse effect

The world is warming up

There is mounting evidence that the world is getting warmer. Since 1850 world temperatures have risen by about 0.5°C and could rise another 4.5°C by the year 2050. Some of the reasons why this apparently small rise is causing alarm are described later. First you should understand why **global warming** is happening.

Global warming is caused by **the greenhouse effect**, illustrated in the diagram opposite. Light from the Sun can pass through the glass of a greenhouse. It is then absorbed by the floor, earth and other contents which warm up and radiate heat, in the form of infrared radiation. Unlike light energy, the infrared cannot escape through the glass. So it is trapped inside the greenhouse, which warms up.

The ways in which a greenhouse warming and global warming are similar, are shown in the diagram below.



Sunlight warms up the Earth's surface which emits infrared radiation

Sunlight passes through the atmosphere and is absorbed by the Earth's surface, which warms up and radiates infrared (heat) energy. If there were no air, all of this heat would escape straight into space. But carbon dioxide and water vapour in the air act like the glass of a greenhouse, trapping and

absorbing some heat, which warms the atmosphere. This natural global warming provides an essential source of heat for living things. Without it, the world would be freezing at -17°C and life could probably not exist.

Use the information opposite to answer the following questions! This should take you around 30 minutes.

The 'greenhouse effect' and global warming

1. How much have world temperatures risen by since 1850?

2. Why does a greenhouse get warm?

Look at the diagram to answer Questions 3 and 4.

3. Name four gases in our atmosphere which contribute most to global warming:

-
-
-
-

4. Why doesn't unpolluted air heat the earth up?

5. How do these gases make the earth warm?

6. What temperature would the Earth be without global warming? Why would this make life impossible?



Linking global warming with carbon dioxide emissions

You do not have to attempt this task if you are in Set 3 or 4.

The first two tasks involve drawing graphs. Remember to use a pencil and ruler to draw the lines, and a pen for any writing. You may also like to use colour for the lines and bars on your graph.

Remember:

- Time goes along the **bottom** of the graph
- You must label the sides of the graph, including units.

Task 1

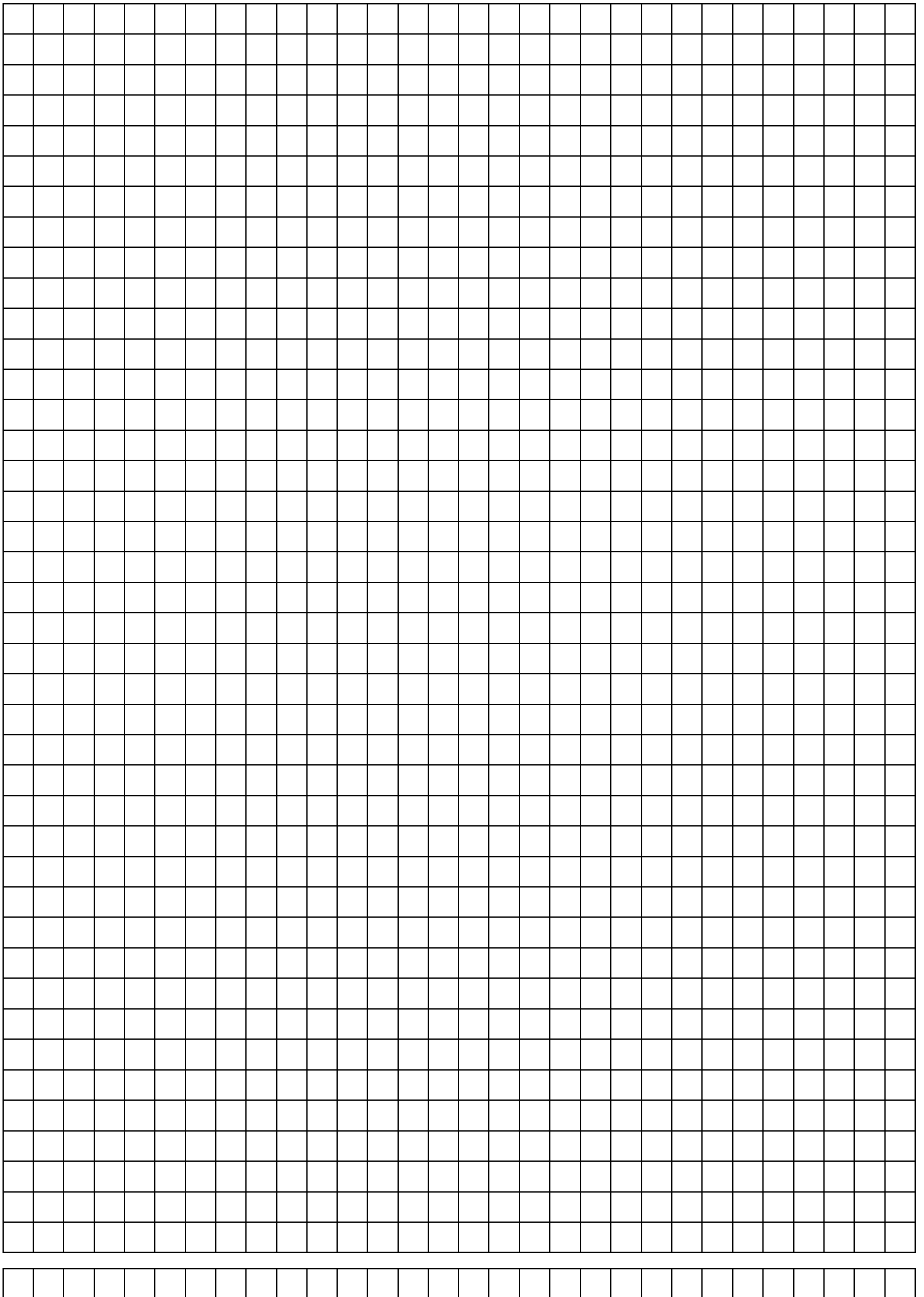
Draw a **bar chart** of the following data:

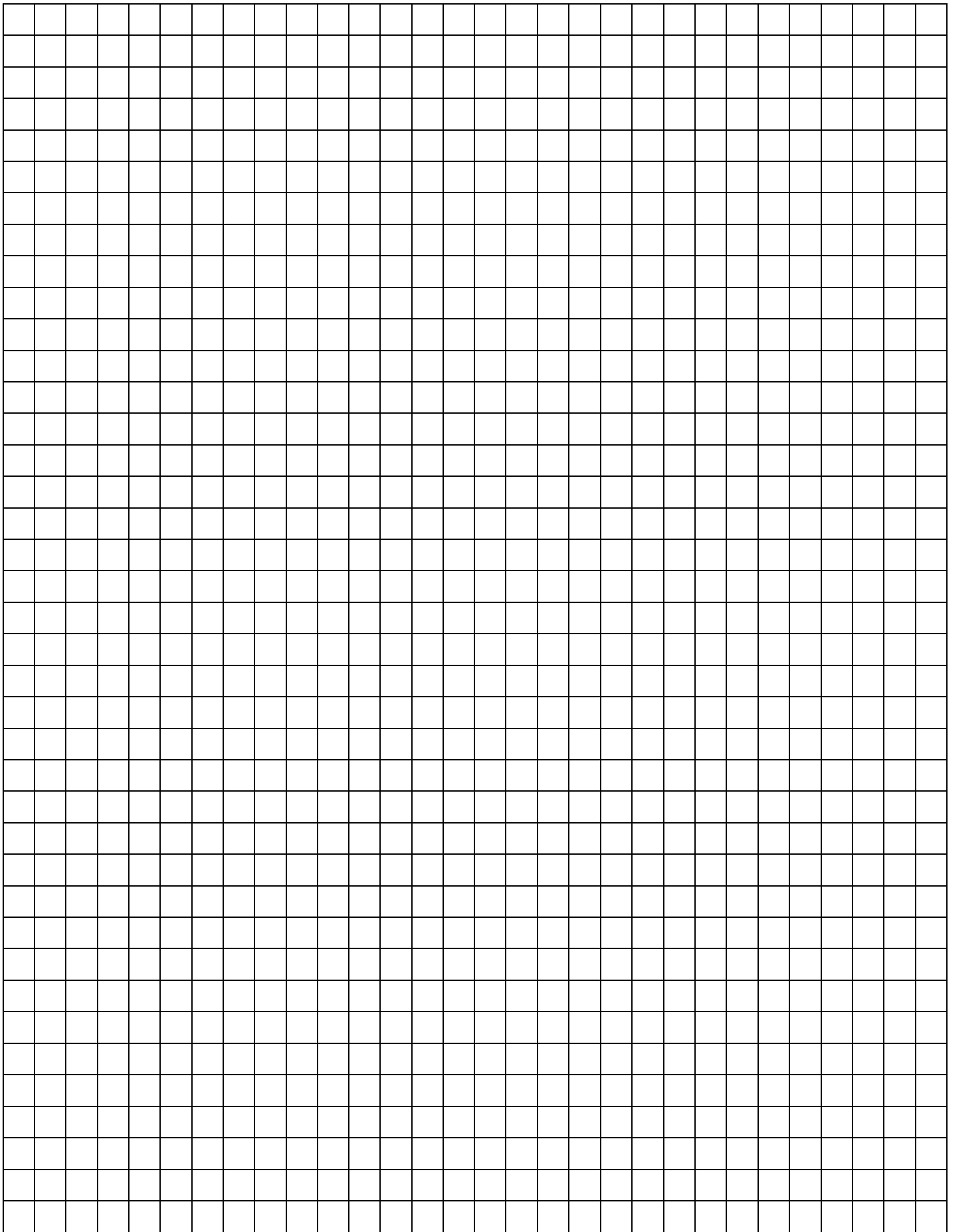
Year	1800	1850	1900	1950	2000	2050
Carbon Dioxide concentration (ppm)	270	275	285	300	330	400

Task 2

Draw a **line graph** of the following data:

Year	1800	1850	1900	1950	2000	2050
Average Global Temperature (°C)	13	13	13	14	15	19





Questions

1. Write a conclusion for the graph you drew in Task 1.

2. Use your graph to predict what you think the carbon dioxide concentration of the earth's atmosphere was in:

a) 1920 - _____

b) 1990 - _____

3. Write a conclusion for the graph you drew in Task 2.

Most scientists believe that rises in Carbon Dioxide levels in the atmosphere have caused global warming.

4. Explain whether your graphs agree with this statement.

5. Suggest why there was no rise in global temperature between 1800 and 1900?

You have finished the homework booklet!

Well done!