Name _____

Activity 2 | **Excuse me! The problem with methane gas**

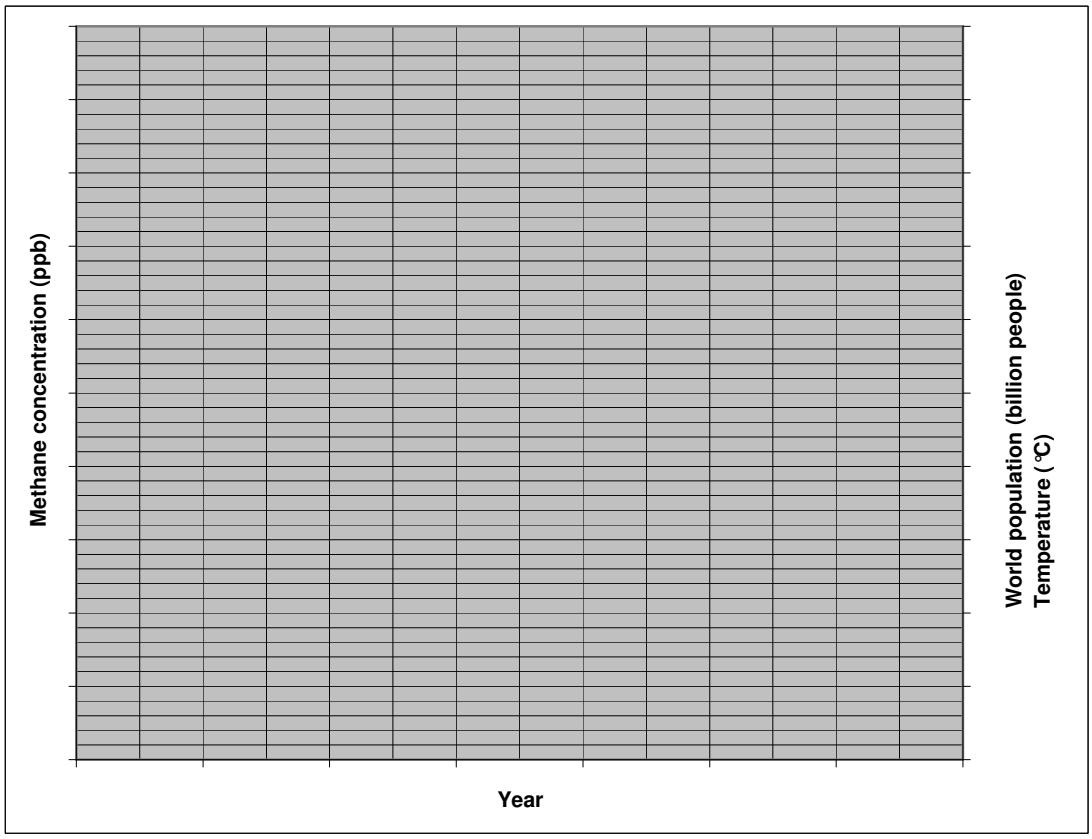
Changing methane levels: A worksheet

1. Use the data in the table below to produce a line graph showing how the levels of methane in the atmosphere have changed since 1850.
2. Now plot the world population and temperature data on the same graph using the secondary Y-axis.

Global changes in atmospheric methane levels, population and air temperature from 1850-2007

Year	**Methane level**[1] **(ppb)**	**World population**[2] **(billion people)**	**Temperature**[3] **(°C) (relative to the 1961-90 mean)**
1850	791	1.2	-0.4
1900	879	1.6	-0.3
1925	1007	2.0	-0.3
1950	1147	2.5	-0.3
1975	1465	4.0	-0.2
2000	1752	6.1	+0.3
2007	1784	6.6	+0.4

[1] Source: http://www.pnas.org/content/101/46/16109
[2] Source: http://www.digitalsurvivors.com/archives/worldpopulation.php
[3] Source: http://cdiac.ornl.gov/ftp/trends/temp/jonescru/global.dat



3. Describe how the concentration of methane in the atmosphere has changed over time.

4. Is there any relationship between the levels of methane in the atmosphere and the world population? Why do you think this has happened?

5. What developments occurred during the 19th century that could be responsible for increasing greenhouse gas emissions?

6. When was the most rapid rise in methane levels?

7. Does this correspond to the most rapid rise in temperature? Explain your answer.

8. What other factors could be contributing to this rapid rise in the global temperature?

9. If we don't do anything to limit human-induced greenhouse gas emissions, predict methane levels in 2025.

10. Find out what the term 'positive feedback' means in science and explain how this term could be used when describing future levels of methane.