Name

Form

PLANET EARTH
TEMPERATURE

4. Read this article about the seasons and fill in the missing words:

Circle (2x) · equator (2x) · South · northward · twice · Cancer · maximum · vertically · Capricorn · September · tilt

The Seasons

The seasons are caused by the ..... of Earth's axis (23.5°). The seasons are marked by solstices and equinoxes. The solstices mark the points at which the poles are tilted at their ..... toward or away from the sun. The solstices occur each year on June 20 or 21 and Dec. 21 or 22.

The tilt of Earth's axis is responsible for four lines you find on every globe. When the North Pole is tilted away from the Sun as much as possible, the farthest points in the North which can still be reached by the Sun's rays are 23.5° from the pole. This is the Arctic ..... The Antarctic ..... is the corresponding limit 23.4° from the ..... Pole; the Sun's rays cannot reach beyond this point when we have midsummer in the North.

When the Sun is vertically above the ....., the day is of equal length all over Earth. This happens ..... a year, and these are the "equinoxes" in March and in ..... After having been over the equator in March, the Sun will seem to move ..... The northernmost point where the Sun can be straight overhead is 23.5° north of the ..... This is the Tropic of .....; the Sun can never be vertically overhead to the north of this line. Similarly the Sun cannot be ..... overhead to the south of a line 23.5° south of the equator – the Tropic of .....

5. Describe and compare these four climate graphs.

- Say what types of climate they represent and why these four cities have different types of climate.
- Compare the highest and lowest temperatures. How big are the temperature ranges between summer and winter?
- Compare the amounts of precipitation.

Brest			Paris			Stuttgart			Vienna		
Month	**[mm]**	**[° C]**	**Month**	**[mm]**	**[° C]**	**Month**	**[mm]**	**[° C]**	**Month**	**[mm]**	**[° C]**
Jan	136	6.3	Jan	52	3.4	Jan	44	-0.4	Jan	38	-0.7
Feb	106	6.2	Feb	45	4.2	Feb	42	0.8	Feb	42	1.3
Mar	104	7.3	Mar	53	6.6	Mar	44	4.2	Mar	41	5.3
Apr	70	8.8	Apr	45	9.5	Apr	61	8.0	Apr	50	10.2
May	73	11.4	May	62	13.2	May	82	12.5	May	61	14.8
Jun	51	14.2	Jun	65	16.4	Jun	96	15.7	Jun	74	18.0
Jul	46	15.9	Jul	54	18.4	Jul	70	17.7	Jul	62	19.9
Aug	59	16.0	Aug	51	18.0	Aug	79	17.0	Aug	65	19.2
Sep	79	14.7	Sep	54	15.4	Sep	57	13.7	Sep	45	15.4
Oct	106	12.3	Oct	57	11.5	Oct	43	9.0	Oct	41	10.1
Nov	118	8.9	Nov	55	6.8	Nov	55	3.9	Nov	50	4.8
Dec	137	7.3	Dec	54	4.3	Dec	48	0.6	Dec	44	1.0
Year	**1085**	**10.8**	**Year**	**639**	**10.6**	**Year**	**720**	**8.6**	**Year**	**613**	**9.9**

These expressions may help you!

- metres above sea level, ■ precipitation (rain, snow, hail, drizzle, etc.), ■ temperature (xx degrees Centigrade)
- mean (average) annual precipitation, ■ mean (average) annual temperature, ■ maximum / minimum temperature
- temperature rise / fall (steadily / rapidly / ...), ■ ...

6. In the film, you learnt a lot about the Gulf Stream and why and how it affects the climate in various regions on the Northern hemisphere. For example, a lot of tourists enjoy the mild climate on the island of Guernsey.

- Say why the climate is so attractive to many people. These websites may help you collect information:
  http://www.doc.mmu.ac.uk/aric/eae/Climate/Older/Gulf_Stream.html
  http://www.destinasjontromso.no/gulfstrmmens_historie_eng.htm
  http://en.wikipedia.org/wiki/Gulf_stream