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Name: \_\_\_\_\_

**Grade Ten Science**  
**Climate Quiz - First Four Notes**

1. This question is related to climate vs weather.

a) Is a thunderstorm considered an example of climate or weather? Explain

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b) Is the number of thunderstorms that are observed on a yearly basis an example of climate or weather? Explain

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2. What is the most common greenhouse gas on earth?

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Is it responsible for the natural greenhouse effect or for the man-made (anthropogenic) greenhouse effect.

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What would happen to the earth if this greenhouse gas was absent?

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3. What is the second most common greenhouse gas on earth?

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What has happened to the concentration (i.e. amount) of this gas over the last 150 years. How has this affect the overall temperatures on our planet?

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4. Why is the climate in Western Europe milder than it is here, even though it is further north?

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5. Complete this table to show all types of electromagnetic radiation in order from most energetic to least energetic. Include one use or danger for each type of radiation. Use the word list on the next page to help with remembering the types of radiation.

Low Energy ← <b>ENERGY</b> → High Energy Low Frequency ← <b>FREQUENCY</b> → High Frequency Long Wavelength ← <b>WAVELENGTH</b> → Short Wavelength	Type of Radiation	Uses and/or Dangers

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6. PLACE THE LETTER for each word in front of the description that it BEST SUITS!

	type of radiation that can be used to warm food.	<b>A</b>	Anthropogenic
	is the second most common greenhouse gas on our planet.	<b>B</b>	Atmosphere
	type of radiation that can efficiently transport heat from one location to another.	<b>C</b>	Carbon dioxide
	is an average of temperature, precipitation and wind over a long period of time.	<b>D</b>	Carbon footprint
	type of radiation that is responsible of sun burns as well as vitamin D production in your skin.	<b>E</b>	Carbon sink
	refers to anything that has a source in human activity.	<b>F</b>	Climate
	any process that absorbs and traps carbon.	<b>G</b>	Convection
	all gases that exist above the surface of the earth.	<b>H</b>	Gamma rays
	the amount of carbon dioxide produced by a person, an industry or a country.	<b>I</b>	Greenhouse gases
	all of the water found on earth including the water found in the atmosphere and underground.	<b>J</b>	Gulf stream
	the most common greenhouse gas on our planet.	<b>K</b>	Hydrosphere
	any gases that are able to trap infrared radiation and prevent it from escaping back into space.	<b>L</b>	Infrared
	the highest energy and most dangerous form of electromagnetic radiation.	<b>M</b>	Light
	an ocean current that is responsible of making the climate in Europe more moderate than North America.	<b>N</b>	Microwave
	method of heat transfer that takes place on earth using either wind or water currents.	<b>O</b>	Radiowaves
	the lowest energy form of electromagnetic radiation.	<b>P</b>	Ultraviolet
	is the given temperature, precipitation and wind conditions at any moment in time.	<b>Q</b>	Water vapour
	a form of electromagnetic radiation that you can see.	<b>R</b>	Weather
	a form of electromagnetic radiation that is used for medical imaging	<b>S</b>	X-rays

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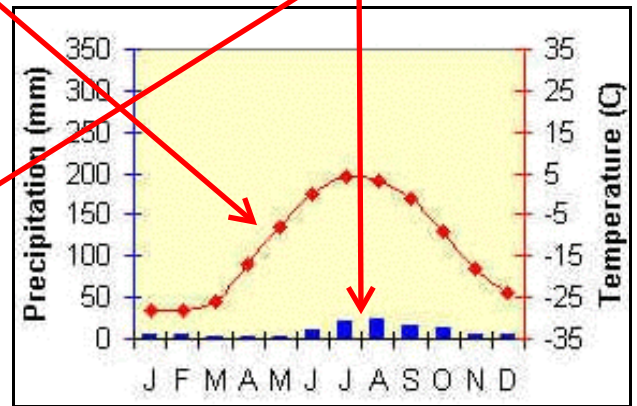
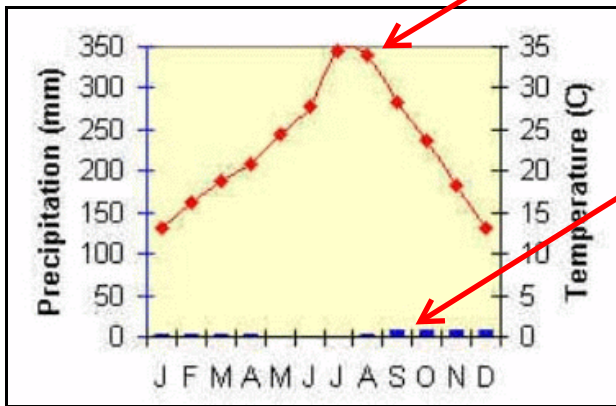
7. Draw a diagram to explain how the greenhouse effect works. Add words and short explanations as appropriate. Please include key terminology such as:

- solar radiation
- infrared radiation
- greenhouse gases
- reflected ...
- escaping ...

TURN THE PAGE SIDEWAYS BEFORE YOU BEGIN

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8. Look carefully at the two climatographs below. Describe the biome/habitat that you would expect for each climatograph. Give reasons for your choice.




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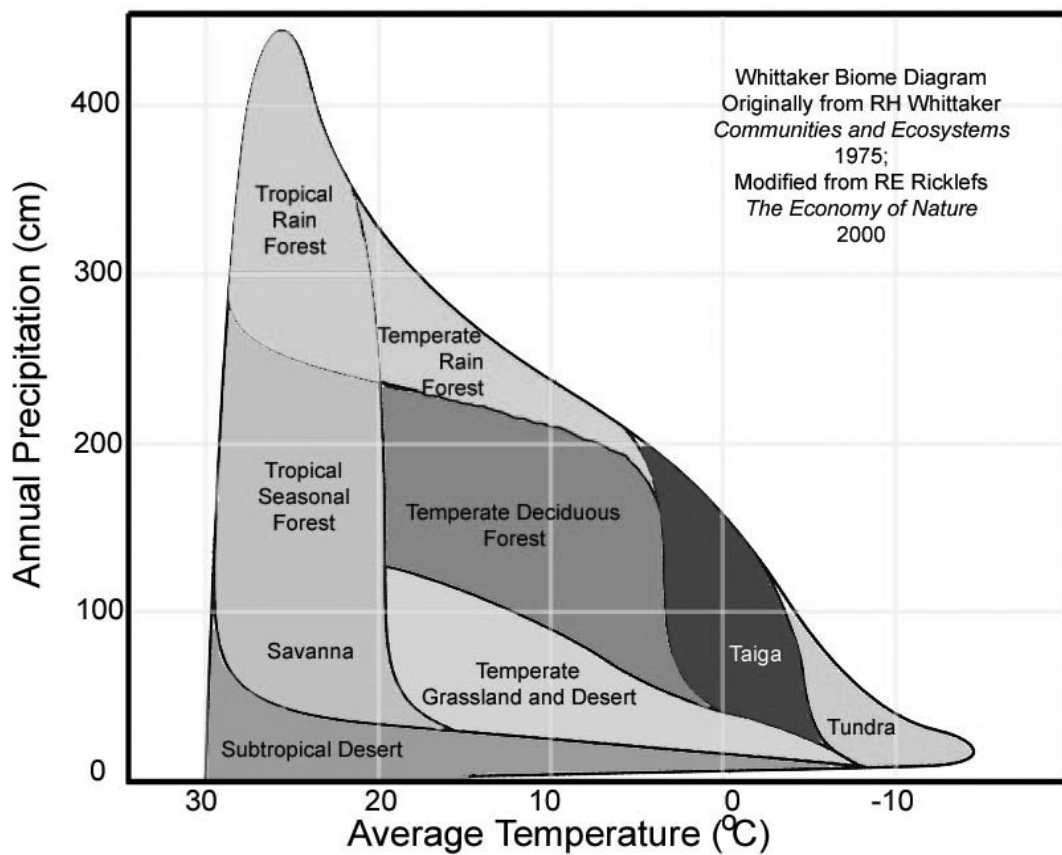
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9.



Using the number only, place each location in the correct biome. Please note that the Taiga biome is another word for Boreal Forest:

- ① Toronto - Ontario
- ② Vancouver - British Columbia
- ③ St John's - Newfoundland
- ④ Cambridge Bay - Nunavut

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