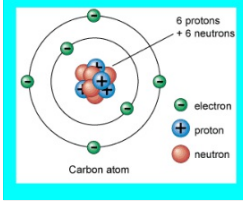
06/04 Climate Change

Quietly scan the article on your table.

Copy into your journals the diagram on p.100 of the article in blue.

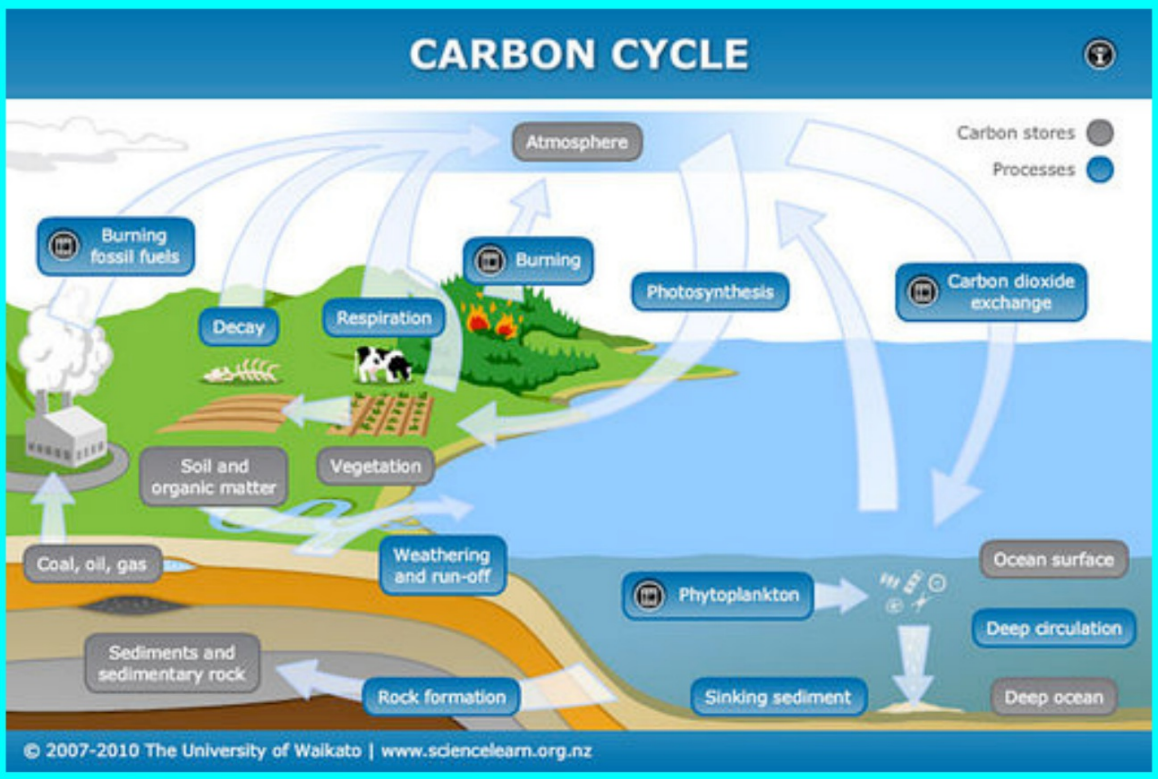
What is the greenhouse Effect?

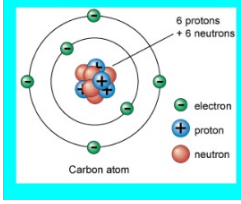
How does it feel to get into a car that has been sitting in the sun all day?



Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect





Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

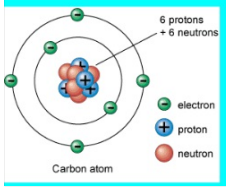
Question: How does a glass cover affect the temperature under a heat lamp?

Hypothesis: if _____Then _____
because_____.

Temperature change prediction with cover ____°C without cover _____°C

Data Table:

	Glass Cover	No Cover
Final Temperature		
Starting Temperature	20°C	20°C
Change in Temperature		



Learning Target

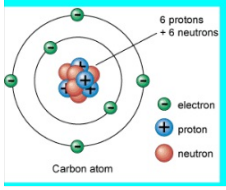
Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

The greenhouse effect itself is actually beneficial!

Without the greenhouse effect, our planet would be too cold for many organisms to survive.

However, the enhancement of the greenhouse effect through activities that add greenhouse gases to the atmosphere is a concern for all living things.



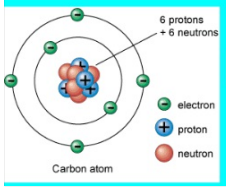
Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

It seems like we are using the words carbon and carbon dioxide interchangably.

WHY?



Learning Target

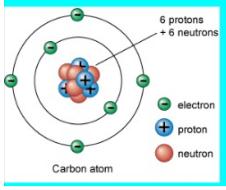
Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

Quick review while we wait...

Name the atoms found in carbon dioxide (answer:)

Can anyone name a component of the carbon cycle that includes carbon dioxide?



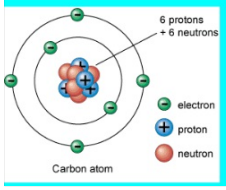
Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 ⁸ Climate Change

Who has heard of a “greenhouse gas”?

What examples can you think of?

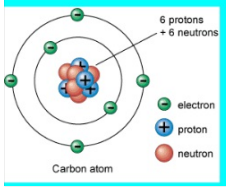


Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

Can anyone recall how the amount of carbon, in the form of carbon dioxide, can increase in Earth's atmosphere?



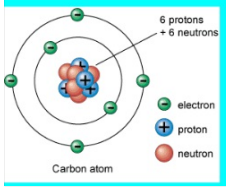
Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change

What happened?

Why do you think we got these results?

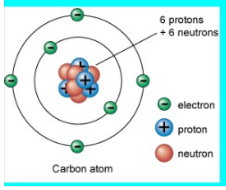


Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

What happened in the glass container is similar to Earth's greenhouse effect.

Greenhouse gases like carbon dioxide (along with methane, nitrous oxide, and water vapor) trap heat from the sun near Earth's surface, similar to the way the glass trapped the heated air.



Learning Target

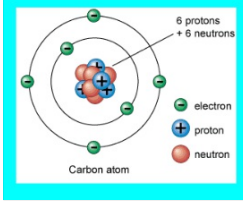
Understand how carbon moves in a system and how carbon impacts the greenhouse effect

Observation #5/6

Today we are going to look for the effects of the warm weekend on the pond ecosystem.

1. look for the number of organisms in the pond
2. Do the abiotic tests.

Make a prediction _____



Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

What is the role of the ocean in the carbon cycle?

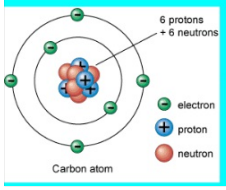
- The surface ocean absorbs carbon from the air, from decomposing marine life and from the deep ocean. (90 Gigatons of carbon per year.)
- The deep ocean gets its carbon from the surface and from dead marine life. It holds the carbon for 100s of years!
- The deep ocean holds 65% of the world's carbon
- Marine life cannot survive without carbon, but high levels of carbon dissolved in ocean waters are harmful to marine organisms such as algae, mollusks and corals.

06/04 Climate Change

Reflection

1. How does increasing the amount of carbon dioxide in Earth's atmosphere affect temperatures on Earth?
2. If temperatures on Earth rise due to increased greenhouse gases, how might human health be affected? (For example, how would the spread of diseases change with warmer temperatures?)
3. In what ways could increased temperatures on Earth be harmful for living organisms? Give specific examples of species you think will be negatively affected by warmer temperatures.
4. Could increased temperatures on Earth be beneficial for some organisms, including humans? Give examples of ways that higher temperatures could improve living conditions for certain organisms.

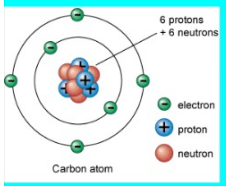
06/04 Climate Change



Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

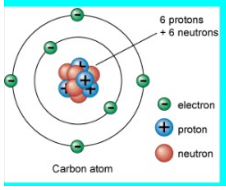
06/04 Climate Change



Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect

06/04 Climate Change



Learning Target

Understand how carbon moves in a system and how carbon impacts the greenhouse effect