

The Carbon Cycle

How is carbon matter recycled in nature?

Some

- Can you explain factors which affect the carbon cycle?

Most

- Can you describe the movement of carbon in the carbon cycle?

All

- Can you correctly label and sketch a diagram of the carbon cycle?

STARTER QUESTION:
Why is carbon important?

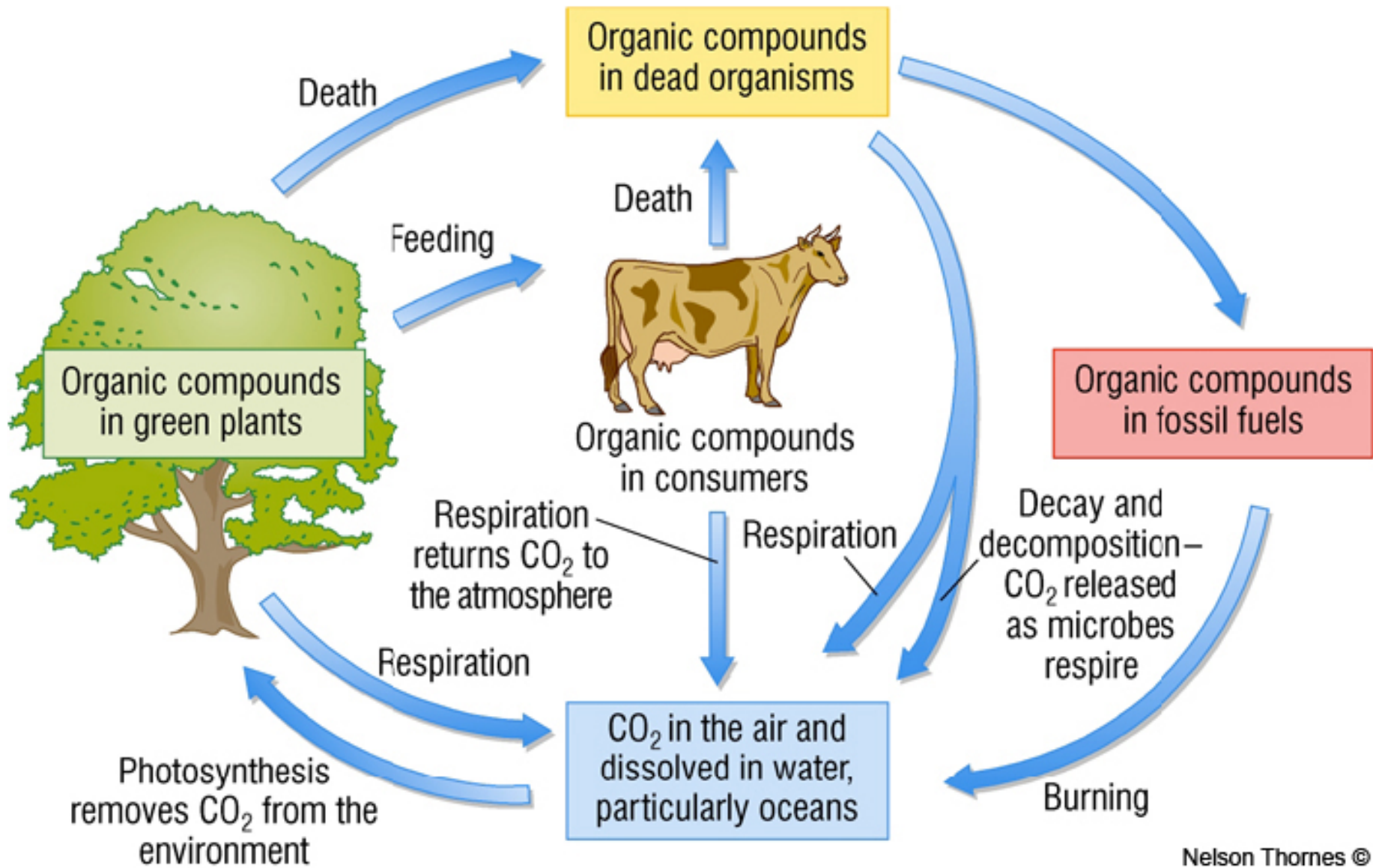
Why is carbon important?

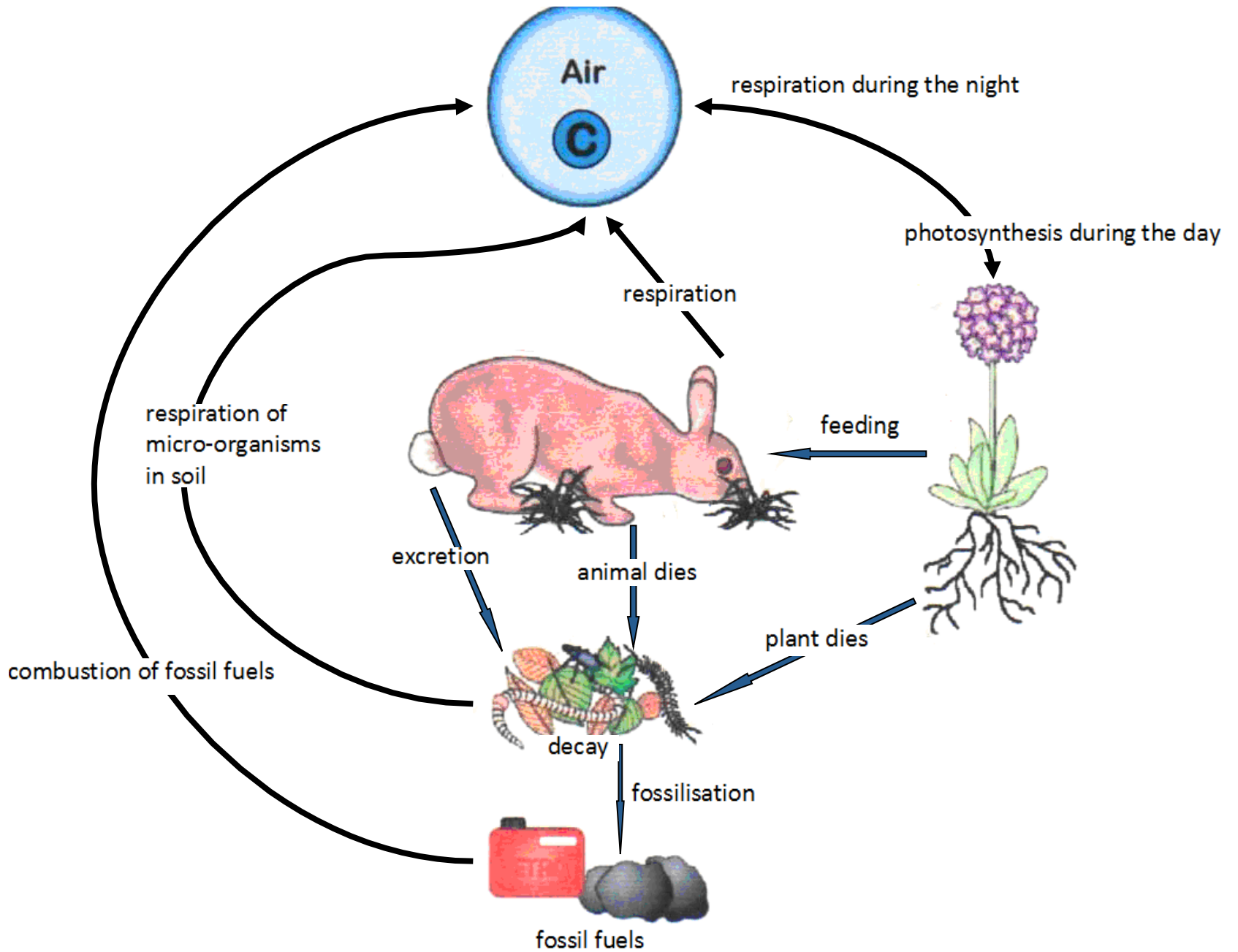
- Carbon is the main constituent of all living cells (biochemistry, organic chemistry).
- Carbon can form long chained-molecules which are the basis for fats, carbohydrates, nucleic acids (DNA and RNA) and proteins.
- Component of fuel (coal and gas).
- Use in nanotubes for computers.



A 4000 year old corpse
preserved in ice.

Why hasn't it
decomposed?





The Carbon Cycle

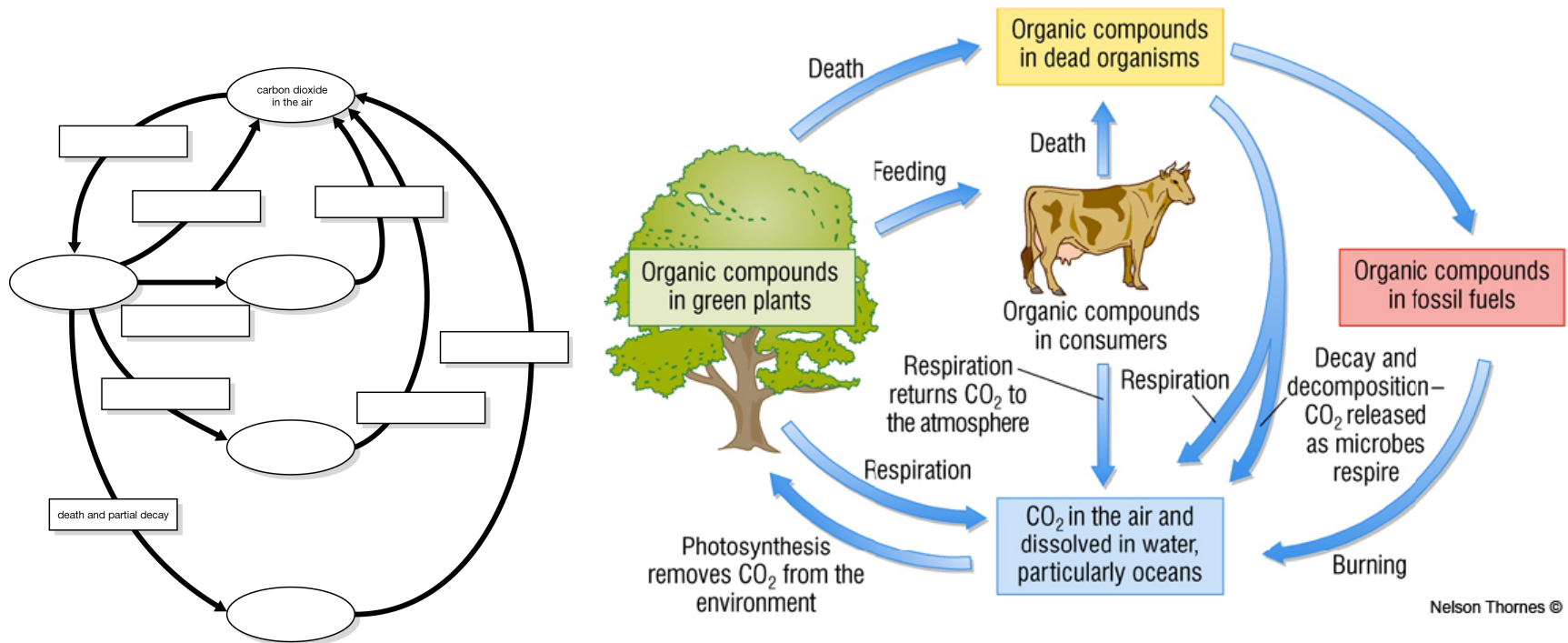
- Plants take in CO_2 because they need carbon and oxygen to use in **photosynthesis**
- Through photosynthesis plants make **glucose (carbohydrate)** and other substances
e.g. protein
- When animals eat plants they use some of the carbon containing compounds to grow
- Some carbon-containing compounds are used to release energy by **respiration**.

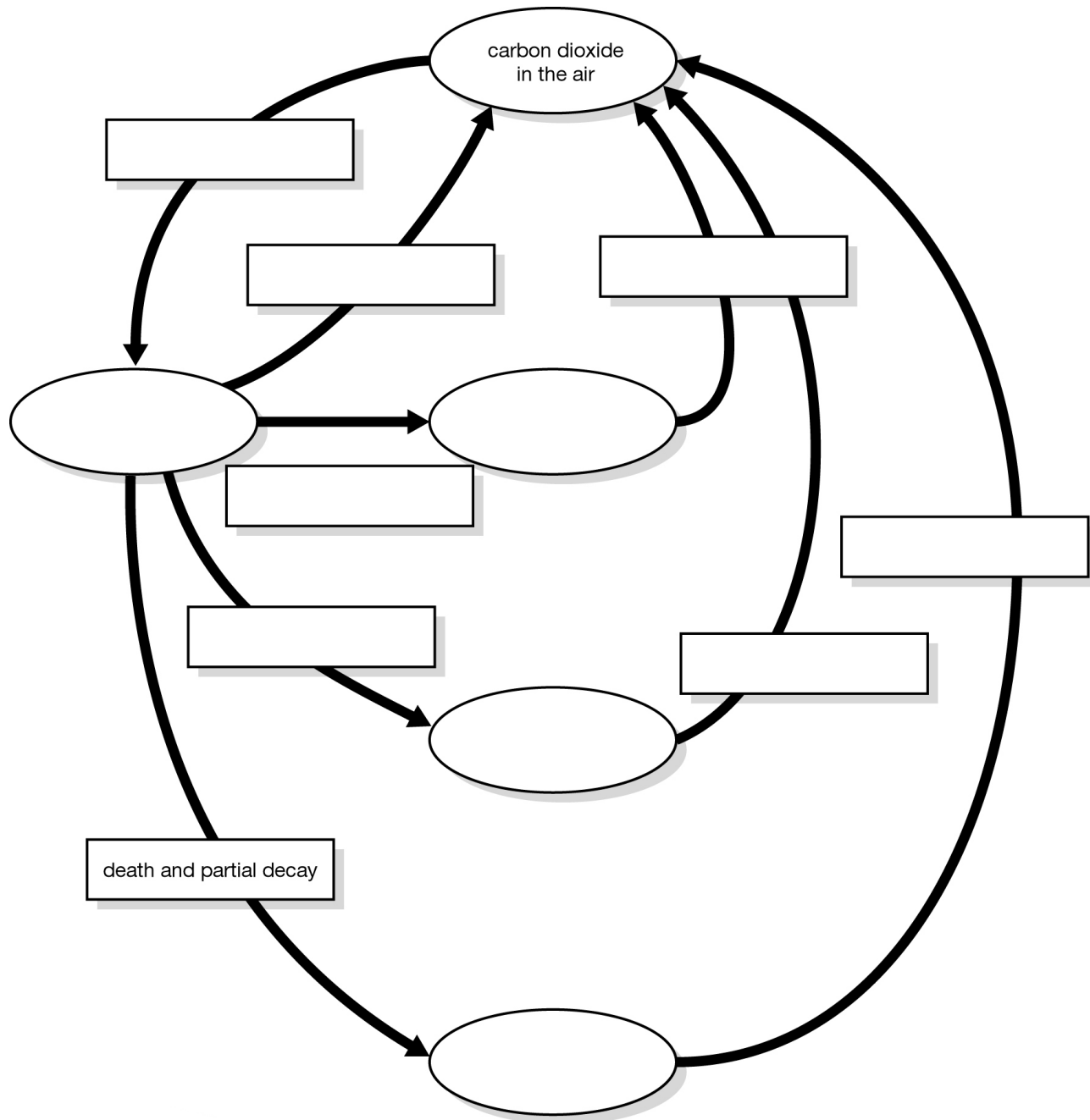
[http://www.biology.ualberta.ca/facilities/
multimedia/uploads/alberta/
CarbonCycle.html](http://www.biology.ualberta.ca/facilities/multimedia/uploads/alberta/CarbonCycle.html)

To Do:

10 minutes

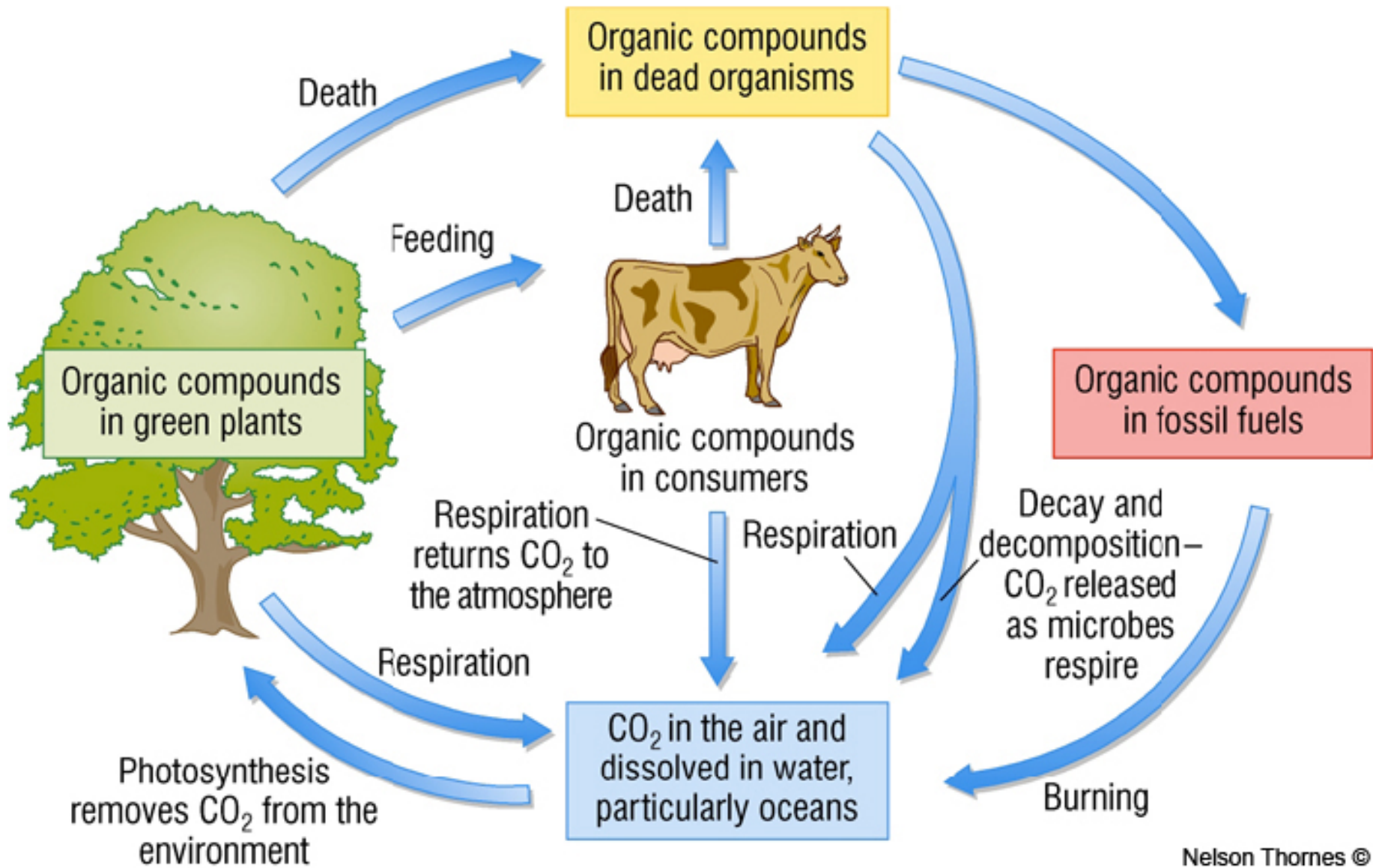
- Complete the diagram of the carbon cycle.
- Use page your textbook for help if you need.





Drama Time

- In groups of 3 – 4 you need to ‘act’ out the carbon cycle.
- You can use mini white boards as props.
- One person to be nominated the narrator.
- This will be peer marked – top groups get merits.



True or False?

Green plants use carbon dioxide in photosynthesis.

True or False?

Green plants use carbon dioxide in photosynthesis.

True or False?

Combustion removes
carbon from the
atmosphere.

True or False?

Combustion removes
carbon from the
atmosphere.

True or False?

The largest store of carbon is the atmosphere.

True or False?

The largest store of carbon is the atmosphere.

True or False?

Respiration adds carbon dioxide to the atmosphere.

True or False?

Respiration adds carbon dioxide to the atmosphere.

True or False?

Respiration only occurs in animals.

True or False?

Respiration only occurs in animals.

True or False?

Decomposers remove carbon dioxide from the atmosphere.

True or False?

Decomposers remove carbon dioxide from the atmosphere.

True or False?

Fossil fuels represent a huge (but decreasing) store of carbon.

True or False?

Fossil fuels represent a huge (but decreasing) store of carbon.

True or False?

Increasing carbon dioxide may cause global cooling.

True or False?

Increasing carbon dioxide may cause global cooling.

True or False?

Energy is transferred
from plants to animals to
decomposers.

True or False?

Energy is transferred
from plants to animals to
decomposers.

True or False?

Respiration releases energy to the environment in the form of heat.

True or False?

Respiration releases energy to the environment in the form of heat.

To Finish....

How do human activities
such as burning fossil fuels
and deforestation
affect the carbon cycle?