Name _____ Date _____

UNDERSTANDING OUR ENVIRONMENT

Topic: Recycling

1. **Why isn't our world filled with the dead bodies and waste of every organism that ever lived?**

_____

_____

2. **The organisms which decompose dead matter are known as decomposers.**

Name 2 microorganisms which decompose dead matter.

_____

http://www.nailsforbeauty.com

This nail is being decomposed by the fungus *Candida albicans*

3. **The term for rotting of dead organisms is decomposition. Why is decomposition such an important process for life on Earth?**

_____

_____

4. **From where have the elements which make up your body come?**

_____

http://blogs.telegraph.co.uk

5. **Many different elements make up the human body; match the elements below to the pictures of the jobs they do in the body:**

http://www.articlesweb.org

Nitrogen

Calcium

Carbon

http://cardiacsurgeryacademy.org

http://www.bio.davidson.edu

6. **The rotting or decomposition of dead organisms and waste releases 2 important elements which can be recycled by plants.**

Name the 2 essential elements which are recycled by plants.

_____

The Carbon Cycle

7. **The equation for photosynthesis shows how plants recycle carbon in nature.**

Write down the word equation for photosynthesis:

_____

8. **From where does the plant obtain carbon dioxide and how does it get in?**

_____

9.

Respiration is the break down of glucose by oxygen to release energy, but the process also releases carbon dioxide to the atmosphere.

Write down the word equation for respiration:

_____

10. **Combustion of fossil fuels releases carbon dioxide to the atmosphere.**
Write down the word equation for combustion:

_____

11. **Which gas is essential for combustion and from where does it come?**

_____

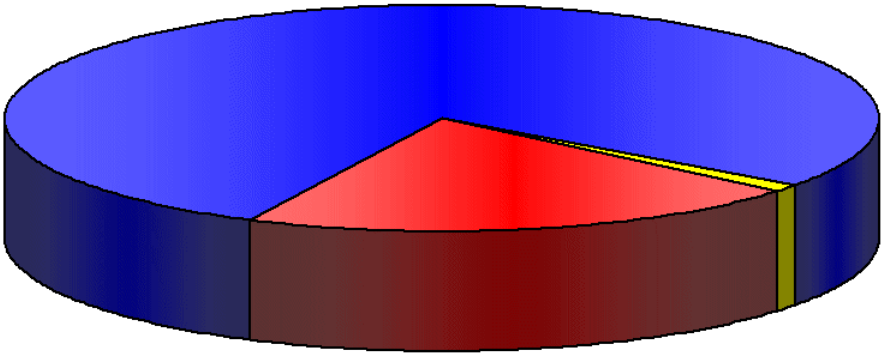
_____

http://www.free-extras.com http://www.bbc.co.uk
http://arizonamechanicalengineering.com

The Nitrogen Cycle

12. **Nitrogen is essential for the formation of proteins which build the bodies of plants and animals as they grow. Nitrogen is recycled in nature by plants.**
On the pie chart below showing the composition of the atmosphere label the percentages of:

Nitrogen; Oxygen and other gases



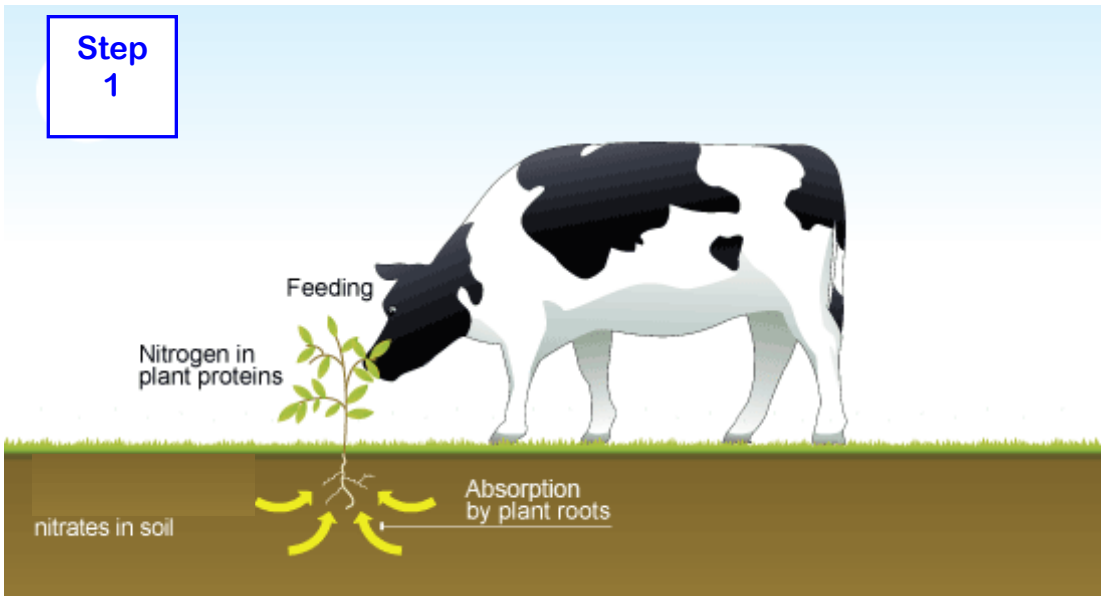
http://microecos.wordpress.com/2010/08/09/holding-pattern/

13. **What percentage of the Earth's atmosphere is Nitrogen gas?** _____

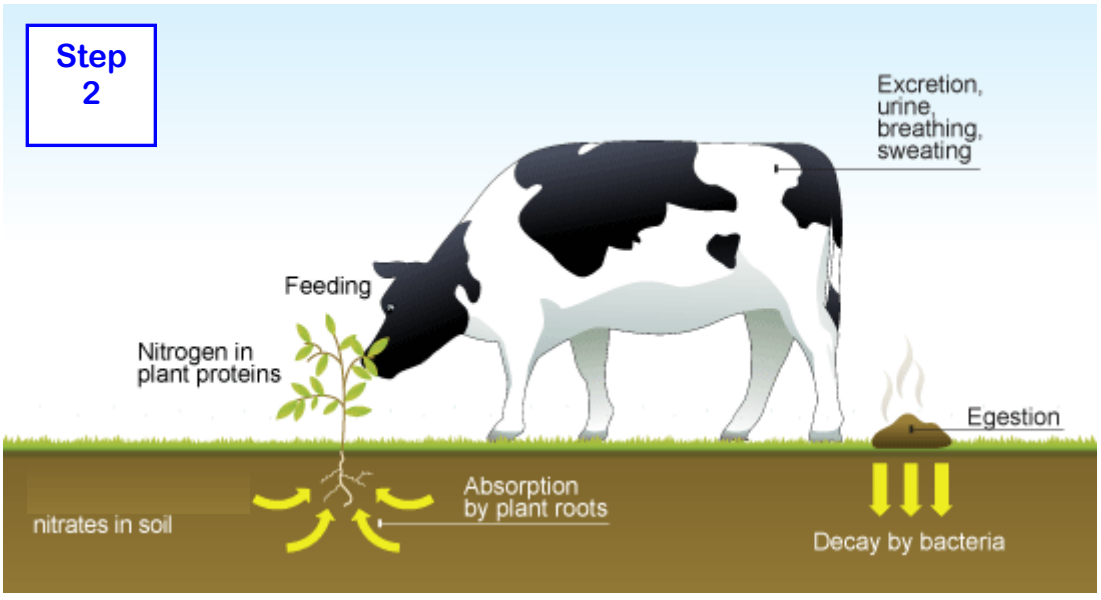
14. **Why can't Nitrogen be used directly from the air by plants?**

_____

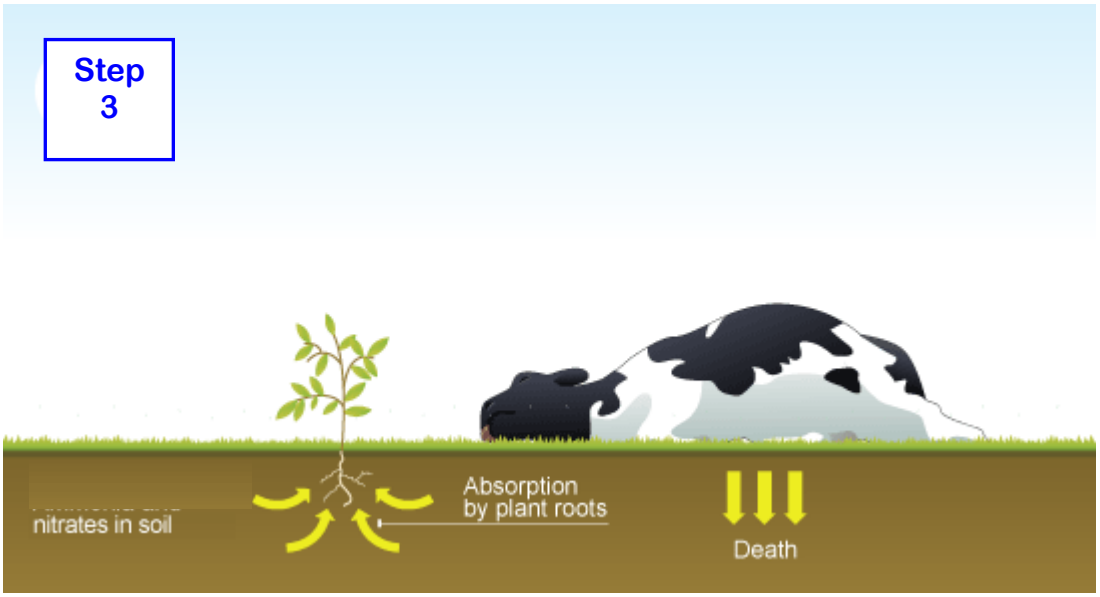
15. **Complete the sentences below which describe the cycling of nitrogen in nature.**



Plants absorb nitrogen compounds as _____ dissolves in soil.



Plants use nitrates from the soil to make _____ which they use to build their bodies into _____. Bacteria and fungi decompose _____ urine and egested _____ returning the nitrates they contain back to the _____.



Dead animals and plants are decayed by _____ returning _____ back to the soil to be reabsorbed by _____.

16. **Name the two compounds in which nitrogen can pass along a food chain:**

_____

17. **Which gas is in low concentration in waterlogged or acidic soils allowing the bodies of ancient animals to be preserved? _____**

18. **Why does a low concentration of this gas significantly slow down decomposition?**

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

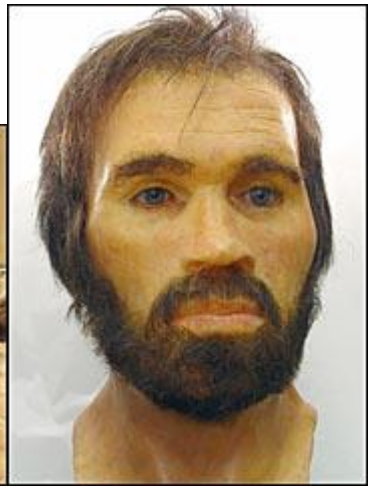
_____

http://www.bbc.co.uk/print/manchester/content/articles/2008/04/18/180408_lindow_man_pete_feature.shtml

Lindow Man: meet Pete

He's at the centre of 2,000-year old murder mystery. He was alive when the Romans ruled nearby Manchester and died a brutal and violent death.

Meet Pete Marsh – aka Lindow Man - Murder victim.



How he may have looked.

Lindow Man, nicknamed 'Pete Marsh' is Britain's best known and best preserved Iron Age bog body, he lived during the Iron Age, close to Lindow Moss, near Mobberley, Cheshire in the mid 1st Century AD.

'Pete Marsh' suffered a violent and brutal 'triple death.' He was struck on the top of his head twice with a heavy object, perhaps a narrow bladed axe, driving a sliver of bone into his brain. He had a thin cord tied around his neck which was used to strangle him and break his neck. By now he was probably dead, but then his throat was cut. Finally, he was placed face down in a pond in the bog, when he was about 25 years old.

His torso, head, arms were discovered in 1984 in a peat bog – though his body below the waist is still missing apart from his right leg. He was approx. 168 cm tall (5ft 7in) and weighed (9½st – 10st).

The acidic, oxygen-free conditions in the peat bog meant that the man's skin, hair and many of his internal organs were extremely well preserved.

A leathery skin with a yellowish hue and wrinkles clearly visible. His head, distorted over time, gives his face a slumped appearance with an anguished expression. Unusually for a bog body, Lindow Man sported a beard and moustache trimmed with shears.

There is no evidence that he was unwell when he died, but he was suffering a severe case of parasitic worms.

There are many theories that have been put forward to explain Lindow Man's death. Some people have argued that he was the victim of a ritual murder and sacrificed to the Gods by Druids. It's also possible that Lindow Man was a scapegoat of his local community who blamed him for the failure of crops, disease or famine.

Write a story to explain what happened to Pete.