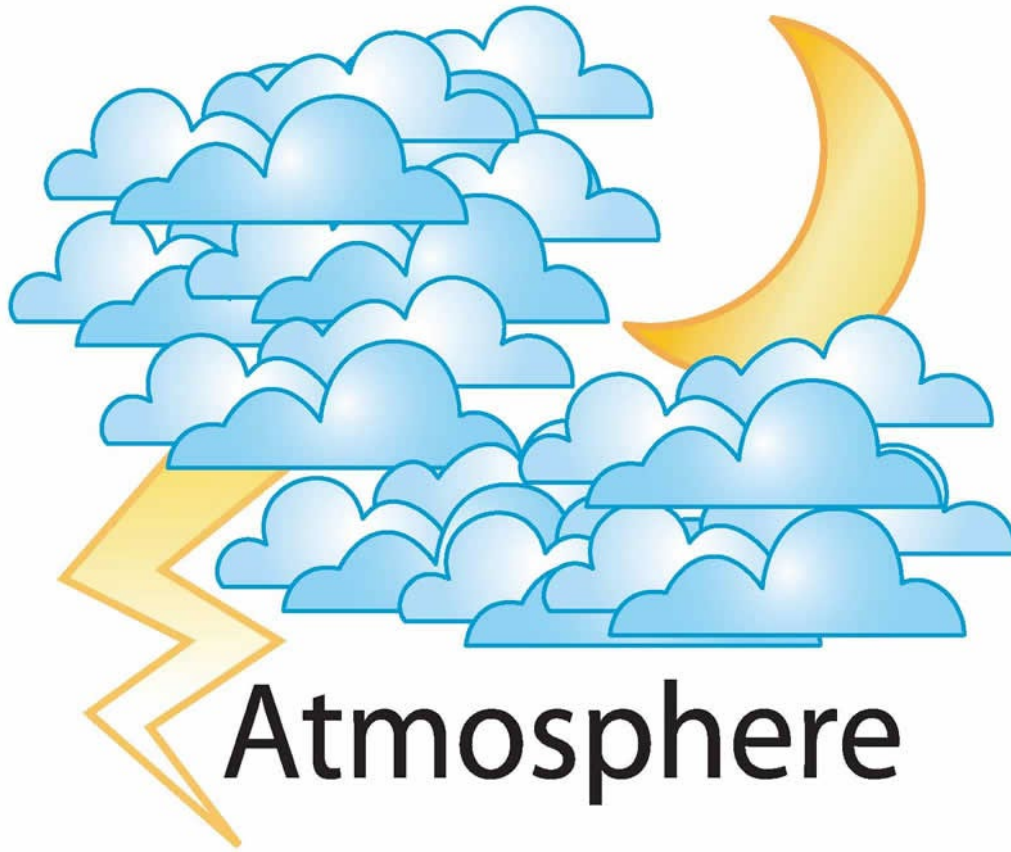


Traveling Nitrogen

DICE CODES AND RESERVOIR STATION SIGNS

Instructions:

1. Hang these dice codes signs at stations around the classroom.
2. Equip each station with dice and either, a rubber stamp
and ink pad, or, paper stamps from the stamp templates.
3. Provide each student with a passport worksheet
4. Distribute students so that there are a few at each station
5. Then everyone can begin traveling like nitrogen!



Atmosphere

Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1 or 2

Lightning strikes! Nitrogen gas is made into a solid and travels to the **soil!**

If your die reads: 3

Blue-green algae and bacteria change you into a solid, bringing you to the **soil!**

If your die reads: 4

Bean plants extract you from the air and bring you to the **soil!**

If your die reads: 5 or 6

Some nitrogen can get into the water in clouds and then fall as **rain!**



Surface Water

Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1 or 2

You are just the sort of nitrogen that plants need to live. You are now within a **live plant!**

If your die reads: 3 or 4

You travel through the rivers and streams to the **ocean!**

If your die reads: 5 or 6

You percolate deep underground in the **groundwater!**



Rain Water

Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1

You fall into a lake or stream so now you are part of **surface water**.

If your die reads: 2 or 3

You fall on the land and become part of the **soil**!

If your die reads: 4

You percolate deep underground in the **groundwater**!

If your die reads: 5 or 6

You rain into the **ocean**!

Groundwater



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: Odd numbers (1, 3, or 5)

The groundwater you are dissolved within travels and you become part of the **surface water!**

If your die reads: Even numbers (2, 4, or 6)

The groundwater you are dissolved within travels and you become part of the **ocean!**

Fertilizers



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1 or 2

You dissolve and wash into the **surface water!**

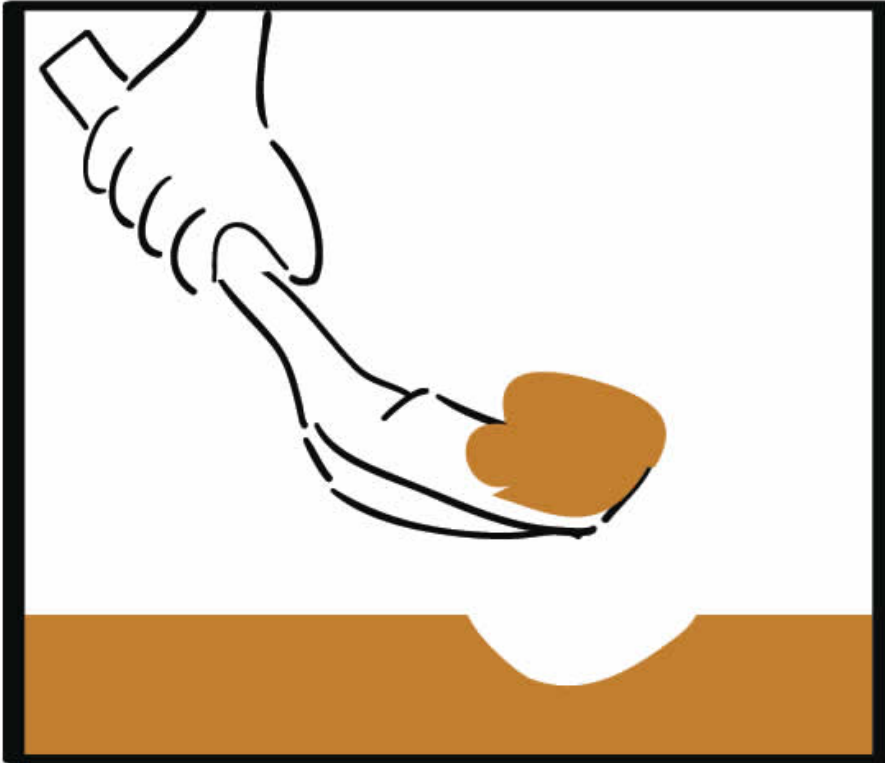
If your die reads: 3 or 4

You become part of the **soil!**

If your die reads: 5 or 6

You are just the sort of nitrogen that plants need to live. You are now within a **live plant!**

Soils



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1

You dissolve and wash into the **groundwater!**

If your die reads: 2

You dissolve and wash into the **surface water!**

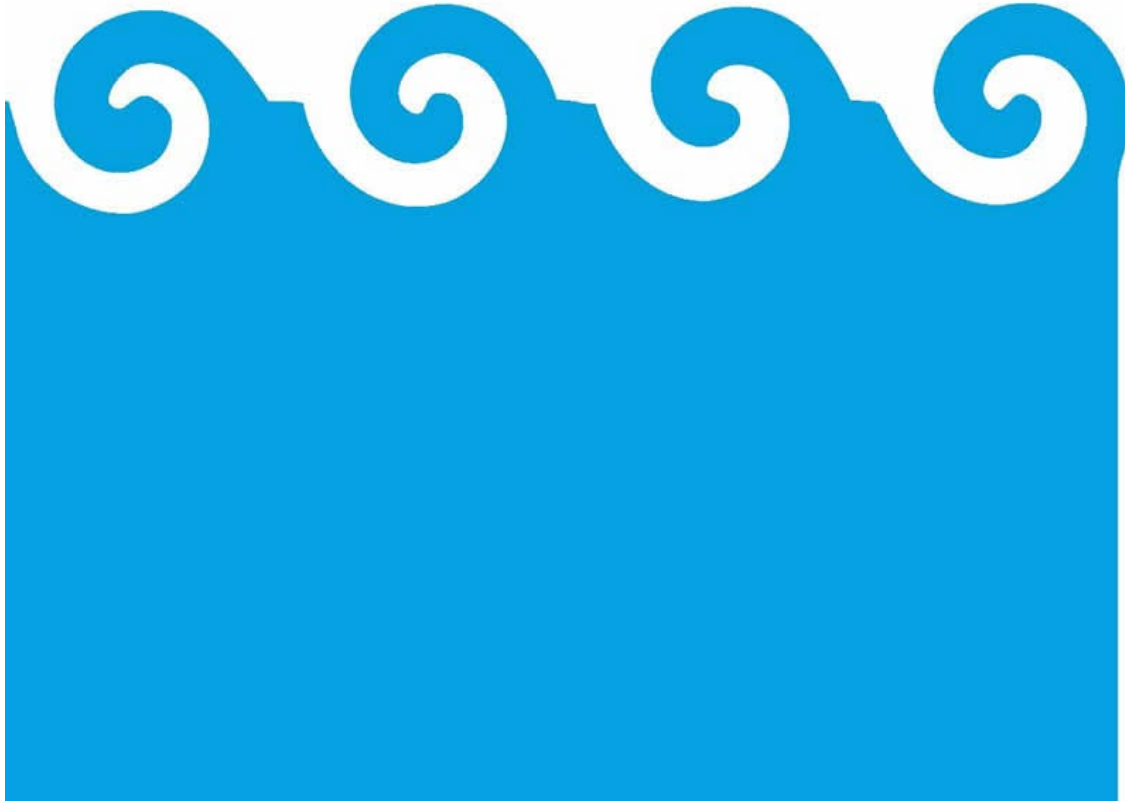
If your die reads: 3 or 4

You are just the sort of nitrogen that plants need to live. You are now within a **live plant!**

If your die reads: 5 or 6

Bacteria have transformed you into nitrogen gas and you are now part of the **atmosphere!**

Ocean



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1

Look out! Water is on the move! You have washed into the **groundwater!**

If your die reads: 2 or 3

You are just the sort of nitrogen that plants need to live. You are now within a **live plant!**

If your die reads: 4, 5, or 6

Bacteria have transformed you into nitrogen gas and you are now part of the **atmosphere!**



Live Animals

Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: Odd numbers (1, 3, or 5)

The animal that you are within has died. Go to **dead plants and animals**.

If your die reads: Even numbers (2, 4, or 6)

Congratulations! The animal that you were within has excreted and you are in its waste. Go to **animal waste!**



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1 or 2

Look out before someone steps in you! Now you are decomposing in the **soil!**

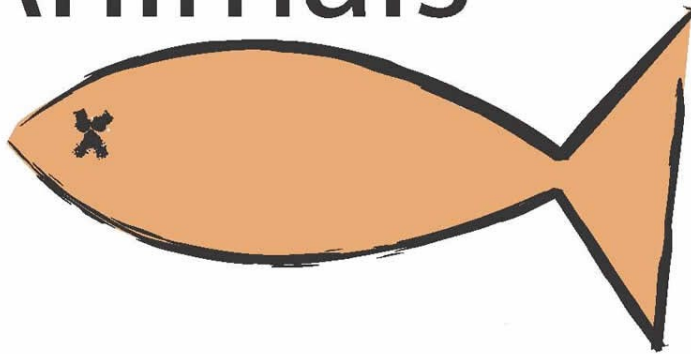
If your die reads: 3 or 4

A farm supply company has picked you up and made you into **fertilizer!**

If your die reads: 5 or 6

What's that in the water? You have dissolved into **surface water!**

Dead Plants and Animals



Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: 1 or 2

You are decomposed and become part of the **soil!**

If your die reads: 3

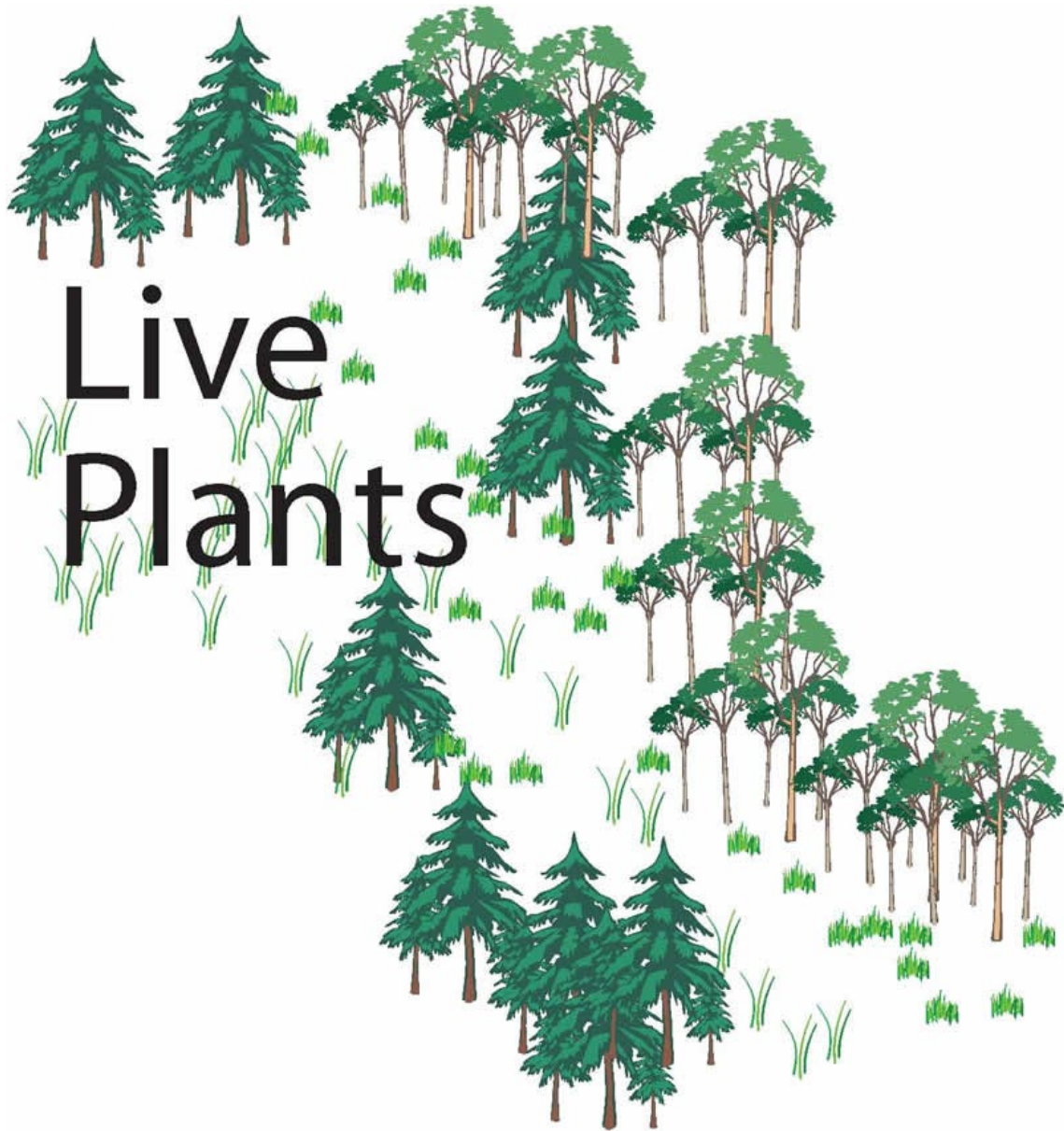
You are decomposed and become dissolved in **surface water!**

If your die reads: 4

You are decomposed and become dissolved in the **ocean!**

If your die reads: 5 or 6

Forest Fire! The wood you were within is burnt and you have been released into the **atmosphere.**



Live Plants

Put a stamp on your passport and then roll the die to see where you will travel next!

If your die reads: Odd numbers (1, 3, or 5)

The plant that you are within has died. Go to **dead plants and animals**.

If your die reads: Even numbers (2, 4, or 6)

An animal has eaten the plant that you are within! Go to **live animals!**