Workbook Preview

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Grade 2 – Science Unit

Air and Water in the Environment

	Curriculum Expectations	Pages That Cover the Expectations
E1.1	assess the impact of human activities on air and water, taking various perspectives into consideration, including those of First Nations, Métis, and Inuit, and plan a course of action to protect the quality of the air and/or water in the local community	78-82, 85-89, 93-95
E1.2	assess their personal and household uses of water	92
E1.3		98
E2.1	air and water	28, 30
E2.2	identify sources of water in the natural and built environments	31-36
E2.3	describe the stages of the water cycle, including evaporation, condensation, precipitation, and collection	37-39, 42-46, 49-52
E2.4	identify the three states of water in the environment, and describe how temperature changes affect the state of water within the water cycle	63-65
E2.5	describe ways in which living things, including humans, depend on air and water	16-17, 25, 27, 66-67, 69-70, 72-77

Preview of 70 pages from this product that contains 153 pages total.

NAME: _____

AIR AND WATER



PREVIEW

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Name: _____ 8

Curriculum Connection
E2.1

All About Air

All About Air

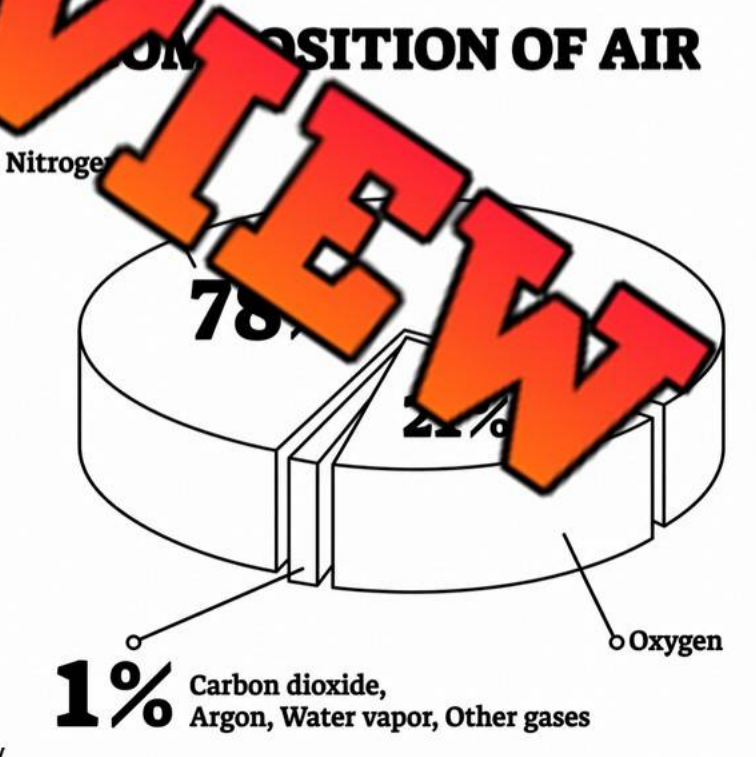
Everything around you is matter. The air you breathe is matter. The juice you drink is matter. The chair and desk in the classroom are both matter. They are all different kinds of matter. Matter can be liquid, solid or gas.

Air is matter in the form of a gas. We cannot see air, but it is all around us. Air covers Earth in a layer that is several kilometers deep. This layer is called the **atmosphere**. If you go to outer space, you leave the atmosphere and won't have air.

PREVIEW

Air is made of several different kinds of gases. Air is made of:

- Nitrogen → 78 percent
- Oxygen → 21 percent
- Carbon Dioxide
- Water Vapour
- Argon
- Rare gases



Properties of Air

- We cannot feel air unless it is moving, like on a windy day
- We cannot see clean air
- Air has no colour, unless it is dirty
- We cannot smell air unless it is polluted. Clean air has no smell
- Air is a gas and a fluid. We know this because planes can fly through the air!

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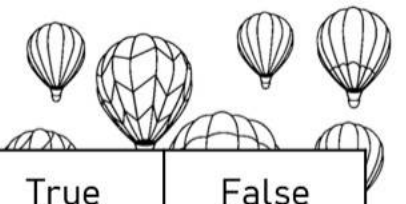
Curriculum Connection
E2.1



True or False

Is the statement true or false?

1) Air is matter.	True	False
2) Our air is made mostly of oxygen.	True	False
3) Our bodies are matter.	True	False
4) Air is a [illegible]uid.	True	False
5) We ca[illegible]or smell clean air.	True	False

Search and Find

[illegible]e answers to the questions below.

1) What are the three [illegible]tes? _____, _____, _____

2) Name the two main gases _____, _____

3) Can we see clean air? _____

4) What kind of air can we see? _____

5) What layer on earth has air in it? _____

Making Connections

Have you ever seen dirty air? Explain.

PREVIEW

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Curriculum Connection
E2.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Circle the word that fits on the blank.

1) Air is matter in the form of ____.	Gas
	Liquids
2) Oxygen makes up about _____ of air.	21 percent
	78 percent
3) Air covers the Earth in a layer called the ____.	Hemisphere
	Atmosphere
4) The air you breathe is made of ____.	Light
	Matter
5) Nitrogen makes up about _____ of air.	21 percent
	78 percent

Name: _____

Circle the word that fits on the blank.

1) Air is matter in the form of ____.	Gas
	Liquids
2) Oxygen makes up about _____ of air.	21 percent
	78 percent
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	Atmosphere
4) The air you breathe is made of ____.	Light
	Matter
5) Nitrogen makes up about _____ of air.	21 percent
	78 percent

Name: _____

Circle the word that fits on the blank.

1) Air is matter in the form of ____.	Gas
	Liquids
2) Oxygen makes up about _____ of air.	21 percent
	78 percent
3) Air covers the Earth in a layer called the ____.	Hemisphere
	Atmosphere
4) The air you breathe is made of ____.	Light
	Matter
5) Nitrogen makes up about _____ of air.	21 percent
	78 percent

PREVIEW

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Name: _____ 11

Curriculum Connection
A1.2, A1.4, A1.5

Is Air Everywhere?

Research Question What are we testing?

How do we know that air is all around us?

Materials do we need for our experiment?

- A [illegible] bowl
- A clear [illegible] bottle with a narrow neck
- Water



Bottle straight in

Procedure How do we do the experiment?

1) Fill the bowl with water
2) Observe the bottle- Is there anything in it?
3) Turn the bottle upside down and push the bottle straight down into the water
4) Observe what happens - Does any water enter the bottle?
5) Tilt the bottle slightly while it is under water
6) Observe what happens – Do you notice any bubbles or water entering the bottle?



Tilting the Bottle

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Name: _____ 12

Curriculum Connection
A1.2, A1.4, A1.5



Hypothesis

What do you think will happen?

1) Will water enter the bottle when the bottle goes in straight up?	
Yes	No
2) Will w r enter the bottle when you tilt the bottle underwater?	
	No

Results

What ned?

1) Did the water enter tle bottle went in straight up?	
Yes	No
2) Did the water enter the bottle when tilted e underwater?	
Yes	No
3) Did you see air bubbles when you tilted the bottle?	
4) How do we know there is air in the bottle when we see the bubbles?	

PREVIEW

Name: _____ 13

Curriculum Connection
E2.1

Air

Air Particles



Air is made of particles that are not connected to each other. Air particles move around quickly and spread out to fill their container. Air has no fixed volume or shape. Air does have weight or mass.

Air Taking the Shape of its Container

Air, like li[illegible]s the shape of its container. When we fill a balloon or a soccer ball with [illegible]shape of the balloon or ball.

[illegible] we p[illegible] containers, it is useful. We can fill an air mattress to make a comfortable l[illegible]on. W[illegible]ir in our bicycle tires to give us a smooth ride on our bikes. The air i[illegible]our s[illegible]kes them bouncy.

Hot vs Cold Air

Air can be hot or cold. In winte[illegible]air [illegible]. When we go inside the air inside is warm. We can feel hot air when we tur[illegible]r hair [illegible]hand dryer.

PREVIEW

Fill in the Blanks

Write the missing [illegible]on th[illegible]

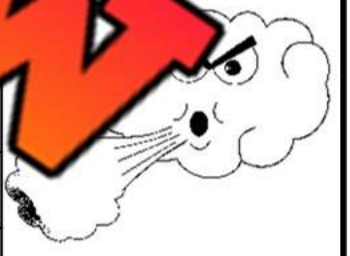
1) Air will always take the shape of its _____.

2) Air has no fixed volume or _____.

3) Air has weight or _____.

4) Air can be hot or _____.

5) The air inside our soccer balls makes them _____.



Making Connections

What does the reading remind you of?

_____

_____

_____

Name: _____ 14

Curriculum Connection
A1.3, A1.4, A1.5

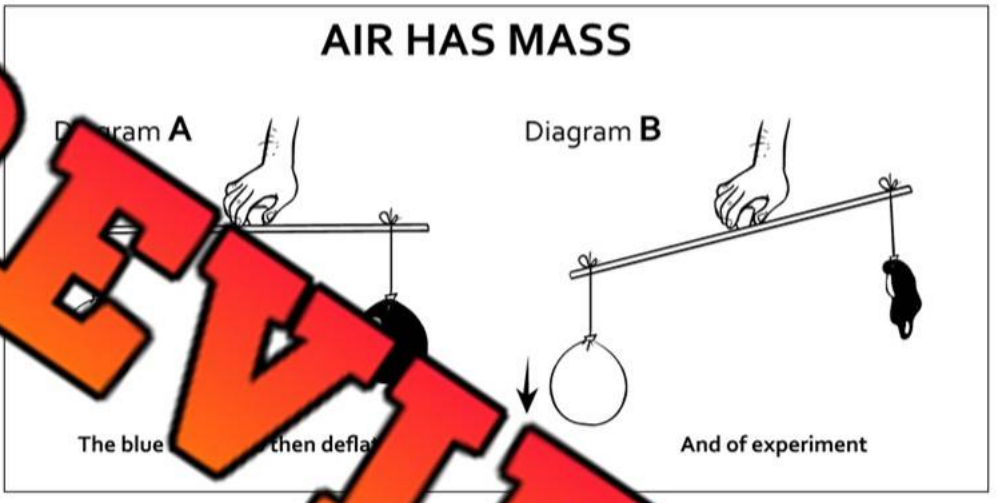
Does Air Have Any Weight

Research Question
What are we testing?

Does air have any weight?

Materials
What do we need for our experiment?

- 2 balloons
- A metre stick
- String that is about 1 metre long



PREVIEW

Procedure
How do we do the experiment?

1) Blow up the 2 balloons to the same size.
2) Cut two 15-centimeter-long pieces of string.
3) Attach a balloon to opposite ends of the metre stick using the 15 cm string pieces.
4) Tie the left-over string around the centre point of the metre stick.
5) Hold the string up and observe the balloons.
6) Make a hole in one of the balloons letting the air out.
7) Observe what happens.

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Curriculum Connection
A1.3, A1.4, A1.5



Hypothesis What do you think will happen?

_____

_____

_____

_____

Results A[illegible] questions below.

1) Which balloon[illegible]igh[illegible]

The Popped Balloon  [illegible]lown-Up Balloon

2) How do you know one balloon is heavier than [illegible]oth[illegible]

_____

_____

3) Draw a diagram of the experiment. Label the popped balloon and the blown-up balloon.

_____

_____

_____

PREVIEW

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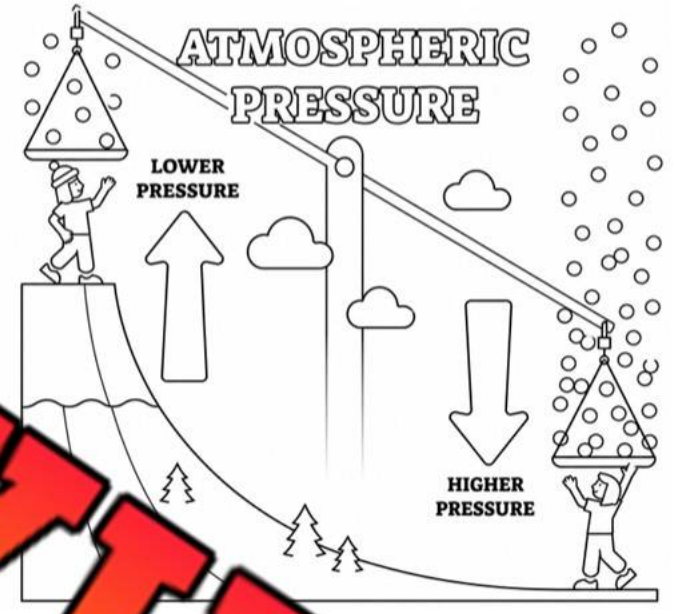
Name: _____ 18

Curriculum Connection
E2.1

Air Pressure

What is Air Pressure?

Air pressure is the force of air that pushes on everything. Air pressure is pressing on everyone. You cannot feel it because we have air inside us that is pressing back with the same force. Put your hands together and push against each other. Both hands are equally hard.



Changes in Air Pressure

The air pressure is higher when you are on the ground than when you are in the air. When you are high in the mountains, the air is thinner with particles that are more spread apart. There is less air pressure when you are higher.

Have you ever driven into the mountains or flown in a plane and noticed your ears pop? That happens because the pressure inside your ears is higher than the pressure high in the mountains or up in the air. The pop you hear is your body changing the air pressure in your head to match the lower pressure in the air around you.

Wind

When there are differences in air pressure, it makes air move. When air moves, we call it wind. Gases in the air move from high-pressure areas to low-pressure areas.

Since the ground is warmer than high in the sky, the air on the ground is also warmer. The warm air rises and makes clouds in the sky. The clouds could make rain. Also, cold air moves in where the warm air rises, making more wind.

PREVIEW

Name: _____ 19

Curriculum Connection
E2.1



Multiple Choice

Circle the best answer.

1) Changes in air pressure makes	Clouds	Oceans
2) In the mountains, air pressure is	Higher	Lower
3) Warm air...	Rises	Sinks
4) It is wa[illegible]er...	On the ground	In the sky
5) Air pr[illegible]akes	Volcanos	Wind



Word E[illegible]gs

[illegible] word endings in the text.

Ending (suffix)	[illegible]	Root Word
-y		
-er		
-ing		
-s		

PREVIEW

Making Connections

What does the reading remind you of?

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Name: _____ 21

Curriculum Connection
A1.2, A1.4, A1.5

Experiment – Air Compression

Research Question

Can we compress air?

Can we compress the air inside a reusable water bottle by squeezing the end of the bottle while the lid is on? The same amount of air will still be in the bottle, but the bottle will be smaller. What will happen when we release the bottle's lid?

Hypothesis

Will the air inside get compressed? What will happen with the lid?

Materials

What will you need for this

- Empty plastic water bottle (reusable bottle t you c st)

Procedure

What do you do?



1) Make sure the bottle is empty with air.
2) Tighten the lid so no air can escape. We want to make sure the air inside gets compressed, instead of escaping out of the lid.
3) Twist the bottle's larger end on the opposite side of the lid. Twist until the bottle is about half of the size that it was before.
4) CAREFULLY loosen the lid. MAKE SURE NO ONE IS NEAR THE BOTTLE'S LID. DO NOT POINT THE BOTTLE AT ANYONE.
5) If nothing happened, try again by blowing air back into the bottle, inflating it again.

PREVIEW

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Name: _____ 22

Curriculum Connection
A1.2, A1.4, A1.5

Diagram

Draw two diagrams:
1) The squeezed bottle with the lid on. Label the compressed air.
2) The opened bottle. Label the lid flying, the air direction using arrows.

PREVIEW

Results

What happened during the experiment?

1) What is air compression? How does one compress air?

2) Was your hypothesis correct? Was the air compressed inside of the bottle? How do you know?

3) Why did the bottle lid go flying through the air? If you squeezed the bottle more, would the lid have flown further?

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Curriculum Connection
E2.5

Air on the Move

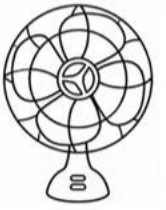
Wind



We cannot feel air unless it is moving. When large masses of air move it is called wind. When we are outside, we can feel air when it is windy. Air outside can move slowly which makes a gentle breeze or quickly when there is a storm. Wind blow[illegible] to the sails on sailboats making them move. We need wind to fly our kites.

Wind Hel[illegible] Grow

Wind [illegible] help our plants and trees grow. The wind carries pollen from one pa[illegible] a plan[illegible] helping the plant to make seeds. Without seeds new plants w[illegible]. The [illegible] catters the seeds of plants which helps new plants g[illegible] diff[illegible]



Using Moving Air

We use moving air inside when [illegible] room. Our blow dryers also move air to help us dry and style our h[illegible] use ai[illegible] to dry our hands.

PREVIEW

Multiple Choice Circle the best answer.

1) When air moves slowly, it is a	[illegible]	Breeze
2) Sailboats move when their sails are filled with	[illegible]	[illegible]
3) Wind helps carry and spread	[illegible]	Seeds
4) The moving air from a fan keeps us	Ho[illegible]	Cool
5) Strong wind makes a	Storm	Party

Word Work Find words in the reading that have the word endings.

Ending (suffix)	Words	Root Word
-ly		
-ed		
-ers		
-ing		

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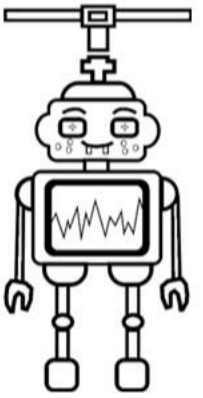
Name: _____ 26

Curriculum Connection
A2.1

Reading Code – Drawing Wind in Action

Directions Follow the code from Nora to draw a picture that shows how wind moves things.

Hi, Nora here. Can you follow my code to draw wind in action?



```
run program
    draw a kite with 5 wavy wind lines
    draw a tree with leaves blowing in the same direction as the kite
    draw a kite with a string
    draw a child flying the kite
    draw 3 birds flying in the same direction
    draw grass bending with the wind
```

PREVIEW

Output

Name: _____ 31

Curriculum Connection
E2.2

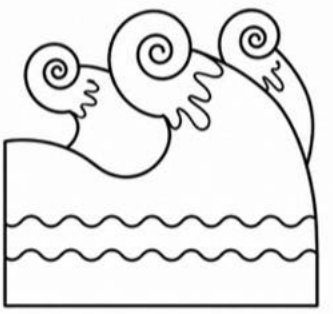
Bodies of Water

What are Bodies of Water?

A **body of water** is any large amount of water on the surface of the Earth. Examples of bodies of water are oceans, seas, wetlands, deltas, lakes, ponds, and rivers.

Oceans

An **ocean** is a large body of salt water. We have one global ocean that are often divided into 5 sections. The five oceans are the Atlantic, Pacific, India, Arctic, Southern. They are the biggest body of water. The global ocean covers the earth's surface.



Lakes

A **lake** is a large body of water that is surrounded entirely by land.

Seas

A **sea** is a smaller part of an ocean. They have land around them. This means that all seas are found in areas where the ocean meets the land.

Wetlands

A **wetland** is land that has some water, but isn't very deep. Examples include swamps, marshes, and bogs. A swamp is a wetland that has trees, while a marsh is a wetland with no trees. Marshes have tall grasses and cattails.



Pond

A **pond** is a small body of water, less than 11 acres in size. They are often man-made. Ponds may become wetlands over time if plants grow throughout the pond.

Rivers

A **river** is a big stream of water that flows downhill into another body of water. Rivers sometimes connect oceans to lakes or another river to a ocean or lake.

PREVIEW

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Curriculum Connection
E2.2

Matching Match the term to the description by writing the letter beside the term.

Answer	Term	Description
	Ocean	a) Small body of water less than 11 acres in size
	Lake	b) Large stream that connects bodies of water
	River	c) Small part of an ocean that has saltwater
	M[illegible]and	d) Biggest bodies of water in the world
	Po[illegible]	Land with trees or tall grass that grows through water
		f) Bo[illegible]ter that isn't usually connected to other water

Word Scramble Unsc[illegible]he [illegible]s above.

ESA		[illegible]NDT[illegible]	
NOCEA		OD[illegible]	
RERVI		KE[illegible]	

Visualizing Draw what you were picturing while you were reading. Exp[illegible]e picture.

PREVIEW

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Curriculum Connection
E2.2

Water in Natural and Built Environments

Water in Natural Environments

Water can be found naturally in many different environments. Check them out below.



- Lakes – bodies of water with land all around
- River – a stream of water connecting other bodies of water
- Ocean – large bodies of water that are salty
- Pond – small body of water with land all around
- Streams – small bodies that have water running to larger rivers or bodies of water
- Spring – a hole in the ground where groundwater flows out of the ground
- Water table – the area just under the ground that is filled with water.
- Aquifer – the areas deep underground that hold clean groundwater

PREVIEW

Water in Built Environments

Humans need water for many important reasons, like drinking, cooking with, and cleaning with. So, humans have built many environments that hold water.



- Well – an area underground that holds clean groundwater for us to drink
- Sewers – a tunnel underground that carries dirty water we have used
- Water Towers – a tower humans built that holds clean water for people to use
- Water Treatment Plant – buildings that take dirty water from lakes or rivers and cleans it so that people can use it
- Reservoirs – a human-made lake that is made to control the movement of water so that it can be used when needed

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Curriculum Connection
E2.2

Multiple Choice
Circle the best answer.

1) A smaller river is called a	Pond	Stream
2) Where clean water is stored	Water Tower	Water Treatment Plant
3) A human-made lake	River	Reservoir
4) Where water from lakes or rivers is cleaned	Aquifer	Water Treatment Plant
5) Where stored deep underground	Reservoir	Aquifer
6) W at out of the ground	Spring	Stream
7) An area under ho clean water	Water Tower	Well
8) Area just unde that water	Reservoir	Water Table
9) A stream that connect s f wate	Lake	River
10) A small body of water	ond	Lake

PREVIEW

Make Connections
Answer the questions b

1) What natural environments are near where you live ir the on like to enjoy.

_____

_____

_____

_____

2) What built environments are near where you live? Explain.

_____

_____

_____

_____

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Curriculum Connection
E2.2

Natural or Built?

Is the picture a natural or built environment?



Natural	Built



Natural	Built



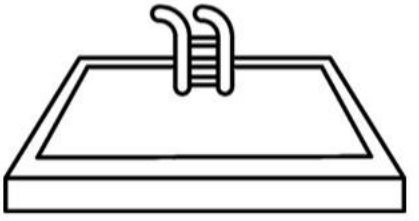
Natural	Built



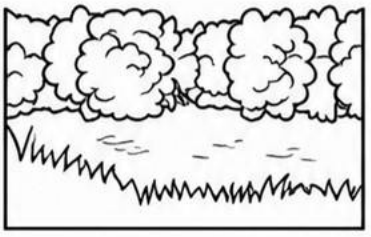
Natural	Built



Natural	Built



Natural	Built



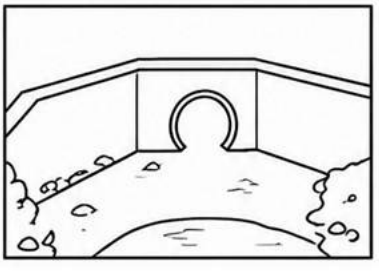
Natural	Built



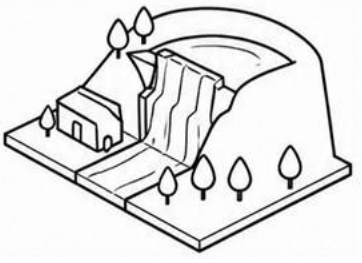
Natural	Built



Natural	Built



Natural	Built



Natural	Built



Natural	Built

PREVIEW

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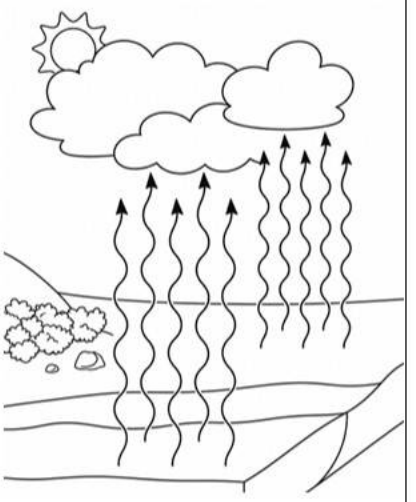
Name: _____ 37

Curriculum Connection
E2.3

Evaporation

What is Evaporation?

Evaporation is when a liquid turns into a gas. It happens when a liquid is heated so the liquid particles move faster. As the particles move faster, they bounce off each other. Now the particles are far apart, and the liquid is now a gas.



Evaporation in the Water Cycle

On hot days, the water at the top of rivers, lakes, and oceans heats up. This turns the water into a gas called water vapour. The water vapour rises into the sky. Clouds will form as more and more water evaporates.

PREVIEW

Fill in the Blanks

Fill in the blanks using words from the word bank.

Word Bank				
Heated	Evaporation	Liquid	Faster	Sky
Clouds	Oceans			

When a _____ turns into a gas, it is called _____.

A liquid will turn into a gas when it is _____. Water evaporates from rivers, lakes, and _____. When the water evaporates, it goes up into the _____. When it collects in the sky, it turns into _____. On hot days, the water will evaporate _____ than on cold days.

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Curriculum Connection
E2.3

Examples of Evaporation

Evaporation at Home

At home, evaporation happens often. We understand that the water used to clean our clothes will evaporate when we hang them or when we put them in a drying machine.



Whe[illegible]pill a drink on a table, we will notice it [illegible]rs later. This is due to evapo[illegible]n. If th[illegible]s sugary, there will be a sticky su[illegible]on [illegible]ble.

Evaporation in the [illegible]mu

In the community, we will [illegible]dles [illegible]g a rainy day, everything is wet and covered in water. Once it stops rainin[illegible]oce[illegible]evaporation will dry up the puddles. If the sun is out, the evapora[illegible]n will h[illegible]n ev[illegible]aster.

Evaporation in the Natural Environment

Animals use the process of evaporation to cool ther[illegible]. They use **evaporative cooling** to regulate their body temperatu[illegible]. The[illegible] do this by swimming in water or by wallowing in mud. The wate[illegible]s then evaporated off their bodies just like how humans sweat is evaporated.



Some animals also pant, which means they breathe rapidly with their mouth open to increase evaporation from the hot air they release from their mouths.

In the natural environment, we will notice that water levels in ponds, lakes, and rivers will lower after several hot days without rain. Rainfall will often even out the evaporation. When we see rain, it is because water from rivers, lakes, and ponds is evaporated and formed into a raincloud. Evaporation is key for our water cycle.

PREVIEW

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Name: _____ 39

Curriculum Connection
E2.3

Questions Use information from the text to support your answer.

1) What is evaporation?

2) When have you seen evaporation today or recently? Describe it.

PREVIEW

Examples Write examples of where you see evaporation in the settings below.

At Home	
In the Community	
In the Natural Environment	

Name: _____ 40

Curriculum Connection
A1.2, A1.4, A1.5

Lab Experiment – Evaporation



Research Question
What are we trying to answer?

1) What happens to water after it rains?
2) How does the sun, shade, and wind affect the process of evaporation?

Hypothesis
Answer the research questions below before you do the experiment.

1) What h o water after it rains?

2) How does the ap tion? Does shade speed up or slow down evaporation?

3) How does wind affect e ation?

PREVIEW

Materials
What will you need for this experime

- Pail/cup of water for each student
- Paintbrush for each student
- Chalk for each student
- Stopwatch - optional

Procedure
Instructions – How to complete the experiment

1) Go outside and use the water and paintbrush to paint a simple picture on pavement in the sun.
2) Use the chalk to make an outline of your picture.
3) Use the results page to track how your picture looks after 2 minutes, 5 minutes, and 10 minutes.
4) Next, complete the steps above in a new shady location. Compare the results.
5) Lastly, complete the steps above but this time, blow on your picture or use a fan to simulate wind. You could also draw your picture on the side of the school as it will receive more wind than the pavement.

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Name: _____ 41

Curriculum Connection
A1.2, A1.4, A1.5

Observations

Fill in the table below as your complete the experiment.

Location	Time	Observations – Examples Below - No evaporation - Half evaporated - Completely evaporated
Sunny Location	After 2 Minutes	
	After 5 Minutes	
	10 Minutes	
Shady Location		
Windy Location	After 2 Mi	
	After 5 Minutes	
	After 10 Minutes	

PREVIEW

Results

Answer the research questions now th e experiment.

1) What happens to water after it rains?

2) How does the sun affect evaporation? Does shade speed up or slow down evaporation?

3) How does wind affect evaporation?

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Name: _____ 42

Curriculum Connection
E2.3

Condensation

What is Condensation?

Condensation is when water changes from a gas to a liquid. Condensation is the opposite of evaporation, which is the changing of water from a liquid to a gas.



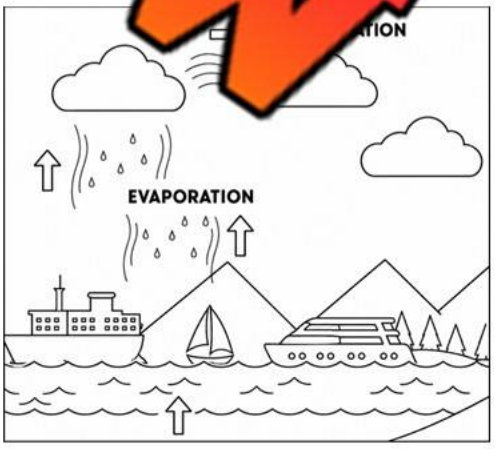
Why Does Condensation Happen?

Condensation occurs when a gas touches a cooler surface. The cooler surface will cause the gas to cool. As the gas cools, it turns into liquid droplets.

Condensation On My Drink

Have you ever noticed that your cold drink "sweats" on a hot day? Well, your drink doesn't actually sweat. Instead, condensation is happening. Here's how it works.

1) On a hot day, there is a lot of water vapour in the air (because of evaporation).
2) The warm air makes contact with your cold glass.
3) The water vapour in the air cools on the side of the glass.
4) This turns the gas into liquid water droplets on the surface of your glass.



Water Cycle – Formation of Clouds

Condensation is important in the water cycle. As water from lakes, rivers, and oceans evaporate, the water vapour goes up into the air.

The vapour goes up until it comes into contact with a colder surface. In our atmosphere, the water vapour will touch cooler dust particles. The vapour will cling to the dust and make a cloud. Yes, clouds are made of water, dust, and other things in the air.

PREVIEW

Name: _____ 43

Curriculum Connection
E2.3

Multiple Choice

Circle the correct answer.

1) Condensation is when...	2) Condensation happens when...
a) vapor/gas turns into a liquid	a) water vapour suddenly freezes
b) liquids turn into a gas	b) water droplets form a liquid
c) a solid melts into a liquid	c) water freezes into ice
d) a gas t[illegible] a solid	d) water heats up into a vapour

PREVIEW

Fill in t[illegible]anks

[illegible]e blanks using words from the word bank.

[illegible]ord Bank				
Condensation	[illegible]	C[illegible]ses	Vapour	Oceans
Droplets	Wate[illegible]	[illegible]	Colder	

Condensation happens when _____ [illegible]rated and _____ into water droplets. [illegible] _____ from the evaporation collects on a _____ surface[illegible]een when a cold soft drink has water _____ on the can. When vapours turn into water droplets, it is called _____.

A common example of condensation is when _____ are made. Evaporated water from lakes, rivers, and _____ condense on colder surfaces like dust.

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Curriculum Connection
E2.3

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class.

Name: _____ | Mark

2 Truths and a Lie – Can you find the one that's not true?

	ation is when water m uid to gas.
	Cond ens en wate n rom g liquid.
	Condensation forms droplets on a cold glass.

Name: _____ | Mark

2 Truths and a Lie – Can you find the one that's not true?

	Condensation is when water turns from liquid to gas.
	Condensation happens when water changes from gas to liquid.
	Condensation forms water droplets on a cold glass.

Name: _____ | Mark

2 Truths and a Lie – Can you find the one that's not true?

	Condensation is when water turns from liquid to gas.
	Condensation happens when water changes from gas to liquid.
	Condensation forms water droplets on a cold glass.

Name: _____ | Mark

2 Truths a – C find the one t s n

	Condensation is n water turns from liquid to gas.
	Condensation happens when water changes from gas to liquid.
	Condensation forms water droplets on a cold glass.

PREVIEW

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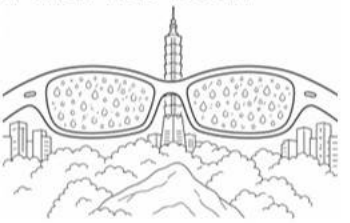
Examples of Condensation

Condensation at Home

- A dehumidifier draws in warm air into its system. The warm air has water in it, that is condensed on a freezing cold coil. The condensed water is dropped into a bucket that can be discarded. Dehumidifiers are used to dry out a room that has been floode[illegible]hat has a lot of moisture in the air. They are comm[illegible]d i[illegible] basements.



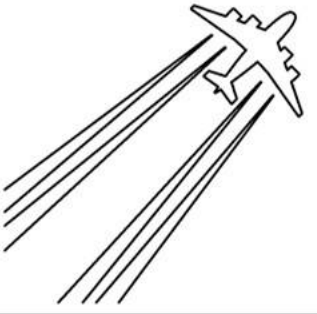
- F[illegible]g [illegible] m[illegible]er a shower happens because of condensati[illegible]hois[illegible]ir condenses on the cooler surface of the mirror.
- Foggy eyegl[illegible]ppens [illegible]r glasses are cooler than the environment around them. This [illegible]n a [illegible]orkout, when your face is warm and sweaty. It could also hap[illegible]en y[illegible]de on a hot day after your glasses have been in the air conditioning.

Condensation in the Environment

- Condensation causes morning dew on the grass. [illegible]l be w[illegible] warm day is followed by a cool night. During the warm day, water [illegible]ate[illegible] When nighttime comes, the warm ground will begin to cool and the [illegible]l the moisture. At a certain temperature called the dew point, water vap[illegible] the air will begin to condense faster than the water is evaporating. The water condenses on grass, leaves, vehicles, spider webs and anything cool it can cling to.
- Clouds are the most commonly seen example of condensation in our environment.

Condensation in the Community

- Contrails are vapour trails in the sky made by aircrafts. This is not pollution. Instead, it is water vapour released by the aircraft's engine condensing in the colder air temperature.



PREVIEW

Name: _____ 46

Curriculum Connection
E2.3

Questions

Use information from the text to support your answer.

1) Why do glasses fog up?

2) Why is [illegible]ften dew on the grass in the morning?

PREVIEW

Examples

Write examples [illegible]nsation in the settings below.

At Home	
In the Community	
In the Natural Environment	

Name: _____ 47

Curriculum Connection
A1.2, A1.4, A1.5

Lab Experiment – Condensation

Research Question
What are we trying to answer?

Will hot water evaporate and condense on a colder surface? What will happen with the condensed water droplets?

Hypothesis
Answer the research questions below before you do the experiment.

1) Will [illegible]te and condense on a colder surface? Explain.

2) What will happen [illegible] droplets?

PREVIEW

Materials
What will you need for this expe[illegible]?

- 1 cup per group/person (glass or see-through)
- 1 plate per group/person
- Approximately 5-10 ice cubes per group
- Hot Water



Procedure
Instructions – How to complete the experiment.

1) Pour about 5-10cm of hot water into the cup.
2) Quickly put the plate on top of the cup and let it sit for about 30-40 seconds.
3) Put your ice cubes on top of the plate.
4) Record what happens!

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Name: _____ 48

Curriculum Connection
A1.2, A1.4, A1.5

Observations Fill in the table below as you complete the experiment.

Step	What Happened
After hot water was poured and the plate was placed top	
After the ice added to the p	

PREVIEW

Results Answer the questions now t have eted the experiment.

1) How was this experiment an example of nsati

2) When the water poured down the side of the glass, what did that ible in our environment?

3) Why did the water pour down the sides of the cup? How does this relate to our real-world water cycle?

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Curriculum Connection
E2.3

Water Cycle

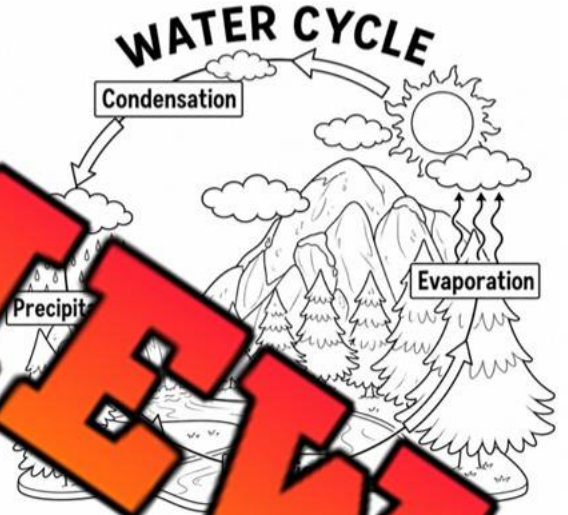
What is the Water Cycle?

Have you ever wondered where water goes after a heavy rainfall? Those puddles don't simply disappear! Water moves from one part of the environment to another.

No water is ever lost. The water is recycled. It goes through what we call the water cycle. The **water cycle** is the movement of water between the Earth's surface and the air, changing from liquid to gas and gas to liquid.

How Does Water Get Recycled?

The water in the ocean moves through 4 main stages – *evaporation*, *condensation*, *precipitation*, and *collection*.



Evaporation

Heat from the Sun turns water from oceans, lakes, streams, ponds, and even puddles into water vapour. The rising water vapour goes up in the sky and cools.

Condensation

When the water vapour rises high into the air, it cools. When it cools enough, the water vapour condenses and turns into water droplets. When enough water droplets condense, they come together and form a cloud.

Precipitation

As more and more water droplets add to a cloud, they become too heavy to stay in the air. The water droplets in the cloud fall to the Earth's surface as precipitation. **Precipitation** is the process of any form of water dropping to the Earth.

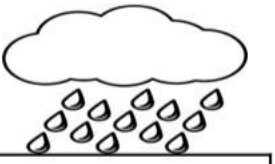
Collection

The water that falls from the clouds as rain or snow lands on the Earth. This water collects in oceans, rivers, lakes, and streams. Now it can be evaporated again!

PREVIEW

Name: _____ 50

Curriculum Connection
E2.3



Rhyming Write a rhyming word.

Turn	
Gas	
Fall	
Lost	
Lake	

Cool	
Air	
Stage	
Freeze	
More	

Multiple Choice Circle the best answer.

1) When liquid turns to a gas	Condensation	Evaporation
2) When gas turns into a liquid	Condensation	Evaporation
3) When water falls from clouds	Evaporation	Precipitation
4) Precipitation can fall as...		Rocks
5) Condensation leads to...	Clouds	Puddles

Visualizing Draw what you were picturing while you were reading. Write a sentence about your picture.

PREVIEW

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Curriculum Connection
E2.3

Water Cycle Diagram

Diagram Write the stages of the water cycle on the blanks below
Evaporation, Collection, Condensation, Precipitation



PREVIEW

Matching Match the term to the description by writing the letter b[illegible]he term.

Answer	Term	Description
	Precipitation	a) Water stays in oceans, lakes, and rivers.
	Condensation	b) Water falls from the sky.
	Evaporation	c) Water is heated and turns to water vapour that rises.
	Collection	d) Water cools and turns into water droplets in clouds.

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Name: _____ 53

Curriculum Connection
A1.2, A1.4, A1.5

Experiment – Water Cycle

Research Question How does water move through our environment?

How does the heating and cooling of water move water around our environment?

Materials What do we need?

- ✓ [illegible] bowl
- ✓ Mug or small [illegible]
- ✓ Plastic w[illegible]
- ✓ String or la[illegible]ber b[illegible]
- ✓ Hot water – op[illegible]al a[illegible]t[illegible]old water as well
- ✓ Ice Cubes - optional



Method How do we complete the experiment?

1) Place the cup or mug in the middle of the bow[illegible]

2) Fill the bowl with hot water about 2/3 of the way up. Do no[illegible]e the cup.

3) Cover the bowl with the plastic wrap. Use the elastic or the string to secure the plastic to the top of the bowl.

4) Place a few ice cubes on the plastic wrap above the cup.

5) If you used cold water, put the bowl in the sun for a couple of hours.

6) If you used hot water, you should see condensation clinging to the plastic wrap.

7) Label the diagram on the next page.

PREVIEW

Curriculum Connection
A1.2, A1.4, A1.5

Diagram

Label the diagram using the word bank.

Precipitation	Condensation	Collection	Evaporation



PREVIEW

Results

Label the stages of the water cycle below.

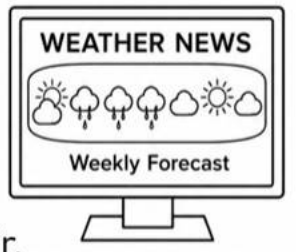
The water that is in the cup	
When the water went up to the top of the bowl	
When the water stuck to the plastic wrap	
When the water fell from the plastic wrap	

Name: _____ 55

Curriculum Connection
A2.1, A2.2, A3.3

Coding – Supercomputers Predicting Weather

A **meteorologist** is someone who studies the air to predict the weather. Meteorologists use the temperatures of the air as well as the air movement to predict if it will rain, snow, or storm.



Meteorologists need data to make their predictions. They get their data from satellites in the sky. These satellites move around the Earth, taking pictures and tracking the movement of air.

On supercomputers used by meteorologists can process quadrillions of calculati econd. The data from the satellites is automatically sent to these compu cial sets of code. The supercomputers make models of wha like so that meteorologists can study them. All of this is possibl ecaus ter codes that tell the technology what to do.

PREVIEW

Fill in the Blanks the ords to fill in the blanks.

models	coding		data	weather

1) A meteorologist is someone who studies _____.

2) Meteorologists can predict the _____

3) Satellites collect _____ from the in the

4) Supercomputers make _____ of what the weathe look like.

5) We wouldn't be able to predict the weather without _____.

Directions Read the if statement and come up with your own then statement.

1)	If it is cold outside	then	
2)	If it is going to rain today	then	
3)	If it is going to snow today	then	
4)	If there is lightning today	then	

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Curriculum Connection
A1.1, A3.1, A3.2

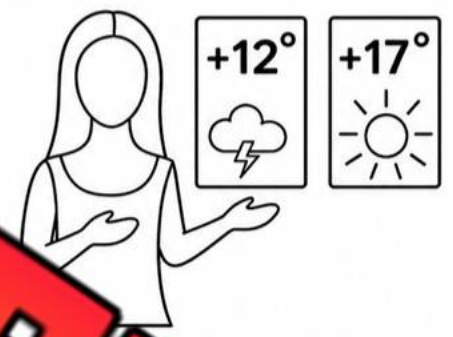
Investigate – Local Weather

Weather Reports
A weather report is a prediction of what the skies will bring an area. The weather report uses tools and data to measure the air pressure, wind speed, and movement of weather fronts.

The data from these tools give meteorologists the ability to make strong predictions of the upcoming weather. The weather report predicts the short-term forecast (usually 36 hours) with a higher accuracy than the 14-day forecast.

Weather Research information about your local weather.

Weather Elements	Information
Temperature	
Relative Humidity	
Wind Speed and Direction	
Probability of Precipitation (POP)	



Questions Answer the questions below.

1) How does the weather look for the next couple of days?

_____

_____

_____

2) Is there any extreme weather coming in the next 14 days – snowstorms or lightning?

_____

_____

_____

PREVIEW

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Name: _____ 57

Curriculum Connection
A1.1, A3.1, A3.2

Investigate – Weather Report

Pretend you are a weather network meteorologist. Write what you will tell your audience about the weather over the next 14 days. Use some of the ideas below.

- Should they plan for surfing or skiing?
- Should they be staying inside?
- Should they be golfing?
- Should they be finding shelter in the case of lightning?
- Should they rent some movies this week?
- Should they water their gardens because there isn't rain for



Writing Write a weather report on the weather in your area in the next 14 days.

PREVIEW

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Curriculum Connection
A2.1

Writing Code – Weather Reports

When data is collected from supercomputers, codes are used to display predictions about the weather. Check out the example below.

Input	Output
dark clouds full of rain are coming	It will rain today
winds a[illegible]ng, over 100 kph	It will be windy and a tornado is possible
the te[illegible] C	The temperature is cool, almost freezing

PREVIEW

Coding Writ[illegible]ode[illegible]goes with the inputted data.

Input	Outputs
There are no clouds in the sky	
The wind is 0kph	
The temperature is 25° C	

Input	[illegible]ts
Lightning clouds are on the way	
The wind is weak at 5kph	
The temperature is 20° C	

Input	Outputs
Clouds full of water are coming	
The wind is 15kph	
The temperature is -30° C	

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Name: _____ 59

Curriculum Connection
A2.1

Coding: Storing Data - Weather Forecast

When we write code, we sometimes need to store data to be used later. We can store the data and name it a variable. A **variable** is a quantity that changes. We can use letters or words to represent the changing quantity.

Example – A program that collects data from a supercomputer

```
Fetch [rainfall percentage] as the variable [rain]
Display [rain] on the screen
If [rain] is more than 50%
Then display "It will probably rain today"
```



Fetch means to find data

PREVIEW

Coding Write your code that collects wind, rain, and temperature data and displays it as a message on the screen.

1)

2)

3)

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Name: _____ 60

Curriculum Connection
A2.1

If/Else Statements - Predicting Weather

When precipitation is expected, the precipitation can take the form of rain, snow, sleet or freezing rain. An if statement could be used to display which type of precipitation will fall.

Reminder:

- **Rain** – starts as snow and melts in warm air and stays melted (liquid)
- **Freezing rain** – starts as snow and then melts in warm air and refreezes on the ground because it is frozen
- **Sleet** – starts as snow and melts in warm air and then refreezes before reaches the ground
- **Snow** – [illegible] as snow and stays frozen



Directi[illegible] [illegible]he [illegible] displays which type of weather is coming. Write [illegible]he Ther[illegible] [illegible]ts that would follow the If statements.

1) IF the snow [illegible] s on th[illegible]d

THEN display, "

2) IF the snow melts and sta[illegible]ted

3) IF the snow stays frozen

4) IF the snow melts and then refreezes before reaching the groun[illegible]

Directions Draw one screen of the app displaying one of the then statements above



PREVIEW

Name: _____ 61

Curriculum Connection
A2.1

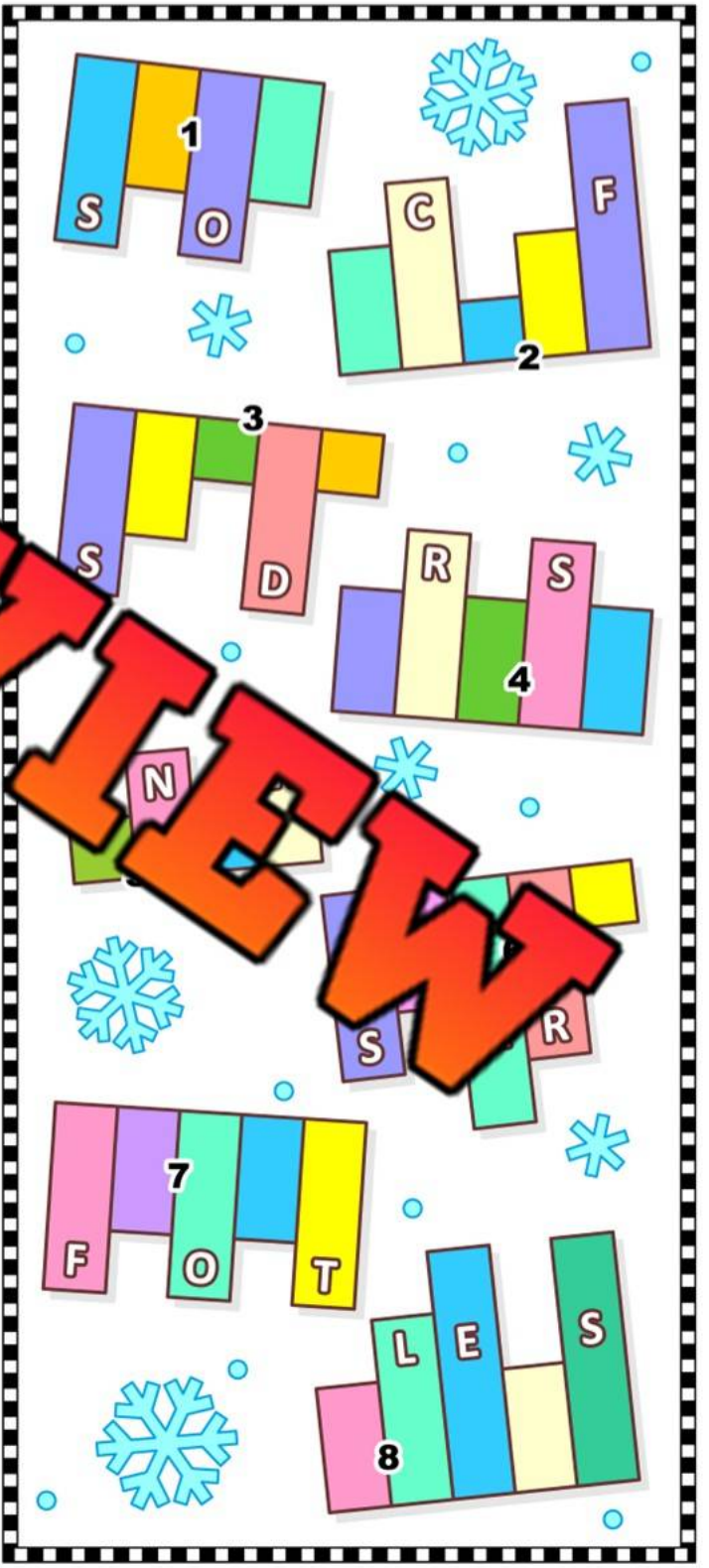
Coding Activity - Winter Puzzle

Directions Follow the codes below to solve the puzzle.

run progra
Cu ces.
Fit tw puzzl elli snow.
Fit two puzzl spel
Fit two puzzle pieces sleds
Fit two puzzle pieces spelling fros

PREVIEW





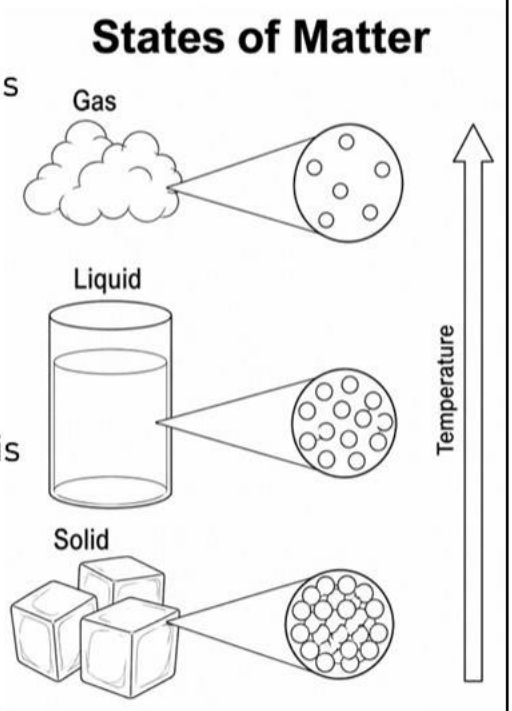
Name: _____ 63

Curriculum Connection
E2.4

Three States of Water

Water

Everything around you is matter. The water you drink is matter. Matter can be liquid, solid or gas. We can see water in all 3 states of matter (solid, liquid, and gas). Water ch[illegible]easily from one state to another.



Soli[illegible]

Water i[illegible]olid w[illegible]mperature drops to 0° C. This is called the **f[illegible]oint**. A[illegible]erature colder than 0° C will turn [illegible]eated with air above 0° C, it will turn [illegible]o a [illegible]

Liquid

When a liquid is heated to a temperature abo[illegible]° C, [illegible]oil and become a gas. This means the water has evaporated. It[illegible]is [illegible]**oint**.

Gas

All gas is invisible. So, we can't see water when it is a gas. On [illegible]et shirt will dry. The water from your shirt will turn into a gas that goe[illegible]n the air. This is called **evaporation**. You won't see the water turning into a gas, but we know it happened because your shirt is now dry.



When water vapour is cooled, it will turn into water droplets. This turns a gas into a liquid.

Heat – Controls the Change of States

- When heat is added to water, it changes a liquid to a gas or a solid to a liquid.
- When heat is taken from water, it changes a liquid to a solid or a gas to a liquid.

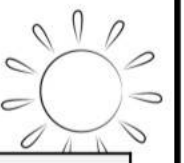
PREVIEW

Name: _____ 64

Curriculum Connection
E2.4

Matter and Heat

How is heat affecting the water below?



Heat	Water	New State of Matter?
Added To	Liquid (Water)	
Taken From	Liquid (Water)	
Added To	Solid (Ice)	
Taken From	Gas (Vapour)	

Visualizing

Draw a picture of what you were picturing while you were reading. Explain the picture.

PREVIEW

True or False

Is the statement true or false?

1) A solid will turn into a liquid when it is heated.	True	False
2) Taking heat from liquid water will change it to a gas.	True	False
3) Adding heat to ice will change it to a liquid.	True	False
4) We can see water as a gas.	True	False
5) The freezing point for water is 100° C.	True	False

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Curriculum Connection
E2.4

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class.

Name: _____

Guess who I am and write the answer!

Solid	Liquid	Gas

Mark

1) I am water that is frozen and hard like ice.	
2) I can f nd take the shape of my container.	
3) You e e, but I am water in the air.	
4) I ater wh ery cold (below 0°C).	
5) I am wate eat nd turns into vapour.	

Name: _____

Guess who I am and writ ans olid Liquid Gas

Mark

1) I am water that is frozen and har ice.	
2) I can flow and take the shape of my cont	
3) You cannot see me, but I am water in the air.	
4) I am water when it is very cold (below 0°C).	
5) I am water when it is heated and turns into vapour.	

Name: _____

Guess who I am and write the answer!

Solid	Liquid	Gas

Mark

1) I am water that is frozen and hard like ice.	
2) I can flow and take the shape of my container.	
3) You cannot see me, but I am water in the air.	
4) I am water when it is very cold (below 0°C).	
5) I am water when it is heated and turns into vapour.	

PREVIEW

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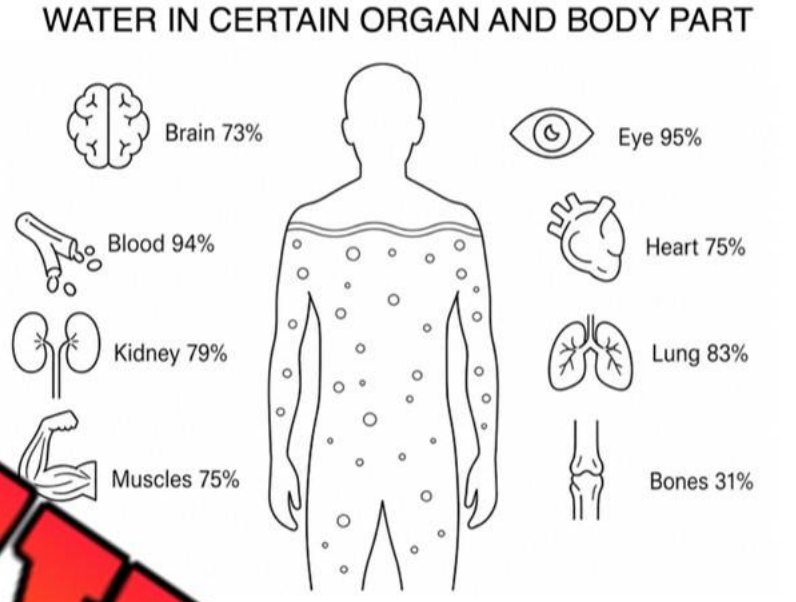
Name: _____ 66

Curriculum Connection
E2.5

All Living Things Need Water

Water

All living things need water to live. Our bodies are made of 75% water. It is very important to drink enough water every day. Most people drink at least [illegible] day. Our bodies lose water when we go to the bathroom, when we sweat and when we breathe.



Water makes our bodies work and stay healthy. Our blood is made of 94% water. Even our brain does not work well when we don't drink enough water. When we don't drink enough water, we say we are dehydrated.

Plants Need Water



Plants use water to make food for themselves. They take in water from their roots. The water moves up through the plant's stem and into the leaves. The chloroplasts in the leaves use the water to make sugar for the plant to eat.

Without water, a plant will die. This is because they can't make their own food without water. Even a cactus needs a bit of water! A cactus will need to take in water once every month.

Most plants that grow in Canada need to have 2 cm of water each week. Plants will grow best when it rains a lot.

PREVIEW

Name: _____ 67

Curriculum Connection
E2.5

Questions

Answer the questions below about the machine you chose.

1) Why do we need water?

2) Why d[illegible]eed water?

PREVIEW

Word Search

Find the word ba[illegible]k wo[illegible]

I	X	I	Q	A	V	H	H	Q	[illegible]
W	A	S	U	S	I	E	B	D	T
G	N	B	E	B	N	A	W	W	Y
B	O	T	T	L	E	L	H	A	B
H	J	K	D	X	E	T	H	T	O
T	H	W	D	U	D	H	S	E	D
R	Y	Q	R	P	E	K	E	R	I
A	P	G	I	Q	P	F	R	K	E
E	U	O	N	G	E	K	F	J	S
J	F	B	K	B	H	L	Q	K	U

[illegible]rd Bank

[illegible]er	❑ [illegible]resh
❑ Drink	❑ Bodies
❑ Health	❑ Need
❑ Earth	❑ Bottle

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Name: _____ 68

Curriculum Connection
A2.1

Writing Code – Drawing a Fish

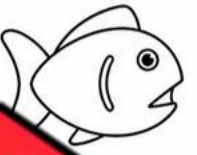
Directions Can you write code that will make a fish?

Write codes that a classmate can follow to draw a fish. Remember, your classmate will only draw what you code.



run pr am

PREVIEW



Output

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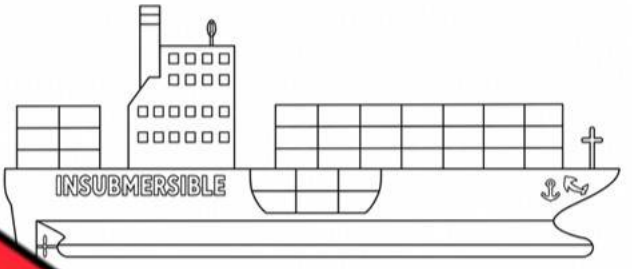
Curriculum Connection
E2.5

Water Transportation

Water Transportation

Water is a very important part of our world because it covers most of the earth's surface. The early explorers sailed on water to get to new parts of the world.

Today, cargo ships carry things we use every day from one country to another. As well as with oceans and seas, ships can travel on lakes and rivers. The St. Lawrence River is an example of natural bodies of water being connected by human-made structures including canals and locks.



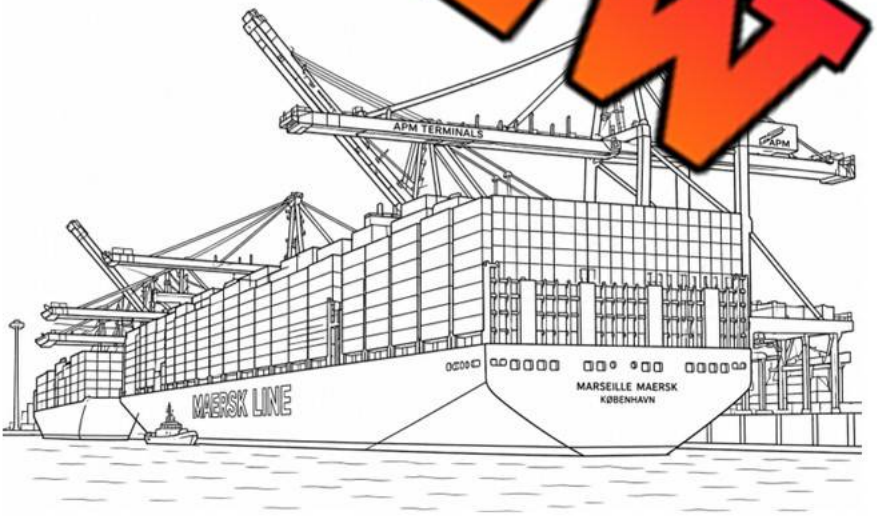
Canals

Canals are waterways built to connect natural bodies of water. Locks are areas that can hold water or drain water to raise or lower ships. Dams are walls built across rivers to store water or control the flow of water.

The Rideau Canal was built in 1832. It took over 5 years to build the canal. It connects the St. Lawrence River to Lake Ontario.

Ships

One ship can carry as much cargo as 301 railway cars or 963 transport trucks. Moving things by ship is the least expensive way to move large amounts of things because it takes less fuel. Moving things by ship is better for the environment because they make less air pollution.



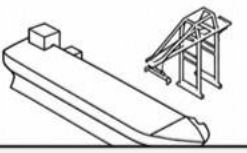
PREVIEW

Name: _____ 70

Curriculum Connection
E2.5

Rhyming

Write a rhyming word.



Word	Rhyming Word
Lock	
Ship	
S	

Word	Rhyming Word
Lake	
Lower	
Flow	
River	

PREVIEW

Visualizing

D[illegible] we[illegible]turing while you were reading. Explain the picture.

True or False

Is the statement true or false?



1) A canal is a natural structure that is not made by humans.	True	False
2) Cargo ships are worse for the environment that trucks.	True	False
3) A cargo ship can hold 301 railway cars worth of cargo.	True	False
4) The Rideau Canal took 5 days to finish.	True	False
5) Locks allow boats to move up and down in the water.	True	False

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Curriculum Connection
E2.5

Water Recreation

Summer Water Play



Water creates lots of opportunities for people to play. When we are on summer holiday, we like to swim, fish, boat, kayak, scuba dive, and camp at the beach. Splash pads are very popular a[illegible]s to parks.

W[illegible]ntains in city squares and parks. People enjoy hearing, seei[illegible] playi[illegible]r.

PREVIEW

Winter Snow and I[illegible]ay



In winter we skate, play [illegible]led, [illegible]ll these activities are made possible by having [illegible]w and ice are made from the changing [illegible] of wa[illegible] from a liquid to a solid.

Walking and Living By the Water

Many cities and towns have trails that are built along the wate[illegible] people can enjoy seeing the water. People like to build homes on th[illegible]terfront because of its natural beauty. Properties located on the waterfront are usually more expensive than similar homes not on water.



People also like to visit places that have water and water recreation. Visitors spend money in the places they go which helps businesses. Restaurants and shops often depend on what they can sell to visitors to make their business successful. We call these visitors tourists.

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Curriculum Connection
E2.5



Fill in the Blanks

Write the missing word on the line.

1) Skiing, boating, swimming, and skating are all possible by having _____.

2) Boating, skating, and swimming are examples of water _____ activities.

3) People who visit a city or town are known as _____.

4) We ca[illegible]e because water changes state from a liquid to a _____.

5) P[illegible]eing, and _____ in the water.

PREVIEW

Making Connec[illegible]

How [illegible]njoy water?

Word Scramble

Word Bank: Boat, Ski, Skate, Hockey, Trails, Swimming, Water, Tourists

LASRTI	
RTSITOUS	
KIS	
KHECOY	

AEKST	
TABO	
ERATW	
WMIISGMN	

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Curriculum Connection
E1.3, E2.5

Getting Water into People's Homes

Well Water

We use water in our homes to drink, cook, wash and clean. Some of us get our water from a well. Well water comes from water deep in the ground which is pumped into our homes. Each house has its ow



Trea ater

When we live ow water comes to ough water treatment plant. ipal treatment plants water is ta om a lake, river or well. The water is poured through a filter. Chemicals that kill g re a make sure the water is clean and safe to drink.

PREVIEW

Water Pumps

Cities put large pipes under the city roads. Big pumps push the ate gh the pipes to all the houses in the city.



Water Towers

Cities have water towers that hold water just in case the treatment plant has to stop cleaning water for a day. The water in the water tower can go to homes using gravity if the pumps stop working. Having a water tower helps keep the water flowing quickly by adding water pressure.

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Curriculum Connection
E1.3, E2.5

Visualizing Draw what you were picturing while you were reading. Explain the picture.

_____

_____

_____

_____

_____

PREVIEW

Fill in the Blank Write the missing word on the line.



1) We use water in our hom[illegible]k, c[illegible]nd _____.

2) _____ water come[illegible] deep i[illegible]ound.

3) Water needs to be treated to make sure it is [illegible]and _____ to drink.

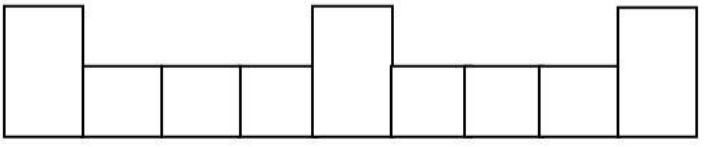
4) Water in water towers uses _____ [illegible]th[illegible]to[illegible]mes.

5) Big _____ push the water through the pipes to al[illegible]the city.

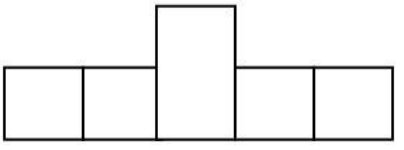
Word Work Write the word bank words in the blanks.

Word Bank
water
pump
tower
treatment

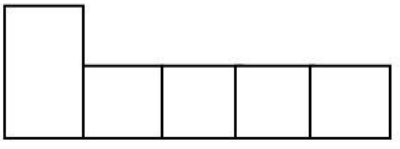
1)



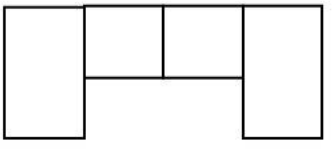
2)



3)



4)



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Curriculum Connection
E1.1

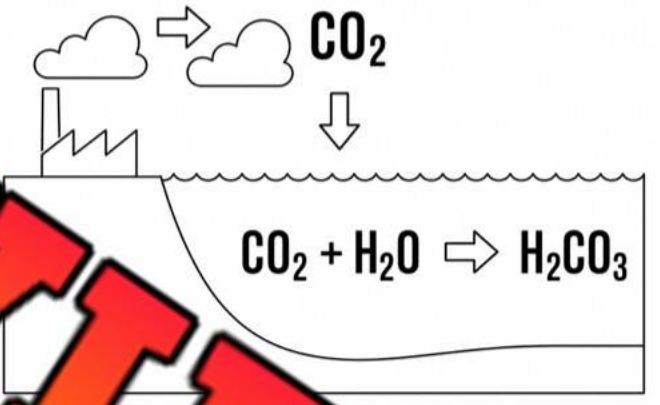
How Humans Affect Water

How Humans Affect Water

Humans need clean water to live. The problem is that many things humans do make our water dirty. Below are 5 ways humans are making water pollution.

1) Farmi[illegible]

To grow [illegible] farmers use pesticides, fertilizers, and manure to make the soil bette[illegible] groundwater becomes polluted with too many chemicals that s[illegible] down i[illegible] oundwater.

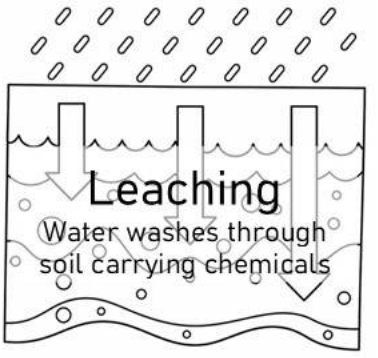


2) Burning Ga[illegible] Wat[illegible]

When we burn gas in ca[illegible]s, and airplanes, we make carbon [illegible]e. C[illegible] dioxide is air pollution. But, carbon [illegible] also gets into our water. When it does, it combines with saltwater in the oceans and m[illegible] ca[illegible] animals living in the oceans don't like carbonic acid, they like clea[illegible]ter.

3) Medicine

In Canada, doctors give medicines like antibiotics and narcotics to h[illegible]eir patients. Some of these medicines don't get thrown out the right way. Instead, they end up in garbage dumps. When rain falls on the medicine, it leaches into the groundwater that we drink.



4) Cities

When cities grow, they take over land that was used to clean water. For example, wetlands filter dirty water and make it clean. When we destroy wetlands, we make water pollution worse.

PREVIEW

Name: _____ 80

Curriculum Connection
E1.1



Questions Answer the questions below.

1) How do humans pollute our water?

2) What is acid rain? How does it happen?

PREVIEW

True or False Circle whether the statement is true or false.



1) Farms can make water pollution.	True	False
2) Burning gas makes acid water in oceans.	True	False
3) Most water animals like living in acid water.	True	False
4) Wetlands are bad because they pollute water.	True	False
5) Medicines can pollute our water.	True	False
6) Wetlands filter water to make it clean.	True	False
7) Leaching is when water washes through soil.	True	False

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Name: _____ 81

Curriculum Connection
E1.1

Water Pollution

Directions What examples of water pollution do you see in the picture?



PREVIEW

1)	
2)	
3)	
4)	
5)	

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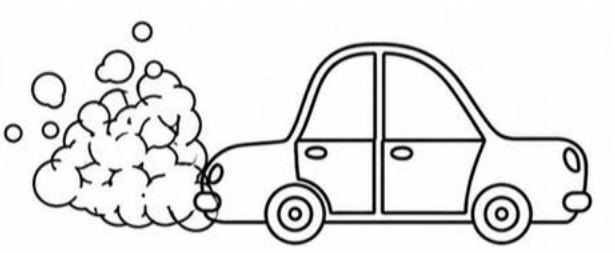
Name: _____ 85

Curriculum Connection
E1.1

Air Pollution

What is Air Pollution?

Air pollution is when humans add harmful gases to our air. When these gases are added to our air, our air quality gets worse. You can sometimes see air pollution as smoke. Sometimes air pollution is invisible but has a smell. All air pollution is harmful to humans and other animals.



Sources of Air Pollution

Air pollution has been a problem for a long time. It was hundreds of years ago. This is because when we burn fossil fuels, smoke from cars and factories pollutes the air.

Most of the air pollution comes from cars. Most of all air pollution is from vehicles, trains, and planes. There are many different gases that are released from these forms of transportation, such as carbon dioxide and nitrogen oxides.

Before we started burning fossil fuels, our atmosphere had a perfect amount of each gas. As we use more energy and burn more fossil fuels, we add more carbon dioxide. This changes the makeup of the gases in the atmosphere. The change is affecting many living things.



Affects of Air Pollution

People will suffer illnesses from poor air quality. Some people will feel the following symptoms: dizziness, headache, cough, trouble breathing, sore throat, and chest pain. This is why it is important that we keep our air clean!

It is also warming up our planet. Global warming is happening because of too much carbon dioxide in our atmosphere.

PREVIEW

Name: _____ 86

Curriculum Connection
E1.1



Questions Answer the questions below.

1) What is air pollution?

_____

_____

2) Where does air pollution come from?

_____

_____

_____

PREVIEW

Multiple Choice Circle the answer

1) Air pollution is harmful to	Cars	Humans
2) Air pollution is caused from burning	Cars	Fossil Fuels
3) Air pollution can make people	Sad	Happy
4) Most air pollution is caused by	Animals	Humans
5) What creates more air pollution?	Riding a Bike	Driving a Car

Word Scramble Word Bank: Air, Pollution, Smoke, Clean, Breathe, Sick, Pain, Dizzy

APIN	
ARI	
CNELA	
KSOME	

RABTEH	
KSIC	
TOUOPNLIL	
ZIYDZ	

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Curriculum Connection
E1.1

Exit Cards

Cut Out Cut out the exit cards below and have students complete them at the end of class.

Name: _____ | Mark

Circle True (T) or False (F) for each question.

1) Air pollution is when harmful gases are added to the air.	T / F
2) Cars and factories can cause air pollution.	T / F
3) Clean air can sometimes look dirty and smoky.	T / F
4) Air pollution is always easy to see.	T / F

Name: _____ | Mark

Circle True (T) or False (F) for each question.

1) Air pollution is when harmful gases are added to the air.	T / F
2) Cars and factories can cause air pollution.	T / F
3) Clean air can sometimes look dirty and smoky.	T / F
4) Air pollution is always easy to see.	T / F

Name: _____ | Mark

Circle True (T) or False (F) for each question.

1) Air pollution is when harmful gases are added to the air.	T / F
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3) Clean air can sometimes look dirty and smoky.	T / F
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Name: _____ | Mark

Circle True (T) or False (F) for each question.

1) Air pollution is when harmful gases are added to the air.	T / F
2) Cars and factories can cause air pollution.	T / F
3) Clean air can sometimes look dirty and smoky.	T / F
4) Air pollution is always easy to see.	T / F

PREVIEW

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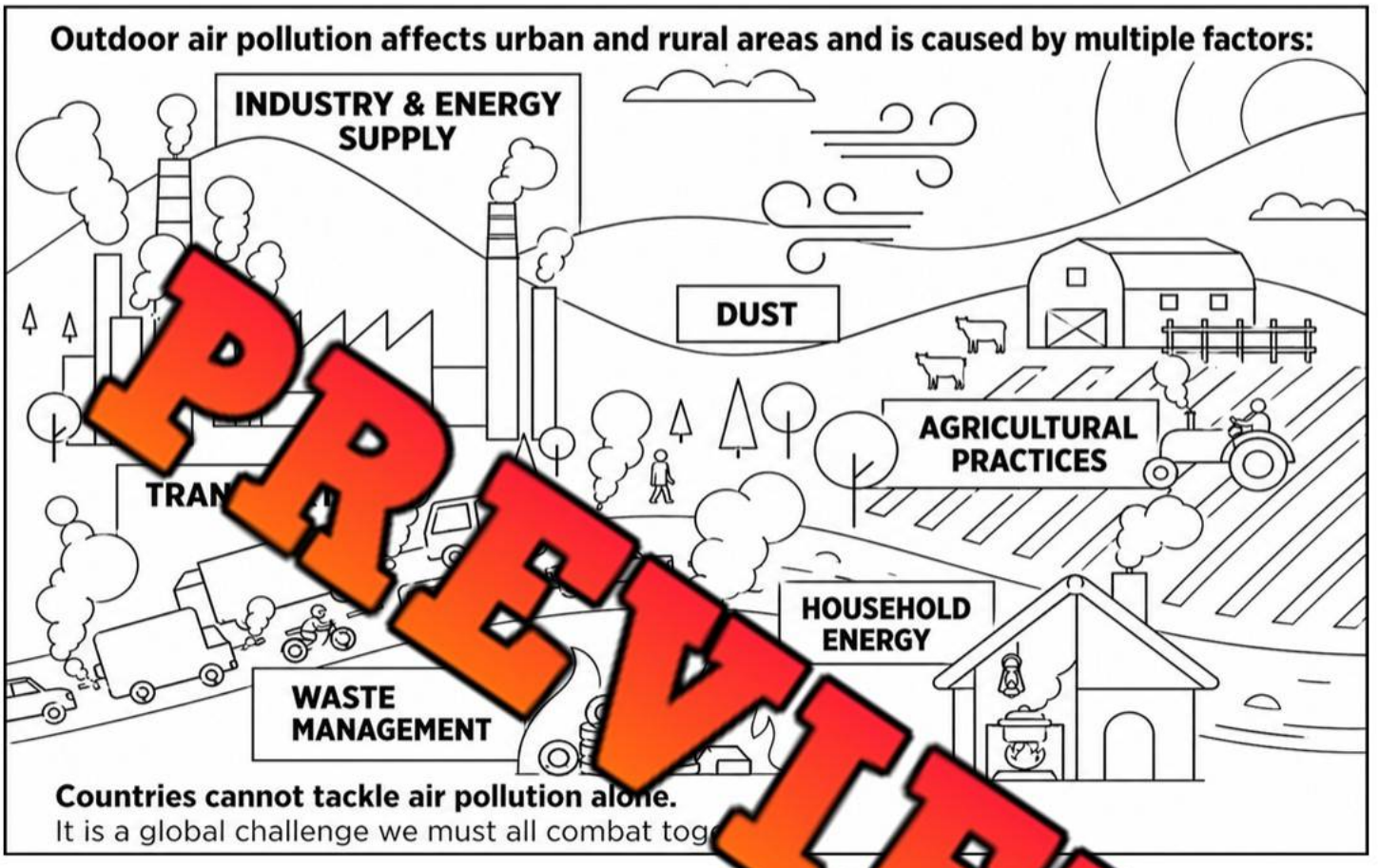
Name: _____ 88

Curriculum Connection
E1.1

Air Pollution Infographic



PREVIEW

Directions Where does air pollution come from?

1)	
2)	
3)	
4)	
5)	

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Name: _____ 90

Curriculum Connection
A2.1

Coding - Else Statements

An **else** statement works like an if statement. When an if statement is false, we can have another command, instead of nothing happening.



Is the air clean?

IF the air is polluted (smoke, dirty air)

ELSE

THEN wear a mask or go inside

Play outside and enjoy fresh air



Direction[illegible] the ELSE commands below with your own ideas.

PREVIEW

Is a car making smoke?

IF [illegible]ing smoke, THEN

ELSE



Is a factory releasing smo[illegible]

If a factory is releasing smoke, THEN

ELSE



Are we helping keep the air clean?

If we plant trees or ride a bike, THEN

ELSE



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Name: _____ 94

Curriculum Connection
E1.1

How the Indigenous Use Water

Honouring Water - First Nations, Métis, and Inuit

Water is honoured by indigenous groups. Water is the most important gift on Mother Earth. It provides an interconnection between living things as all living things need water. Water flows between us, within us, and it replenishes us. Water is the blo[illegible] Mother Earth.

Th[illegible]ous understand that water is the giver of all life. Without clean wate[illegible] Indigenous do not waste water or pollute water.

PREVIEW

How the Indi[illegible] Wat[illegible]



For most Indigen[illegible] roup[illegible] eeded for all aspects of life. They fis[illegible] ater f[illegible] food. They use rivers and lakes to [illegible] from [illegible] another. Many use canoes to move [illegible] water.

The Inuit use water in the form of ice t[illegible] alo[illegible] use sea ice to move around as the sea ice is connected to th[illegible] [illegible] them to move from community to community. It also connects the [illegible] o[illegible] where they find food like seals, walruses, and fish.



Water Pollution

The Indigenous understand that pollution is not good. When Mother Earth is sick, they feel sick too. They do not pollute the same way other groups do. Before Europeans came to present-day Canada, there was no gas burning vehicles. There were no factories. Instead, the Indigenous enjoyed a healthy environment with clean air and water.

First Nations Versus Fossil Fuels is an organization of First Nation members that oppose the water and air polluting burning of fossil fuels.

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Curriculum Connection
E1.1

Word Scramble Unscramble the words below using the word bank.

Water	Sacred	Healthy	Pollution	Factories	Indigenous	Fish	Canoes

HAEYHLT	
EIIDUSNNOG	
AESCR	
HE	

ERAWT	
EFRCTSAIO	
SEANOC	
LNOUTOPLI	

Multiple Choice the answer.

1) The Indigenous pollut less her groups?	More	Less
2) To the Indigenous, water is:	Sacred	Useless
3) When the environment is unhealth ndigen e.	Healthy	Unhealthy
4) The Inuit move around on...	Ice	Mountains
5) Many Indigenous groups use _____ to move on	Shi	Canoes

Visualizing Draw what you were picturing while you were readin ture.

	_____ _____ _____ _____ _____

PREVIEW

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Name: _____ Date: _____

Unit Quiz – Air and Water

Multiple Choice /6

1) Air is made mostly of which gas? a) Oxygen b) Carbon c) Nitrogen d) Water (s… m)	2) Air pollution is made by _____. a) Bikes b) Cars c) Trees d) Rocks
3) Fire n… to burn? a) F… b) Oxyge… c) Heat d) All of the above	4) Water as a solid is called _____. a) Ice b) Liquid c) Vapour d) Precipitation
5) Water as a gas is called _____. a) Ice b) Liquid c) Vapour d) Precipitation	…ost of the water in the world is in the a) Lake… b) R… c) …ns d) Pond…

True or False /6

1) We cannot see or smell clean air. True False	2) Falling water makes p…luti… True False
3) Falling water can be used to make power. True False	4) Air pollution is caused by burning fossil fuels. True False
5) Most air pollution is caused by animals. True False	6) Evaporation is when water is heated up to make vapour. True False

PREVIEW

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Question	Label the water cycle diagram below.

Word Bank			
Evaporation	Precipitation	Condensation	Collection



PREVIEW

Instruction	Fill in the blanks. /6

1) Air pollution is harmful to _____.	human	cars
2) A _____ connects two bodies of water.	lake	river
3) Sailboats move when their sails are filled with _____.	wind	sun
4) Windmills are used to make _____.	water	power
5) Niagara Falls makes a lot of _____ power.	water	wind
6) Ships transport cargo _____ than transports.	better	words

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