Workbook Preview

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Grade 2 – Science Unit

Properties of Liquids and Solids



	Curriculum Expectations	Pages
C1.1	assess practices related to the use, storage, and disposal of liquids and solids in the home in terms of the effects on personal health and safety and on the environment, and suggest ways to improve these practices	96-97, 99-101
C1.2	assess the impacts of changes of state of liquids and solids on humans and on environments	20-23
C2.1		26
C2.2		7-29, -47
C2.3	identify the conditions that cause changes from one state to the other	-31, 34-36, 41-42, 43, 78-82
C2.4	identify conditions in which the states of liquids and solids remain constant and conditions that can cause their states to change	20-23, 30-31, 34-36, 43, 78-82
C2.5	describe some ways in which liquids and solids can be combined to make useful mixtures	50-52, 55-56
C2.6	classify solid objects and materials in terms of their buoyancy and in terms of their ability to absorb or repel water	60-68, 73, 83-87
C2.7	explain the meaning of international symbols that give us information on the safety of substances	94-97

Preview of 80 pages from this product that contains 164 pages total.

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Grade 2 Science Unit

Strand A - STEM Investigation and Communication Skills

	Curriculum Expectations	Pages That Cover the Expectations
A1.1	use a scientific research process and associated skills to conduct investigations	70
A1.2	use a scientific experimentation process and associated skills to conduct investigations	37-38, 48-49, 53-54, 69, 76-77, 88-89
A1.3	use an engineering design process and associated skills to design, build, and test devices, models, structures, and/or systems	57-59
A1.4	follow established health and safety procedures during science and technology investigations, including wearing appropriate protective equipment and clothing and safely using tools, instruments, and materials	37-38, 48-49, 53-54, 57-59, 69, 76-77, 88-89
A1.5	communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes	37-38, 48-49, 53-54, 57-59, 69, 76-77, 88-89
A2.1	write and execute code in investigations and when modelling concepts, with a focus on decomposing problems into smaller steps	39, 75, 91-93, 98
A2.2	identify and describe impacts of coding and of emerging technologies on everyday life	24, 39, 98
A3.1	describe practical applications of science and technology concepts in their home and community, and how these applications address real-world problems	24, 71-72, 74
A3.2	investigate how science and technology can be used with other subject areas to address real-world problems	24, 71-72, 74
A3.3	analyse contributions to science and technology from various communities	24, 71-72, 74

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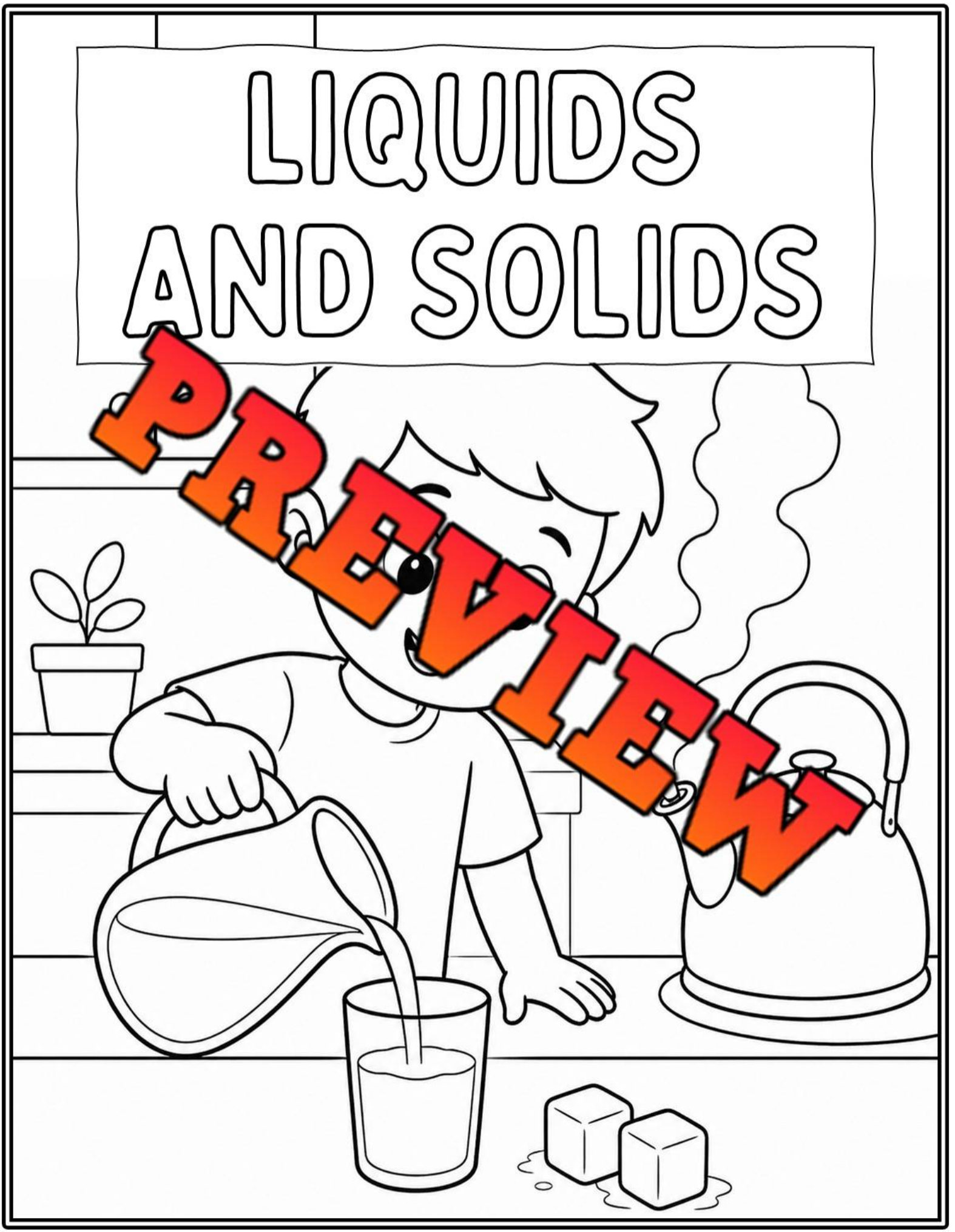

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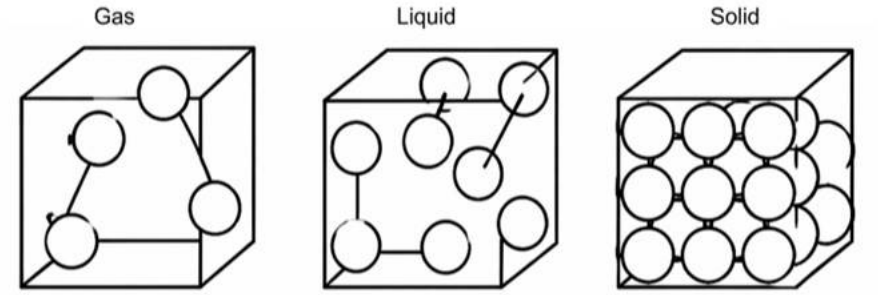
Name: _____ 8

Curriculum Connection
C2.1

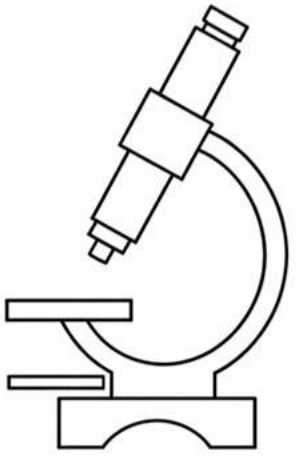
What is Matter?

What is Matter?



Everything is made of matter. Look around. The desks in your classroom are made of matter, th[illegible]ve breathe and the [illegible]k are both [illegible] of mat[illegible] our bodies are made of matter!

Matter is [illegible]ng th[illegible]up space and has mass (weight). Air is matter because air weighs [illegible] is because a balloon that is full of air weighs more than an emp[illegible]n.



Particles - Ato[illegible]s

All matter is made u[illegible]y pa[illegible]ed atoms. When you look at matter, you can[illegible] tiny a[illegible] Even with the best light microscope, singl[illegible]s c[illegible]. But atoms are there. You are made of 7 bill[illegible] atoms, or 7,000,000,000,000,000,000,000,000

States of Matter

All matter can be grouped into three states – solid, liquid, or gas. An example of matter that goes through the three states of matter is water.

Water can be ice as a solid, regular water as a liquid, and steam as a gas. The atoms in a solid are very close together, while they get further apart in a liquid, and very far apart in a gas.

PREVIEW

Name: _____ 9

Curriculum Connection
C2.1

Questioning

Write three questions you have after reading the text.

1)	
2)	
3)	

PREVIEW

Search and Find

Read the text and answer the questions below.

1) What are the three states of matter? _____, _____, _____.

2) Name three examples of matter? _____, _____, _____.

3) Why is air matter? Does it weigh anything?

_____

_____

4) All matter is made up of tiny _____ called a

True or False

Is the statement true or false.

1) The particles in a solid are further apart than in a gas.	True	False
2) Matter is everything that takes up space and has mass/weight.	True	False
3) Our bodies are matter.	True	False
4) Our thoughts and dreams are matter.	True	False
5) Matter is made up of tiny particles called atoms.	True	False

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Curriculum Connection
C2.1

Maze Draw a different colour line to the correct name and state of matter.

Solid **Liquid** **Gas**



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Curriculum Connection
C2.1

Exit Cards

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

Name: _____ Mark ____

Check only the true statements.

Statement	✓
Everything around us is made of matter.	
Matter does not take up any space.	
Gases have atoms that are far apart.	
Air in a balloon takes up space.	
Only living things are made of matter.	
Everything that has mass and occupies volume is not matter.	
All matter is made up of tiny particles called atoms.	
All matter can be grouped into three phases.	

Name: _____ Mark ____

Check only the true statements.

Statement	✓
Everything around us is made of matter.	
Matter does not take up any space.	
Gases have atoms that are far apart.	
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Name: _____ Mark ____

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Only living things are made of matter.	
Everything that has mass and occupies volume is not matter.	
All matter is made up of tiny particles called atoms.	
All matter can be grouped into three phases.	

PREVIEW

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Name: _____ 12

Curriculum Connection
C2.1

Colour Colour the solids blue, the liquids red and the gasses green.

Colour the solids **blue**. 

Colour the liquids **red**. 

Colour the gasses **green**. 



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Curriculum Connection
C2.1

Matter

Multiple Choice Circle the correct answer. There may be more than one!

1) Matter is...	2) What are the 3 phases of matter:
❑ Anything that has weight	❑ Solid
❑ Anything we think of	❑ Gas
❑ Anythi t takes up space	❑ Energy
❑ Anyth reates energy	❑ Liquid
3) Wh e of matter	4) The particles are furthest apart in a...
❑ Wat e drin	❑ Solid
❑ Noise we h	❑ Glass of water
❑ Food	❑ Gas
❑ Rocks	❑ Liquid

PREVIEW

Matching Draw a line connecting th of ma the example.

Liquid		
Not Matter		❑
Solid		❑ Love t
Gas		❑ Apple Juic
Not Matter		❑ Water
Liquid		❑ Oxygen
Solid		❑ TV
Gas		❑ Dreams



Reflection Do you think air is considered matter? Explain why or why not.

_____

_____

_____

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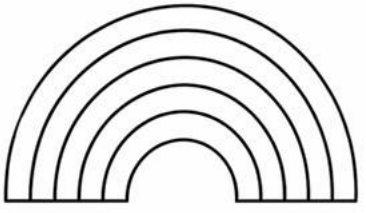
Name: _____ 14

Curriculum Connection
C2.1

Matter – Yes or No?

Matter – Yes or No? Is the example matter – yes or no?

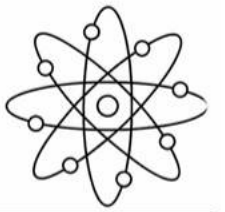
Dream 	Cereal 	Human 
Yes / No	Yes / No	Yes / No
Love 	Time 	Idea 
Yes / No	Yes / No	Yes / No
Flower 	Dog 	ble 
Yes / No	Yes / No	Yes / No
Wind 	Rainbow 	Sunlight 
Yes / No	Yes / No	Yes / No

PREVIEW

Name: _____ 15

Curriculum Connection
C2.1

Particles



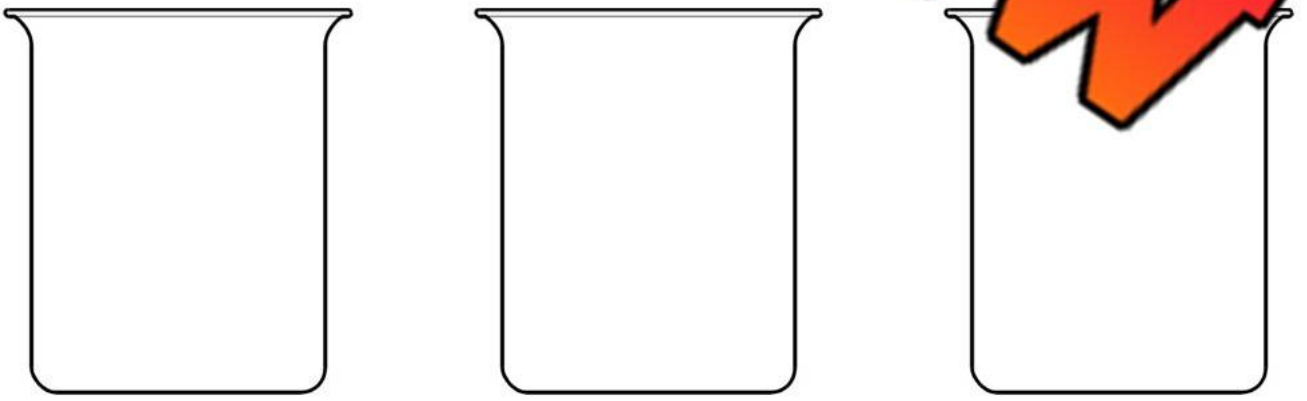
Question Fill in the blanks using the words in the bank.

Word Bank				
Small	Particles	State	Moving	Matter

All th[illegible] we [illegible] are made up of _____. Particles are _____ [illegible]mpo[illegible] make up _____. The particle theory states that sm[illegible]rticles [illegible]ays _____. They move faster based on which _____ matter they are in.

PREVIEW

Draw Draw the Particles in Each State of Matt[illegible]
Add dots to the beakers to represent which [illegible]atte[illegible]



Gas **Liquid** **Solid**

Which particles are moving the fastest?	Gas	Liquid	Solid

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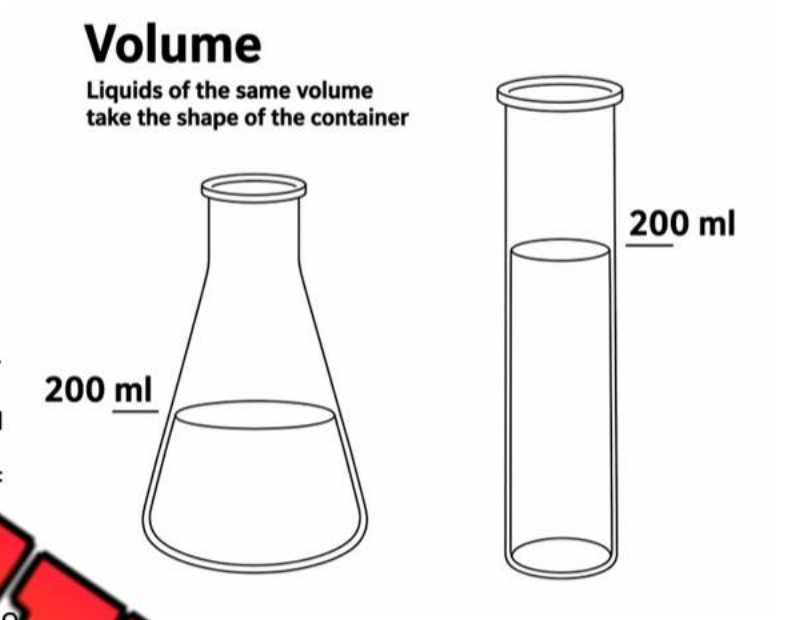
Curriculum Connection
C2.2

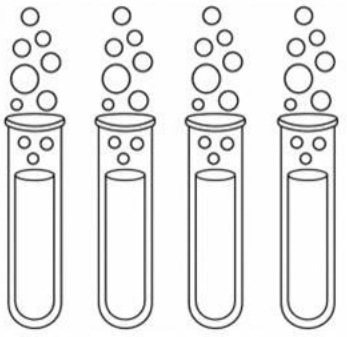
All About Liquids

Liquids

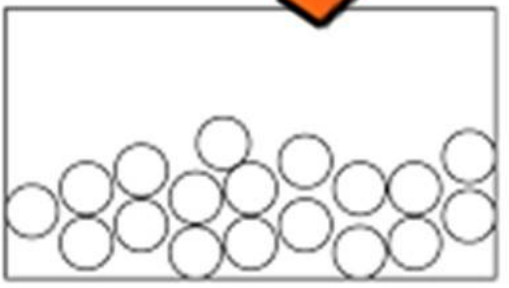
A **liquid** is a form of matter that can be poured. When you pour a liquid, it will always take the shape of its container [illegible] our liquids into cups when w[illegible] The liquid will alwa[illegible] e the s[illegible] he cup you are using. Th[illegible] on[illegible] of liquid is water.



Liquids all have w[illegible] and take up space. Liquids have a de[illegible] volu[illegible] [illegible]s if you put 1 cup of water into a bowl or into a tall glass, it takes u[illegible] ame a[illegible] of space. The volume of a liquid refers to how much space the liquid tak[illegible].



Liquids can chang[illegible] ei[illegible] Liquids can be made into solids when yo[illegible] em t[illegible] r freezing points. Liquids can be turned into g[illegible]ses [illegible] them to their boiling point. The freezing [illegible] point for each liquid is different.



Properties of Liquids

- Do not have a definite shape
- Take the shape of their container
- Fill the bottom of a container or spread when they are not contained
- Maintain the same volume in different containers
- Are difficult to compress or squeeze because the particles are close together

PREVIEW

Name: _____ 17

Curriculum Connection
C2.2

Word Search

Find the word bank words in the puzzle.

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

Word Bank	
Liquids	Shape
Container	Flow
Temperature	Matter
Freezing	Volume

PREVIEW

Fill in the Blanks

Writ[illegible]ing w[illegible]e line.

1) Liquids will always take the shap[illegible]eir _____.

2) The most common form of liquid is _____

3) Liquids can change their states of _____

4) Liquids will turn into solids when they are _____[illegible]ed).

5) Liquids fill the _____ of their container, not t[illegible] top.

Making Connections

What does this reading remind you of in your life?

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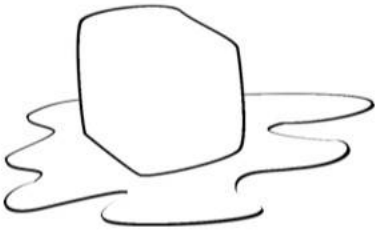
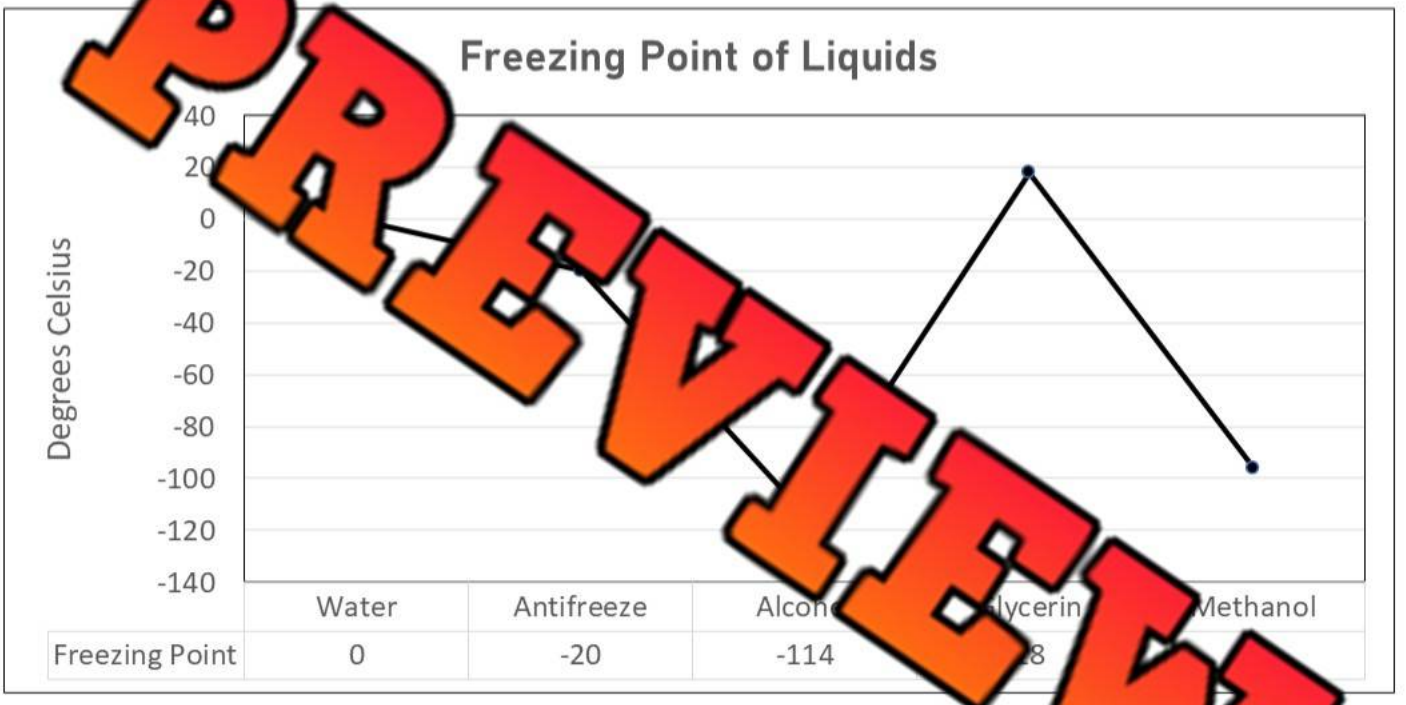
Curriculum Connection
C1.2, C2.3, C2.4

Freezing Point

Freezing and Freezing Points



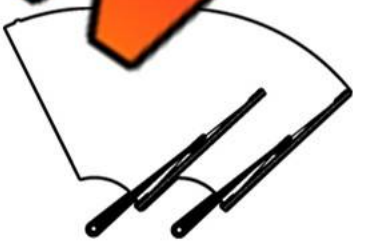
Freezing is the opposite of melting. **Freezing** is when a liquid changes state to a solid. Different liquids have different freezing points. Water has a freezing point of 0 degrees Celsius. C ut the graph below to see other liquid's freezing points.



	Water	Antifreeze	Alcoh	lycerin	Methanol
Freezing Point	0	-20	-114	8	

PREVIEW

Understanding Science to Help Our Lives



Water will freeze at 0°C, which means it would not make good anti-freeze for your car. Anti-freeze is used to stop water from freezing and damaging a car's engine. Anti-freeze is made of ethylene glycol, which has a freezing point of -20°C.

Windshield wiper fluid is made of methanol. Methanol has a freezing point of -96°C. This makes it a great choice to clean our windshields on very cold days!

When the weather is below 0, we need to drive very carefully as water on the roads will freeze and turn into slippery ice.

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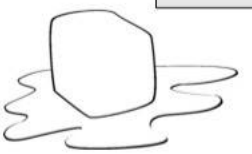
Curriculum Connection
C1.2, C2.3, C2.4



Fill in the Blanks

Circle the missing word.

1) Liquid water will freeze when the temperature is ___ zero.	below	above
2) Water can be a liquid or a _____.	mud	solid
3) Different liquids have different freezing _____.	points	places
4) Methan[illegible] a freezing point of ____ degrees Celsius.	-20	-96
5) When[illegible]re is below zero, there could be ___ on the road.	ice	rain

Questions

An[illegible]tio[illegible]low.

1) How does water f[illegible]e?

2) How can freezing water be dangerous?

PREVIEW

Making Connections

What does this reading remind you of in your life?

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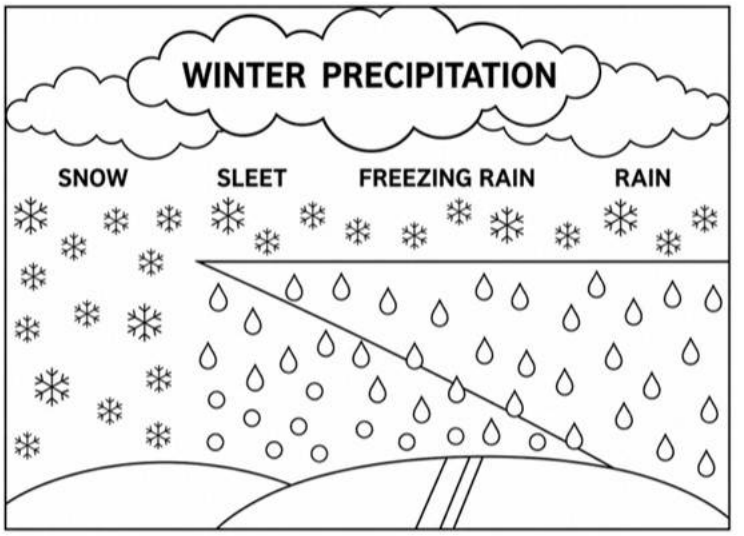
Name: _____ 22

Curriculum Connection
C1.2, C2.3, C2.4

Freezing Rain

What is Freezing Rain?

Freezing rain is rain that has changed state to a solid when it hits the ground. It goes from liquid rain to solid ice [illegible] ground.



How F[illegible]s

Look a[illegible] diagr[illegible]otice that way up in the [illegible]mpera[illegible] colder. In the winte[illegible] pre[illegible]ic[illegible] as snow at first. Read below to learn how we get snow, sleet, freez[illegible]in and ra[illegible] winter.

Rain

On warmer winter days, the snow wil[illegible] into ra[illegible]al[illegible] the ground. You can see this on the diagram. The triangle part sho[illegible]mer [illegible]res.

Freezing Rain

As you see on the diagram, when we get freezing rain, t[illegible] tu[illegible]ir[illegible]d then back to ice just when it hits the ground.

Sleet

The snow turns to rain for just a short time. Since it is colder at the earth's surface, the rain turns to ice and snow. This mixture of snow and rain is called sleet.

Snow

There is no warm air for the snow to turn to rain. So, we just get snow!

Dangers of Freezing Rain and Sleet

When rain changes state to solid ice, our roads and sidewalks get slippery. This can cause car accidents. People also get hurt when they slip and fall on walkways.

PREVIEW

Name: _____ 23

Curriculum Connection
C1.2, C2.3, C2.4



True or False

Is the statement true or false.

1) It is warmer way up in the sky.	True	False
2) In the winter, all precipitation starts as snow.	True	False
3) When the surface is warm in the winter, we can get freezing rain.	True	False
4) Sleet is rain and snow mixed.	True	False
5) Snow l[illegible]ns when it is warm on the surface.	True	False

Making [illegible]is

[illegible]ave you ever seen freezing rain? Explain.

PREVIEW

Visualizing

Draw what you were picturing while you w[illegible]ling. [illegible]n the picture.

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Name: _____ 25

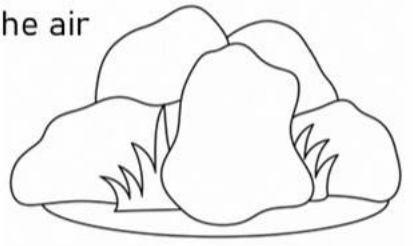
Curriculum Connection
C2.1, C2.2

All About Solids

All About Solids

Solids are a form of matter. Unlike liquids, solids don't flow or pour. Solids have a shape that stays the same. The particles in solids are packed tightly together so they cannot move. This means it is harder to squeeze solids because their particles are already tight.

Solids do not flow. They cannot be poured. Solids can be changed into liquids by heating th… have probably seen ice melt into water. When we take ice out of the freezer… …m is warmer than the ice. This means the air is hea… …he ice a… …lt it, which will turn it into water.



Natural Solids… …ade…

When you look ou… …here… …tural solids. Rocks, trees, and ice are all exa… …natura… …A **natural solid** is a solid that humans did not make. A **human made** soli… …olid… …. Examples of human made solids are roads, schools, and bridges.

PREVIEW

Word Ending Find the word endings in the tex…

Ending (suffix)	Words	F… …ord
-ly		
-ed		
-er		
-s		

Multiple Choice Circle the best answer.

1) Solids are a form of	Matter	Food
2) Solids have tightly/loosely packed molecules.	Tightly	Loosely
3) When air heats ice, the ice will	Freeze	Melt
4) Which is an example of a natural solid?	Grass	School
5) Which is an example of a human made solid?	Bus	Rock

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Name: _____ 26

Curriculum Connection
C2.1

Natural vs Human-Made Solids

Directions Circle whether the solid is human-made or natural?



Nat | Human-Made



Natural | Human-Made



Natural | Human-Made



Natural | Human-Made



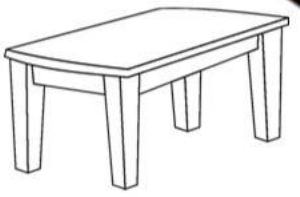
Natural | Human-Made



Natural | Human-Made



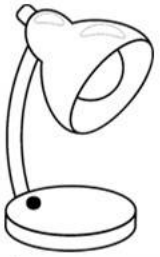
Natural | Human-Made



Natural | Human-Made



Natural | Human-Made



Natural | Human-Made



Natural | Human-Made



Natural | Human-Made

PREVIEW

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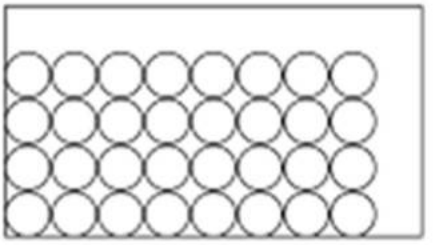
Curriculum Connection
C2.2

Characteristics of Solids

All About Solids

Solids can have a lot of different characteristics. Many solids are hard like your desk, the walls and floors. Solids can also be soft, like a cotton ball. Some solids like play dough and clay can be molded so you can change their shape.

The[illegible]ll still solids. When you break a solid, it stays a[illegible]than one piece. When you break a cook[illegible]will be [illegible]es and crumbs, but it will not become a liq[illegible]



The particles do not move or spread out to fit the container

PREVIEW

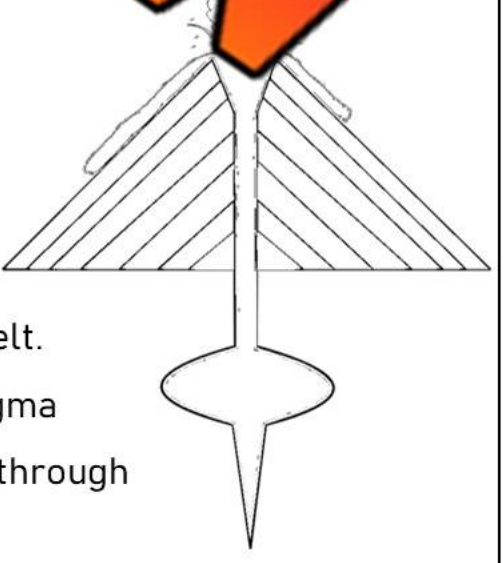
Therefore, solids:

- Can't be poured
- Hold their shape unless an outsi[illegible]e acts [illegible]t (example – cuts it)
- Has a definite shape (does not take the sh[illegible]f the [illegible]iner)
- Is difficult to squeeze as the particles are [illegible]ady [illegible]
- Is dense because there are many particles pack[illegible]y to
- Can be described in many ways, including hard, soft, r[illegible]ugh [illegible]nd

Solids Can Melt

When a solid is heated to its melting point, it will turn into a liquid. Some solids, like ice, will change into a liquid at room temperature. Other solids, like rocks, will need to be heated at very high temperatures to melt.

Rocks will melt under the ground in magma. Magma is melted rock. When magma comes up to the surface through a volcano, it is called lava.



Name: _____ 28

Curriculum Connection
C2.2

Word Work

Follow the instructions below.

How many words can you make out of the word D E S C R I B E D?

_____

_____

_____

Visualizing

you were picturing while you were reading. Explain the picture

PREVIEW

True or False

Is the statement true or false?

1) When you break a solid into pieces, it becomes a liquid.	True	False
2) When a solid melts, it becomes a liquid.	True	False
3) A solid takes the shape of its container.	True	False
4) Solids can be strong, weak, soft, or hard.	True	False
5) Rocks can melt into liquids.	True	False
6) Rocks cannot melt because they are too hard.	True	False

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Curriculum Connection
C2.2

Exit Cards

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

Name: _____ Mark

Is the statement true or false?

1) Solids take the shape of their container.	True / False
2) When you break a solid, it becomes a liquid.	True / False
3) Rocks will melt into lava under the ground.	True / False
4) Solids can be soft, like a cotton ball.	True / False
5) Solids can be poured easily like water.	True / False

Name: _____ Mark

Is the statement true or false?

1) Solids take the shape of their container.	True / False
2) When you break a solid, it becomes a liquid.	True / False
3) Rocks will melt into lava under the ground.	True / False
4) Solids can be soft, like a cotton ball.	True / False
5) Solids can be poured easily like water.	True / False

Name: _____ Mark

Is the statement true or false?

1) Solids take the shape of their container.	True / False
2) When you break a solid, it becomes a liquid.	True / False
3) Rocks will melt into lava under the ground.	True / False
4) Solids can be soft, like a cotton ball.	True / False
5) Solids can be poured easily like water.	True / False

PREVIEW

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Name: _____ 30

Curriculum Connection
C2.3, C2.4

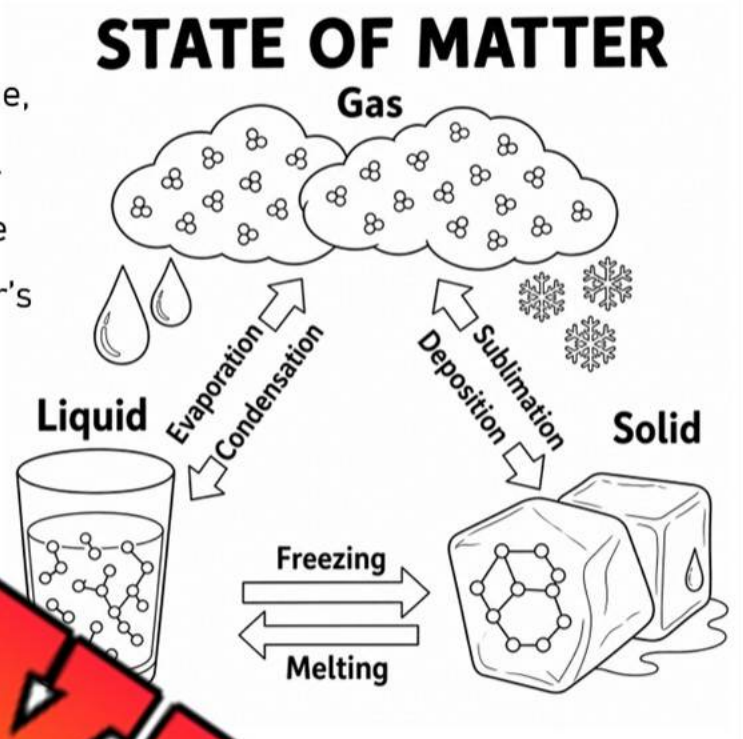
Changes in State - Physical Changes Involving Heat

Changes in State – Physical Changes

When a solid, liquid or gas changes state, they have completed a physical change. Changes in state are reversible because no new s[illegible]nce is formed. The matter's chemic[illegible] i[illegible] the exact same.

exampl[illegible] has the chemical mak[illegible]oge[illegible]d oxygen (H_2O).

It does not matt[illegible]ater is in liquid form, gas form, [illegible] form, it still has the same chemical [illegible] of H[illegible]



PREVIEW

Changes in State Involve Heat

When matter changes state, it can be reverse[illegible]ad[illegible]g heat. When matter absorbs heat, it could undergo t[illegible]ss o[illegible] evaporation, melting (fusion), or sublimation.

When matter releases heat, it could undergo the process[illegible] freezing (solidification), condensation or deposition.

Heat changes the particles in matter by changing the attractions between particles. When heat is absorbed by matter, the particles in the matter lose attraction and begin to move faster. They collide with each other and spread out, changing the state to a liquid or a gas.

When heat is released by matter, the particles in the matter gain attraction and get closer together. If enough heat is released, the particles may slow down and begin to vibrate instead of move, causing a change of state to a solid.

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Curriculum Connection
C2.3, C2.4

Matter and Heat

How is heat affecting the matter below?

Matter	Heat	New State of Matter?	Particles Movement – Circle One		
Water	Absorbed		Vibrate	Slow	Fast
Water	Released		Vibrate	Slow	Fast
Ice	Absorbed		Vibrate	Slow	Fast
Vapour	Released		Vibrate	Slow	Fast

Questions

Answer the questions below using evidence from the text.

1) If matter is left in the same environment (no heat added or released), will it change phases? Explain using an example.

2) What happens when heat is released by matter?

PREVIEW

Visualizing

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

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Name: _____ 32

Curriculum Connection
C2.2

Experiment - Weight of Solid vs Liquid

Research Question Liquid or solid? Which weighs more?

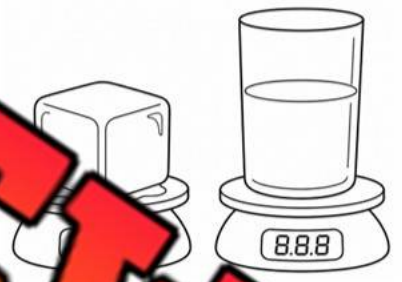
If we take an ice cube that was made from 25ml of water, does it weigh the same/more/less than 25ml of water?

Hypothesis What will happen? Will the ice weigh the same/more/less than the liquid form?

PREVIEW

Materials What will be needed for the experiment?

- 25ml of water (or other liquid as shown) in liquid form
- 25ml of other liquid (juice, pop, etc.) – optional
- Measuring cup
- Jug of water
- Weight scale



Procedure Instructions – How to complete the experiment

1) Make ice by pouring 25ml of water into ice cube trays. Put tray in the freezer. You could also make ice from other liquids to compare different substances.
2) Once the ice is made, weigh it quickly before it melts. Record weight on this sheet



3) Weigh the 25ml of water by putting it in a cup. If you are using a digital scale, use the "tear" button to minus the weight of the cup. If not, you will need to weigh the cup separately and subtract it from your total weight. Record your results.
4) Check your hypothesis. Which weighed more. Fill in the questions on the next page.

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Curriculum Connection
C2.2

Observations How much does each solid or liquid weigh?

State of Matter	Weight
Solid – Ice Cube	
Liquid - Water	

Results Answer the questions below.

1) Was your hypothesis correct? Explain.

2) Explain why you think your experiment has or has not resulted in a chemical change.
Hint: Physical or Chemical Change?

3) How do you know that no chemical change has happened? Think back to the 5 signs of chemical changes – odour, precipitate, temperature, colour, and gas (bubbles).

PREVIEW

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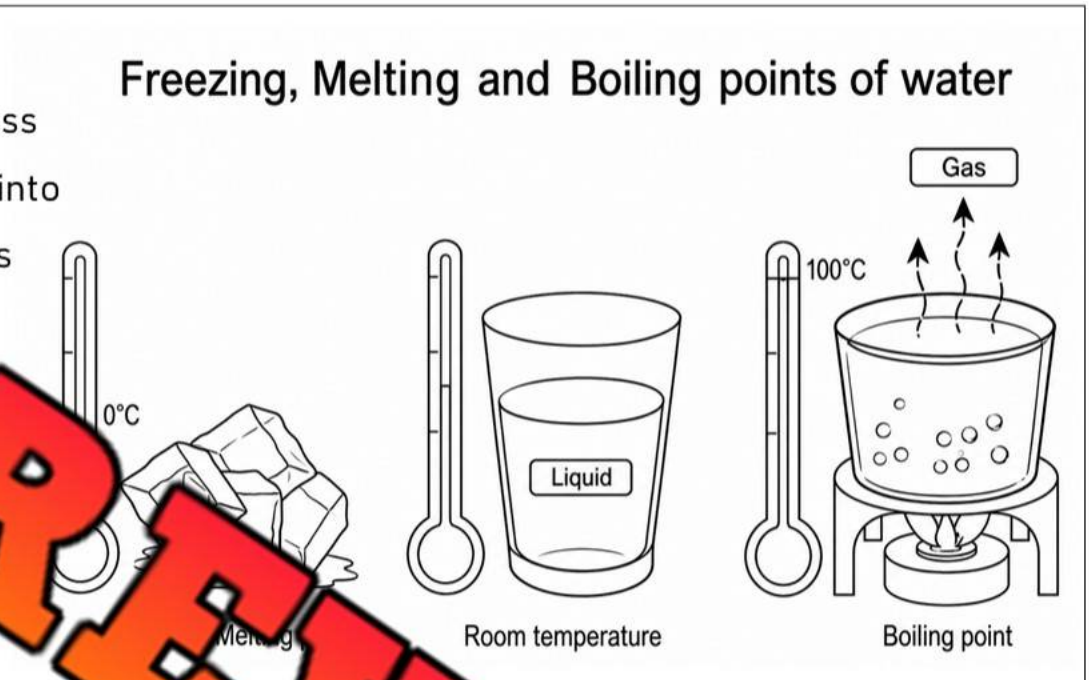
Curriculum Connection
C2.3, C2.4

Melting Point

What is Melting?

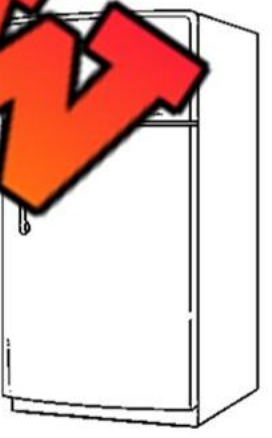
Melting is the process of a solid changing into a liquid when heat is applied.



F e
an ic e in a
freezer will
a solid because t
is no heat added. If
you take the ice cube out of eez mperature is warmer, which means the ice will absorb the heat.

The heat will cause the particles inside t lid t This will cause the particles to spread out and flow into the botto th are held in. If the ice is on a table or on the floor, it will flow an me

PREVIEW



What is a Melting Point?

All solids have a melting point. The melting point for ice is 0°C. If you take an ice cube out of a freezer and then bring it outside into an environment colder than 0°C, it will stay a solid because it hasn't reached its melting point.

Room temperature is about 20°C. This means that ice melts fast when it is at room temperature.

Did you notice that the freezing and melting points are the same? This means that liquid water will freeze at below 0 and frozen water will melt at above zero.

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Curriculum Connection
C2.3, C2.4

Melting Point

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

Word Bank			
Same	Gas	Liquid	Temperature
	Boiling	Melting	Solid

Melt[illegible] _____ reaches a temperature warmer than its

_____ [illegible]urni[illegible] to a _____. For example, an ice cube

melts at a _____ [illegible]arme[illegible]0 degrees Celsius. The melting point is

the _____ as the freezin[illegible] liqui[illegible]n't melt, however they do

have a _____ point, where they [illegible] stat[illegible] _____.

PREVIEW

Questions Answer the questions below.

1) What happens when a solid reaches its melting point?

2) When have you seen a solid reach its melting point?

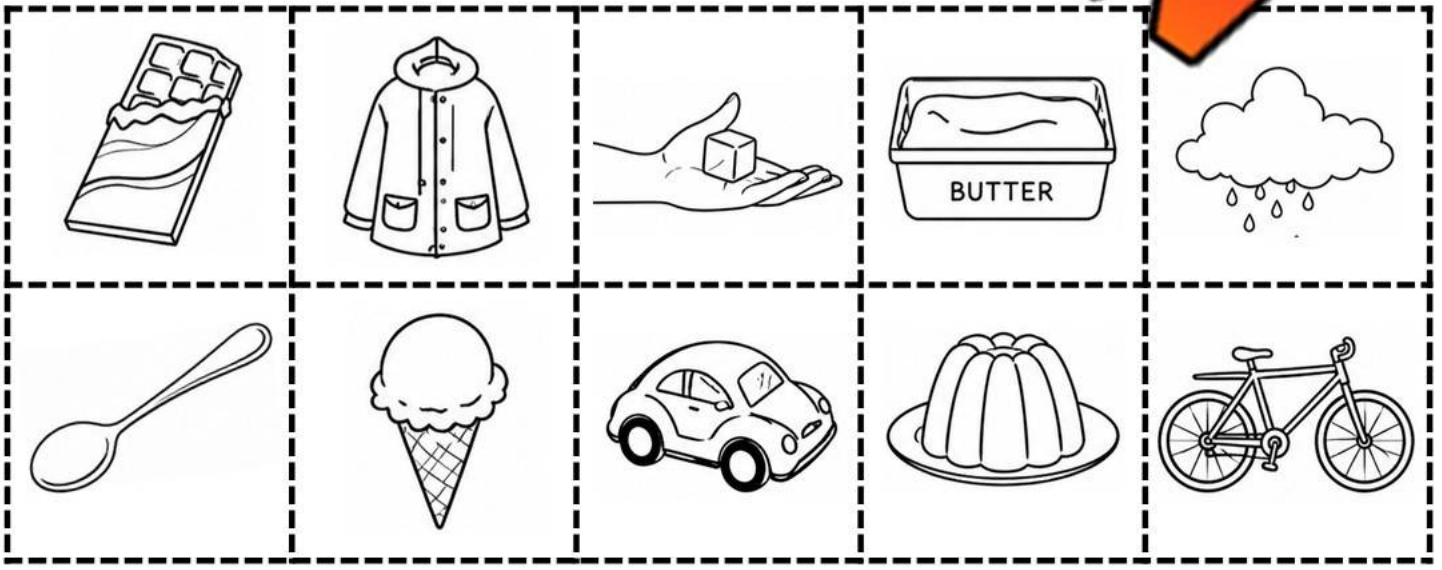
Name: _____ 36

Curriculum Connection
C2.3, C2.4

Does It Melt? Do these items melt or not? Cut out the objects and stick them under the correct column.

Will Melt	Will Not Melt

PREVIEW



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Name: _____ 37

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

Lab Experiment - Melting

Research Question — What are we testing?

How do salt, sugar, hot water, and cold water affect the melting process? Will applying these substances to ice slow down or speed up the melting process?

Hypothesi — Make a prediction below.

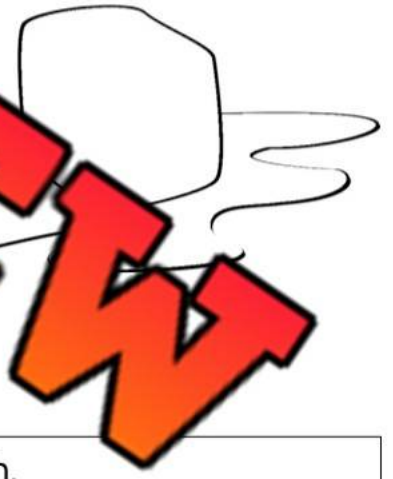
Whic… …k (1-5) with 1 being the first to melt and 5 being the last to melt

Contr…	Just I…	…gar	Salt	Hot Water	Cold Water

PREVIEW

Materials — What do we n… …ur e…?

- Small plastic cups (mini-solo c…
- Water
- Salt
- Sugar
- Muffin Tin



Method — How do we complete the experiment?

1) Fill 5 plastic cups with the same amount of water in each.
2) Put them in the freezer overnight.
3) Pop the ice out of each cup. You may need to cut the cup around the ice.
4) Place one ice cup in each compartment in a muffin tin.
5) Pour hot water on one ice cup, cold water on another, salt on another, and sugar on another. Leave one of the ice cups as is. This will be the control. Consider labelling the muffin tins so you can remember how you treated each ice cup.
6) Record the order in which the ice cups melt by checking frequently.

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Name: _____

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

Observations | What do you notice after the times below

Step	What Happened – Which is melting the fastest? Slowest?
After 10 Minutes	
After 30 Minutes	
After 1[illegible]	
Aft[illegible] al[illegible]ted	

Results | Ans[illegible] ques[illegible]w.

1) What surprised you abo[illegible]lts? [illegible]u get wrong from your hypothesis?

_____

_____

_____

2) Why do you think the cold water melted the ice cup fa[illegible] the [illegible] w[illegible] untreated (control)?

_____

_____

_____

3) Why do people use salt on their driveway or steps in the winter to melt the snow or ice? Why don't they use hot water?

_____

_____

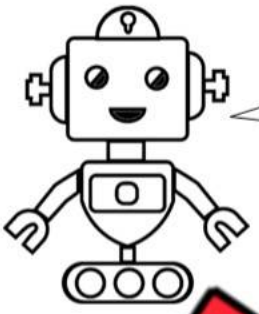
_____

PREVIEW

Name: _____ 39

Curriculum Connection
A2.1, A2.2

Coding – Melting Point



Hi, my name is Levi. I am learning how solids change into liquids. Help me by putting the steps in the correct order!

Direction e the correct order of the code for melting an ice cube.

Step Numb	Code – Instruction
	e ice s into water
	Tak ice cub f the freezer
	Heat from the al e ice
	The ice cube is very col d so
	The particles start to m e a e

Directions Write the correct order of the code for free

Step Number	Code – Instruction
	The water becomes solid ice
	Put the water in the freezer
	The temperature gets colder
	The particles slow down
	The water is a liquid at the start

PREVIEW

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Name: _____ 40

Activities – Solids and Liquids



Word Search

Find the words from the word bank.

Matter	Solid	Liquid	Freezing	Melting
Ice	Water	Rain	Flow	Particles

R E G H H V O G O F V L B A A I P U
Z D D M D X W E F E K P I Q S M V N
H Z X I E F K B Q T A T Q W L C M
T P F K R L E O R W W U M A E
I G E U L N D T S O F I N L
H D N F Y R F B D I X O G R D T
I F R E E Z I G C U I L H H I
K R E T Y S R K N A B M W I X N
U C A X A Q E T O G Q I N D G
I W C D F D M A T T E Y F K Y
G J F Q Y J H U M F L O W W B E

PREVIEW

Word Scramble

Unscramble the words from the word bank.

MITNELG		FEIZERNG	
NAIR		METTAR	
LUQIID		WETAR	
PLERITCAS		SODLI	
CIE		LOFW	

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Name: _____ 41

Curriculum Connection
C2.3

Water

Importance of Water

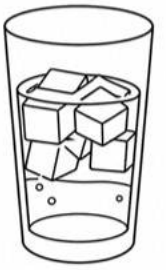
Water is a very special liquid. Water exists naturally on earth in all 3 states of matter:

- Solid - ice and snow
- Liquid - rivers, lakes and oceans
- Gas – clouds



Water changes its state easily by heating and cooling. When you put water in an ice cube tray and into the freezer, it becomes a solid - ice. If you take the ice cube out and put it in a glass, it will melt and become water again.

Water is different from other liquids because when it changes from a liquid to a solid, it takes up more space. This means that ice is less dense than liquid water, which causes the ice to float. Not all solids float in their liquid forms. For example, rocks do not float in liquid water.



The ice on lakes and rivers freezes first and does not sink to the bottom. This is because it weighs less than the water around it. Ice floats! This leaves a lot of room for fish and other creatures to swim under the ice.

PREVIEW

Rhyming Write a rhyming word.

Word	Rhyming Word
Float	
Fish	
Room	

Word	Rhyming Word
Melt	
Rock	
Cool	

Questioning Write two questions you have after reading the text.

1)	
2)	

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Curriculum Connection
C2.3

Exit Cards

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

Name: _____ Mark ☐

Draw a line from each word to its correct meaning.

Liquid ☐	☐ Water in gas form that you can see as vapour
Steam ☐	☐ Frozen water that is cold and can melt
Ice ☐	☐ A liquid that can flow and take the shape of its container
Water ☐	☐ A clear liquid that we drink and find in lakes and rivers

Name: _____ Mark ☐

Draw a line from each word to its correct meaning.

Liquid ☐	☐ Water in gas form that you can see as vapour
Steam ☐	☐ Frozen water that is cold and can melt
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Name: _____ Mark ☐

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Name: _____ Mark ☐

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Steam ☐	☐ Frozen water that is cold and can melt
Ice ☐	☐ A liquid that can flow and take the shape of its container
Water ☐	☐ A clear liquid that we drink and find in lakes and rivers

PREVIEW

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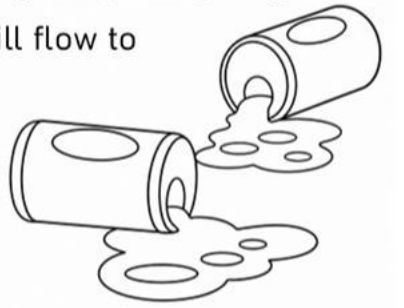
Name: _____ 43

Curriculum Connection
C2.2, C2.4

Flow – Difference Between Solids and Liquids

Liquids

A liquid will always flow from high to low. This is because gravity is pulling everything towards the centre of the Earth. If you spill milk on your desk, it will flow to the lowest point on your desk and onto the floor.



Liquids will always **flow**. When a liquid flows, it means the liquid mov rds the lowest point. When an area is flat, the liquid wi ad out on the flat surface.

e than others. Honey does not flow as much as water. If you were pou g wa y in two separate cups, the water cup would fill up much faster because s fast

Solids

If you spill your lunch onto y it w re it lands. Your sandwich and snacks are solids and solids do not flow. en t if something is a solid or a liquid, you need to think about whether it flows . Peanu y seem like a solid, but it's a liquid. A spoonful of peanut butter will flow off th on.

PREVIEW

Rhyming | Write a rhyming word.

Word	Rhyming Word
Flow	
Will	
Flat	

Word	d
Not	
Land	
Cup	

Making Connections | What does the reading remind you of in your life?

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Name: _____ 44

Curriculum Connection
C2.2

Solid or Liquid?

Solid or Liquid? Circle whether the picture is a solid or a liquid.



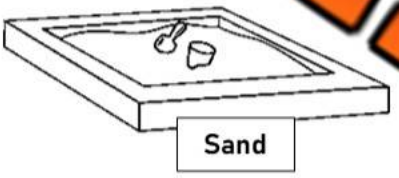
Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid



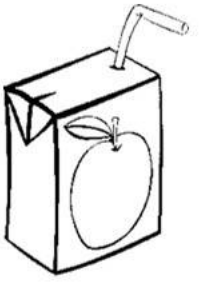
Solid Liquid



Solid Liquid



Solid Liquid



Solid Liquid

PREVIEW

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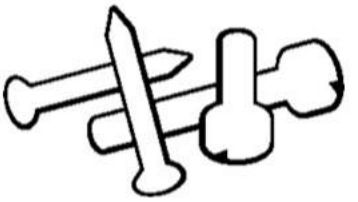
Curriculum Connection
C2.2

Strong Solids

Strong Solids

Solids are strong because their particles are stuck together firmly. Concrete and steel are strong solids which are difficult to break. Strong solids are useful to build things like bridges that carry a lot of weight. They are also used to build buildings that can last for hundreds of years. Ste[illegible]the most popular building material for strong str[illegible]ecause it has a low cost and high strength.



[illegible]s [illegible]ed, it goes through changes in its state of mat[illegible]nwant[illegible]e[illegible]ns are collected in recycling bins. These solid items are crushed and f[illegible]l[illegible]ocks.[illegible]ocks are put into very hot furnaces that melt the solid metal and turn it in[illegible]id. Th[illegible]te[illegible]al is cooled, which changes it back into a solid. The new solid metal can b[illegible]u[illegible]o mak[illegible]hing else. Steel can be recycled multiple times without losing any of its [illegible]n.

Solids can be strong and hard. A s[illegible]id isn[illegible]s hard. Hard materials like diamonds cannot be scratched easily, whe[illegible]as steel[illegible]e sc[illegible]d.

PREVIEW

Word Search

Find the word bank words in the [illegible]u[illegible]

Strong	Concrete	Liquid	Recycle	Diamond	Solids	[illegible]teel	[illegible]ot

M	F	E	K	Q	S	M	V	N	H	Z	Y
E	X	S	J	I	E	F	K	B	Q	T	T
L	W	L	C	T	P	F	Q	E	E	S	K
T	Y	R	R	L	E	O	W	L	D	S	W
C	O	N	C	R	E	T	E	C	N	D	M
A	I	G	E	U	A	O	I	Y	O	I	S
C	N	D	L	N	D	H	O	C	M	L	F
L	I	Q	U	I	D	N	H	E	A	O	D
N	F	Y	D	Z	F	R	P	R	I	S	B
D	X	G	S	T	R	O	N	G	D	R	I
A	E	O	T	U	I	H	S	T	E	E	L

Questions

Answer the q[illegible]ons below.

1) List some strong solids below.

_____

_____

_____

2) What materials would you use to build your house?

_____

_____

_____

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Curriculum Connection
C2.2

Characteristics of Liquids

Characteristics of Liquids

We have learned that liquids flow. Peanut butter is a liquid that flows so slowly that you might think it was a solid. **Viscosity** is the term we use to describe how easily a liquid flows.

Visc really means how much a liquid tries not to flow. Peanut butter really d t flow, so it has a high viscosity. Water will flow well so it has a lo osity.

PREVIEW



So, to recap:

- High viscosity = flo
- Low viscosity = flows fa

High Viscosity	Visc
Honey	
Peanut Butter	Wate
Shampoo	Vinegar
Mayonnaise	Apple Juice





Interesting Facts about Viscosity

- Heated up liquids have a lower viscosity, so they flow faster
- Cooling a liquid, makes it more viscous and closer to being a solid
- Cold water has a higher viscosity than warm water even though you wouldn't notice the difference

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Curriculum Connection
C2.2



Fill in the Blanks

Write the missing word on the line.

1) Peanut butter is a _____ that flows.

2) If something flows, it is a _____.

3) The eas[illegible] a liquid flows, the lower the _____.

4) Shar[illegible] _____.

5) Viscosity is h[illegible] _____.

PREVIEW

Viscosity

Does t[illegible] iscosity or low viscosity?

1) Milk	High	Low	[illegible]	High	Low
2) Glue	High	Low	7) [illegible]	High	Low
3) Mayonnaise	High	Low	[illegible]ozen [illegible]	High	Low
4) Honey	High	Low	9) Mil[illegible]e	[illegible]h	Low
5) Yogurt	High	Low	10) Oil	[illegible]	ow

Making Connections

What does the reading remind you of in you[illegible]?

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Name: _____ 48

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

Experiment - Viscosity

Research Question What are we testing?

Which liquids will be the most viscous (thick), and which will be the least viscous (runny)?



Materials What do we need for our experiment?

- Small clear cups
- Small candies
- Various liquids (water, oil, corn syrup, etc.)
- Stopwatch (optional)

Method How do we complete the experiment?

1) Fill each of the cups full of the different liquids
2) Drop a candy into the first liquid. Use the stopwatch to time how long it takes to drop to the bottom of the cup.
3) Repeat this step for all liquids
4) Record the length of time for each liquid on this page

Hypothesis Which liquid is the thickest (most viscous)? Which is the thinnest (least viscous)?

Most Viscous (thickest) _____

Least Viscous (thinnest) _____

PREVIEW

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Name: _____ 49

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

Observations

Record how long the candy takes to sink to the bottom.

Liquid	Prediction (seconds)	Actual time (seconds)

PREVIEW

Results

Answer the questions below.

1) Was your hypothesis correct or wrong? Did anything surprise you?

2) Which liquids flow the fastest?

3) Which liquids flow the slowest?

4) Can you think of a liquid that would flow faster?	
5) Can you think of a liquid that would flow slower?	

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Name: _____ 50

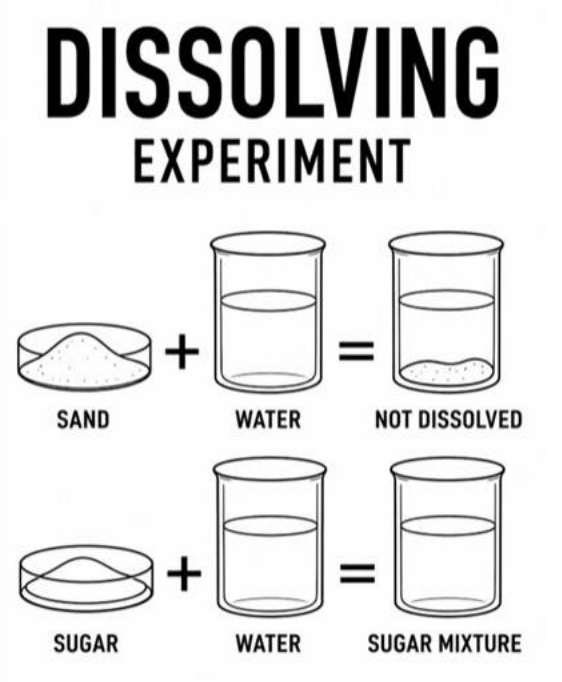
Curriculum Connection
C2.5

Combing Liquids and Solids

Combining Liquids and Solids

When we combine a liquid with a solid, different things can happen. Sometimes the solid will mix with the liquid. Other times, a solid will not mix and both the [illegible] and solid will stay the same.

[illegible] solid mix into a liquid, we say [illegible] For example, juice powder will [illegible] The mixture makes yummy [illegible]



PREVIEW

Dissolving Solids

Not all solids will dissolve in a [illegible] with water. This means you can stir and stir and nothing will happ[illegible] will [illegible] water and sand in the bottom of your cup.

Sugar is a solid that will dissolve in water. [illegible] ter, you will get a cloudy mixture. Check out the other dissolving s[illegible] w:

Dissolving Solids	Solids That Won[illegible]
Salt	Sand
Sugar	Flour
Coffee	Rocks

Cooking – Mixing Solids and Liquids

When we cook, we combine some liquids and solids to make tasty things. When we mix chocolate milk powder (solid), with milk (liquid), we get chocolate milk - a liquid. Measuring the liquids and solids we combine is important when we are cooking. When we make jello, if we add too much water, the gelatin will not set, and it will remain liquid.

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Curriculum Connection
C2.5

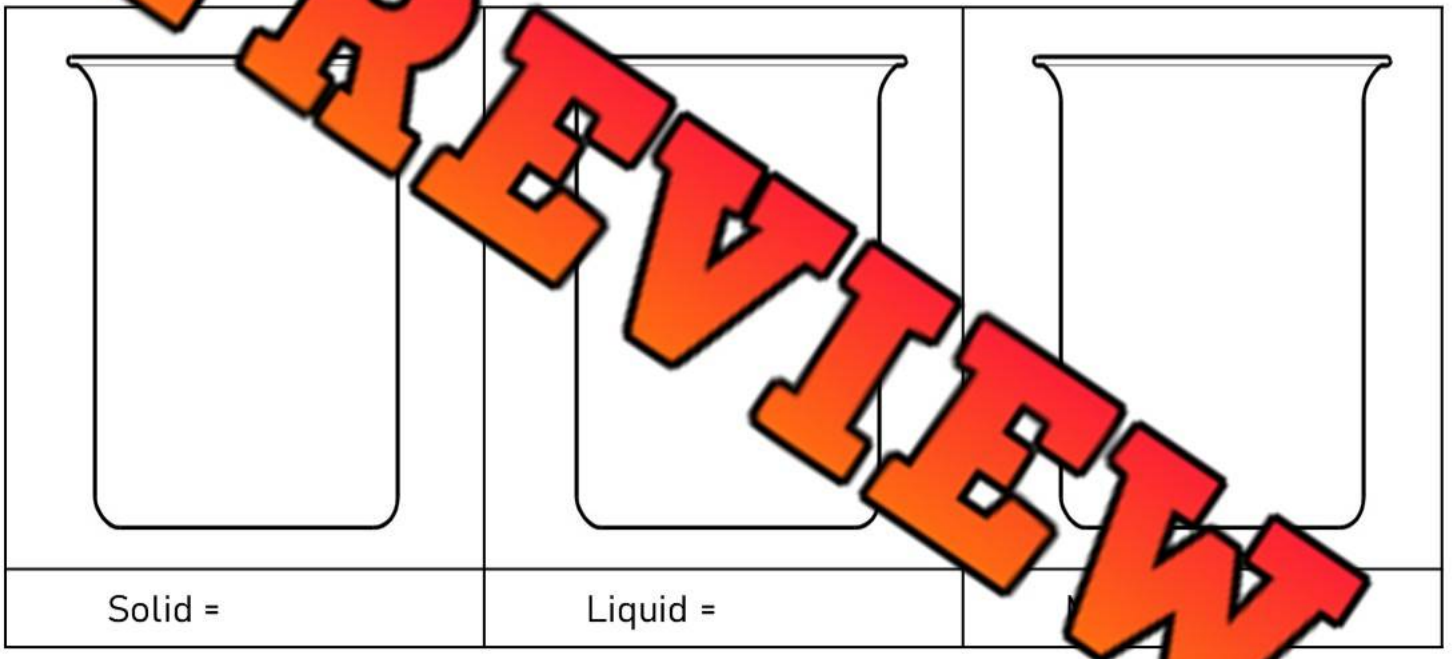
True or False

Is the statement true or false?

1) Rock will dissolve in water.	True	False
2) Sugar will dissolve in water.	True	False
3) When we add salt to water, they mix together.	True	False
4) Chocolate powder is a solid and milk is a liquid.	True	False
5) Mud is ixture of a solid (dirt) and a liquid (water).	True	False

Diagra

m of a mixture. Label the solids and liquids.

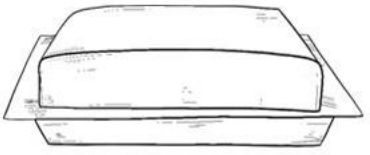
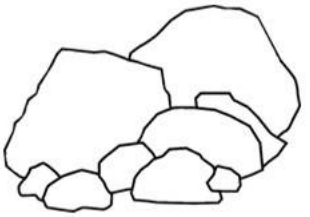


Solid =	Liquid =	

PREVIEW

Dissolve

Will the solid dissolve in water?

Butter	Rocks	Sugar
		
Yes / No	Yes / No	Yes / No

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Curriculum Connection
C2.5

Exit Cards

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

Name: _____ Mark

Will it dissolve? Circle the correct answer.

1) Which solid will dissolve in water?	
Sand	Sugar
2) Which solid will NOT dissolve in water?	
Salt	Rock
3) What happens when you mix sugar and water?	
It dissolves	It stays the same
4) What happens when you mix sand and water?	
It dissolves	It sinks to the bottom

Name: _____ Mark

Will it dissolve? Circle the correct answer.

1) Which solid will dissolve in water?	
Sand	Sugar
2) Which solid will NOT dissolve in water?	
Salt	Rock
3) What happens when you mix sugar and water?	
It dissolves	It stays the same
4) What happens when you mix sand and water?	
It dissolves	It sinks to the bottom

Name: _____ Mark

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1) Which solid will dissolve in water?	
Sand	Sugar
2) Which solid will NOT dissolve in water?	
Salt	Rock
3) What happens when you mix sugar and water?	
It dissolves	It stays the same
4) What happens when you mix sand and water?	
It dissolves	It sinks to the bottom

PREVIEW

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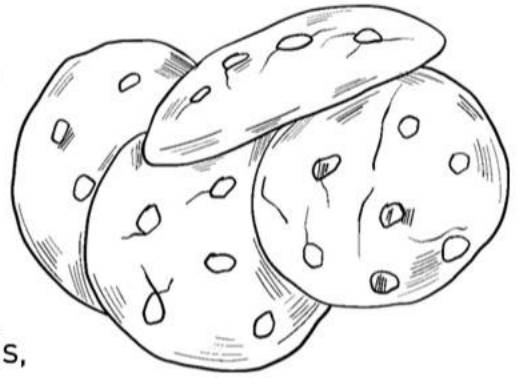
Curriculum Connection
C2.5

Different Mixtures

Mixing Liquids and Solids



We make mixtures all the time. When you make your cereal in the morning, you are making a mixture. You mix the solid cereal with the liquid milk. The solid doesn't dissolve, but it is still a mixture.

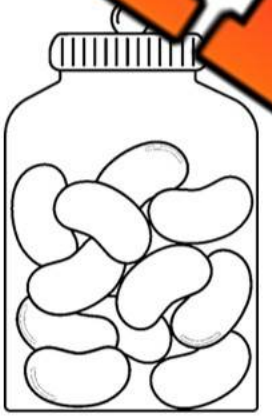
We can mix liquids with solids, solids with solids, and even liquids with liquids. Check out some examples below!

PREVIEW



Liquids with Solids

- Salad – salad dressing with lettuce
- Ice cubes in a drink
- Whipped cream on hot chocolate
- Pizza – tomato sauce with cheese and dough



Solids with Solids

- Party-mix chips
- Different coloured jelly-beans
- Cookies with chocolate chips
- Bread with jam



Liquids with Liquids

- Water with lemon juice
- Water with oil
- Milk and chocolate syrup
- Coffee and cream

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Curriculum Connection
C2.5

True or False

Is the statement true or false?

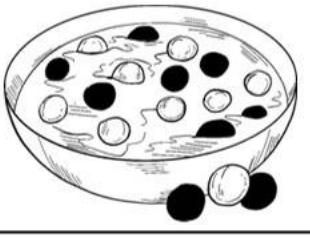
1) Mixtures can only have a liquid and a solid.	True	False
2) Pizza has different solids mixed.	True	False
3) Coffee with cream has liquid mixed with another liquid.	True	False
4) To mak ixture, a solid has to dissolve in a liquid.	True	False
5) Ice wa and liquids mixed.	True	False

PREVIEW

Mixture Type

ty f mixture it is.

Sandwich	Past Sauce	Coffee and Cream
		
Solid – Solid	Solid – Solid	– Solid
Solid – Liquid	Solid – Liquid	
Liquid - Liquid	Liquid - Liquid	

Hot Chocolate and Marshmallows	Cereal	Breakfast
		
Solid – Solid	Solid – Solid	Solid – Solid
Solid – Liquid	Solid – Liquid	Solid – Liquid
Liquid - Liquid	Liquid - Liquid	Liquid - Liquid

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

Experiment - Gelatin

Research Question — What are we testing?

What will we see about the changing states of matter when we make gelatin?

Materials — What do we need for our experiment?

- elec[illegible]
- [illegible]
- [illegible]ring cu[illegible]
- stirring sp[illegible]
- gelatin pa[illegible] colou[illegible]een and red)
- water
- ice cubes



PREVIEW

Method — How do we complete th[illegible]ent?

1) Empty 1 packet of red gelatin powder i[illegible]lear b[illegible]
2) Empty 1 packet of green gelatin into anoth[illegible]l
3) Following the directions on the gelatin packet, ad[illegible]eq[illegible]of boiling water to each bowl.
4) Stir each bowl and watch what happens to the gelatin powder.
5) Add cold water to the red gelation.
6) Add ice cubes to the green gelation so you can compare cold water to ice
7) Stir both bowls until the ice cubes have melted in the green bowl and the red bowl mixture is well mixed.
8) Observe and record what state of matter is in the bowls.
9) Set both bowls into a refrigerator and check them in 1 hour 2 hours and 3 hours. Observe and record the state of matter in each bowl at the 1-hour, 2-hour and 3-hour time.

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

Hypothesis Will the gelatin turn into a solid? Which mixture will change faster?

Observation Circle which state of matter the gelatin is.

Time	Observations – Red Jello	Observations – Green Jello
After 1 hour	Solid or Liquid	Solid or Liquid
After 2 hours	Solid or Liquid	Solid or Liquid
After 3 hours	Solid or Liquid	Solid or Liquid

Results Answer the questions below.

1) Was your hypothesis correct or wrong? Explain.

2) Did using ice cubes have an effect on the gelatin? Explain.

3) Does gelatin start as a liquid or solid?

Liquid	Solid

4) Does gelatin end as a liquid or solid?

Liquid	Solid

PREVIEW

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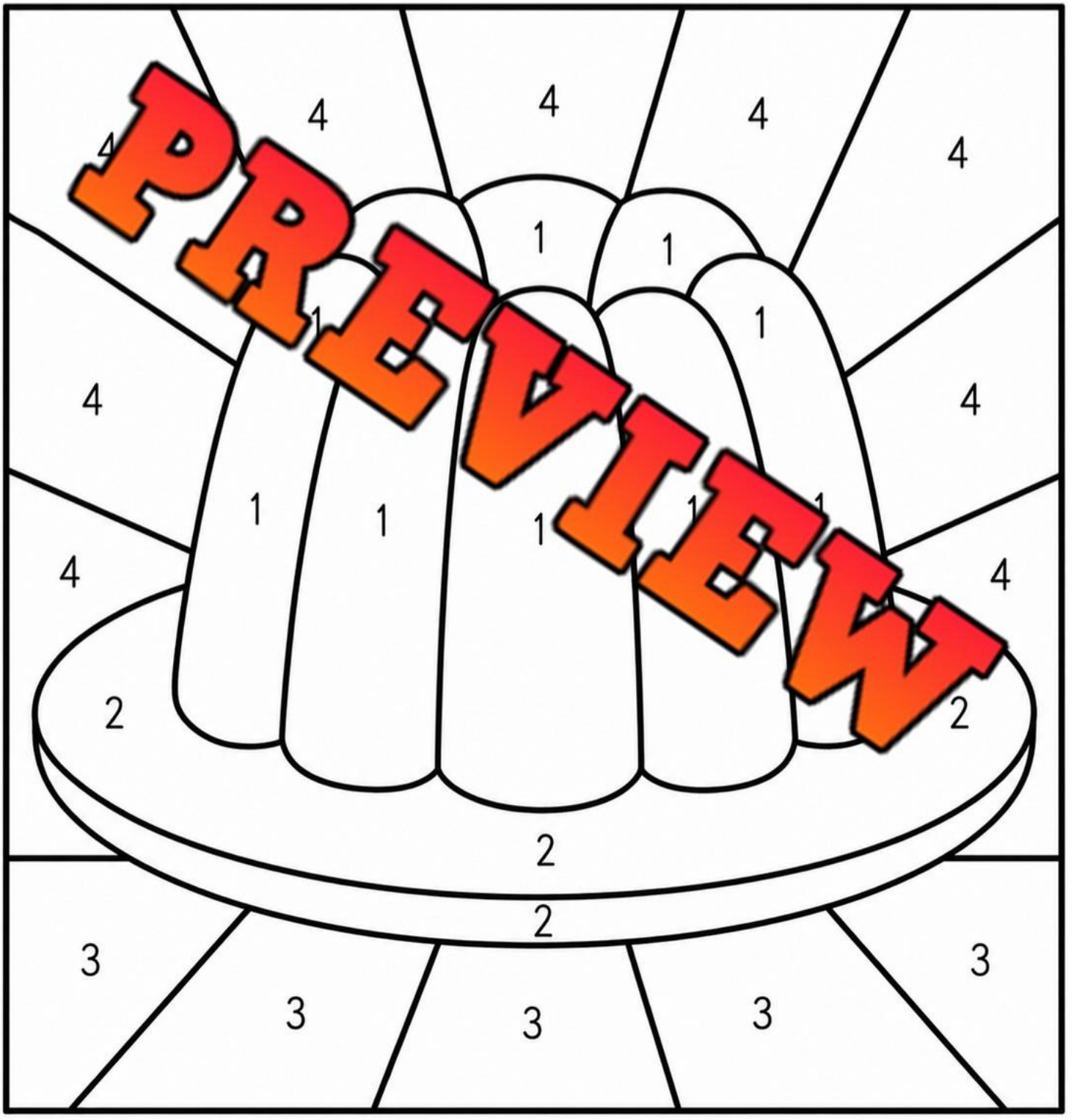
Curriculum Connection
A1.3, A1.4, A1.5

Colouring Page – Gelatin

Colour Colour the gelatin below using the colour codes.
Colour Code: 1 = Red, 2 = gray, 3 = brown, and 4 = yellow



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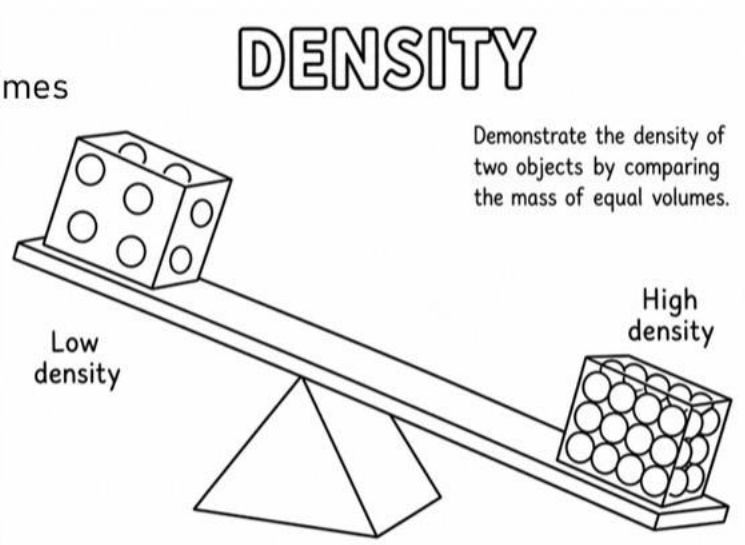
Curriculum Connection
C2.6

Sink or Float

Sink or Float?

When we mix a solid with a liquid, sometimes the solid dissolves so we can't see it. Other times, the solid sinks or floats. For exam[illegible]nd will sink in water. This is g[illegible]se if sand floated, our [illegible]ss!



PREVIEW

Density of Soli[illegible]

Solids will sink or flo[illegible]sity. Remember that solids are made of particles. **Density** is how ti[illegible]ked [illegible]s are. A high dense solid has very tightly packed particles, like a rock or [illegible]avy compared to their size.

A solid with a low density has lo[illegible]y packe[illegible]ticl[illegible]This makes the solid light compared to its size. Examples of solids [illegible]low [illegible]plastic water bottles, paper, leaves, feathers, and sponges.

Density of Water

Water is made of particles as well. So, water has a density too. Water's [illegible]y isn't high or low, it's somewhere in between.



Why Do Solids Sink Or Float?

If a solid has a higher density than water, it will sink. It weighs too much compared to its size, so it cuts right through the water to the bottom.

If a solid has a lower density than water, it will float. When something floats, we say it is **buoyant** (BOY + UNT). A piece of Lego is buoyant. A brick is not buoyant.

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Curriculum Connection
C2.6

True or False

Are the statements below true or false?

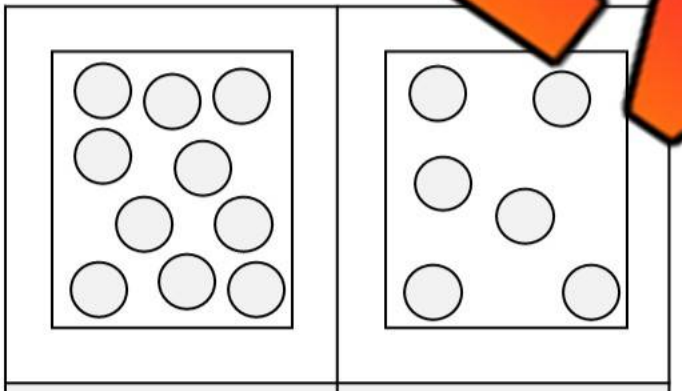
1) Ice is buoyant in water.	True	False
2) Ice has a higher density than water.	True	False
3) Ice is not buoyant in water.	True	False
4) Really l[illegible]ice cubes will sink in water.	True	False
5) One c[illegible]weighs more than one cup of water.	True	False

PREVIEW

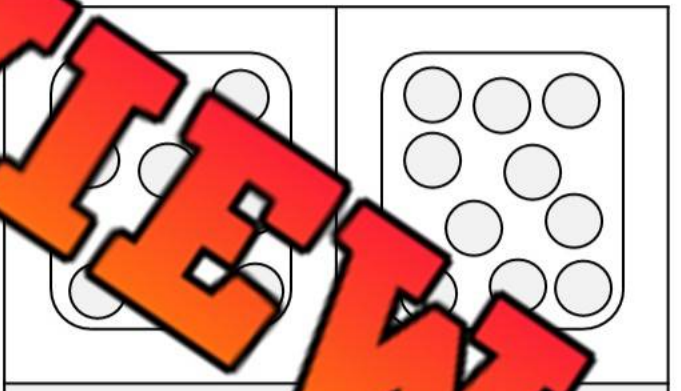
Density

Which[illegible]a h[illegible]her density?

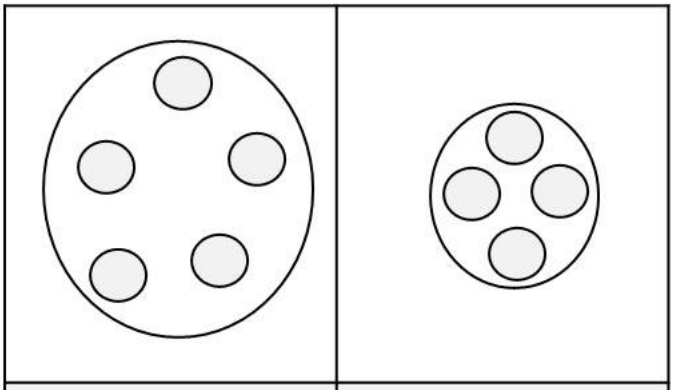
The particles in the [illegible]s h[illegible] Circle which solid has a higher density.



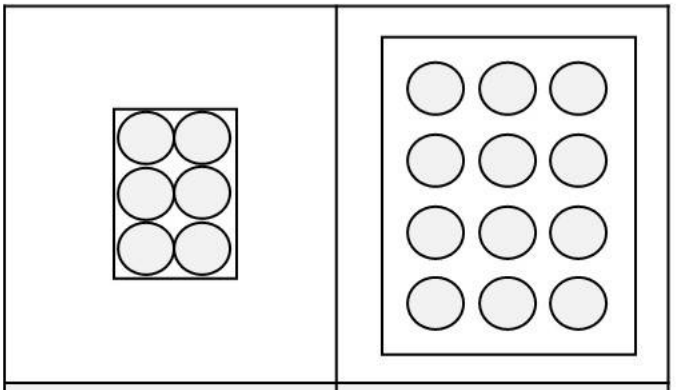
Solid 1 | Solid 2



Solid 1 | [illegible]d 2



Solid 1 | Solid 2



Solid 1 | Solid 2

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Curriculum Connection
C2.6

Exit Cards

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

Name: _____ Mark

Match each item in Column A to B.

	Column A	Column B
	1) A rock in water	A) Floats
	2) A sponge in water	B) Sinks
	3) A solid with high density	C) Has loosely packed particles
	4) A solid with low density	D) Stays on top of water
	5) Something that is buoyant	E) Has tightly packed particles

Name: _____ Mark

Match each item in Column A to B.

	Column A	Column B
	1) A rock in water	A) Floats
	2) A sponge in water	B) Sinks
	3) A solid with high density	C) Has loosely packed particles
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	3) A solid with high density	C) Has loosely packed particles
	4) A solid with low density	D) Stays on top of water
	5) Something that is buoyant	E) Has tightly packed particles

PREVIEW

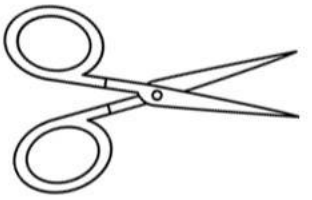
Name: _____ 63

Curriculum Connection
C2.6

Experiment - Objects Sink or Float?

Research Question Will the objects sink or float?

If we put the object in water, will it sink or float?



Materials What do we need for our experiment?

- One b[illegible] water
- 8 [illegible] cissors, eraser, paper ball, p[illegible] block, [illegible] ttle, stick, rock, pencil
- Recordin[illegible]



Method How do w[illegible] iment?

1) One at a time, place the o[illegible] ts i[illegible] water
2) Record whether it sinks
3) Answer the questions

Hypothesis Will the object float or sink?

Objects You Will Test	Float
Scissors	
Pencil	
Eraser	
Plastic Block	
Rock	
Stick	
Water bottle	
Paper Ball	

PREVIEW

Name: _____ 64

Curriculum Connection
C2.6

Observations

Did the object sink or float?



Objects	Float or Sink
Scissors	
Pencil	
Eraser	
[illegible] Block	
[illegible]	
[illegible]	
Water [illegible]	
Paper Ball	

PREVIEW

Results

Answer the questions below

1) Do heavy or light objects float?
Heavy Light
2) Do metal objects float or sink?
Sink Float
3) Do wood objects sink or float?
Sink Float
4) Do plastic objects sink or float?
Sink Float

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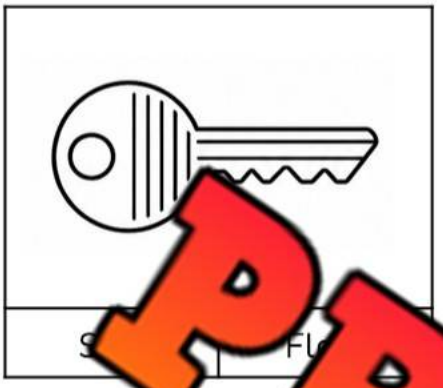
Name: _____ 66

Curriculum Connection
C2.6

Sink or Float

Sink or Float? Will the object sink or float? Circle your answer.



Sink | Float



Sink | Float



Sink | Float



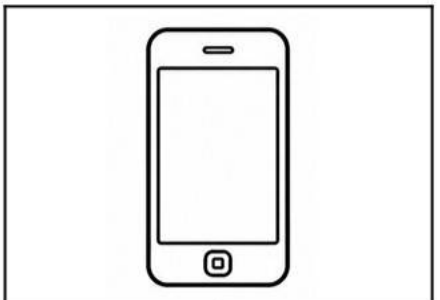
Sink | Float



Sink | Float



Sink | Float



Sink | Float



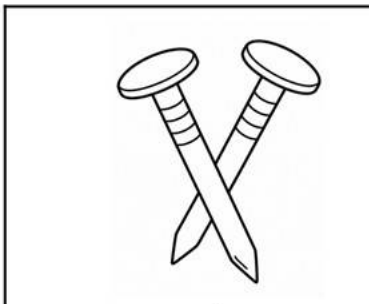
Sink | Float



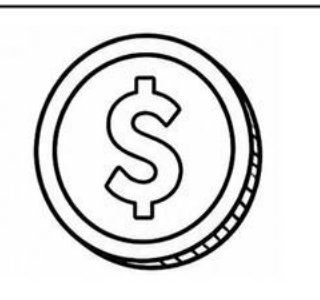
Sink | Float



Sink | Float



Sink | Float



Sink | Float

PREVIEW

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Name: _____ 69

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

Experiment – Buoyancy of Water

Materials
What do we need for our experiment?

- ❑ 3 clear cups or glasses that can fit an egg
- ❑ 1-3 eggs – one will work if you take the egg out each time to test the water
- ❑ 8 tablespoons of salt and sugar
- ❑ Wate
- ❑ Spo with



Procedure
How mplete the experiment?

1) Fill the 3 cup wa
2) Label the cups o wi the g labels – saltwater, control, and sugar water
3) Put the 8 tablespoons of t int d saltwater. Stir well to dissolve the salt into the water
4) Put the 8 tablespoons of sugar into the cu elle r water. Stir well to dissolve the sugar into the water.
5) Put the egg in the control glass of water a ed. Is the egg buoyant in the water?
6) Put the egg in the sugar water and record what ha ed. yant in the sugar water?
7) Put the egg in the saltwater and record what happened. Is the oyant in the saltwater?

PREVIEW

Hypothesis
Will the egg be buoyant in water, saltwater, sugar water? Rank the types of water providing the most buoyancy to least buoyancy.

Fluid	Buoyancy	
Water	Yes	No
Sugar Water	Yes	No
Saltwater	Yes	No

Fluid	Rank 1 = most buoyant, 3 = least buoyant
Water	
Sugar Water	
Saltwater	

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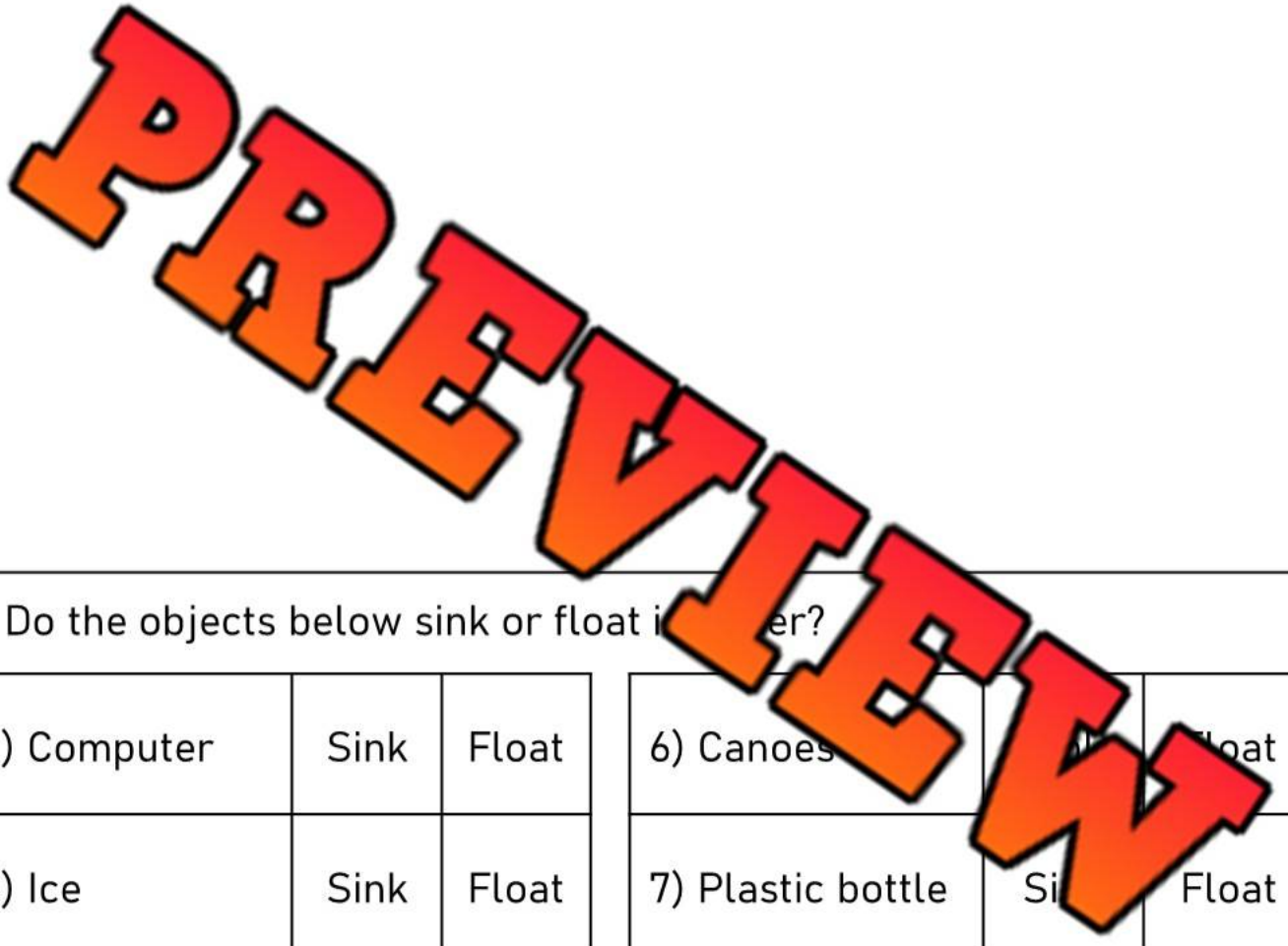
Curriculum Connection
A1.1

Research – Floating Objects

Research Learn more about floating objects.

1) Write 10 objects that float below.



2) Do the objects below sink or float in water?

1) Computer	Sink	Float
2) Ice	Sink	Float
3) Sand	Sink	Float
4) Leaves	Sink	Float
5) Rocks	Sink	Float

6) Canoes		Float
7) Plastic bottle	Sink	Float
8) Basketball	Sink	Float
9) Golf ball	Sink	Float
10) Hockey puck	Sink	Float

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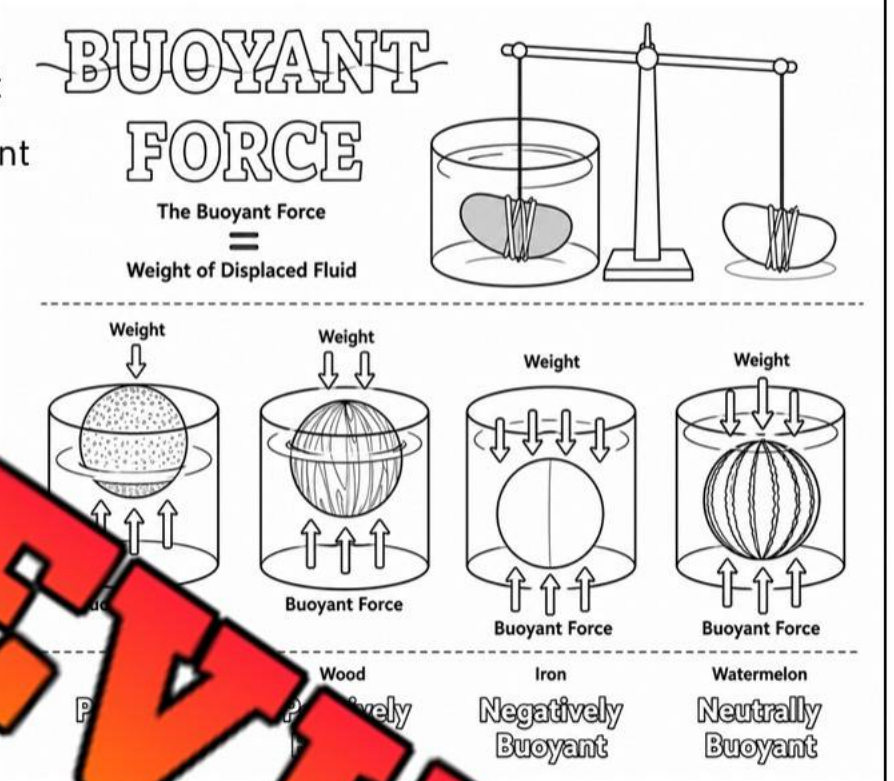
Name: _____ 71

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

Scuba Divers

Types of Buoyant Forces

Buoyancy is being able to float in water. A basketball is buoyant in water. A rock is not buoyant in water.



Pos[illegible]yan[illegible]

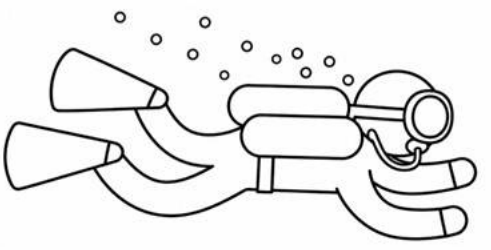
If an object ca[illegible] positively buo[illegible]he diagram, the cork is [illegible] buoyant and so is the wo[illegible]

Negatively Buoyant

An object is negatively buoyant if it sinks i[illegible]. In th[illegible], the iron (metal) is negatively buoyant because it sinks.

Neutrally Buoyant

A neutrally buoyant object does not sink or float. Instead, it stays b[illegible]d at the same level in a fluid. A watermelon is neutrally buoyant because it stays in the middle of the water.



Scuba Divers

Scuba divers wear gear to make them neutrally buoyant. They do this by changing the weight of their scuba suits. They also breathe slowly and evenly. If they hold their breath, the air in their bodies makes them float.

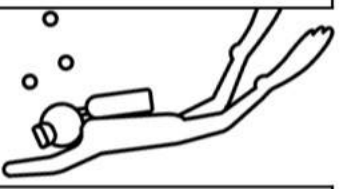
PREVIEW

Name: _____ 72

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

Questioning Write two questions you have after reading the text.

1)	
2)	



Questio questions below.

1) How can a [illegible] be neutrally buoyant?

2) What type of things do you think a diver [illegible]

PREVIEW

True or False Is the statement true or false?

1) A basketball is positively buoyant.	True	False
2) A rock is positively buoyant.	True	False
3) A watermelon is neutrally buoyant.	True	False
4) A scuba diver wants to be negatively buoyant.	True	False
5) A cork is positively buoyant.	True	False

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Curriculum Connection
C2.6

Exit Cards

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

Name: _____ Mark ____

Check only the true statements.

Statement	✓
A buoyant object can float in water.	
A rock is buoyant in water.	
Objects that sink are negatively buoyant.	
Objects that float are positively buoyant.	
Neutrally buoyant objects stay in the middle of the water.	
Scuba divers can control how they float in water.	
Holding your breath can help you float.	
All objects float in water.	

Name: _____ Mark ____

Check only the true statements.

Statement	✓
A buoyant object can float in water.	
A rock is buoyant in water.	
Objects that sink are negatively buoyant.	
Objects that float are positively buoyant.	
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Name: _____ Mark ____

Check only the true statements.

Statement	✓
A buoyant object can float in water.	
A rock is buoyant in water.	
Objects that sink are negatively buoyant.	
Objects that float are positively buoyant.	
Neutrally buoyant objects stay in the middle of the water.	
Scuba divers can control how they float in water.	
Holding your breath can help you float.	
All objects float in water.	

PREVIEW

Name: _____ 74

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

Colouring Page – Scuba Diving

Colour Colour the scuba diver below.



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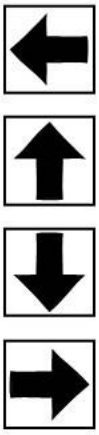
Curriculum Connection
A2.1

Coding – Scuba Diving



PREVIEW

Direction Code the scuba diver to the treasure. Avoid the s[illegible]weed! Draw arrows showing the diver's first move, second move...



1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19

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Name: _____ 78

Curriculum Connection
C2.3, C2.4

Memory Game – Solids and Liquids

Objective

What are we learning about

Students will learn to match examples and properties of solids and liquids. This activity emphasizes how these forms of matter behave, how they can be identified, and how they are used in everyday life.

PREVIEW

Materials

What you will need for the activity

- Memory game cards with solids, liquids, and their properties (pro
- A small table or clear area (flo



Instructions

How you will complete the activity

1. Divide the class into groups of 3 or 4. Give each group a set of Memory Game cards (provided).
2. Have each group lay all the cards face down in a grid on the table.
3. The students take turns flipping over two cards at a time, trying to find matching solid or liquid and its correct property or example.
4. If a student finds a match, they remove those cards from the grid and keep them.
5. If the cards do not match, they are turned back over, and the next student takes a turn.
6. The game continues until all the cards have been matched.
7. After the game, review the properties and examples of solids and liquids with the class.
8. Discuss why these concepts are important to understand and how they relate to everyday life.

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Name: _____ 79

Curriculum Connection
C2.3, C2.4

Cards | Memory Game Cards

Term	Definition
Matter	Anything that takes up space and has mass.
[illegible]es	Tiny pieces that all matter is made of.
Solid	A t[illegible]e of [illegible]r that keeps its [illegible]me.
Liquid	A type of matter th[illegible]akes the shape of its container.
Buoyancy	The ability of an object to float in a liquid.

PREVIEW

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Name: _____ 80

Curriculum Connection
C2.3, C2.4

Cards | Memory Game Cards

Term	Definition
Melting Point	The temperature when a solid changes into a liquid.
Freezing Point	The temperature when a liquid changes into a solid.
Density	How tightly packed the particles in matter.
High Viscosity	A liquid that flows very slowly because it is thick.
Low Viscosity	A liquid that flows quickly because it is thin.

PREVIEW

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Name: _____ 81

Curriculum Connection
C2.3, C2.4

Cards | Memory Game Cards

Term	Definition
Freezing Rain	Rain that turns into ice when it hits the ground.
Hum[illegible] So	A solid that is made by people, not found in nature.
Natural Solid	A [illegible] found in nature, not [illegible] people.
Change in State of Matter	When matter chang[illegible] om one form (solid or liquid) to another.
Mixture	Two or more substances combined where each keeps its own properties.

PREVIEW

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Name: _____ 84

Curriculum Connection
C2.6

Solids that Absorb or Repel Water

Solids that Absorb or Repel Water

When a solid gets wet, it will either absorb or repel water. Some solid materials repel water well and others absorb water well. **Repel** means that water does not get into the solid very well. **Absorb** means water gets into the material.

PREVIEW

Solids Th[illegible] Water

In li[illegible] solids that will suck in water and hold it. For example, if we spill milk, we w[illegible] absorb the milk and pick up the milk. Below are some example[illegible] that [illegible]ater.

- Sponge
- Napkin
- Paper towel
- Face cloth
- Sock
- Cotton ball



Solids that Repel Water

There are also times when we need solids that will repel water. For ex[illegible] an umbrella repels the rain that falls on it. If an umbrella absorbed water, it would get heavy and might start dripping on you. Below are some examples of solids that repel water.

- Raingear – raincoat or rubber boots
- Steel or metal
- Wax paper
- Styrofoam
- Plastics



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Name: _____ 85

Curriculum Connection
C2.6



True or False

Is the statement true or false?

1) Repel means to let water in.	True	False
2) Absorb means to let water in.	True	False
3) Rocks absorb water.	True	False
4) Rubber ...ts repel water.	True	False
5) A spo... ...ater.	True	False

PREVIEW

Making Co...necti... ...t d...s this reading remind you of in your life?

Visualizing

Draw what you were picturing while you were readi... ...cture.

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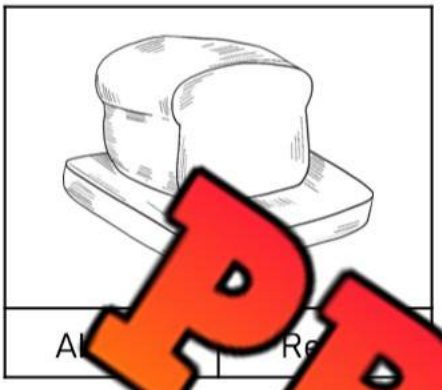
Name: _____ 86

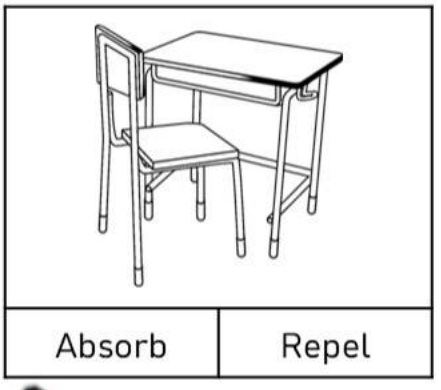
Curriculum Connection
C2.6

Absorb or Repel?

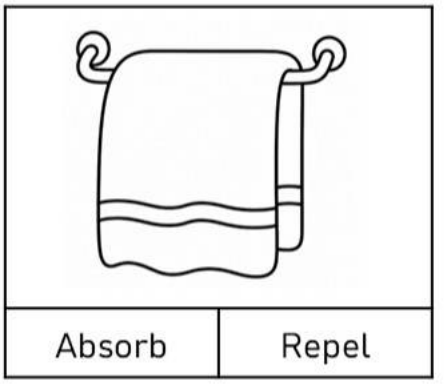
Absorb or Repel? Will the object absorb or repel water? Circle your answer.



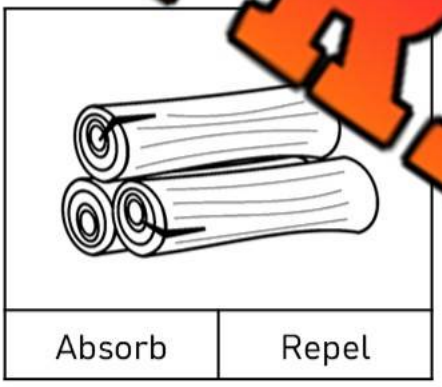
Absorb | Repel



Absorb | Repel



Absorb | Repel



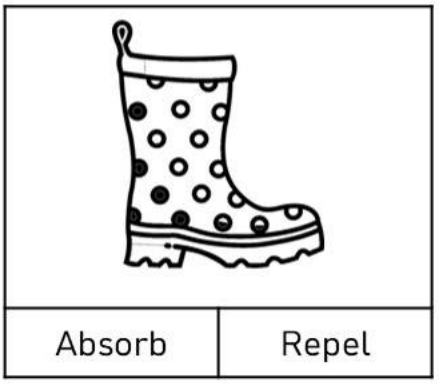
Absorb | Repel



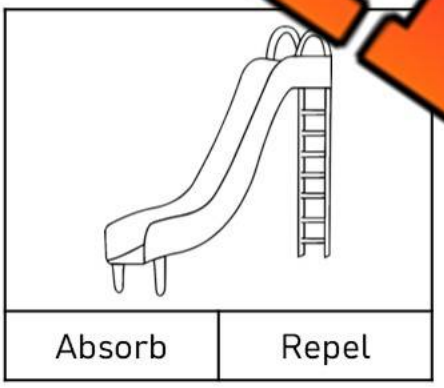
Absorb | Repel



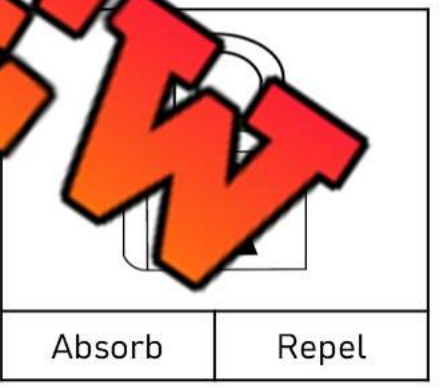
Absorb | Repel



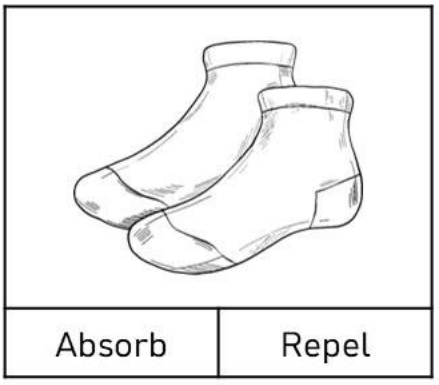
Absorb | Repel



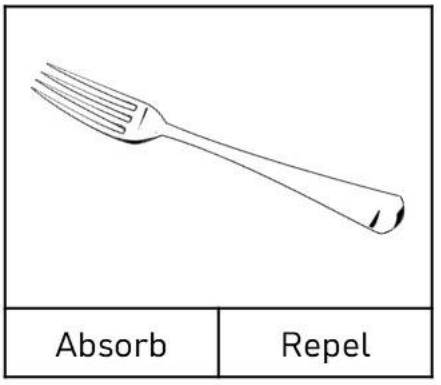
Absorb | Repel



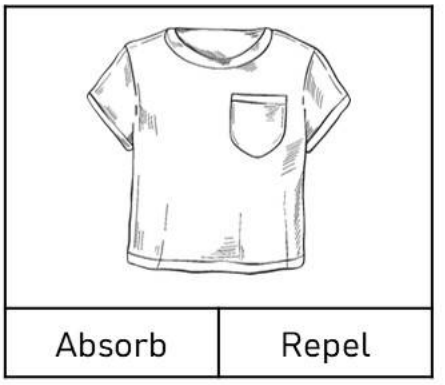
Absorb | Repel



Absorb | Repel



Absorb | Repel



Absorb | Repel

PREVIEW

Exit Cards

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

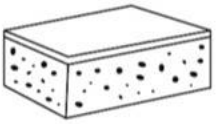
Name: _____ | Mark

Will the object absorb or repel water? Circle your answer.

	
Absorb / Repel	Absorb / Repel
Sponge	Umbrella
	
Absorb / Repel	Absorb / Repel
Paper Towel	Raincoat

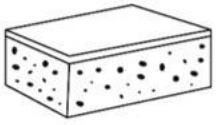
Name: _____ | Mark

Will the object absorb or repel water? Circle your answer.

	
Absorb / Repel	Absorb / Repel
Sponge	Umbrella
	
Absorb / Repel	Absorb / Repel
Paper Towel	Raincoat

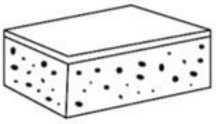
Name: _____ | Mark

Will the object absorb or repel water? Circle your answer.

	
Absorb / Repel	Absorb / Repel
Sponge	Umbrella
	
Absorb / Repel	Absorb / Repel
Paper Towel	Raincoat

Name: _____ | Mark

Will the object absorb or repel water? Circle your answer.

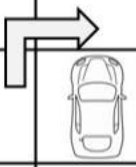
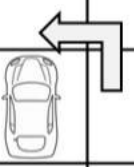
	
Absorb / Repel	Absorb / Repel
Sponge	Umbrella
	
Absorb / Repel	Absorb / Repel
Paper Towel	Raincoat

PREVIEW

Name: _____ 92

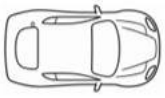
Curriculum Connection
A2.1

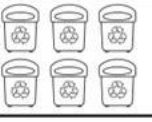
Self Driving Car – Writing Code

This is a self-driving car.	Right makes it turn right	Left makes it turn left	Forward makes the car move forward by the number shown
			
It understand 2 command	**Right**	**Left**	**Forward 1**

PREVIEW

Directions Write the code to get the car full of recycling to the bins.





Code #1 – 2 Codes	Code #1 – 3 Codes	Code #3 – 3 Codes
_____	_____	_____
_____	_____	_____
_____	_____	_____

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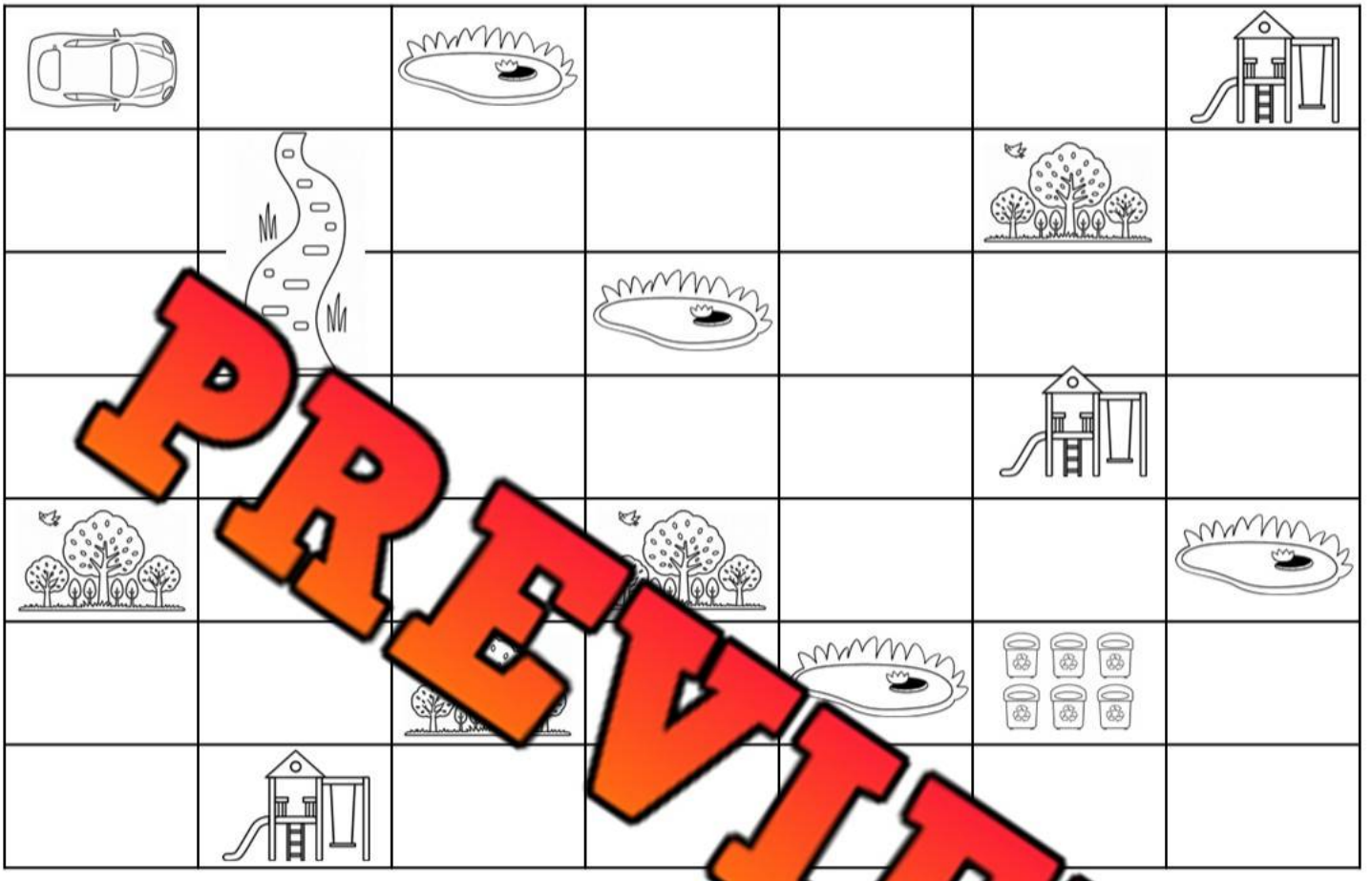
Name: _____ 93

Curriculum Connection
A2.1

If Then Conditional Statements – Activity



PREVIEW

Directions Will the code get the car to the bi[illegible] re-w[illegible]e code

Code
Left
Forward 3
Left
Forward 5
Right
Forward 1
Left
Forward 1
Will it work?
Yes No

Code
_____
_____
_____
_____
_____
_____
_____
_____

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Name: _____ 96

Curriculum Connection
C1.1, C2.7

Toxic Waste

What is Toxic Waste?

Waste is anything we need to get rid of. **Toxic waste** is any waste that is harmful to people, plants, or animals. When we get rid of toxic waste, we need to be careful as it could hurt other living things.



To[illegible] is often made by factories, construction sites, hosp[illegible] and far[illegible] waste can be flammable, corrosive, or reactive.

PREVIEW

- Flammable – will ea[illegible] g[illegible] on fi[illegible] mples: gas, oil, grease
- Corrosive – will burn, ru[illegible] bre[illegible] [illegible]terials. Example: battery acid
- Reactive – will explode easily. Ex[illegible]s: expl[illegible], pressurized cans

Examples of Toxic Waste in our Households

At home, it is important to be careful with toxic w[illegible] le cannot [illegible]w away old batteries in the garbage or dump oils down the drain. D[illegible] so [illegible] environment because these materials can cause fires, explode, or cause burns and rusting.



When living things in our environment come in contact with toxic waste, they can get sick by consuming it.

Cleaning supplies are usually forms of hazardous waste. Most cleaners are chemicals that are not natural. They do not break down in our environment, and they can get into our drinking water and make humans and other animals sick. When we pour chemicals down the drain, we are making our drinking water toxic!

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Name: _____ 97

Curriculum Connection
C1.1, C2.7

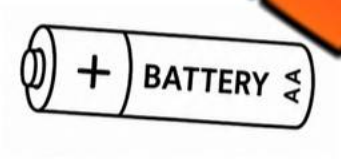
True or False

Is the statement true or false?

1) Throwing out bread is toxic waste.	True	False
2) Old batteries are toxic waste.	True	False
3) Many house cleaners are toxic waste.	True	False
4) Toxic w[illegible]te can make living things sick.	True	False
5) We sh[illegible]row out toxic waste.	True	False

Toxic?

[illegible]s the [illegible]xic or not?



Yes	No



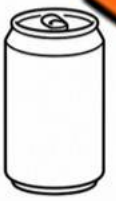
Yes	No



Yes	No



Yes	No



Yes	No



Yes	No

PREVIEW

Visualizing

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

_____

_____

_____

_____

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Name: _____ 98

Curriculum Connection
A2.1, A2.2

If/Else Statements - Toxic Waste Safety

Reminder:
- Some waste is **safe** and can go in the garbage.
- Some waste is **toxic** and needs special disposal.
- Toxic waste can be **harmful** to people, animals, and the environment.

Directions A safety helper is deciding what to do with waste. Write the THEN statements that match each IF statement.

1) If th… a …ttery, then

2) If the waste … craps

3) If the waste is a cleaning chemical,

4) If the waste is oil or gas, then

Directions Draw one picture showing the correct way to handle one type … above.

PREVIEW

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Name: _____ Date: _____

Unit Test – Properties of Liquids and Solids

Multiple Choice /10

1) Which of the following is an example of matter? a) Daydreaming b) An Idea for a new computer c) Talking to someone d) Your dog	2) Which of the following is an example of a liquid? a) Table b) Peanut Butter c) Wood d) Rock
3) Which of the following is an example of a solid? a) Peanut Butter b) Honey c) Melted Butter d) Shoes	4) Which state of matter flows a) Liquids b) Solids c) Rocks d) All of the above
5) Which state of matter takes the shape of its container? a) Liquids b) Solids c) Rock d) All of the above	6) Water is a liquid but can also be a solid as... a) Water b) Ice c) Steam d) Vapour
7) When snow turns to rain, it is a... a) Solid staying a solid b) A liquid turning into a solid c) A solid turning into a liquid d) A liquid staying a liquid	8) Cereal and milk is a ... mixture? a) Solid – solid b) Solid – liquid c) Liquid – liquid d) None of the above
9) A rock sinks in water, so it is a) Buoyant b) Not buoyant c) Floating d) None of the above	10) Does a towel absorb or repel water? a) Absorb b) Repel

PREVIEW

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Fill in the Blanks

Write the missing word on the line.

Word Bank				
Strong	Soft	Living	Natural	Human-Made
Solid	Liquid	Flow	Viscosity	Particles

1) Peanut butter is a _____ that flows.

2) Steel i_____ solid.

3) Cott_____ solid.

4) Wood is an_____ a _____.

5) A tree is a _____lid because no one makes trees.

6) A school is a _____

7) Humans are _____lids.

8) All matter is made up of _____.

9) A liquid that flows fast has a low _____

10) All liquids _____.

PREVIEW

Solid or Liquid

Circle whether it is a solid or liquid.

1) School	Solid	Liquid
2) Glue	Solid	Liquid
3) Grain of Sand	Solid	Liquid
4) Oil	Solid	Liquid
5) Yogurt	Solid	Liquid

6) Juice	Solid	Liquid
7) Houses	Solid	Liquid
8) Rocks	Solid	Liquid
9) Milkshake	Solid	Liquid
10) Shampoo	Solid	Liquid

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Absorb or Repel?

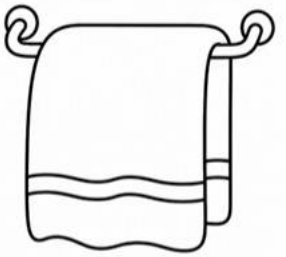
Will the object absorb or repel water? Circle your answer.



Absorb	Repel



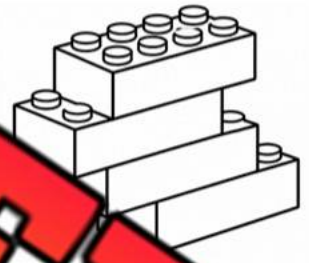
Absorb	Repel



Absorb	Repel



Absorb	Repel



Absorb	Repel

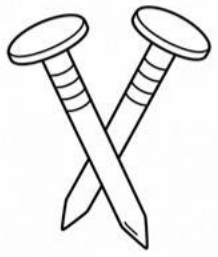


Absorb	Repel

PREVIEW

Sink or Float?

Will the object sink or float? Circle your answer.



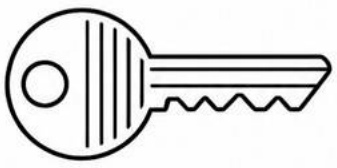
Sink	Float



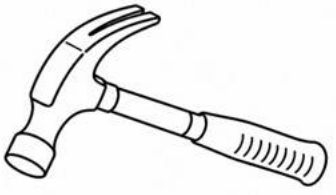
Sink	Float



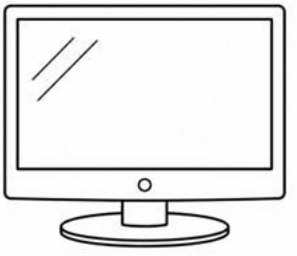
Sink	Float



Sink	Float



Sink	Float



Sink	Float

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