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Google Slides Lessons Preview

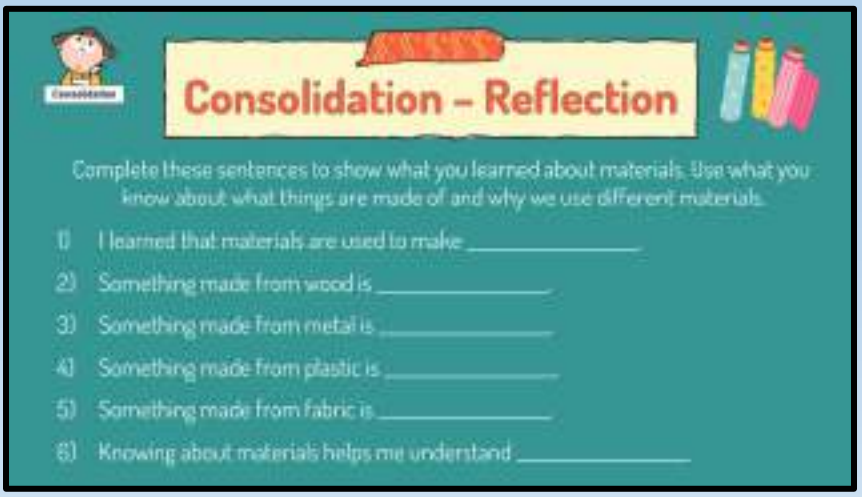
Alberta Science Curriculum
Matter Unit – Grade 2

3-Part Lesson Format

Part 1 – Minds On!
- Learning Goals
- Discussion Questions
- Quotes
- And More!

Part 2 – Action!
- Writing
- Matching
- Drag and Drop
- Drawing
- And More!

Part 3 – Consolidation!
- Exit Cards
- Quizzes
- Reflection
- And More!



Alberta Science Curriculum
Matter Unit – Grade 2

Alberta Science Curriculum
Matter Unit – Grade 2

Workbook Preview

Grade 2 – Science Unit

Organizing Idea Matter: Matter: Understandings of the physical world are deepened by investigating matter and energy.

Guiding Question: How can the suitability of materials be determined for specific purposes?

	Learning Outcome – Students investigate direction, pathway, and speed of moving objects and animals.	**Pages**
M2.1	Materials are used to make objects	6 – 12, 43 – 59, 68 – 69
M2.2	Properties of materials that can be tested include:	33
M2.3		40
M2.4	the land, or the sky. Processed materials are made by humans	– 74
M2.5	An object can be made from different materials; e.g., a canoe can be made from wood or aluminum. Examples of objects made from natural materials that are created and used by First Nations, Métis, and Inuit are Dene birchbark baskets travois Red River carts canoes Inuit scrap	77 - 83
M2.6	Knowledge of the properties of materials and their purposes is important in many occupations and roles, such as carpenter engineer designer Knowledge Keeper or Elder First Nations, Métis, and Inuit use of materials is informed by traditional knowledge time of year availability taking only what is needed respect for the land	75 – 76
Computer Science:		
CS.1	Students apply creativity when designing instructions to achieve a desired outcome.	41, 60 - 67

NAME: _____

OBJECTS AND MATERIALS

Name: _____ 6

Curriculum Connection
M2.1

Materials

Materials are used to make things we use. The chair you are sitting in is made of materials. Chairs are often made of metal, wood, and plastic. Common building materials are:

				
	od	Plastic	Fabric	Glass

Matching line f… thing made to the material it is made of





● … ● Wood
● … ● Metal
● … ● Plastic
● … ● Fabric
● … ● Glass

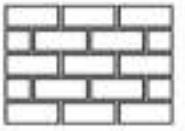



Name: _____ 7

Curriculum Connection
M2.1

Materials

Matching Write the letter from the example beside the material

	Material		Example	
1)	Rubber	☐	A)	
2)	Plastic	☐	B)	
3)	Wood	☐	C)	
4)	Stone	☐	D)	
5)	Fabric	☐	E)	
6)	Glass	☐	F)	
7)	Metal	☐	G)	
8)	Brick	☐	H)	
9)	Wool	☐	I)	
10)	Leather	☐	J)	

Name: _____ 8

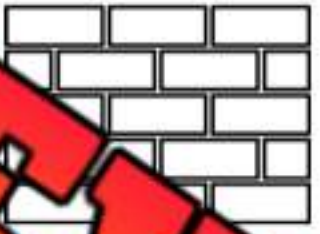
Curriculum Connection
M2.1, M2.4

Natural or Human Made Materials

We use materials to make the things we need. Some of the materials we use are found naturally in our environment. These are materials you can look outside and see. Other materials are made by humans. These materials you would never see in nature without a human making it and putting it there.

Directions: Circle whether the material is natural or human-made

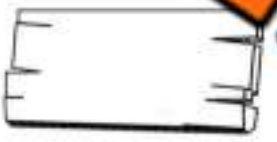
Natural	Human-Made
Wool	



Natural	Human-Made
[illegible]	

Natural	Human-Made
Steel	

Natural	Human-Made
Clay	



Natural	Human-Made
Wood	

Natural	Human-Made
Leather	

Natural	Human-Made
Stone	

Natural	Human-Made
Glass	

Natural	Human-Made
Plastic	

Name: _____ 9

Curriculum Connection
M2.1

Describing Materials

Directions Circle adjectives that describe the material

Material		Example			
1)	Rubber	Strong	Weak	Flexible	Rigid
		Hard	Soft	Heavy	Light
2)	Paper	Strong	Weak	Flexible	Rigid
			Soft	Heavy	Light
3)	Wood			Flexible	Rigid
		Hard		Heavy	Light
4)	Stone	Strong			Rigid
		Hard	Soft		
5)	Fabric	Strong	Weak		
		Hard	Soft	Heavy	Light
6)	Glass	Strong	Weak	Flexible	Rigid
		Hard	Soft	Heavy	Light
7)	Metal	Strong	Weak	Flexible	Rigid
		Hard	Soft	Heavy	Light

Curriculum Connection
M2.1

Exit Cards

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

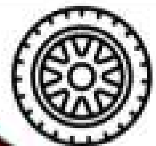
Name: ____________________ | Mark | |

Circle whether the material is natural or human-made

			
Natural	Human-Made	Natural	Human-Made
Cotton Plant		Paper	
			
Natural	Human-Made	Natural	Human-Made
Tire (Rubber)		Sand	

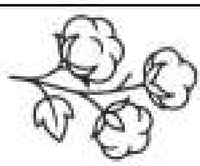
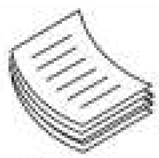
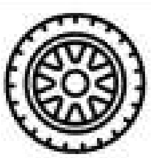
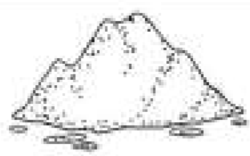
Name: ____________________ | Mark | |

Circle whether the material is natural or human-made

			
Natural	Human-Made	Natural	Human-Made
Cotton Plant		Paper	
			
Natural	Human-Made	Natural	Human-Made
Tire (Rubber)		Sand	

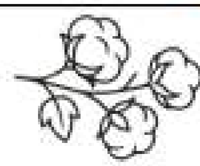
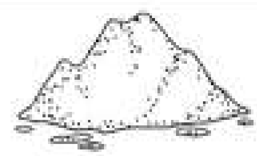
Name: ____________________ | Mark | |

Circle whether the material is natural or human-made

			
Natural	Human-Made	Natural	Human-Made
Cotton Plant		Paper	
			
Natural	Human-Made	Natural	Human-Made
Tire (Rubber)		Sand	

Name: ____________________ | Mark | |

Circle whether the material is natural or human-made

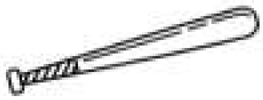
			
Natural	Human-Made	Natural	Human-Made
Cotton Plant		Paper	
			
Natural	Human-Made	Natural	Human-Made
Tire (Rubber)		Sand	

Name: ______________________

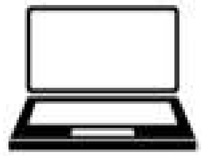
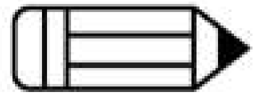
Curriculum Connection
M2.1

What are Objects?

Objects are the things we see in our lives. Objects can be touched. Some objects are made of just one material, while others are made of more than one material. Check out the examples below.

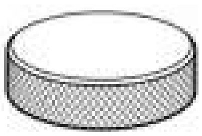



[illegible] Objects

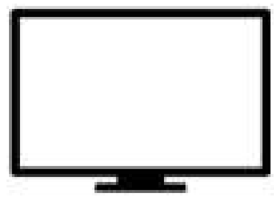
More Than One Material Objects

Directions [illegible] object is made of 1 or more than 1 material



1 | More Than 1

1 | More Than 1

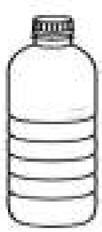


1 | More Than 1

1 | More Than 1

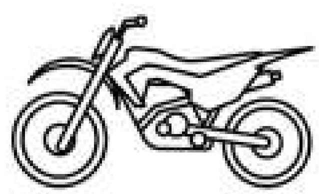
1 | More Than 1

1 | More Than 1



1 | More Than 1

1 | More Than 1



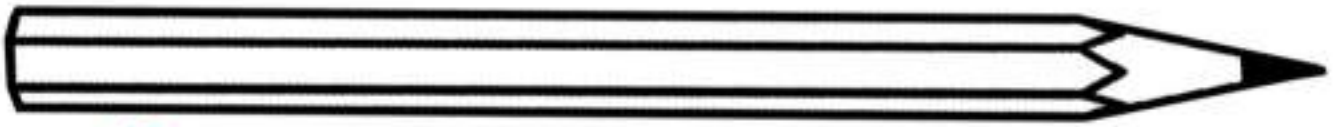
1 | More Than 1

Name: _____ 12

Curriculum Connection
M2.1

Objects Made of Materials

Directions Look at the object and circle the materials it is made of



Met	Wood	Glass	Rubber	Graphite

Metal	Wood		ubber	Cloth

Metal	Wood	Plastic	Rubber	Cloth

Metal	Wood	Plastic	Rubber	Cloth

Name: _____ 13

Curriculum Connection
M2.1

Directions What materials are the objects in your life made of?

1) Your shoes 

Cloth	Rubber	Stone	Metal	Wood	Plastic

2) Your school 

Brick	Rubber	Stone	Metal	Wood	Plastic

3) Your desk or table 

Cloth	Rubber	Glass	Metal	Wood	Plastic

4) Your chair 

Cloth	Rubber	Stone	Metal	Wood	Plastic

5) A playground 

Cloth	Rubber	Stone	Metal	Wood	Plastic

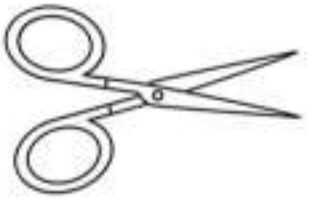
Name: _____ 14

Curriculum Connection
M2.2

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?

1) One b water
2) 8 ob cissors, eraser, paper ball, plastic b k, rock, pencil
3) Recordin

Method — do e experiment?

1) One at a time, place the in water
2) Record whether it sinks
3) Answer the questions

Hypothesis — Will the object float or

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

Name: _____ 15

Curriculum Connection
M2.2

Observations

Did the object sink or float?

Objects	Float or Sink
Scissors	
Pencil	
Eraser	
Block	
Water	
Paper Ball	

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

Name: _____ 16

Curriculum Connection
M2.2

Research - Things That Float

Objects

Write down 5 objects that float

1)	
2)	
5)	

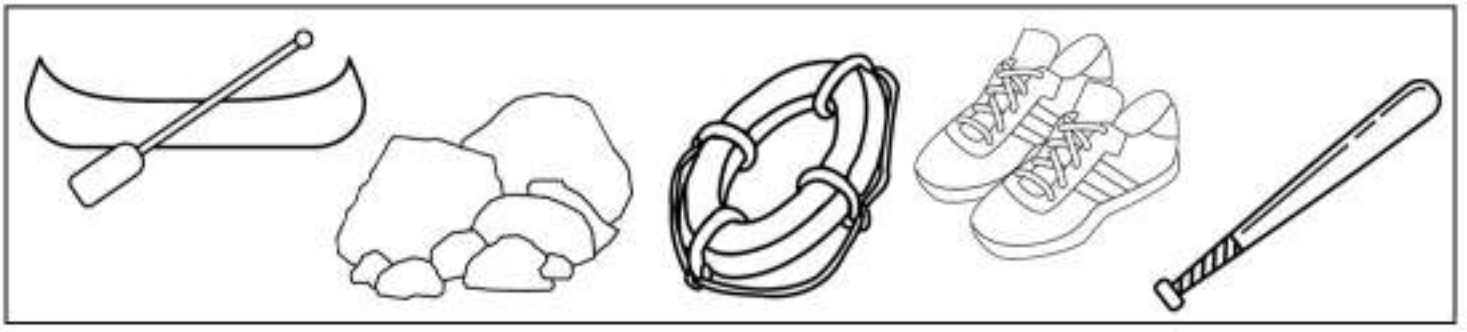
Materials

Wri 5 r that float

1)	
2)	
3)	
4)	
5)	

Colour

Colour the objects that float



Name: _____ 17

Curriculum Connection
M2.2

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

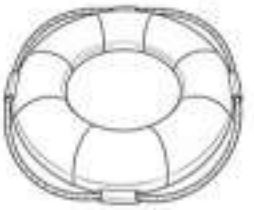
Sink | Float

Name: _____ 18

Curriculum Connection
M2.2

Life Preserver

A life preserver is something that floats that saves people. There are two types.



1) The ones we wear – life jackets
2) The ones we throw – life rings

The first life preserver was made by the scientist Leonardo da Vinci. He made his from cork and wood. Life preservers weren't used until the year 1855 when John Kisbee made a cork life belt.

Colour Colour the life ring and life jackets below

Life Ring	Life Jacket
	

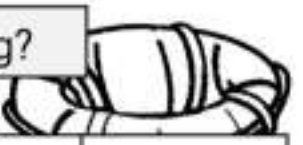
Draw Draw your own life ring and life jackets below

Life Ring	Life Jacket

Name: _____ 19

Curriculum Connection
M2.2

Questions When would you use a life jacket or life ring?



1) You see someone in the water sinking	Life Jacket	Life Ring
2) You are going to go swimming in a lake	Life Jacket	Life Ring
3) You are going in a pool and can't swim well	Life Jacket	Life Ring
4) You se eone in a pool who can't swim	Life Jacket	Life Ring
5) Yo t tub and can't swim	Life Jacket	Life Ring

Making Con. o have you used a life preserver before?

I used a life _____

_____

_____

Draw Draw a picture of you using a life preserver

Name: _____ 20

Curriculum Connection
M2.2

Stretchy Materials

Stretchy materials can stretch and bend easily. They're like rubber bands, but they can be used to make all sorts of things.

For example, you might have a pair of stretchy pants that you can wear when you're playing sports. The pants are made of a stretchy material that allo to move around better.

Str ls are also used to make things like elastic bands and materials are good because they can be stretched bac their shape.

Draw D cts made of stretchy materials

Draw Colour the stretchy objects below

Curriculum Connection
M2.2

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 (T) or false (F)?

1) Stretchy materials can stretch and bend easily.	T / F
2) Stretchy materials are used to make elastic bands.	T / F
3) Sports clothing can be made from stretchy materials.	T / F
4) Stretchy materials are only used for clothing.	T / F

Name: _____ Mark

Is the statement true (T) or false (F)?

1) Stretchy materials can stretch and bend easily.	T / F
2) Stretchy materials are used to make elastic bands.	T / F
3) Sports clothing can be made from stretchy materials.	T / F
4) Stretchy materials are only used for clothing.	T / F

Name: _____ Mark

Is the statement true (T) or false (F)?

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Name: _____ Mark

Is the statement true (T) or false (F)?

1) Stretchy materials can stretch and bend easily.	T / F
2) Stretchy materials are used to make elastic bands.	T / F
3) Sports clothing can be made from stretchy materials.	T / F
4) Stretchy materials are only used for clothing.	T / F

Name: _____ 24

Curriculum Connection
M2.2

Can You Poke a Hole In a Balloon?

Hypothesis Can you poke a hole in a balloon without popping it?

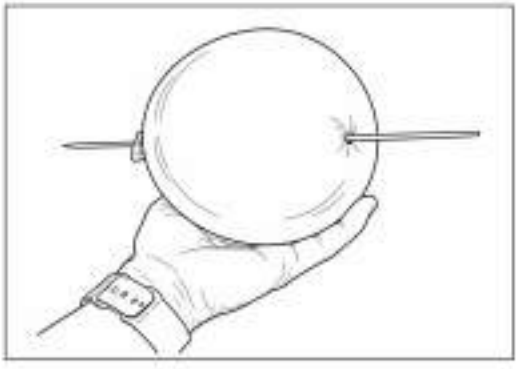
Yes	No

Materials What do we need for our experiment?

1) Ba
2) [illegible]
3) Wooden sk

Method How do you [illegible] the experiment?

1) Blow up the balloon b[illegible]not way
2) Tie the balloon
3) Dip the pointy end of the skewer in the vaseline or rub lip chap on the pointy end
4) Stick the pointy end into the area near the knot that isn't fully stretched. The area will be darker.
5) Pull out the skewer
6) Try sticking the skewer into the opposite side of the balloon where there is a dark spot.
7) Stick the skewer right through the balloon and into the knot on the other side



Name: _____ 25

Curriculum Connection
M2.2

Results | Answer the questions below

1) What happened when you poked the balloon?

2) If you poked the balloon in another place, what would happen?

3) Why didn't the balloon pop?

a) The balloon is stiff and won't stretch

b) The balloon is stretchy in those areas so it stretches around the stick

c) The balloon is stretchy so the hole opens up and stays closed

4) Draw a picture of the balloon with the stick through it

Name: _____ 26

Curriculum Connection
M2.2

Waterproof Materials

Waterproof materials keep water out. They are used in things like raincoats and boots to keep us dry. Waterproof materials are made in a special way that doesn't allow water to pass through them.

The rain will slide off a raincoat made of waterproof materials and you'll stay dry. Waterproof materials are also used in shoes and boots to keep water out. If water could get into your shoes it would make your feet wet.

Rubber is one of the best waterproof materials. Most rainboots are made of rubber because water cannot get through rubber!

Yes/No Is the answer yes or no?

1) Is rubber a waterproof material?	Yes	No
2) Is cotton a waterproof material?	Yes	No
3) Are raincoats made of fabric?	Yes	No
4) Are rainboots made of rubber?	Yes	No
5) Do waterproof materials let water in?	Yes	No

Draw Draw 3 pictures of objects made of waterproof materials

Objects 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.

Solids that Absorb Water

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

Solids that Repel Water

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

True or False

Is the statement true or false?

1) Repel means to let water in		False
2) Absorb means to let water in		
3) Rocks absorb water		
4) Rubber boots repel water		
5) A sponge absorbs water	True	False

Draw

Draw a solid that repels and a solid that absorbs water

Name: _____ 28

Curriculum Connection
M2.2

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

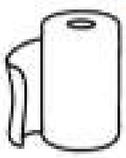
Curriculum Connection
M2.2

Exit Cards

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

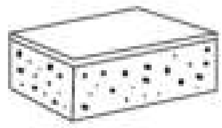
Name: ______________________ Mark

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

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

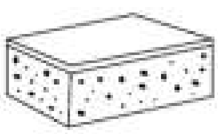
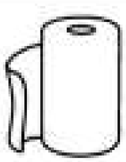
Name: ______________________ Mark

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

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

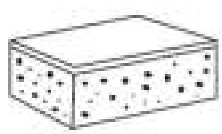
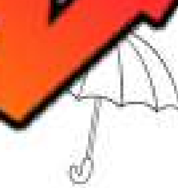
Name: ______________________ Mark

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	

Name: _____ 30

Curriculum Connection
M2.2

Experiment - Absorb or Repel

Research Question

What objects absorb or repel water?

What materials will absorb water and what materials will repel it? Today, we will test the materials below.

Hypothesis

Will the material repel or absorb water?

Write [illegible] der the material

Stone	[illegible]	Sock	Hand Towel	Glass or Plastic Cup	Cardboard

Materials

What do we need [illegible] nt?

1) Spray bottle filled with water
2) Materials to test
    1) Stone
    2) Rubber band
    3) Sock
    4) Hand towel
    5) Plastic or glass cup
    6) Cardboard

Method

How do we complete the experiment?

1) Students should predict whether each material will repel or absorb water
2) Working in groups or as a whole class demonstration, spray each material
3) Notice after you spray if the water soaks into the material or if it stays on the outside
4) Write down if the material absorbed or repelled the water

Name: _____ 31

Curriculum Connection
M2.2

Observations

Did the material absorb or repel water?

Write absorb or repel under the material

Stone	Rubber Band	Sock	Hand Towel	Glass or Plastic Cup	Cardboard

Results

Answer the questions below

1) Draw the materials that absorb water.

2) Draw the materials that repel water.

3) If you were cleaning up a mess of water, what materials would you use from the experiment? Which materials would you not use?

I Would Use	Not Use

Name: _____ 32

Curriculum Connection
M2.2

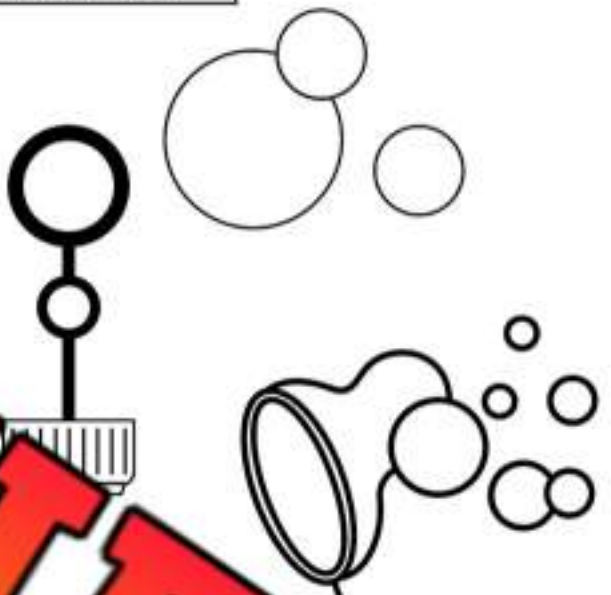
Materials – Catching Bubbles

Hypothesis Which materials do you think will catch bubbles?

Sharp	Smooth	Waterproof	Absorbent

Materials What do we need for our experiment?

- ✓ Bub
- ✓ ake bubbles with
- ✓ towe
- ✓ Material
  1) Wax
  2) Aluminu
  3) Paper
  4) Plastic wrap
  5) Cardboard
  6) Pavement – bumpy surface



Method How do we complete the exp

1) Setup your first material by putting it on a table or on the ground
2) Blow bubbles gently on to the material
3) Did the material catch the bubble or did the bubble break?
4) Record your results on the back of the page
5) Before trying the next material, use the paper towel to dry the area
6) Repeat the steps above for each of the materials

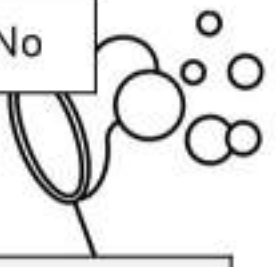
Name: _____ 33

Curriculum Connection
M2.2

Observations

Which materials caught the bubbles?

Material	Yes	No
Wax Paper	Yes	No
Paper	Yes	No
Aluminum Foil	Yes	No
Plastic Wrap	Yes	No
Ca[illegible]d	Yes	No
[illegible]ment	Yes	No



Results

Answer the qu[illegible]ns be[illegible]

1) Which materials were the best at cat[illegible]g b[illegible]

Sharp	Smooth	Waterpr[illegible]	[illegible]t

2) What happened when the bubbles touched a bumpy mate[illegible]al?

3) What happened when the bubbles touched a surface that sucked up the water?

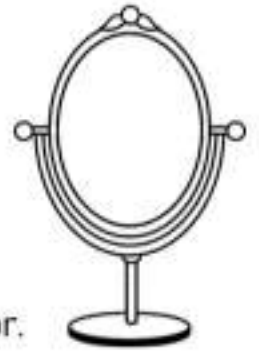
Name: _____ 34

Curriculum Connection
M2.2

Reflective Materials

What is a Reflective Material?

When something is shiny and light bounces off it, we say it is **reflective**. Reflective things work like mirrors - they let us see ourselves! They do this because they are smooth and clean, and they send the light right back to our eyes.



Reflectiv rials/Objects

Mirror: e ourselves. It is very reflective!

Foil: use to wrap food is also reflective.

Puddles: Afte he shiny and reflective, like a mirror.

Shiny Metal: Thi de fr etal like a spoon or a car are reflective.

Reflective Tape: This sp is us ake things like bike helmets and safety vests extra shiny so p ca en in the dark.

Yes/No Is the material re tive?

Material		
1) Glass	Yes	No
2) Wood	Yes	No
3) Rubber	Yes	No
4) Foil	Yes	No

5) Mirro	es	No
6) Spoon		o
7) Rock		No
8) Tire	es	No

Draw Draw 3 pictures of objects made of reflective materials

Curriculum Connection M2.2

Experiment – Transparency of Materials

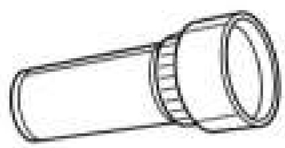
Objective What are we learning about?

We are learning about materials that are transparent. **Transparent** materials are materials that let light pass through. This means we can see through transparent materials.

Materials [illegible]hat do we need for our experiment?

1) [illegible]ent obj[illegible]rious materials: Pap[illegible], Plas[illegible]ard[illegible]ard, Aluminu[illegible]ves, G[illegible]Wood, Fabric

2) Flashlight



Method How do we comp[illegible]e exp[illegible]t?

1) Before you start the activity, explain wh[illegible]ansp[illegible]ans. Say, "Something is transparent if you can see th[illegible]a[illegible]ass window!"

2) Have the students gather around a table with all th[illegible]ere[illegible]

3) Let each student take turns picking up an object and predi[illegible]g[illegible]r they think it's transparent or not. They can say, "I think I can see thro[illegible]this," or, "I think I can't see through this."

4) After they make a prediction, they can test it out by shining the flashlight through the object. If light passes through and they can see the light clearly on the other side, the object is transparent. If no light comes through, it's not transparent.

5) Have the students record their findings on the back of this page.

6) After testing all the objects, discuss the findings as a group. Talk about why some materials let light through and others don't.

Name: _____ 36

Curriculum Connection
M2.2

Observations

Is the material transparent?

Objects	Transparent – Yes or No?
Paper	
Plastic Wrap	
Cardboard	
minum Foil	
d	
Fabric	

Results

Answer the questions below.

1) What colour are see-through materials?

2) Draw see through materials/objects below.

Name: _____ 40

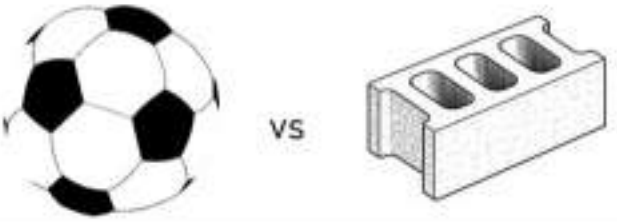
Curriculum Connection
M2.3

Which Object Has More Mass?

Mass is the amount of matter in an object/material. Objects with more mass have more weight.

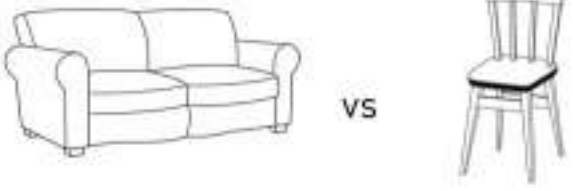
Questions	Circle which object you think has more mass

1) 

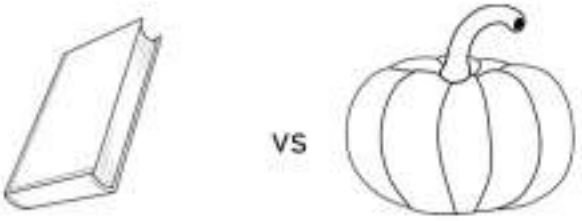
2) 

3) 

4) 

5) 

6) 

7) 

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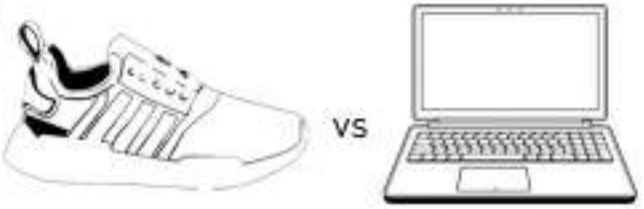
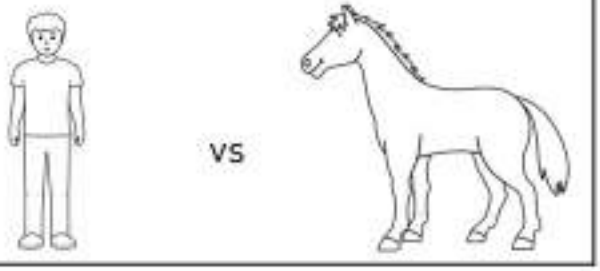
9) 

10) 

Name: _____ 41

Curriculum Connection
M2.3

Non-Standard Units - Mass

Any object can be used as a non-standard unit of measurement for mass. However, it is better to use common objects that most people know the mass of. Here are some objects you can try: paperclips, marbles, bricks.

Part 1 Order the object's mass from least (1) to greatest (3)

Pape	Bricks	Marbles

Part 2 W ul use to measure the mass of the objects below?

Objects - What Y st	Paperclip	Marble	Brick
1) Pencil	erclip	Marble	Brick
2) Ruler	Pa ip	Marble	Brick
3) Calculator	P	M	Brick
4) Chair	Paperclip	Ma	ick
5) Apple	Paperclip	Ma ble	Brick
6) Glue stick	Paperclip	Marble	Brick
7) Empty pencil case	Paperclip	Marble	Brick
8) Desk	Paperclip	Marble	Brick
9) Water bottle	Paperclip	Marble	Brick
10) One paper	Paperclip	Marble	Brick

Name: _____ 42

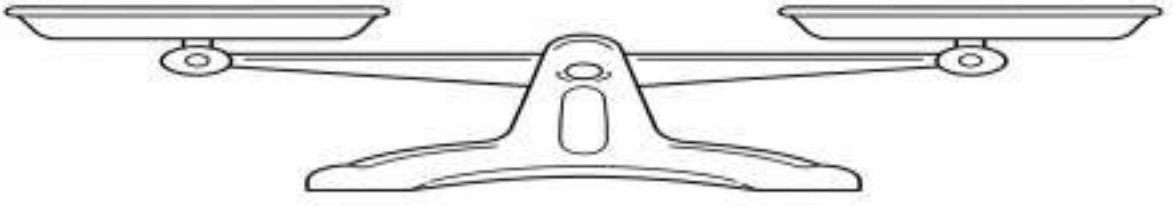
Curriculum Connection
M2.3

Non-Standard Units - Paperclips

Directions

1) Estimate the mass in paperclips of each object.
2) Use a pan balance to measure the mass in paperclips of each object.

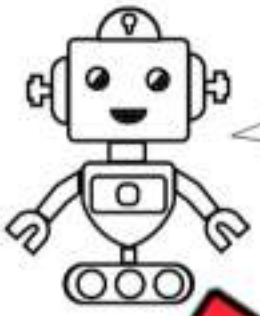
Object	Estimate - # of Paperclips	Mass - # of Paperclips
1) Pencil		
2) Ruler		
3) One paper folded		
4) Pencil Sharpener		
5) Scissors		
6) Glue stick		
7) USB flash drive		
8) Marker		



Name: _____ 45

Curriculum Connection
CS.1

Coding – Making Materials



Hi, my name is Levi. My job is to take things from our environment and make materials from them. Can you help me by coding directions for me to get my work done?

Directi Write the order of the code for making paper

Step Numb	Code – Instruction
	ke t ff the tree
	C e int pieces called pulp
	Cut down tree
	Spread the pulp and p t in eets
	Cut off the branches

Directions Write the order of the code for mak

Step Number	Code – Instruction
	Turn the cotton balls into yarn
	Pick the cotton ball off the plant
	Dye the yarn to make it different colours
	Clean the cotton balls
	Use the coloured yarn to make clothing

Name: _____ 46

Activities - Materials

Word Search

Find the words from the word bank

Rubber	Plastic	Wood	Fabric	Stone
Glass	Metal	Brick	Wool	Leather

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

Word Scramble

Unscramble the words from the word bank

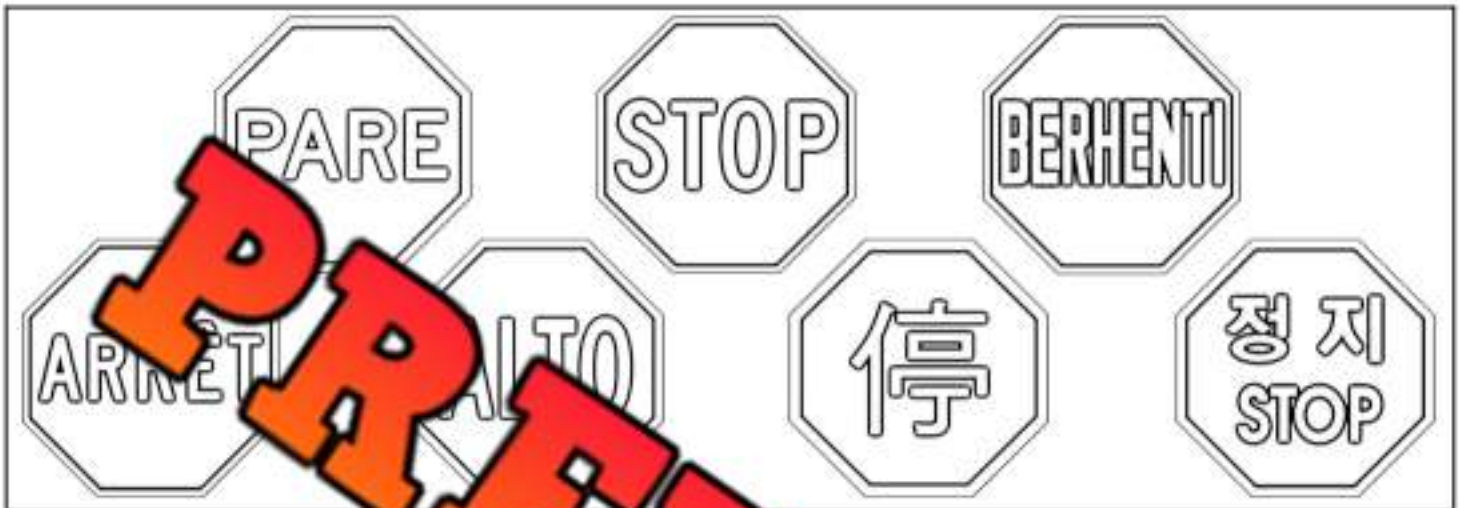
REBBUR		FBAIRC	
SNOTE		WODO	
PTASILC		GALSS	
LHAETER		WLOO	
BICRK		MTAEL	

Name: _____ 47

Curriculum Connection
M2.1

Recognizable Object in the World

Questions Answer the questions below



1) It looks _____

2) Why do you think stop signs are red?

3) What shape are each of the signs? How many sides do they have?

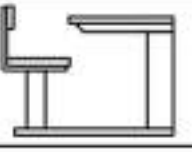
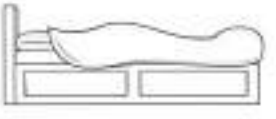
4) Why do stop signs look the same in different countries?

Name: _____ 48

Curriculum Connection
M2.1

Purpose of Object

Matching Write the letter of the object beside the purpose

		Purpose	Object
1)	☐	To brush your teeth with	A) 
2)	☐	ep on	B) 
3)	☐	drin	C) 
4)	☐	To keep	D) 
5)	☐	To keep you dry in th	
6)	☐	To eat with	
7)	☐	To hold your pencils	G) 
8)	☐	To tell cars when to stop and go	H) 
9)	☐	For birds to live in	I) 
10)	☐	To write on	J) 

Name: _____ 49

Curriculum Connection
M2.1

Object – Different Types of Chairs

Objects are made for different purposes. Check out these examples:

- A chair used in school is different than a chair used at home
- Rainboots are different than running shoes
- A gym floor is different than a classroom floor

Question nswer the questions below

1) Ci abov irs where they would be used.

Hom Scho	Home School
	

2) Circle the materials the chairs are m f?

Plastic	Fabric	Metal	Pla Fabri	Metal
Wood	Stone	Rubber	Wood to	ber

3) Use your senses to describe the chairs below.

Hard	Soft	Comfortable	Hard	Soft	nfortable
Big	Small	Supportive	Big	Small	Supportive

4) What are the benefits of both chairs?

_____	_____
_____	_____
_____	_____

Name: _____ 50

Curriculum Connection
M2.1

Object – Different Types of Shoes

Questions Answer the questions below

1) Circle above both pairs of shoes which environment they would be used

Dry	Wet Dry
	

2) Circle the materials [illegible] of?

Plastic	Fabric	Meta[illegible]	Pla[illegible]	Fabric	Metal
Wood	Stone	Rubber	[illegible]d	[illegible]ne	Rubber

3) Use your senses to describe the shoes b[illegible]

Hard	Soft	Comfortable	Hard	[illegible]	[illegible]hle
Big	Small	Uncomfortable	Big	Small	U[illegible]ortable
Shiny	Heavy	Light	Shiny	Heavy	Light

4) When would you use both pairs of shoes?

_____	_____
_____	_____
_____	_____

Name: _____ 51

Curriculum Connection
M2.1

Purpose of Objects

Questions What is the purpose of the objects below?

Draw a picture of a bed	1) What is the purpose of a bed?
	2) What are good building materials for a bed?
	3) Describe the bed you drew using your senses

Draw a picture of a table	1) What is the purpose of a table?
	2) What are good building materials for a table?
	3) Describe the table you drew using your senses

Name: _____ 52

Curriculum Connection
M2.1

Questions What is the purpose of the objects below?

Analyse The Chair Below	1) What is the purpose of the chair? Notice the wheels
	2) What materials is the chair made of?
	3) Describe the chair using your senses

Analyse The basketball	1) What is the purpose of the basketball?
	2) What materials is the basketball made of?
	3) Describe the basketball using your senses

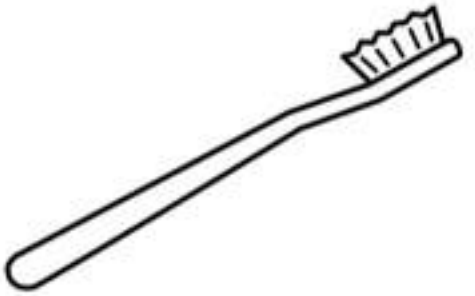
Name: _____ 53

Curriculum Connection
M2.1

Testing Objects

Research Question — What are we learning about?

When we have a job to do, we should choose the best object or tool for the job. Choosing the right tool will allow us to finish the job better. Today you will use three diff tools for three different jobs.



Jobs

1) fl
2) Scrubbing
3) Mopping a

Materials — What ed f eriment?

1) A small mop
2) A small broom or handheld broom
3) A toothbrush
4) 3 different materials to make a mess (options be
   I. Washable paint for the sink
   II. Shredded paper for the floor
   III. Washable paint for the floor

Method — How do we complete the experiment?

1) Create one mess at a time
2) Try all three tools for each job/mess
3) Discuss which tool works the best
4) Fill in the backside of this page

Name: _____ 54

Curriculum Connection
M2.1

Observations

What did you notice?

Which tool was best for which job?	
Job	**Tool**
Mess in Sink	
Shredde r on the Floor	
s with th	

Results

Answe ons below

1) Which tool is best for scr a m

2) Which tool is best for picking up a wet me

3) Which tool is best for picking up a dry mess?

4) Draw each of the tools below

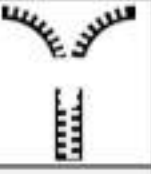
Broom	Mop	Toothbrush

Name: _____ 57

Curriculum Connection
M2.1

Fasteners

Fasteners are used to hold things together. When an object is made, materials are put together. The fastener that is chosen to hold the materials depends on the purpose. For strong objects, nails and screws are chosen. For weaker objects, glue or tape could be used.

						
Glue	N	erclip	Tape	Button	Zipper	Rope

Matching Draw a line from the object to the fastener used to make it

- Glue
- Buttons
- Rope
- Nail

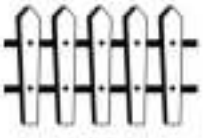
- Screw
- Clip
- Tape
- Zipper

Name: _____ 58

Curriculum Connection
M2.1

Fasteners - Matching

Matching Write the letter from the example beside the material

	Material		Example
1)	G	☐	A) 
2)	Butt	☐	B) 
3)	Rope	☐	C) 
4)	Nail	☐	D) 
5)	Screw	☐	E) 
6)	Paperclip	☐	F) 
7)	Tape	☐	G) 
8)	Zipper	☐	H)  Stickers

Curriculum Connection
E3.4

Exit Cards

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

Name: _____ | Mark

Circle the fastener that is best used to hold the object together.

1) A jacket needs to open and close.	
	Zipper
2) Wood is used to make a chair.	
Tape	Nail
3) A gift box needs to be closed but opened later.	
Tape	Screw
4) A shelf needs to be very strong and stay in place.	
Screw	Tape

Name: _____ | Mark

Circle the fastener that is best used to hold the object together.

1) A jacket needs to open and close.	
Nail	Zipper
2) Wood is used to make a chair.	
Tape	Nail
3) A gift box needs to be closed but opened later.	
Tape	Screw
4) A shelf needs to be very strong and stay in place.	
Screw	Tape

Name: _____ | Mark

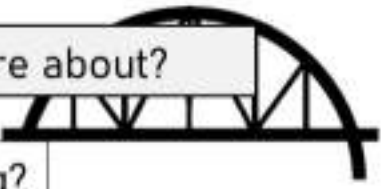
Circle the fastener that is best used to hold the object together.

1) A jacket needs to open and close.	
Nail	Zipper
2) Wood is used to make a chair.	
Tape	Nail
3) A gift box needs to be closed but opened later.	
Tape	Screw
4) A shelf needs to be very strong and stay in place.	
Screw	Tape

Name: _____ 61

Curriculum Connection
M2.1

Experiment - Triangles



Research Question What are we trying to learn more about?

Are triangles the strongest shape to use when building?

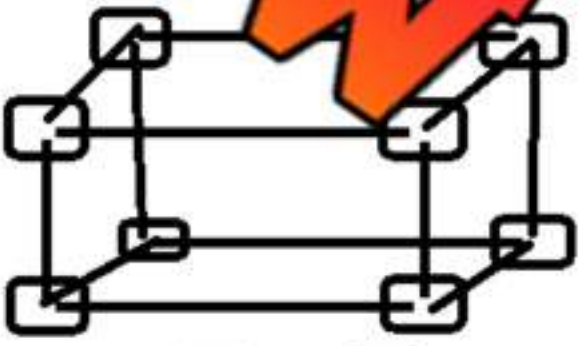
Hypothesi Will a rectangular object or triangular object be stronger?

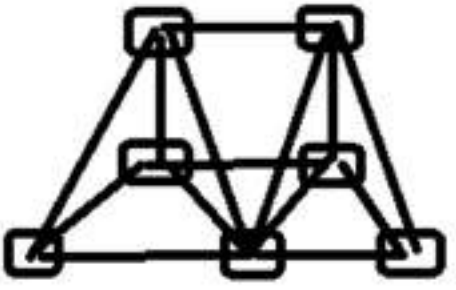
Materials What ... need ... is experiment

- Gummies – as fasteners
- Toothpicks
- Weight – books, wood blocks, anything th... re... ...d on the object

Method How you will complete the experime...

1. Create a rectangular object using the toothpicks and gummies
2. Rest one weight on the object. Add weight and record how much the object supported
3. Create an object using triangles. You will need to keep adding triangles until the object can support a weight





Name: _____ 62

Curriculum Connection
M2.1

Observations | What happened?

Which object held more?	
Triangle	Rectangle

Results | Answer the questions below

1) W[illegible]ur hy[illegible] correct or incorrect? Explain.

2) Which shape is the stro[illegible]est?

Triangles	[illegible]gles

3) Draw diagrams of your objects

Name: _____ 63

Activities - Fasteners

Word Search

Find the words from the word bank

Tape	Glue	Button	Zipper	Nail
Screw	Rope	Staple	Cement	Paperclip

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

Word Scramble

Unscramble the words from the word ba

ZPIPRE		GULE	
CNEEMT		SLPATE	
TPAE		NALI	
PPLIARCEP		BOTTUN	
SCWER		REOP	

Name: _____ 64

Curriculum Connection
M2.1

Building Objects

Questions Which materials and fasteners would you use to build the objects?

1a) If you were making a poster with cut up drawings on the poster, which materials would you use?			
Wood (Paper)	Metal	Fabric	Stone

b) Which fasteners would you use?					
Nails	Zipper	Glue	Tape	Buttons	Staples

2a) If you were building a bridge across a stream of water, which materials would you use?			
Wood	Metal	Fabric	Stone

b) Which fasteners would you use?					
Nails	Zipper	Glue	Tape	Buttons	Screws

3a) If you were building a desk, what materials would you use?			
Wood	Metal	Fabric	

b) Which fasteners would you use?					
Nails	Zipper	Rope	Tape	Buttons	Screws

4a) If you were making a small shelter in the woods that you were only using for one night, which materials would you use?			
Wood	Metal	Fabric	Stone

b) Which fasteners would you use?					
Nails	Zipper	Glue	Tape	Rope	Screws

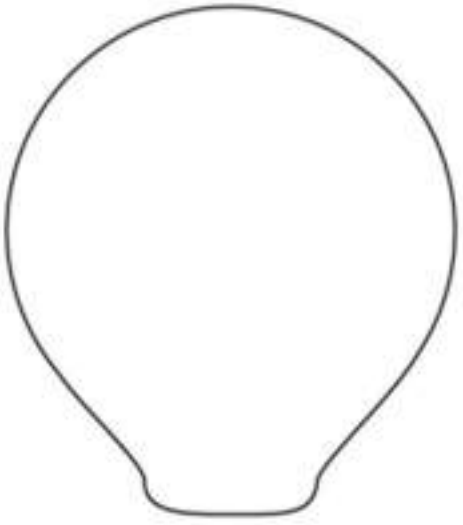
Name: _____ 65

Curriculum Connection
CS.1

Coding - Making Objects

Directions Follow the code to design a hot air balloon

run program
cut out all the shapes
paste the balloon in the middle
paste the stripes on the balloon
paste the [illegible] on the top of the page
paste the [illegible] below the balloon
paste the [illegible] to the
paste the top [illegible]



Balloon

Stripe

Stripe

[illegible]cket

Top

Ropes

Cloud

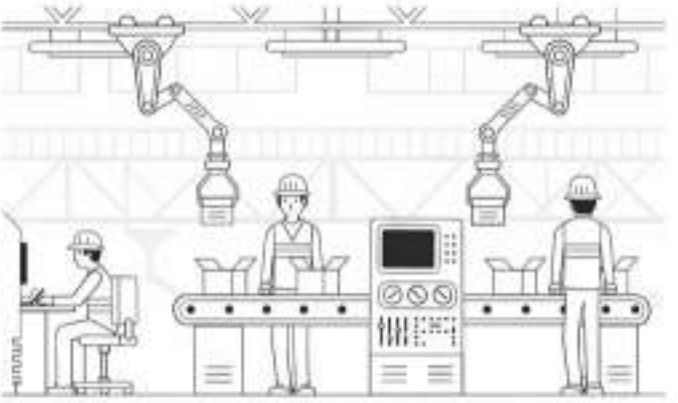
Cloud

Name: _____ 68

Curriculum Connection
CS.1

Coding – Robot Assembly Lines

Today, code is used to program robots to do work. Assembly lines use robots to do boring work. Robots are good at:



- ✓ Working hard – they do not get tired
- ✓ Lifting heavy
- ✓ Working day and night
- ✓ Doing dangerous work

We still need people to make the robots. When a robot breaks, a human fixes the robot. People also watch the robots to make sure they are working.

Fill in the Blanks

Use the word bank words to fill in the blanks

Word Bank		
night	hurt	
robots	hard	heavy

1) _____ is written so robots know wh

2) Robots are good at working _____.

3) Robots can work all day and all _____.

4) Robots don't get _____ so they can do dangerous work.

5) Robots can lift _____ things.

6) We need humans to fix _____.

Curriculum Connection
CS.1

Exit Cards

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

Name: _____ Mark

Circle yes or no for each question.

1) Are robots programmed using code to work?	Yes / No
2) Do robots get tired while working all day?	Yes / No
3) Can robots do dangerous work safely?	Yes / No
4) Do humans still need to fix robots sometimes?	Yes / No

Name: _____ Mark

Circle yes or no for each question.

1) Are robots programmed using code to work?	Yes / No
2) Do robots get tired while working all day?	Yes / No
3) Can robots do dangerous work safely?	Yes / No
4) Do humans still need to fix robots sometimes?	Yes / No

Name: _____ Mark

Circle yes or no for each question.

1) Are robots programmed using code to work?	Yes / No
2) Do robots get tired while working all day?	Yes / No
3) Can robots do dangerous work safely?	Yes / No
4) Do humans still need to fix robots sometimes?	Yes / No

Name: _____ Mark

Circle yes or no for each question.

1) Are robots programmed using code to work?	Yes / No
2) Do robots get tired while working all day?	Yes / No
3) Can robots do dangerous work safely?	Yes / No
4) Do humans still need to fix robots sometimes?	Yes / No

Name: _____ 74

Curriculum Connection
M2.1

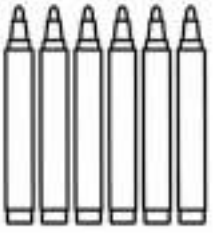
Activity – Making a Pencil Holder

You can build a pencil holder out of many different materials. Choose materials that you have to make a pencil holder that can stand on its own and hold pencils inside.

Materials

What do we need for our activity?

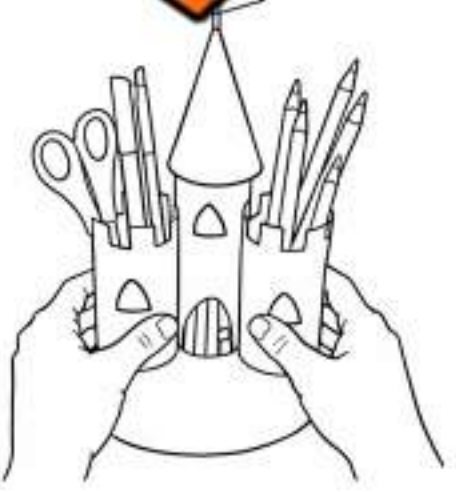
- ✓ Mat[illegible] the frame of the holder. The options below will work
  - [illegible]oilet [illegible]ls
  - ✓ Ma[illegible]
  - ✓ Plast[illegible]e – s[illegible]or juice
- ✓ Paper to cove[illegible]
- ✓ Glue, tape, or hot [illegible]aper to the frame
- ✓ Materials to decorate
  - ✓ Ribbons
  - ✓ Stickers
  - ✓ Markers, crayons, paint



Method

How do we complete the acti[illegible]

1) Bring materials in and let students see what they have to work with
2) Look up pictures of homemade pencil holders to help the planning phase
3) Make a plan on the back of this page of what materials you will use
4) Make a rough copy of the design you will use on the back of the page
5) Begin construction!



Name: _____ 75

Curriculum Connection
M2.1

Plan | Plan your pencil holder below

1) What materials will you use to make your pencil holder?					
Cardboard	Paper	Glass	Wood	Plastic	Other

2) Are th[illegible]aterials strong enough to hold pencils up?

3) Draw a d[illegible]ur[illegible]il holder.

Name: _____ 76

Curriculum Connection
M2.4

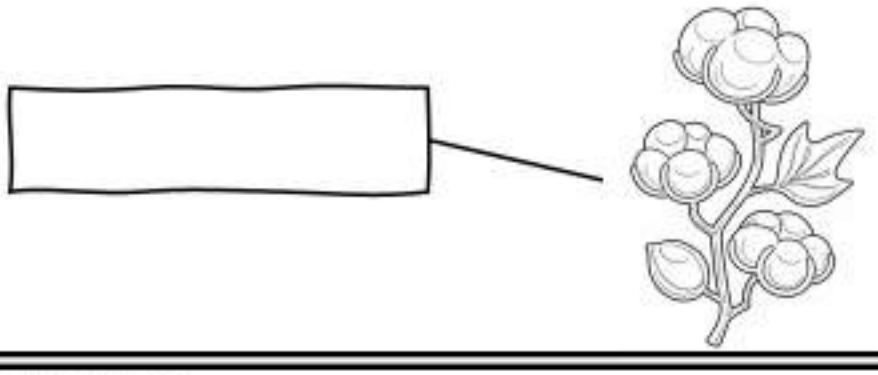
Where Materials Come From

Directions Write the materials that are found in the pictures below

Cloth	Rubber	Stone	Metal	Wood	Paper

Cloth	Rubber	Ston	Me	Wood	Plastic

Cloth	Rubber	Stone	Metal	Wood	Paper



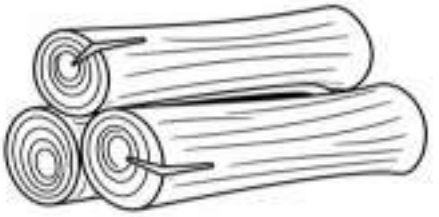
Name: _____ 77

Curriculum Connection
M2.4

Materials – Wood and Paper Products

Directions Fill in the flowchart below by drawing pictures

Trees



Logs

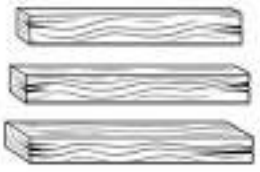
Firewood

Lumber

Pulp

Cardboard

Paper



Name: _____ 78

Curriculum Connection
M2.4

Recycling - Paper

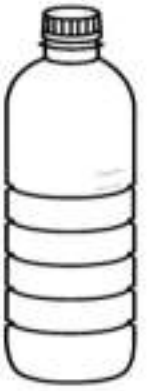
Cycle Copy and paste the recycling process of paper products

Name: _____ 79

Curriculum Connection
M2.4

Materials - Plastic

Plastic is made of fossil fuels. Oil and natural gas are fossil fuels found in the ground. They are used to make the plastics we use everyday.



To make plastic, oil and natural gas are heated. The plastic made is formed into water bottles, food packaging, auto parts and medical tools. Plastic is [illegible] last. It takes the average plastic item between 10 to 1000 ye[illegible]se. That is why it is best to recycle plastic when we a[illegible] with [illegible]y, the plastic can be used again.

Fill in the Blan[illegible] [illegible] missing word?

Ban[illegible]		
Food	Oil	[illegible]cycle
Water Bottles	Natural Ga[illegible]	[illegible]d

1) Plastic is made from heating _____.

2) Plastic is also made from _____.

3) Natural gas and oil are found _____.

4) Plastic is used to make _____ _____.

5) A lot of the _____ we buy is packaged in plastic.

6) Plastic lasts a long time, so we should _____ it.

Name: _____ 80

Curriculum Connection
M2.4

Recycling - Plastics

Facts | How do you feel about the fact? Draw a happy or sad face

	Facts	
1)	10[illegible] tons of plastics are dumped into our [illegible]ar	
2)	Huma[illegible] of plastic in their lifetime[illegible]	
3)	There will be mo[illegible]ic [illegible]ns than fish by 2050	
4)	A clean-up organization pulled [illegible]er 10 kilograms of plastic from the ocea[illegible]	
5)	If you eat fish, you are eating plastic	
6)	When you recycle plastic, it is used to remake things. This keeps the plastic out of the oceans.	
7)	There are between 50 to 75 trillion pieces of plastic in the oceans.	
8)	Canada has joined the Zero Plastic Waste program. The program is hopeful to stop plastic waste.	

Name: _____ 81

Curriculum Connection
M2.6

Professionals Working With Materials

Why Materials Matter: Learning about Jobs

Materials are all around us! They're in our homes, our schools, and the things we play with. Some people have jobs where they need to know a lot about materials. Let's explore a few!

- Carpenter: A carpenter is a person who builds things with wood, like tables and chairs. Carpenters need to know which woods are strong for building furniture and which woods are best for carving nice designs.

- Engineer: An engineer is a big thinker. They design and build lots of things like bridges, cars, and even rockets! They need to know about different materials to pick the best ones for their projects. For example, they need to know that steel is strong for building bridges and rubber is used for making parts of a car.

- Designer: Designers create things like clothes, websites, and even whole rooms! If they're designing clothes, they need to know about different fabrics: like cotton is good for making t-shirts and silk can make a pretty dress.

- Knowledge Keeper or Elder: Knowledge Keepers or Elders are very respected in many Indigenous cultures. They know a lot about the natural materials from the Earth, like stone, wood, and animal skins. They use this knowledge to teach others about making tools, clothing, and shelters.

Name: _____ 82

Curriculum Connection
M2.6

Question Which job would you want that works with materials? Explain.

Yes/N e answer yes or no?

1) Do engine th ?	Yes	No
2) Do carpenters wi	Yes	No
3) Do engineers build str lik	Yes	No
4) Do designers make clothes?	Yes	No
5) Do elders keep their knowledge to ther s?	Yes	No

Colour Colour the professionals wor h m als

Curriculum Connection
M2.6

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.

Engineer ☐	☐ Builds things using wood, like tables and chairs
Carpenter ☐	☐ Designs and builds things like bridges and cars
Elder ☐	☐ Creates clothes and chooses fabrics for projects
Designer ☐	☐ Teaches others using natural materials from the land

Name: _____ Mark ☐

Draw a line from each word to its correct meaning.

Engineer ☐	☐ Builds things using wood, like tables and chairs
Carpenter ☐	☐ Designs and builds things like bridges and cars
Elder ☐	☐ Creates clothes and chooses fabrics for projects
Designer ☐	☐ Teaches others using natural materials from the land

Name: _____ Mark ☐

Draw a line from each word to its correct meaning.

Engineer ☐	☐ Builds things using wood, like tables and chairs
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Designer ☐	☐ Teaches others using natural materials from the land

Name: _____ Mark ☐

Draw a line from each word to its correct meaning.

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Elder ☐	☐ Creates clothes and chooses fabrics for projects
Designer ☐	☐ Teaches others using natural materials from the land

Name: _____ 84

Curriculum Connection
M2.5

How Indigenous Groups Use Materials

Respect for Land and Materials

First Nations, Métis, and Inuit have special ways to use materials from the land. They make things like clothing, tools, and homes using what nature gives them. Let's see how they do it:

- Tra[illegible]dge: They use the knowledge passed do[illegible]rom th[illegible] Elders tell the children how to use materials properly. The same [illegible] has [illegible]assed down for thousands of years!

- Time of Year: They k[illegible]a differ[illegible]s of the year are good for collecting different materials. For e[illegible]ple, [illegible]hey might gather birch bark because it peels off the trees ea[illegible]

- Availability: They look around to see what [illegible]eri[illegible] available. If they live in a forest, they might use [illegible] wood. If they live near a river, they might use a lot of [illegible]ay or stone.

- Taking Only What is Needed: They respect nature and only take what they need. For example, if they need birch bark for a basket, they only take enough bark for that one basket.

- Respect for the Land: They thank the land for its gifts. This can be done by saying a prayer or doing a ceremony. They always make sure to leave the land as they found it, so it can be used for many years.

Name: _____ 85

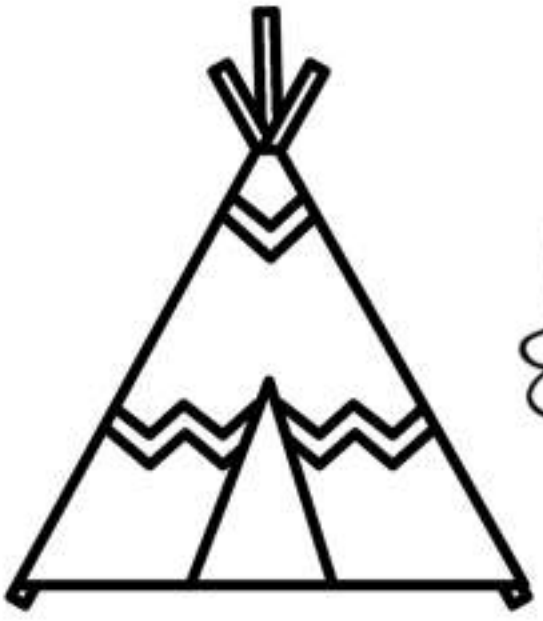
Curriculum Connection
M2.5

Question Do the Indigenous waste natural materials? Explain.

Yes/No sw yes or no?

1) Do the Indigenou aterials?	Yes	No
2) Do the Indigenous take ha from the land?	Yes	No
3) Are the same materials availabl ar?	Yes	No
4) Does birch bark peel easier in the spring?	Yes	No
5) Do elders share information with kids?	Yes	No

Colour Colour the Indigenous objects belo



Name: _____ 86

Curriculum Connection
M2.5

Dene Birchbark Baskets

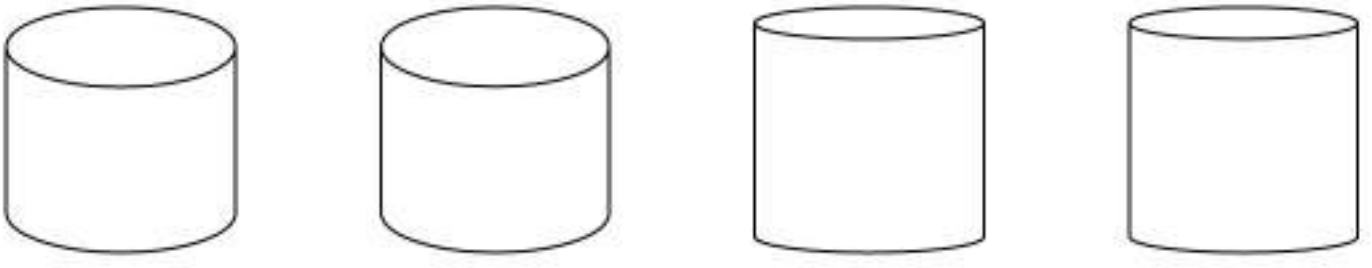
Dene Birchbark Baskets
The Dene people, who are a First Nation in Canada, are known for making beautiful baskets using birchbark. Here is how they do it:

1) Find a Tree: The Dene look for a birch tree. Its bark is strong and can bend.
2) Get the Bark: They peel the bark off the tree. They are careful and take only what they need.
3) Prepare the Bark: They clean the bark and let it dry. If needed, they dip it in water to make it more bendy.
4) Cut the Bark: They cut the bark into shapes for the basket. It can be round or square.
5) Join the Basket: They use roots or bark strips to sew the bark pieces together.
6) Decorate the Basket: In the end, they decorate the baskets. They might carve pictures into the bark or paint or dye it.

Think Number the steps below in order from 1 to 6

Answer	Steps
	The Dene cut the bark into shapes for the basket.
	They use roots or bark strips to sew the bark pieces together.
	They clean the bark and let it dry.
	The Dene look for a birch tree.
	They peel the bark off the tree
	They decorate the baskets.

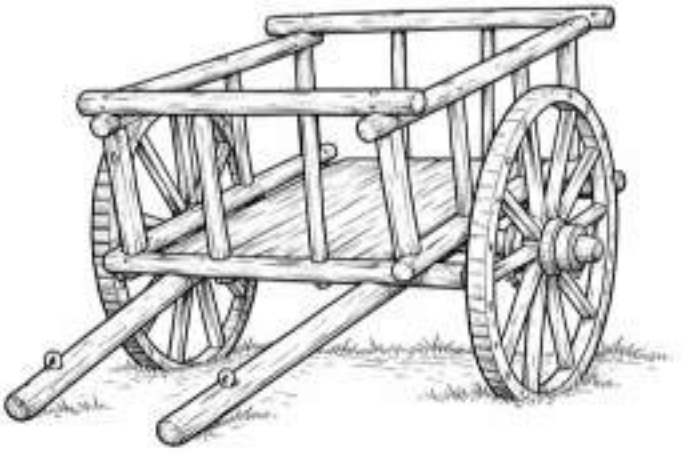
Colour Colour the birchbark baskets below



Red River Carts

Red River Carts

Once upon a time, people of the Métis community in Canada made something really useful called Red River carts. These ca[illegible] special because they were m[illegible] natural materials!



Making the Ca[illegible]

The Métis people us[illegible] build these carts. They used strong wood from oak trees to m[illegible] ra[illegible] eels of the carts. The big wheels were often covered with buffalo hide[illegible] of sk[illegible] a large animal, to make them stronger. Even though they were strong, [illegible] mad[illegible] ud squeaking noise when they moved!

Using the Cart

Red River carts were very important for moving things around. They[illegible] like big, strong shopping carts that could carry lots of things! People used them to carry food, furs, and even their families over long distances.

Why they were Important

These carts were so important because they were very strong and could travel on rough paths. They could even cross rivers! This made it easier for people to travel and trade things with others.

Name: _____ 88

Curriculum Connection
M2.5

Question What were Red River Carts? Who made them?

Yes/No ...swer yes or no?

1) Could these car...	Yes	No
2) Were the wheels made...	Yes	No
3) Could the carts carry a heavy lo...	Yes	No
4) Did the carts make a lot of noise?	Yes	No
5) Did they use only use natural materials?	Yes	No

Draw Draw your own Red River Cart Bel...

Name: _____ 89

Curriculum Connection
M2.5

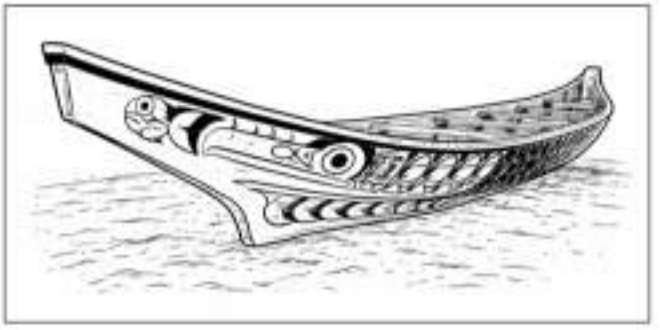
Activity – Making a Canoe

Objective What are we learning more about?

Students will learn about how canoes were made by Indigenous groups in Canada out of natural materials.

Materials What do we need?

- ✓ Co… paper
- ✓ …rs
- ✓ Ma…ers, co… …cils or crayons
- ✓ Glue or …
- ✓ Canoe temp…



Method How do we … th…

1) Print the template on thick pape… cards…

2) Have the students colour the canoe (bo… s). E… them to look at Indigenous art and designs for inspiration… al… reative with their own ideas.

3) Instruct the students to carefully cut out the canoe te…plat… … lines.

4) Have the students fold the paper along the folding line, creating … shape of the canoe.

5) Paste or tape the bottom edges of the canoe together (do not paste the top of the canoe together). This should allow the canoe to hold its shape.

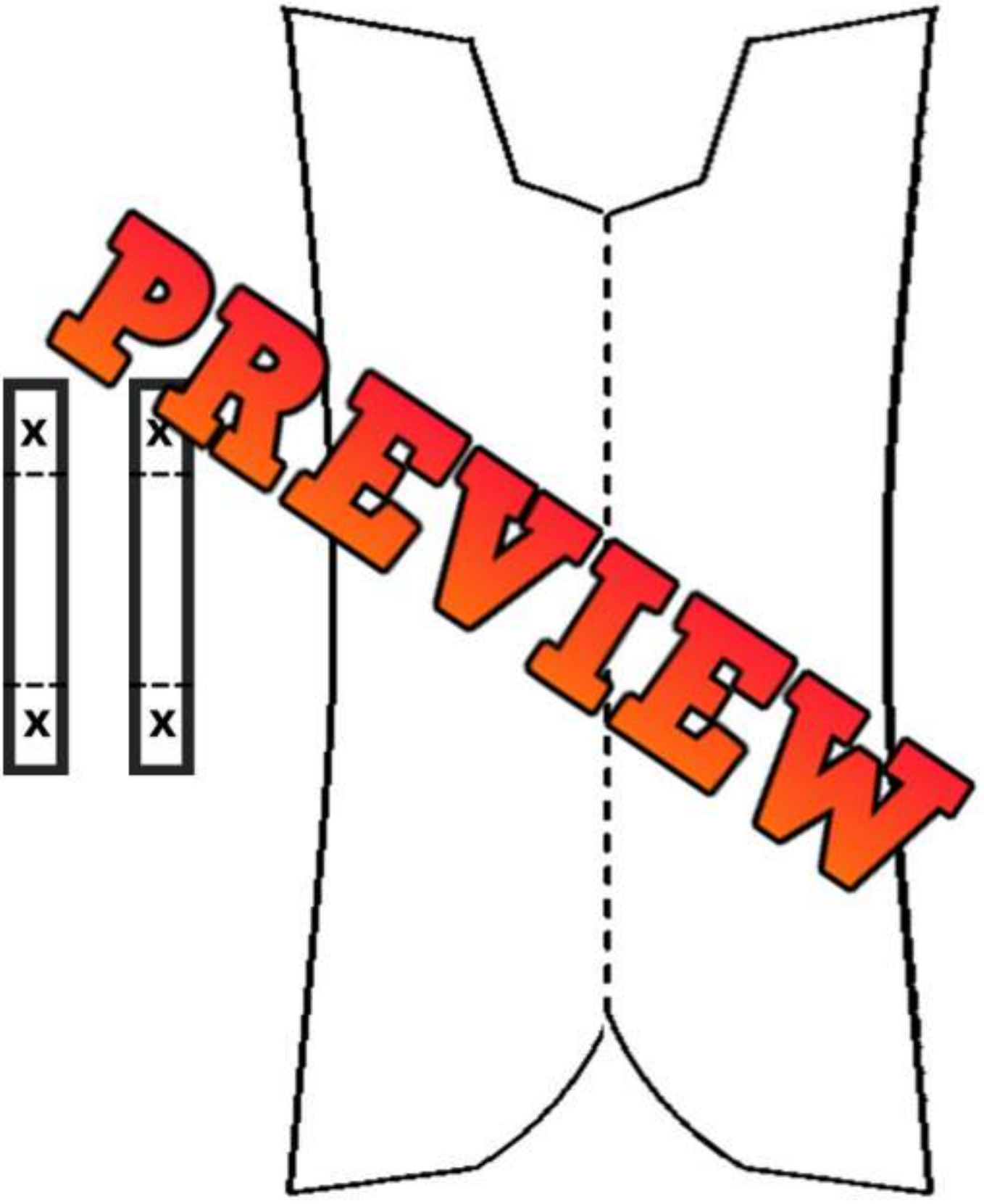
6) Cut the seats out (two rectangular pieces). They should be coloured brown.

7) Use tape or glue to secure the seats to both sides of the inside of the canoe. The seats will help hold the canoe together.

8) Let the canoe dry before displaying it.

Name: _____ 90

Curriculum Connection
M2.5



Name: _____ 91

Unit Test – Materials, Objects, Structures

Matching Draw a line from the thing made to the material it is made of

- Wood
- Metal
- Plastic
- Fabric
- Glass

- Wood
- Metal
- Plastic
- Fabric
- Glass

Directions Circle whether the object is made of 1 or more than 1 material

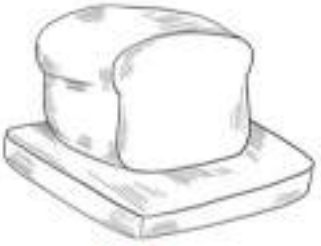
1	More Than 1

1	More Than 1

1	More Than 1

Absorb or Repel?

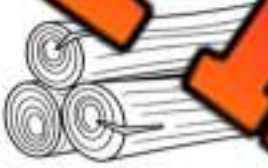
Will the object absorb or repel water? Circle your answer.



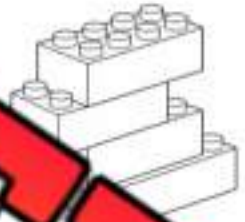
Absorb | Repel

Absorb | Repel

Absorb | Repel



Absorb | Repel



Absorb | Repel

Absorb | Repel

Questions

What is the purpose of the [illegible] below

Analyse The basketball	1) What is the purpose [illegible]
	2) What materials is the basketball made of?
	3) Describe the basketball using your senses

Questions	Which materials and fasteners would you use to build the structure?

1) If you were making a large bridge that went across a wide river, which materials would you use?

Wood	Metal	Fabric	Stone

2) Why would you use that material?

3) Which fasten[illegible]ou[illegible]e?

Nails	[illegible]	[illegible]	Tape	Buttons	Screws

Think	Are the [illegible]rial[illegible]? Are they reflective?

Objects	Transparent – Yes o[illegible]	[illegible]ctive – Yes or No?
Paper		
Plastic Wrap		
Cardboard		
Aluminum Foil		
Glass		
Wood		
Mirror		