

#MAKERFUN

Natural Maker

EXPLORATION JOURNAL



Financed by/ Financé par :



NATURAL MAKER

INTRODUCTON

SPEND TIME OUTSIDE, EXPLORE, DISCOVER, LEARN, SHOW THE WORLD

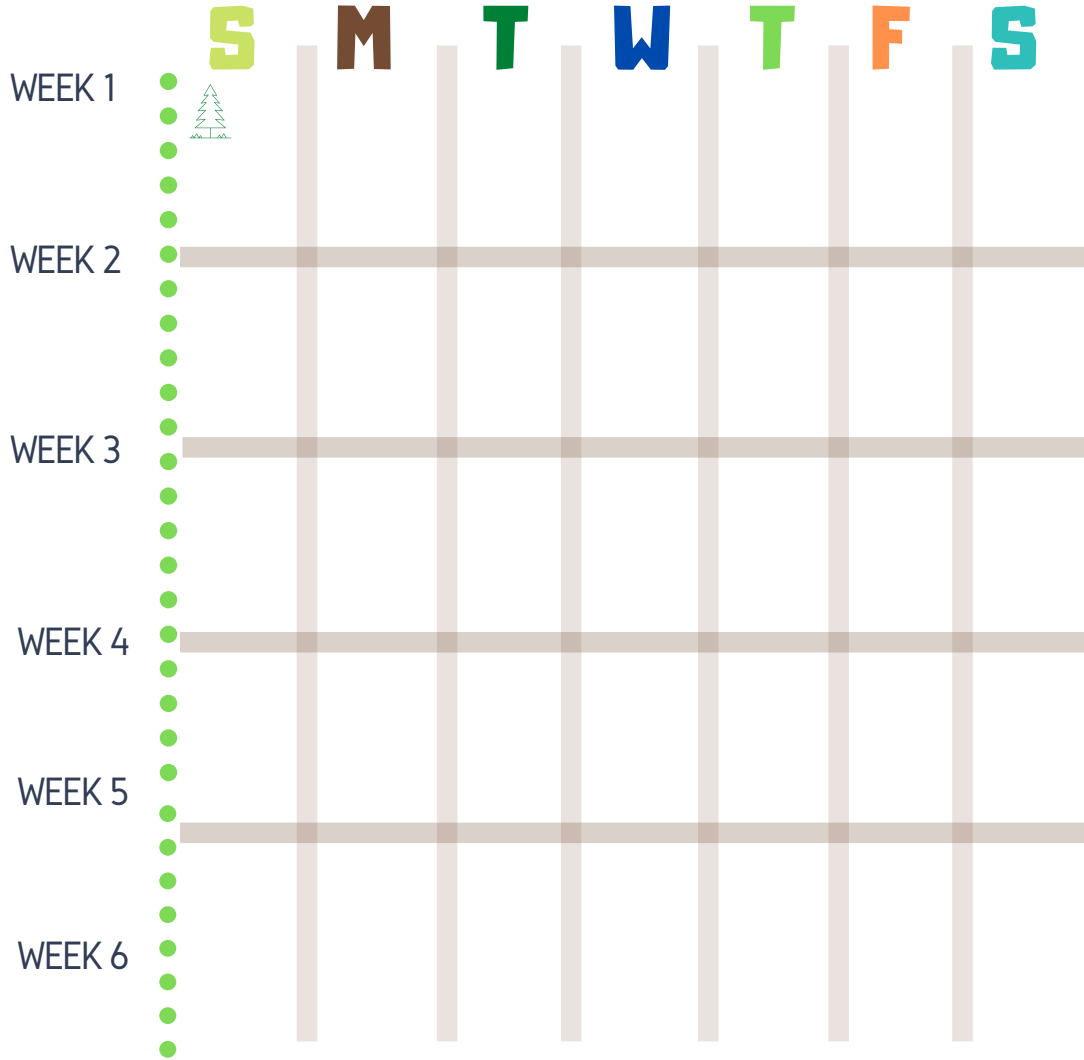
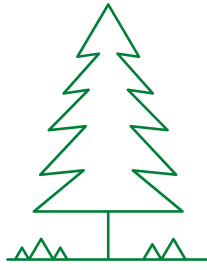
We know you are ready to be an explorer. To help you seek out new outdoor challenges we have developed this #MakerFun Natural Maker Journal. Here you can log and share your outdoor challenges (don't hesitate to add your own pages to it). To keep track of your findings, you can draw what you see, create or take photos of your creations. You can also use the tools in this journal to explain what you see. You are an **ecologist** in training and we hope you will calculate, describe, document and share your discoveries.

Ecologist: Environmental scientist

OUTDOORS

PLOT YOUR TIME

How much time are you spending outside? Time to use your drawing skills to plot your time (draw a tree, mark an "x" or get clever with a cute bunny for each hour spent in nature). Collect your data and create a diagram on the graph paper below. Share to inspire others!



DIAGRAM

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SAVE & SHARE

SAVE AND SHARE YOUR ART EVERY WEEK. YOU CAN ADD TO YOUR WORD ART OR MAKE A NEW ONE EVERY WEEK

For this activity be sure to bring your journal outdoors with you, or a scrap piece of paper. Look around. Look up, what do you see? Write it down. Look left, what do you see? Write it down. Look all around you. Write all the words you see in your natural space. Once you have these words you can create pictures. Maybe it's a tree, cloud or rainbow. Using your pencil lightly draw a tree. Now write words over the lines and fill in your tree with more words until the entire tree is covered with the words you just saw!



WORD ART

MAKE ART

In the space provided, write words that you learned each day, every week. Make a word cloud (or an object or shape you see in nature). You can use this website to create your word art or draw your own:

<https://wordart.com/create>

SAMPLE



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EXPLORATION

HOW TO USE YOUR EXPLORATION JOURNAL EVERY DAY...

Write observations, questions or discoveries... It's your journal, you can draw, write, glue stuff, start research, invent a prototype to solve an environmental problem... You can print activities and projects offered by Brilliant Labs and add them to your exploration journal.

WRITE A HYPOTHESIS

After each week of observation, write a hypothesis. What do you think next week will look like? What area is changing most drastically? Could you make a stop motion video of one spot to share the change in nature around you with your family and friends?

EXPERT

SPOT IT

Find your perfect sitting spot outside, enjoy it and document it. A sitting spot is a comfortable spot where you like to just sit, listen to nature, observe, meditate, and take quiet time for yourself. Write what you see, smell, hear and feel.



MONDAY				
TUESDAY				
WEDNESDAY				
THURSDAY				
FRIDAY				
SATURDAY				
SUNDAY				

HYPOTHESIS

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DESIGN & CREATE

WHAT COULD YOU CREATE WITH THE TREASURES YOU FOUND?

What will you create from the natural objects you found during your scavenger hunt? Can you name the type (or species) of object you found? Maybe you can start a collection or identification chart.



CREATE

OUTDOOR SCAVENGER

Plan an outdoor scavenger hunt for your friends or family. Be creative and use your imagination to make it fun. Think about some of the objects that may be in your yard. Sketch your plan using the grid provided below.

WHEN CREATING WITH NATURE

- Remember that this natural space is home of a very unique biodiversity.
- Take only the elements on the ground or non-living and do not take everything (this is called **conservation**).
- Try to put the space back as it was.
- This awareness is an important part of Natural Making!

We are only visitors... Let's face it!



2 Feuilles de chêne
Oak leaves



2 feuilles d'érable
Maple leaves



10 aiguilles de pin
pine needles



5 Feuilles de cèdre
Cedar leaves



5 Pommes de pin
Pine cones



une plume
a feather



Traces d'animaux dans la neige
Animal tracks in the snow



6 Roches grises
grey rocks



une roche blanche
a white rock



2 cynorhodons
rosehips

FIND

NATURAL MAKER

EXPLORE, OBSERVE,
AND QUESTION



TAKE A CLOSER LOOK

Have you ever noticed something for the first time that you overlooked in the past? We often overlook things because they are not important at that time and our mind fills in the gaps. We tend to tune out a lot including sights, sounds and maybe even smells. Failing to notice things around us can be costly, especially when safety is involved. When we don't pay attention to our surroundings, we will most like miss seeing things.

LIST 3 THINGS YOU DISCOVERED

- 1 _____
- 2 _____
- 3 _____



FIND

LOOK CLOSER AT OUR WORLD

Take a walk around your yard, school, or park. Pay particular attention to your surroundings. What do you see? What do you hear? Are your discoveries human-made or part of nature? How did they get there? Have you noticed anything new?

WRITE 5 QUESTIONS ABOUT YOUR DISCOVERY

NATURAL MAKER

LET'S TALK

LET'S TALK

Let's give our classmates, friends and family the chance to share what they enjoy about being outside. Is there anything you want to share with them? What activities and projects would like like to do? You can work with them to enjoy and learn more about the outside world around them.

GET INFO ABOUT NATURAL MAKERSPACES

Students who learn in Natural Maker Spaces have no walls and often no predetermined classroom area (although some schools do have outdoor classrooms). The time spent outside is bringing an emotional connection to the land that is essential to develop a deep appreciation and the empathy we all need to inspire ecological and social actions.

LET'S CONNECT

Michelle Thibault, Natural Makerspace Program Specialist

Email: Michelle@brilliantlabs.ca

BRILLIANTLABS.CA/NATURALMAKERSPACE

THOUGHTS

YOUR THOUGHTS

Express yourself. You can write anything you want about what you have learned. This space is for you to share your ideas, concerns, feelings and ways to help your environment.



Lined writing area for thoughts, consisting of horizontal purple lines and a vertical pink margin line.

DRAW

*Natural Makerspace
Exploration Journal*

WINTER edition



NATURAL MAKER

EXPLORE, OBSERVE,
AND QUESTION



LOOK AT SNOW FROM DIFFERENT PERSPECTIVES

Have you ever looked at the snow under a microscope or a magnifying glass?

What if you melted snow in a transparent container? What would you find?

After melting the snow, can you restore it to its original appearance?

Can you reproduce a snowflake with paper and scissors?

LIST 3 THINGS YOU DISCOVERED

- 1 _____
- 2 _____
- 3 _____



OBSERVE

OBSERVE CLOSELY AND DRAW

Did you know that all snowflakes are different? Just like humans, you can't ever find two snowflakes that are exactly the same. Observe carefully and draw a few snowflakes. Share with your friends.

WRITE THE CHARACTERISTICS THAT MAKE YOU UNIQUE. DISCUSS IT WITH YOUR FRIENDS. MAYBE THEY CAN ADD SOME NICE CHARACTERISTICS TO YOUR LIST.

NATURAL MAKER

DID YOU KNOW?

SNOWSHOES ARE USED TO DISTRIBUTE YOUR WEIGHT



"The invention of snowshoes demonstrated First Nations' knowledge and understanding of the science of weight distribution. The light but sturdy wooden frames and the open weave of the rawhide thongs enabled First Nations to travel in deep snow with a minimum of physical effort and considerable efficiency."

Taken from the learning resource The Learning Circle.

WHAT IS WEIGHT DISTRIBUTION?

THE LOAD-BEARING CAPACITY (KG) PER AREA (M²) OF SNOW MUST NOT BE EXCEEDED TO ALLOW ANIMALS OR HUMANS TO WALK MORE EASILY ON THE SNOW. WHEN THE LOAD-BEARING CAPACITY IS EXCEEDED, COMPACTION OCCURS.

ANSWER FROM MR. GUILLAUME BERNARD, CARPENTRY TEACHER AT CCNB.

15 LIFE ON LAND



DISCOVER

FIND TRACKS IN THE SNOW

Winter is the ideal season to discover which animals live near you. You may not see them because they are hiding in your presence, but they leave tracks in the snow. Look for clues that will allow you to identify the living things that live in your neighbourhood.

DRAW THE TRACKS YOU DISCOVER

MAKE A LIST OF CLUES THAT CAN HELP YOU IDENTIFY THE ANIMAL (E.G. TRACK SIZE, DISTANCE BETWEEN TRACKS, DESTINATION, ETC.).

DO RESEARCH. WHICH ANIMAL IS IT?

Two horizontal dotted lines spanning across the three columns of the table, providing space for drawing tracks and listing clues.

HOW ABOUT DESIGNING YOUR OWN SNOWSHOES? WHAT NATURAL MATERIALS WOULD YOU USE? YOU CAN MAKE YOUR PLAN HERE.

A large grid area for designing snowshoes, with a teal header bar above it.

NATURAL MAKER

DID YOU KNOW...

SNOW IS AN INSULATOR

7 AFFORDABLE AND CLEAN ENERGY



Snow is an excellent insulator both thermally and sound. You will be surprised at the comfort that your snow shelter can provide. It might even be the ideal place to read, meditate or think.

Take the test: Measure the temperature outside and inside your snow shelter.



DESIGN

SNOW SHELTER

What if we could consider snow as a solid and durable winter material? What would you build from it? Think of a construction project and plan it. You may use only snow or add materials that are accessible to you.

MATERIALS AND TOOLS I NEED:

Grid area for writing materials and tools needed.

OTHER NATURAL INSULATORS?

Do you know of other natural insulation materials? Take the test by using various natural materials in the construction of your shelter.

Write down your observations:

Handwritten notes area with horizontal lines.

WHEN YOU CREATE IN AND WITH NATURE

- Don't forget that this natural space is home to a very unique biodiversity.
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- This awareness is an important part of making in nature!

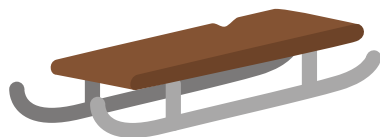


EACH OF YOUR ACTION HAS AN IMPACT!

NATURAL MAKER

WHERE IS IT COMING FROM?

TABA'GAN



"Another invention that influenced First Nations' winter travel was the toboggan. The word toboggan is borrowed from the Mi'kmaq word taba'gan. The original toboggan design was created by the Mi'kmaq people of Eastern Canada. Originally, these toboggans were made of bark and animal skins. Toboggans were constructed of long, thin strips of wood, usually cedar, two metres long. They were used principally by hunters and trappers to transport food and furs. Toboggans were ideal for hauling heavy loads in deep snow. The curved front allowed the toboggan to ride easily over mounds and bumps."

- Taken from the educational resource *The Learning Circle*

CALCULATION AT FULL SPEED

Take advantage of the winter to go sliding. How fast are you going down the slopes? The equation for your sliding speed is the relationship between the distance you've travelled and the time it took you to get there. Speed equals distance in meters divided by time in seconds.

$$S = d \div t$$

Organize a contest with your friends (remotely or in person). You can enter your data in this table of values.

	DISTANCE		TIME		SPEED
Example	4.4 m	÷	3.2 sec.	=	1.38 m/s
1st trial					
2nd trial					
3rd trial					
4th trial					
5th trial					

HOW COULD YOU IMPROVE YOUR SLIDING SPEED? WHAT IF YOU IMPROVED THE ANGLE OF THE SLOPE? WITH WHAT EQUIPMENT COULD YOU BUILD A SLED TO REDUCE FRICTION? WRITE DOWN YOUR IDEAS AND REPEAT THE EXPERIMENT.

Handwriting practice area with a vertical red line and horizontal blue lines. Includes four circular markers on the left side.