Let’s Grow Together!

Grades 3–5

In this activity, children will plan to plant a garden this summer, and along the way, they can explore measurement, journals, music, art, science, Indigenous ways of knowing, and so much more! These activities can be completed with materials typically found in many households.

There are French vocabulary words at the end of this document to support each of the activities. Children who are learning English as an additional language can also use these vocabulary words to practice.

To complete this activity, you might need a pencil, paper, crayons, markers, pencil crayons, paints, a way to watch online videos, a ruler or tape measure, seeds, and simple planting materials. You can complete all of the activities here without using the Internet if you wish.

New Nouveau Brunswick

Your Challenge!

Spring is here, and it's time to get ready to plant our gardens! Your challenge is **planning your perfect garden**. You can do that by doing some of the activities here. Do you have to plant your garden for real? That's up to you and your families. Still, planning a perfect garden will be fun to do!

You will see French words here and there with our descriptions of the activities, and there is a collection of French words related to gardens at the end of this document. You can try doing some of the activities in French! It's up to you! *C'est à toi!*

Remember What You Already Know!

Think about what you already know about gardens:

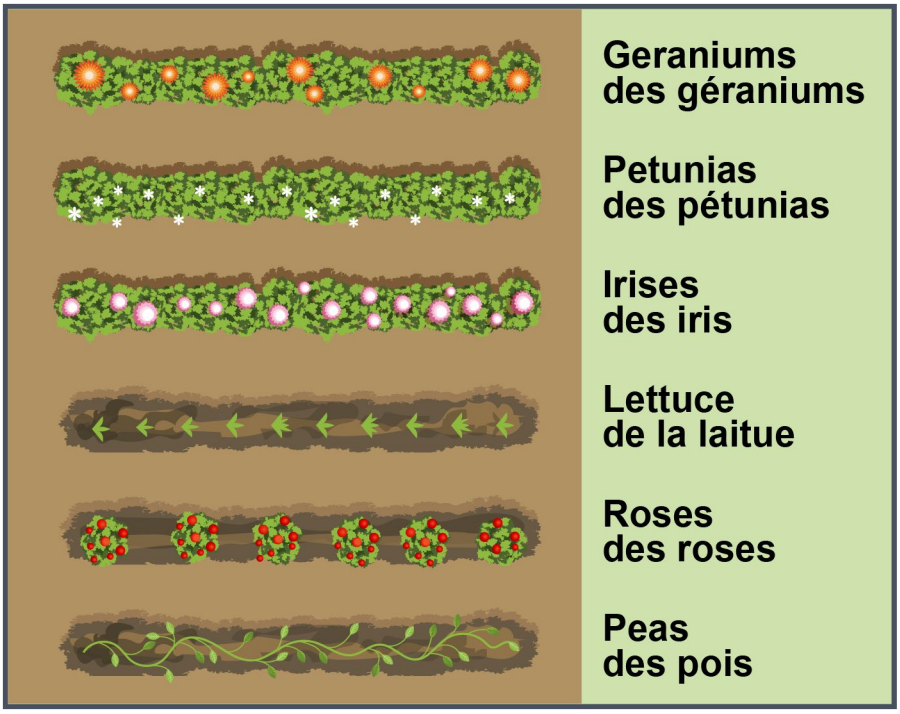
- Have you ever had a garden? Would you like to have a garden?
- What are your favorite foods from your gardens?
- When do you usually plant your garden?
- When do you usually harvest the fruit and vegetables from your garden?

Imagine Your Perfect Garden!

Let's start planning our garden! Draw or create a picture of your garden. Here are some things you should include in your plans for your garden!

Will your garden be indoor, outdoor or on a balcony?	How big or small will it be? What is its **area**? How **long** are its sides?
What shape will your garden be?	What type of plants do you want to grow? Will you grow flowers, vegetables, or both? *(Will you grow hundreds of delicious Brussels sprouts? Yummy!)*
How many types vegetables will you grow? How many types of flowers will you grow?	How will you keep animals out of your garden? Will you have a scarecrow or a fence?

When you are ready, you can start drawing! Add color and label the parts of your garden.



When you are done, share your plans for your garden with a parent, sibling, friend, or grandparent. Do you know anyone who is good at gardening or farming?

Carrots
des carottes

Broccoli
du brocoli

Onions
des oignons

Lettuce
de la laitue

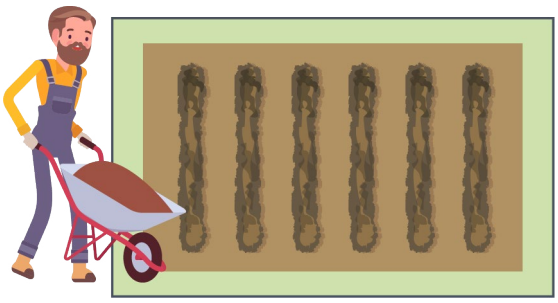
Plan Mr. Baker's Garden!

You have a fancy job as a garden planner! Mr. Baker wants to have a garden in his back yard, but he does not know how to plan it. He calls you to plan his garden for him. Can you do the job?

He has purchased 36 metres of fencing to use as an outline for his garden. The problem is that he does not know how wide and long to make his garden! You will investigate this problem and write a letter to Mr. Baker describing his different options for the dimensions of his garden. Your letter should contain both written explanations and diagrams to make sure he understands his options. Make sure it answers all of the questions below. **Bonus:** Mr. Baker speaks both English and French. You can write your letter in either language!

Find all of the possible dimensions for Mr. Baker's garden given the amount of fencing he has. You should know something else. Mr. Baker wants a rectangular garden. He just hates squares and circles, and don't even get him started about triangles! Draw a picture to represent each possible solution:

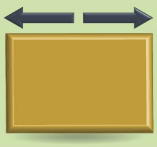
- What is the smallest garden that can be created that uses all of his fencing? (Remember to use your math skills to find the **area** in metres squared [m^2].)
- What is the largest garden that can be created that uses all of his fencing?
- Which set of dimensions do you think he should use? Why?



As you write your letter to Mr. Baker to explain your recommendation, remember to check your own work to make sure your client will be really happy with your work. Think about these questions:

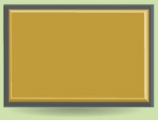
- Did you find all of the possible dimensions for his garden?
- In your work, did you identify the smallest and largest area that can be created?
- Does your letter include pictures to help Mr. Baker? Did you label your pictures?
- Did you make a recommendation to Mr. Baker?
- Did you explain why you made this recommendation?

Area
l'aire



Length
la longueur

Width
la largeur



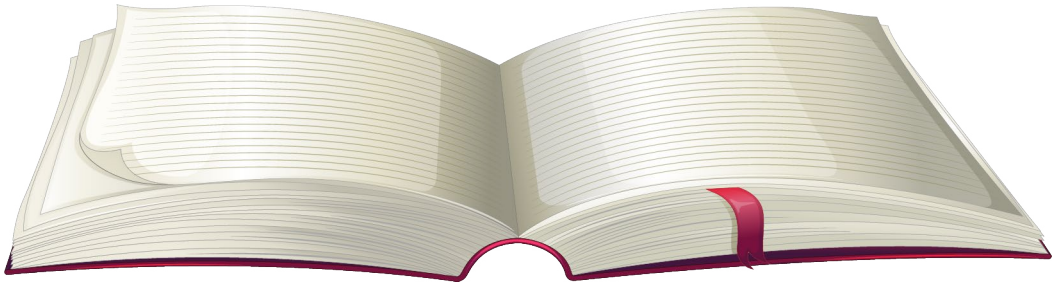
Rectangle
rectangulaire

Do a Field Journal!

Scientists use field journals to record important facts about things that they see outside when they are exploring the world around them! Scientists record things like what the weather is like from day-to-day, what plants and animals look like, and how plants and animals grow and change over time.

You can write your own **field journal** to keep track of something you can see (observe) in your own household or from your own window. What time does the sun come up? How hot is it outside? What types of birds can you from your window? Make sure you include drawings in your field journal, and make sure you include the date for all of the things you see! That way, you can see how these things **change over time**.

If you do plant seeds to get your perfect garden started, you can track their growth and development in your own field journal! You can use a ruler or really anything to measure your plants as they grow. It can be a centimeter (cm), it can be your thumbnail, or it can be something totally different. You decide! Just use the same **unit of measurement** each time you write your observation down. *(My pencil is 9 thumbnails tall!)*



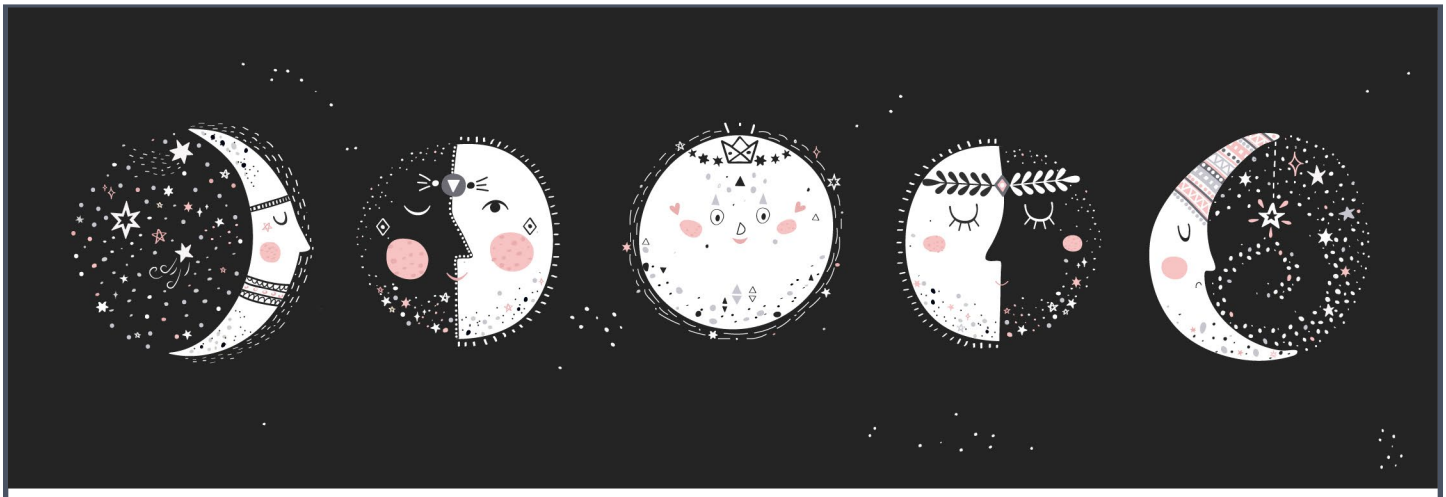
You can watch two videos on YouTube about field journals with your children to support this activity. The first explains how to make field journals for children. The second tells the story of a remarkable family from Kierstead Mountain, New Brunswick. The Whitneys are farmers who have compiled their own field observations about weather and about animal and plant behavior. Students at a nearby university are even using their data to learn more about climate change!

I see
Je vois

I notice
Je remarque

I observe
J'observe

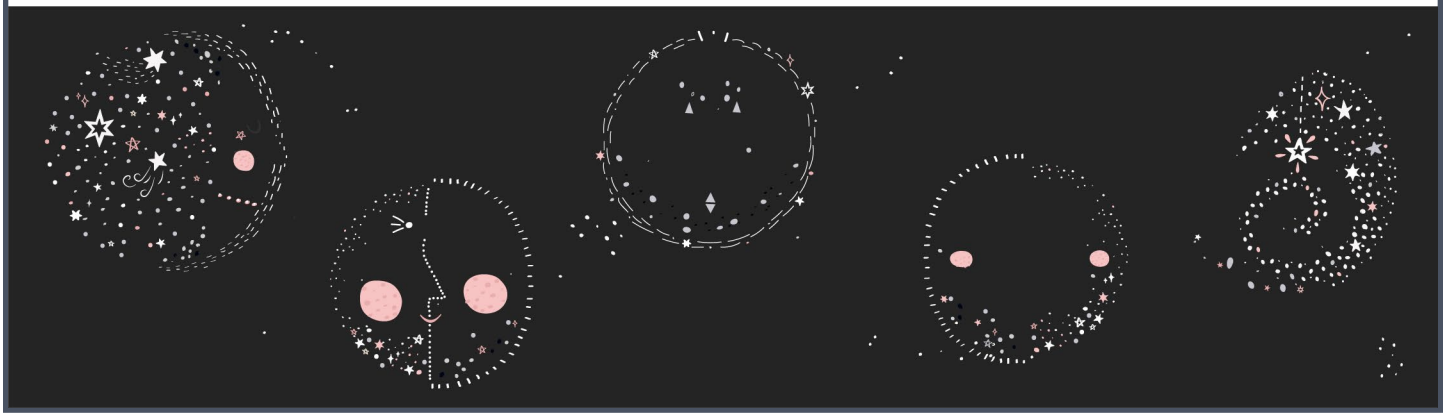
Map the Moon!



Farmers and gardeners pay **a lot** of attention to the weather and the seasons. They have to know when it is safe to plant their seeds and seedlings outside. One way to measure time is watching the phases of the moon as we can see more or less of it during its 28-day cycle. Did you notice that "moon" and "month" start with the same letters? That is no accident. People have always used the moon to help to measure time.

Draw your own representation of the moon phases, and then give each of them a name! Use your imagination, and then explain why you gave them the names that you picked. *(I think I'll call one Winky!)*

Do **you** know why the moon has phases? The moon travels around (or orbits) the Earth. As it travels, more or less sunlight reaches it. We can always see the whole moon: it's just that the Sun can only light up parts of it depending on where the Sun, the moon, and the Earth all are in space.



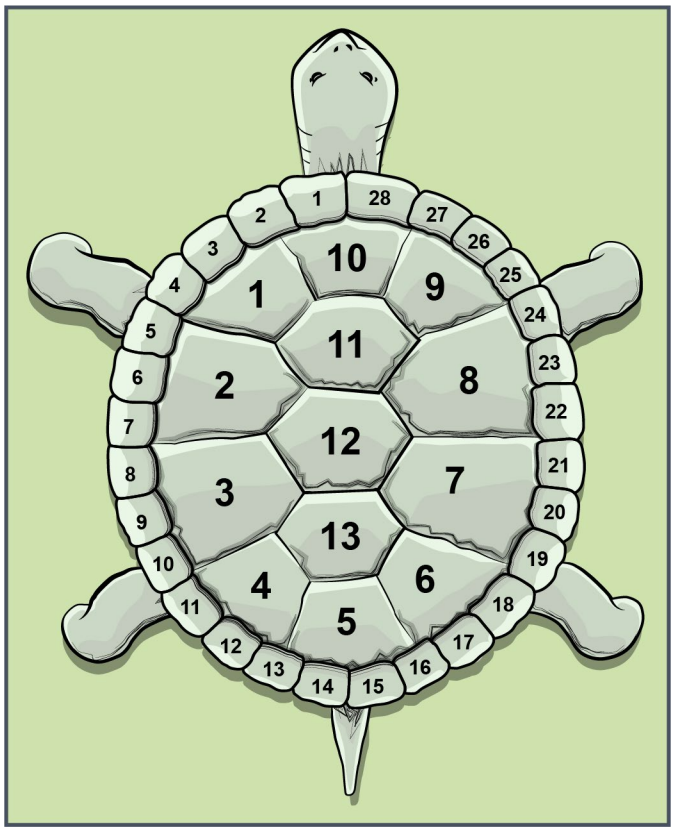
Create!

Speaking of measuring time, for generations, many Indigenous Peoples have measured the year by a lunar cycle of 13 full moons, which are visible every 28 days, over the course of the 365 days that make up a year. The names of the 13 moons describe different aspects of nature depending on the time of year. The names vary from Nation to Nation, and from region to region, because of the diversity of the natural landscape and languages across regions.

Do you want to see something cool? Here is the way many Indigenous Peoples have drawn their calendar! They see the 13 middle parts of the shell as the 13 moons of the year, and the 28 smaller parts on the outside of the shell are the number of days in each of the 13 lunar cycles of the year.

13 x 28 = ?

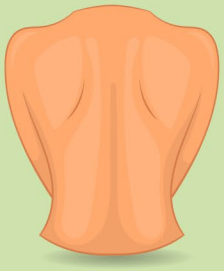
Draw your own Turtle with 13 moons and 28 segments. Are the moons and segments approximately the same size? Did you use anything to help you measure the sizes of the moons and segments on the turtle's back?



You can watch two videos on YouTube about the Indigenous Peoples way of understanding a calendar year. The first explains why the Indigenous Peoples use a turtle shell to understand the calendar. This speaker is from the American state of Wisconsin, but this way of measuring time has been used throughout Turtle Island (North America).

The second is a man reading the story called Thirteen Moons on Turtle's Back by Jonathan London and Joseph Bruchac. One of the names of the moons in the book comes from the Mi'kmaw Nation!

Turtle
la tortue



Back
le dos

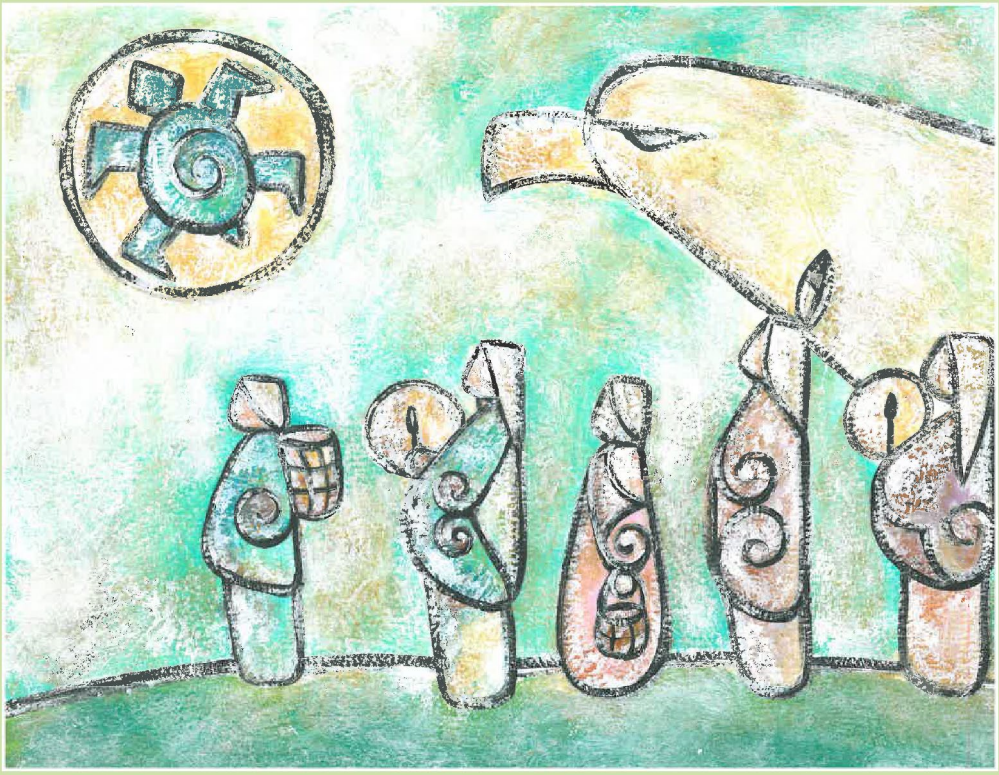
13

Thirteen
treize

28

Twenty-eight
vingt-huit

Here are some words you can learn from the Wolastoqey Nation!

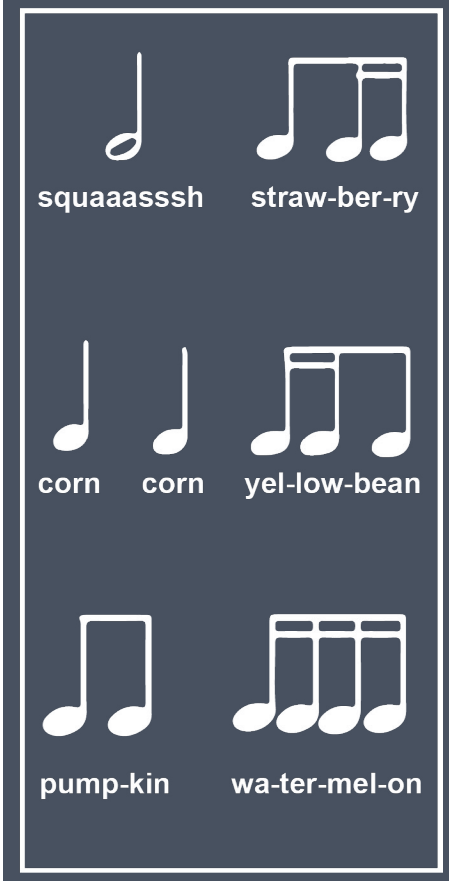


turtle: cihkonagc ("jeek-knock-kch")

moon: nipawset ("ne-baw-sek")

Make Music!

What plants are you going to plant in your garden? Create a rhythm chant or body percussion that uses all the names of the different plants. Start with long rhythms, and gradually move to shorter rhythms. Now, do the opposite! If you have access to the app or program Garage Band, build your own garden chant. If you don't, you can ask family members to help you to perform what you create. Here is an example of how to transform words to rhythms.



Move!

You can measure gardens, and you can measure time. Think for a moment now. How can you measure the ways your body moves or functions?

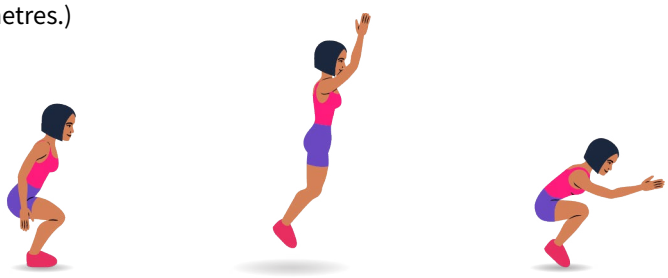
- I can measure how far I can jump! That's **distance!**
- I can measure how fast I can run. That's **speed!**
- I can measure how fast my heart goes when I move. That's **heart rate!**
- I can even measure how tall I'm getting. That's **height!**

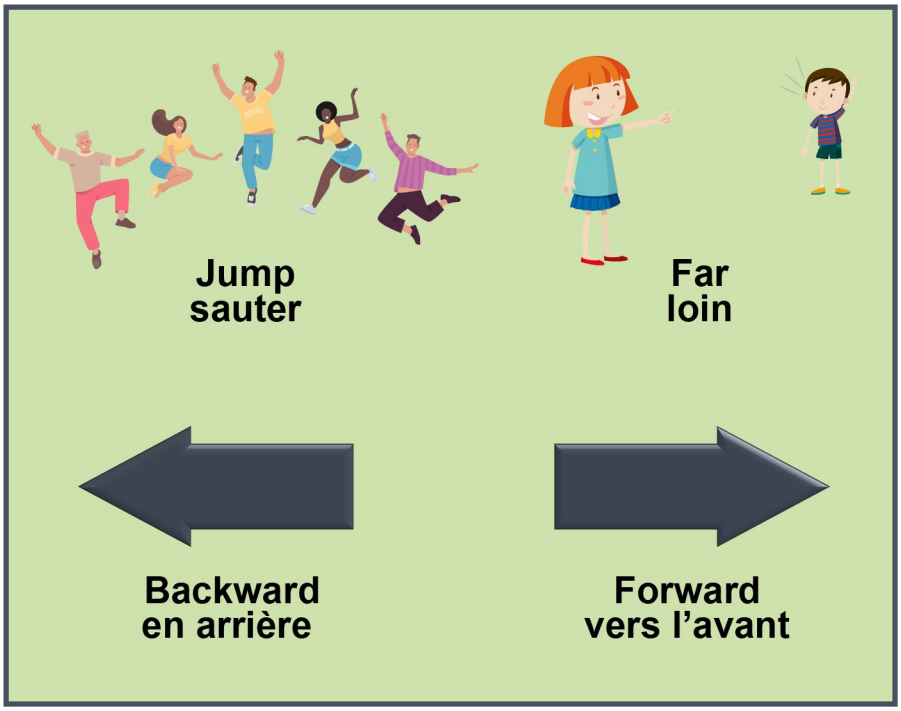
Let's do a challenge together. Make sure that you're doing this in a good place to jump and to land, some place where you won't get hurt and where you won't break anything fragile. We're going to do a standing long jump challenge. You just need something to be the base (or starting point) to jump from. It could be a pillow, a tile, a rock, a stick, or really anything you have. You just have to be able to stand beside it and to measuring starting from it! Following these steps:

1. Bend your knees.
2. Swing your arms back to start.
3. Then, swing your arms forward as you jump forward as far as you can go.

The first part of you to hit the ground/floor marks how far you got. Measure the distance! Try repeating the jump with little changes to see whether they help or hurt your distance. Can you go farther if you jump off of one foot or two? Can you jump farther on different surfaces like grass or your driveway? Record your distances from each type of jump and see which one was best.

How far did you make it? Could you jump as far as your Mom or Dad is tall? Which unit of measure was best for your distance? (Think about centimeters, millimeters, feet, and metres.)





Water Your Garden!

You have a garden in your yard, but the garden hose will not reach it. You need to think of another way to water it. You will have to look in your recycling bin to see what new containers you could use to carry the water. What size are the containers? If your garden needs 25 litres of water each day, how many times will you need to fill the container to get the water to the garden?

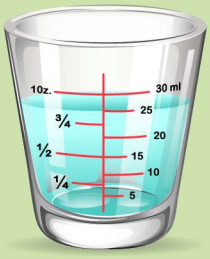
You can watch two videos on YouTube to help with this activity. Here is a fun song that teaches how to convert different units of measurement to and from each other.

Here is a great explanation of capacity and volume to help you to figure out how you will get your water to your garden.

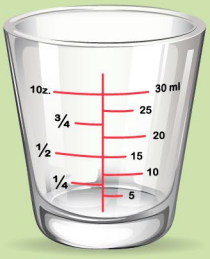
I need
J'ai besoin de

Water
de l'eau

Container
un contenant



Volume
le volume



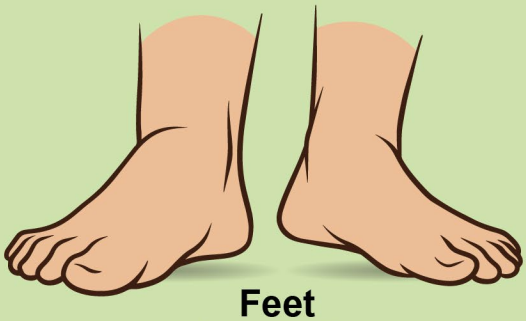
Capacity
la capacité

Measure Without Rulers!

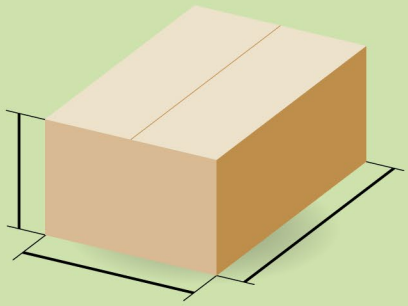
If you do not have anything at home to measure with, how else could you measure the dimensions of your garden? You can use nonstandard measurements to measure its sides. For example, you can use the length of your foot, the length of your brother or sister laying down, or even the length of a skipping rope. Whatever you use to measure, don't leave any spaces between the nonstandard items when you measure with them, and don't mix different nonstandard measurements. For example, my pencil is 9 thumbnails long. That works. But I can't say that my pencil is 2 thumbnails and one cell phone long.

This activity has a perimeter of 10 skipping ropes!

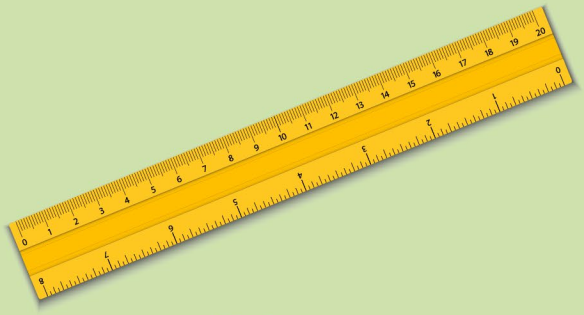
Here is a good explanation of nonstandard measurement on YouTube. What do you think you could as a nonstandard measurement for your garden?



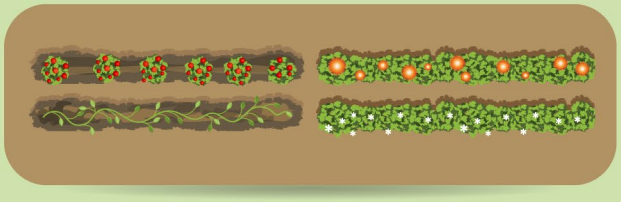
Feet
les pieds



Dimensions
les dimensions



Ruler
une règle



Garden
le jardin

Seeing Changes Over Time!

Gardening and farming are very important to life, especially in New Brunswick. Do you know how farming and gardening have changed over time? You can ask a family member, a family friend or a neighbour all about it. You just need your parents' permission to do an interview over the phone or over the Internet. You will have to think about your questions first before you do your interview. You can use your questions to discover how farming/gardening practices, tools, technology and even crops have changed over time. When you have your answers, be creative about presenting your findings. You can draw a picture, write a newsletter article, write a blog post, create a short video, or prepare a pamphlet.

Did you know that during each of the World Wars, Canadians were encouraged to grow some of their own food to help the war efforts? This poster is from World War I.

Gardening
le jardinage

Farming
l'agriculture

Tools
les outils

Today
aujourd'hui

Bees!

Do you know how pollinators help our gardens grow? Pollinators like bees spread pollen from flower to flower and plant to plant. When they do that, they help the plants to produce seeds! Without pollinators, many plants and trees would struggle to survive. The flowers we plant in gardens can help to make sure that pollinators like visiting our yards and balconies.

You can read about pollinator friendly gardens at David Suzuki's website. He's a famous scientist from Canada.

Bee
une abeille

Pollinators
les pollinisateurs

Plant!

Well, we have nothing else to talk about to get ready to grow this spring. Nothing.

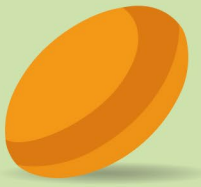
Nothing at all.

Except plants!

If you want to plant your gardens now, you can get seeds and planters from around your household to get started. When you eat uncooked fruits and vegetables, see whether you can find the seeds in them. The seeds are easier to see in some fruits and vegetables than others. It's easy to find seeds in peppers, squashes, and pumpkins. Some of the vegetables we eat can be started from ones grown last year, like potatoes.

When you have your seeds, an old egg carton makes for a great planting tray. You can put a seed in each of the holes for the eggs. When it comes time to plant the seedlings in a bigger pot or outside, you can plant that part of the egg carton, too. What a great way of re-using something to make it new again! Good luck planting! Let's grow together!

A packet of seeds
un sachet de graines

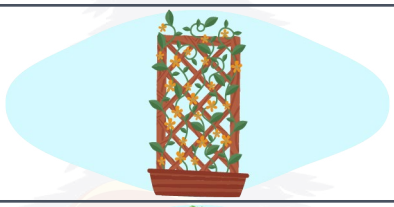
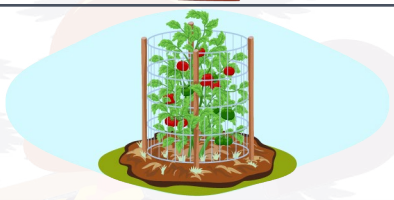
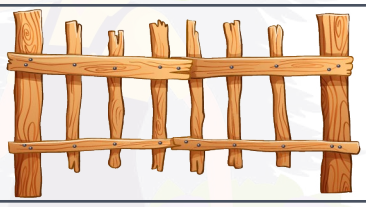
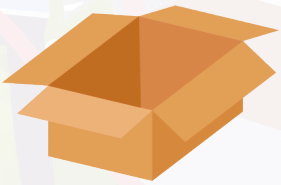


Seed
une graine

Here is my garden...
Voici mon jardin...

There are...
Il y a...

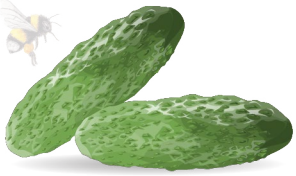
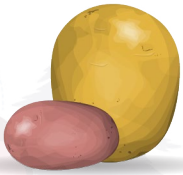
Appendix

Imagine Your Perfect Garden!	
Dans mon potager de légumes In my vegetable garden	Il y a… There is…
Dans mon jardin de fleurs In my flower garden	Voici mon jardin This is my garden
un jardin en pleine terre an inground garden	le plan the plan
un jardin surélevé a raised bed 	une variété de a variety of
le jardinage en pots container gardening 	un treillis a trellis 
un potager de balcon a patio garden 	une cage de tomate a tomato cage 
un pot a pot 	une clôture a fence 
une boîte a box 	un rang a row

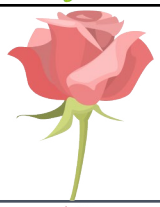
un contenant  a container	un sillon a furrow
petit small	grand big
plus petit que smaller than	plus grand que bigger than
la même taille the same size	environ around
à côté de beside	en arrière behind
en avant in front	rectangulaire  rectangular
carré square	moyen medium
un sachet de graines  a packet of seeds	une graine  a seed
un plant  a seedling	le sol  soil

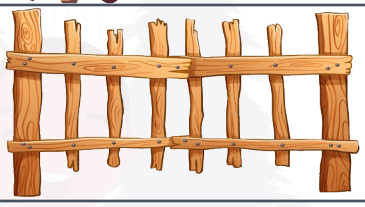
une plante a plant 	du composte compost 
planter to plant 	du fumier manure 
semer to sow 	de l'engrais fertilizer 
arroser to water 	récolter to harvest

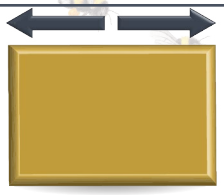
des légumes vegetables	
de l'ail garlic 	des asperges asparagus 
des betteraves beets 	du brocoli broccoli 
des carottes carrots 	des champignons mushrooms
des choux cabbage	des choux-fleurs cauliflower 

des citrouilles pumpkins 	des concombres cucumbers 
des courges squash	des épinards spinach
des haricots green beans 	de la laitue lettuce 
du maïs corn	des oignons onions 
des poireaux leeks	des pois peas
des pommes de terre potatoes 	des radis radishes 
des tomates tomatoes 	

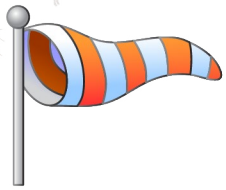
des fleurs flowers	
un géranium a geranium 	un iris an iris 

une jonquille a daffodil 	une marguerite a daisy
un pétunia a petunia 	une pivoine a peony
une rose a rose 	un tournesol a sunflower 
une tulipe a tulip 	une violette a violet

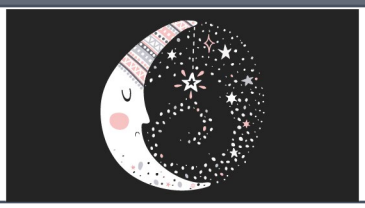
Plan Mr. Baker's Garden!	
le jardin the garden 	Je pense que I think that 
une clôture a fence 	Selon moi In my opinion
une arrière-cour a backyard	À mon avis In my opinion
les dimensions de mon jardin the dimensions of my garden	Je recommande I recommend
la largeur the width 	parce que because

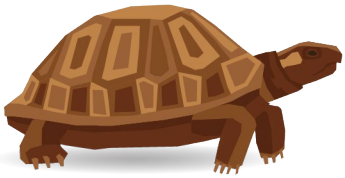
la longueur  the length	Cher Dear
l'aire  the area	Mes salutations my salutations
la plus petite aire the smallest area	la plus grande aire the largest /biggest area
rectangulaire  rectangular	

Do a Field Journal!	
Je vois  I see	la météo  the weather
Je remarque I notice	le soleil  sun
J'observe I observe	la pluie  rain
Voici mon dessin Here is my drawing	la neige  snow
un fait a fact	la brume fog

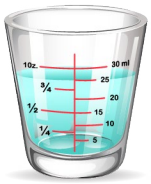
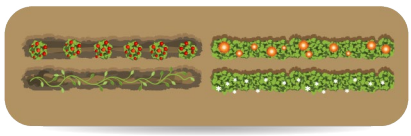
dehors outside	le vent wind 
dans la cour in the yard	aujourd'hui today 
sur le gazon on the lawn	le matin morning
par terre on the ground	l'après-midi afternoon
semblable similar	le soir evening
différent different	une plante a plant 
plus petit que smaller than	un arbre a tree 
plus grand que taller than	un animal an animal
plus gros que bigger than	un insecte an insect

pousse grows	un oiseau a bird 
grandit grows	

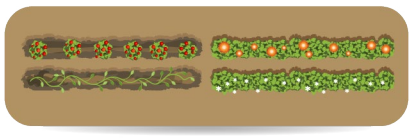
Map the Moon!	
la lune  the moon	le soleil  the Sun

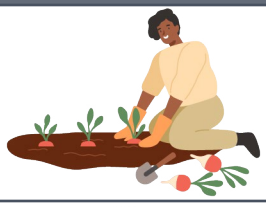
Create!	
la tortue  the turtle	le dos  back (body part)
treize  13	vingt-huit  28

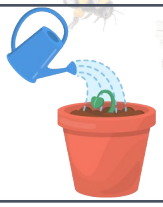
Move!	
sauter  to jump	en arrière  backwards
loin  far	vers l'avant  forwards

Water Your Garden!	
J'ai besoin de  I need	le volume  the volume
la grosseur the size	convertir convert
me rendre au jardin to go to the garden	remplir fill
un jardin  a garden	grand big
un tuyau d'arrosage garden hose	petit small
de l'eau  water	un contenant  a container
recycler recycle	la capacité  the capacity

Measure Without Rulers!	
Je pourrais mesurer I could measure	gros big

en utilisant using	petit small
le jardin the garden 	les pieds the feet 
les dimensions the dimensions	une règle a ruler 

Seeing Changes Over Time!	
le jardinage gardening 	différent de different than
l'agriculture farming 	semblable à similar to
une ferme a farm	parce que because
une serre a greenhouse	tel que/ telle que such as
un changement a change	plus more
les pratiques agricoles agricultural practices	moins less

l'arrosage  watering	biologique organic
les utilisations technologiques the technological uses	Est-ce que Is
le sol  the earth, the ground, the dirt	pourquoi why
semer  to sow	comment how
planter  to plant	où where
cultiver to cultivate	quand when
récolter to harvest	auparavant before
améliorer to improve	maintenant now
comme as	aujourd'hui  today

les outils the tools 	

Bees!	
une abeille bee 	les pollinisateurs pollinators 

Plant!	
un sachet de graines a packet of seeds 	une graine a seed 
Voici mon jardin Here is my garden	Il y a There is