

Summer Learning

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Book of Activities

(for ages 8+)

A Note to Parents/Caregivers

In these difficult times, we know that learning at home can be tough! Parents and caregivers are suddenly in a position of being “teacher” in addition to all of the other caregiving duties expected. We understand it can be challenging and overwhelming.

That’s why we created this *Summer Learning Book of Activities*. Many of the activities can be done by children on their own (although guidance can be helpful), and they do not require a computer, the internet, or any materials other than a pen or pencil. Some activities do use supplies, which we have included in this kit. We think that 3 to 4 weeks is a good amount of time to complete this book, but you may choose to take more or less time than that.

We encourage doodling and colouring! The covers, the titles, the images: every page is a colouring page. We hope you have as much fun completing these activities as we had putting them all together.

If you have any questions, you can email or call us - we are here to help.
Frontier College Hamilton

hamilton@frontiercollege.ca /cell: 905-818-1356

This book of activities is brought to you by Frontier College, our generous supporters and our valued community partners.

Written and designed by: Brennen Smith

All activities and images are open-source. Please feel free to share, copy, and/or distribute.



Literacy:
Learning for Life.

L'alphabétisation,
Une leçon pour la vie.

Thank you to everyone who contributed to the creation of this *Summer Learning Book of Activities*. If you want to learn more about Frontier College, our programming, or our partnerships, please visit our website:
www.frontiercollege.ca

Table of Contents



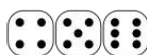
Reading and Writing



Reading Caterpillar.....	3
Book Look.....	4
A Sentence A Day.....	5
Ad Libs.....	6
Word of the Day.....	9
Book Review.....	11
D.I.Y. Animal.....	13
Dear Future Me.....	14
Crosswords.....	15
Word Searches.....	18
Categories.....	21
Odd Ad.....	23
Go Further.....	24



Numeracy



It's Raining Math!.....	25
Math Path.....	26
Dizzy Differences.....	27
Some Sums.....	28
Fraction Cards.....	29
Go Further.....	30



Science

Seed Science.....	31
Fruits & Veggies.....	33
Flower Study.....	34
Did You Know?.....	35
Go Further.....	36



Physical and/or Outdoor



Treasure Hunt.....	37
Streeeeeeeeetch.....	38
Outdoor 5 Senses.....	39
Obstacle Extravaganza.....	41
Go Further.....	42



Arts and Crafts



Personal Puzzle and Watercolour Wonders.....	43
Hand Print Pictures.....	44
Midsummer Mosaic.....	45
I Feel.....	46
Ice Cream Dream.....	47
Found Art.....	48
Colouring Pages.....	49
Black-out Poetry.....	52
Tiny Book.....	53
Go Further.....	54

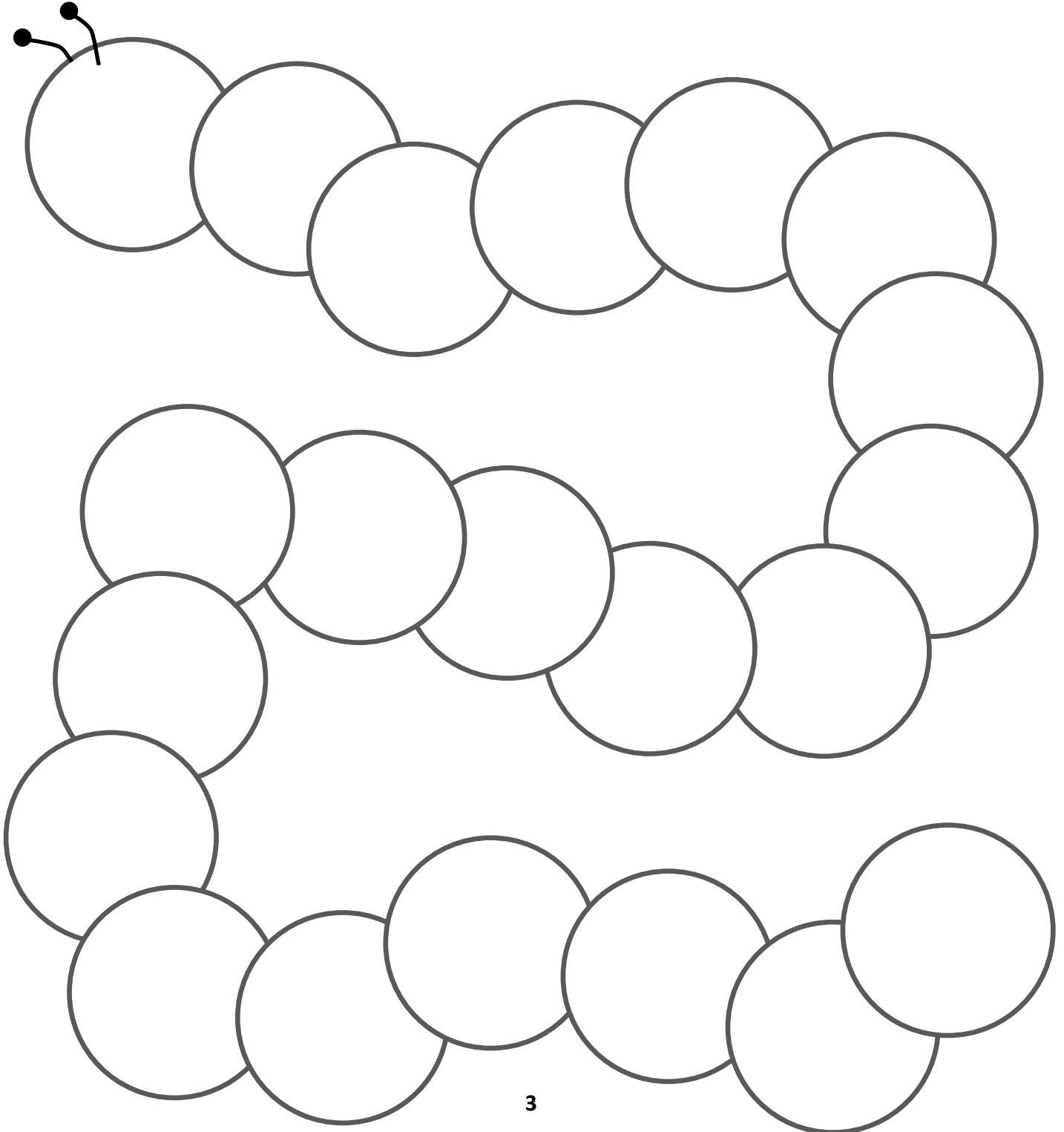


Reading Caterpillar



To get started, give the caterpillar a face (in the first circle, with the antennae). Colour in 1 circle for every 30 minutes you spend reading.

Can you fill in all of the circles of your Reading Caterpillar?



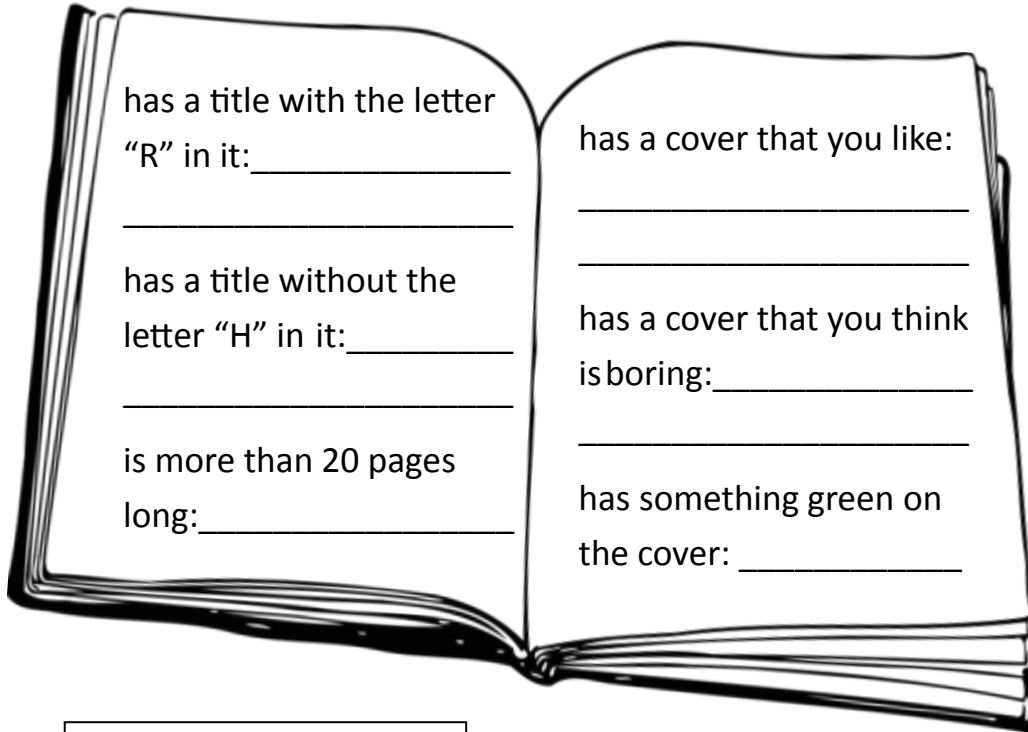


Book Look



It's a Book Treasure Hunt! Use the books in your learning kit or books you have around home. If you can, write a different book for each clue.

Write the title of a book that...



has a title with the letter "R" in it: _____

has a title without the letter "H" in it: _____

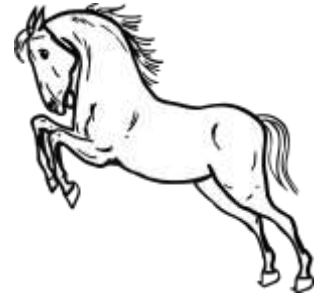
is more than 20 pages long: _____

has a cover that you like: _____

has a cover that you think is boring: _____

has something green on the cover: _____

involves animals: _____



is small: _____



you are looking forward to reading: _____



has something to do with food: _____



is big: _____



makes you wonder something: _____



is part of a series: _____

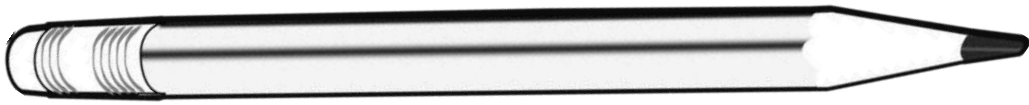




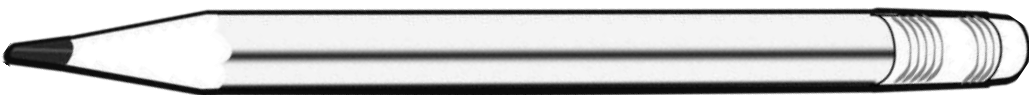
A Sentence A Day



Start a story today, and add one new sentence per day to your story until the page is full. If you want to keep the story going, continue it on another piece of paper.



A central writing area consisting of 15 horizontal lines, intended for writing a sentence each day.





Ad Lib



Fill in the blanks to complete the story below. Each blank asks for a specific word, which is indicated in brackets below it. For example:

“In the zoo, there lived a great, big _____ named _____.”
(animal) (name)

You might fill them in like this:

“In the zoo, there lived a great, big cheetah named Charlie.”
(animal) (name)

Be creative and have fun! You may even want to write your own stories with fill-in-the-blank fun to share with others. (This works best if you ask someone else, like a friend or family member, for the required information first, write it in, and then read out the story.)

Some important terms are:

- **noun:** a person, place, or thing (examples: grandmother, Turtle Island, pencil)
- **adjective:** a descriptor word (example: a red crayon -- red is the adjective)
- **plural:** means more than one (example: foxes -- fox is singular; foxes is plural)

My Dream

Last night, I had a _____ dream. In my dream, my friend
(adjective)

_____ and I were a couple of _____, except
(friend's name) (kind of animal, plural)

we were no ordinary _____: we had _____
(kind of animal, plural) (adjective)

_____ and we were covered in _____.
(body part, plural) (plural noun)

When we tried to speak, “ _____ ” was the only thing
(nonsense word)

we could say! But most _____ thing of all? All we ate was
(adjective)

steamed _____ with a side of _____ beans! I'm
(kind of food) (colour)

glad that real life isn't like that!



Ad Lib



Fill in the blanks to complete the story below. Each blank asks for a specific word, which is indicated in brackets below it. For example:

“In the zoo, there lived a great, big _____ named _____.”
(animal) (name)

You might fill them in like this:

“In the zoo, there lived a great, big cheetah named Charlie.”
(animal) (name)

Be creative and have fun! You may even want to write your own stories with fill-in-the-blank fun to share with others. (This works best if you ask someone else, like a friend or family member, for the required information first, write it in, and then read out the story.)

Birthday

Very soon, my friend _____ is having a birthday! I want
(friend's name)

to get them a gift. I am thinking either a _____ or
(noun)

perhaps a _____. Last year, I made them a card with a
(noun)

_____ on the front, and I wrote
(adjective) (noun)

a funny message on the inside! It said, “ _____ Birthday to
(adjective)

the most _____ friend in the whole wide _____!”
(adjective) (noun)

At the party, they served my favourite food: boiled _____.
(food item)

I wonder what they will serve this year at the party? Hopefully not

_____! Yuck, I don't like that at all.
(food item)



Ad Lib



Fill in the blanks to complete the story below. Each blank asks for a specific word, which is indicated in brackets below it. For example:

“In the zoo, there lived a great, big _____ named _____.”
(animal) (name)

You might fill them in like this:

“In the zoo, there lived a great, big cheetah named Charlie.”
(animal) (name)

Be creative and have fun! You may even want to write your own stories with fill-in-the-blank fun to share with others. (This works best if you ask someone else, like a friend or family member, for the required information first, write it in, and then read out the story.)

In the Forest

Today, I went on a walk in the forest with _____. We saw
(friend's name)

so many interesting things! _____ flowers and tiny
(colour)

_____. We decided to stop and rest in a meadow for
(type of insect)

a while. We laid on the grass and watched a _____ fly by.
(kind of bird)

It was _____ and _____, with a beak the size
(adjective) (adjective)

of a _____. As we got up to go home, we decided
(noun)

to take a different path home, past the _____. We hoped
(body of water)

to see a Flying _____ fish, but we had bad luck!
(nonsense word)

Instead, all we saw was a Green-Bellied _____ Fish. Oh well,
(nonsense word)

maybe next time!



Word of the Day



Pick one new word every day for 10 days! It could be a word you read in a book, a favourite word, or a word you learned from someone.

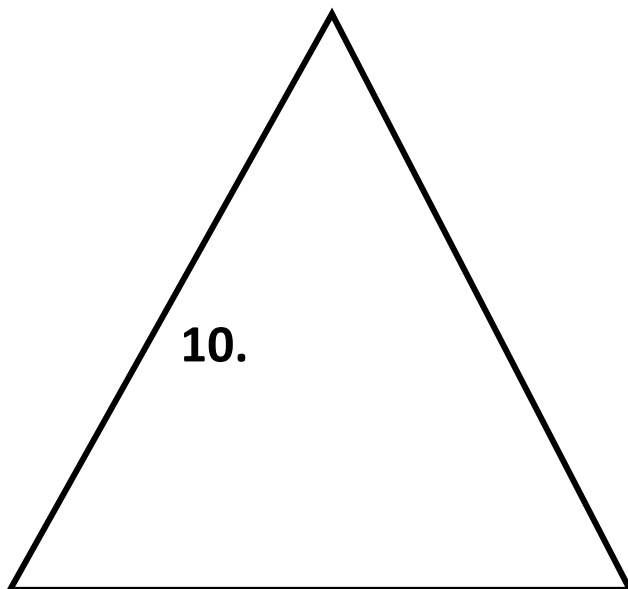
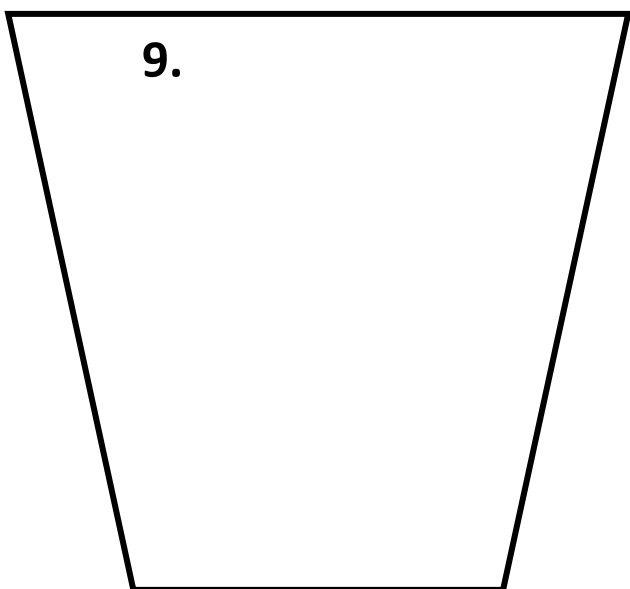
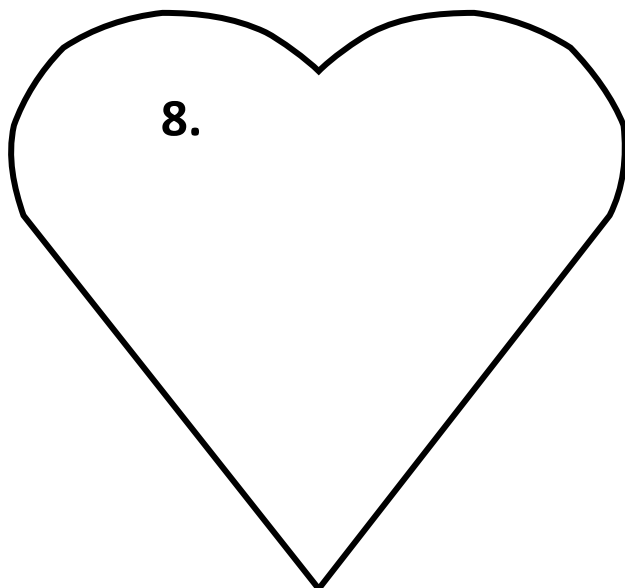
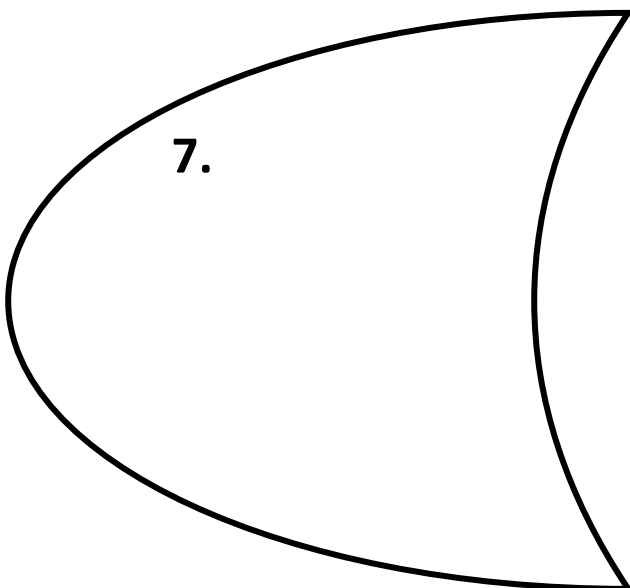
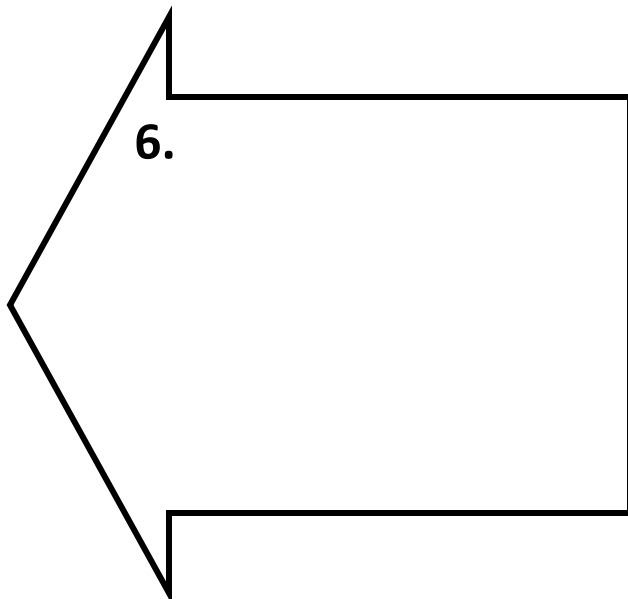
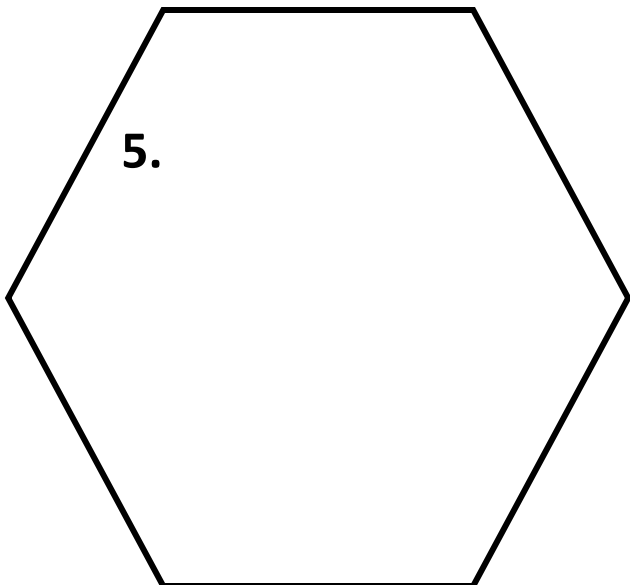
Write your word in the box, then define it or write a sentence that includes your *Word of the Day*. Try thinking of a word (or two) that rhymes with your *Word of the Day*. For example: FLARE, STAIR, GLARE.

1.

2.

3.

4.





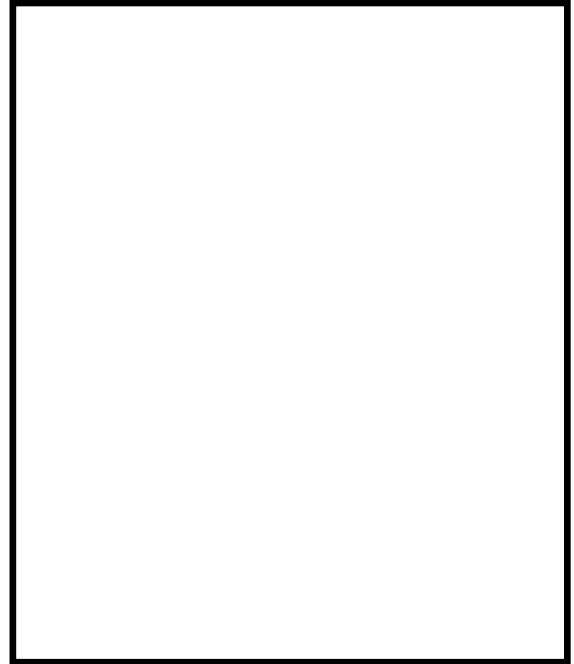
Book Review



It's time to write a book review! Write out the book's title and author's name below. In the blank box, draw the book's front cover. Then, answer the other questions on this page and the next page.

Book Title: _____

Author: _____



What did you like about this book? _____

Was there anything you didn't like about this book? _____

If you could, how would you rewrite the book's ending?

In the box below, draw your favourite scene or character from the book.





D.I.Y. Animal



Have you ever dreamed of creating your own animal? Now's your chance! In the box below, draw your new animal. Then, on the lines below, write about it! What is it called? Where does it live? What does it eat? What else about it is interesting?



Dear Future Me








Write a letter to your future self. What do you really want “future you” to remember from today? What do you hope you never forget? Do you have any advice for your future self?

A large writing area consisting of 15 horizontal lines. The lines are framed by four pencils: two on the left and two on the right, and one at the top center and one at the bottom center. The pencils are drawn in a simple, clean style with black outlines and grey shading to indicate depth.



Sports Crossword

Using the clues at the bottom of the page, fill in the grid below with the answers.

1.										4.		5.		
6..														
7.														

Down

- 1. Called "football" in Europe, this sport has a different name in North America.
- 2. Played on ice (or on a field), this sport is very popular in Canada.
- 3. This winter sport can either be downhill or cross-country.
- 4. This First Nations-invented game is Canada's "National Sport".
- 5. This game is played on a court, with a ball that is usually orange in colour.

Across

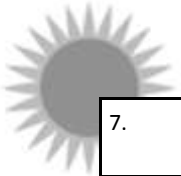
- 6. This game is played on a court, with a net strung across the middle. It includes actions like "serving", "spiking", and "bumping".
- 7. "Love" is a scoring term in this sport.
- 8. In this game, players score touchdowns.
- 9. Also the name of an insect, this game is popular in England, India, Australia (among other places) but not so popular in Canada.
- 10. This game is played on a course of either nine or eighteen holes.



Summertime Crossword



Using the fill-in-the-blank clues at the bottom of the page, fill in the grid below with the answers.



7. [] [] [] [] 1.

2.

3.

4.

5.

6.

8.

9.

10.

11.

12.

Down

- The four seasons: winter, spring, _____, and fall.
- The _____ shines during the day.
- In the summertime, you might swim in a swimming _____.
- On page 2, the Reading Caterpillar is used to keep track of how many _____ you read.
- The _____ shines at night.
- Rivers, lakes, and oceans are examples of bodies of _____.

Across

- A forest is made up of _____.
- A _____ is a yellow and black striped insect that can sting you.
- _____ is water that falls from the clouds.
- If it rains, to keep dry you might need to hold an _____ above your head.
- A _____ is a big animal, with antlers, and rhymes with "goose".
- Wear sunscreen so you don't get a _____.



Camp in a Crossword



Using the clues at the bottom of the page, fill in the grid below with the answers. All of the clues here are based on the various activities included throughout this book.

The crossword grid consists of 10 numbered squares for clues. The grid is 10 squares wide and 10 squares high. The clues are:

- 1. Down, 5 squares
- 2. Down, 3 squares
- 3. Down, 5 squares
- 4. Down, 3 squares
- 5. Across, 4 squares
- 6. Across, 6 squares
- 7. Across, 4 squares
- 8. Across, 10 squares
- 9. Across, 6 squares
- 10. Across, 4 squares

Down

1. What is the process called when a seed first starts to send out roots or a stem?
2. A noun is a “_____, place, or thing.”
3. If you wanted to know what the definition of a word is, what kind of book would you consult?
4. The “Table of _____” tells the reader what a book contains, and what page to find it on.

Across

5. In grammar, a _____ is an action word.
6. What is “TV” short for?
7. What have 6 sides each, with dots indicating a certain number?
8. The “Reading _____” is on page 3 of this summer learning activity book.
9. What is six times five?
10. What is eighteen divided by two?



Fruits & Veggies Search



All of the words from the list at the bottom of the page appear in the letters below. They may be vertical, horizontal, or diagonal. Can you find all of the words? There's a word for each letter of the alphabet, except one letter. Can you figure out which letter is missing?

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

ASPARAGUS	FIG	KIWI	PEAS	UBE
BROCCOLI	GARLIC	LEMON	QUINCE	VEGETABLES
CARROT	HONEYDEW MELON	MANGO	RHUBARB	WATERMELON
DANDELION GREENS	ICEBERG LETTUCE	NECTARINE	SOAPBERRY	YAM
ELDERBERRY	JALAPENO	ONION	TOMATO	ZUCCHINI

To learn more about fruits and vegetables (including what an "Ube" is), turn to page 35!



STEM Word Search



All of the STEM-related words at the bottom of the page appear in the letters below. They may be vertical, horizontal, or diagonal. Can you find all of the words?

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

- | | | |
|-----------------------|---------------------|---------------------|
| PHOTOSYNTHESIS | SKELETON | CUMULUS |
| GERMINATION | OSSIFICATION | TEMPERATURE |
| OXYGEN | ADAPTATION | THERMAL |
| VEGETATIVE | SHARKS | HUMMINGBIRDS |



Random Word Search



All of the words from the list at the bottom of the page appear in the letters below. They may be vertical, horizontal or diagonal. But, a warning -- this one's a tough one. Can you find all of the words? There are also words hidden in the letters that do not appear in the list. How many can you find? Try finding all the words, if you dare!

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

BOOK	GOOSE	KAYAK	FLOWER	OCEAN
LOOK	JUICE	MOUNTAIN	FLOCK	BIRDS
TOOK	CUP	RIVER	FLEW	ELEPHANT
MOOSE	CANE	LAKE	SUMMER	CARIBOU



Categories



Roll the alphabet die (which is included in this learning kit). Write down a word from each category that starts with that letter. To make it more difficult, you can set a time limit (for example, 4-minutes maximum). Or, you could make it so that your answers have to END with the letter you picked (instead of BEGIN with the letter you picked).

For “List 5”, make up your own “Categories” clues!

Use another piece of paper to write your answers. You can play the game many times, using a different letter each time.

Categories (List 1):

Something Found Inside

Fruit

Colour

Name

Animal

TV/Book/Movie Character

Made Up Word

Sport

Categories (List 2):

Something Cold

Vegetable

Toy/Game

3-Letter Word

Something Scary

Made Up Word

Article of Clothing

Type of Sandwich

Categories (List 3):

Food Item

Ice Cream Flavour

4-Letter Word

Summertime Word

Something You Find Outside

Something That Has Wheels

Item in a Toy Box

Plant

Categories (List 4):

5-Letter Word

Wintertime Word

Something That Moves

Type of Pet


Place

Something Round


Halloween Costume

Something You Could Be
When You Grow Up

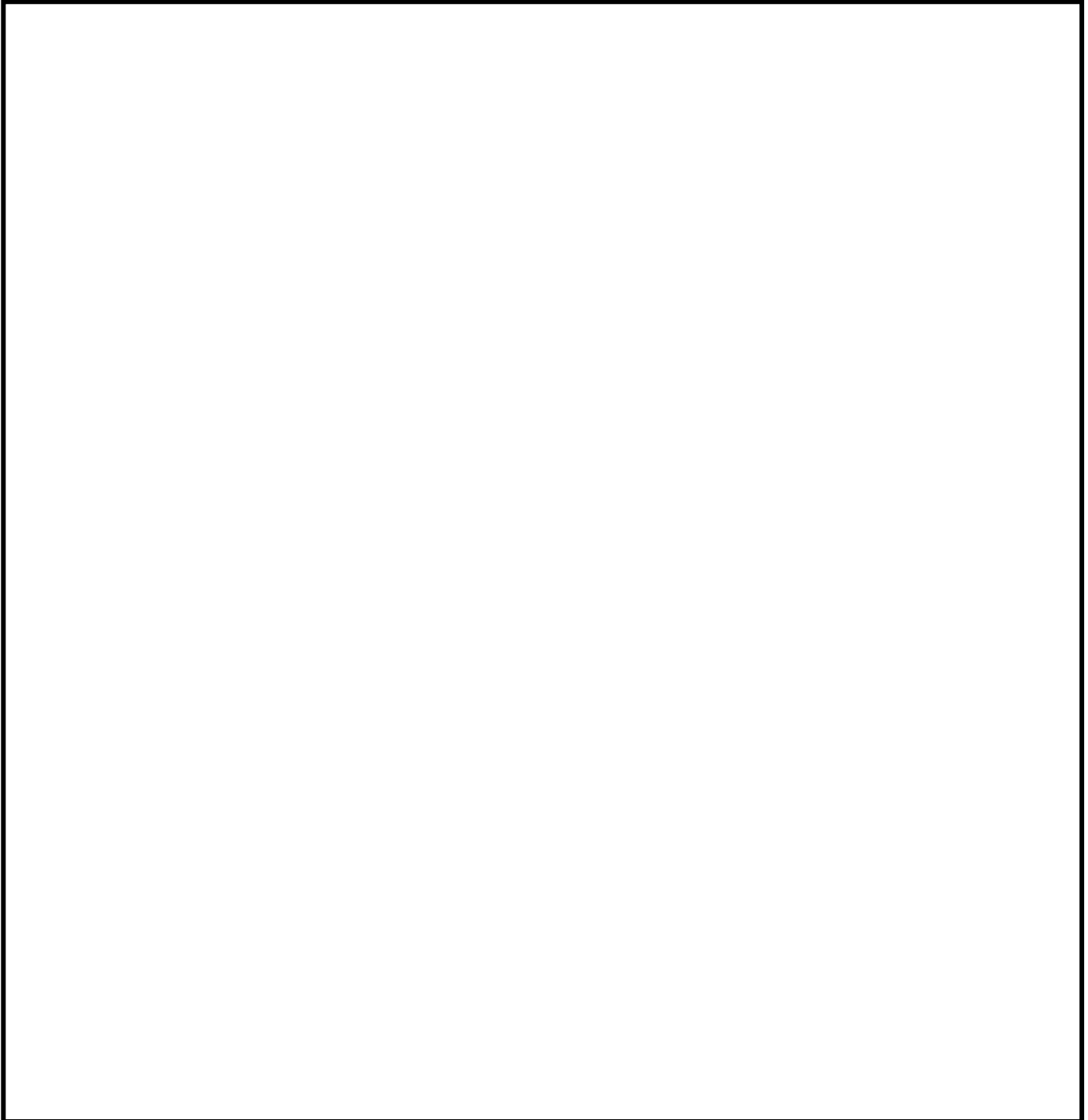
Categories (List 5):



Odd Ad



Find an odd object in your home (or invent one!) and create an advertisement for it below. Draw your item, and include information on what the item is, what it is used for, how much it costs, where you can buy it, and any other interesting information you would want a potential buyer to know.





Go Further...

Here are some additional activity ideas or tips to take your reading and writing adventures further. Remember, your imagination is limitless!

Reading

- Try different ways of reading, to keep it interesting! For example, when reading aloud, try having the listener close their eyes (dream reading) or draw the story while listening.
- Have a reading buddy (a stuffed animal or a pet) to read to.
- Silly Switch: if you're reading to someone else, change a word from the story to make the story silly, and see if the other person notices. Ask them to guess what the real word is supposed to be. Example: Instead of the reading out "The cat was sleeping on its bed" you could say "The cat was doing backflips on its bed" — see if the listener can guess the correct version of the sentence.

Writing

- Write an alternative ending to your favourite story.
- Create a "spin-off" story, taking a minor character from a story and write a side story with them as the main character.
- Word Snake: write out as many words as you can, where each word must start with the last letter of the previous word. Example: Snake - egg - grape - elephant - tag - green - neat - tree. You can time it (how many words can you write in 2 minutes?); you can make other rules (all words must be 4 letters; all words must be things that are alive; or make up your own rules! The options are endless).
- "If I Were A..." writing prompt — write a few sentences to describe what it would be like to be something else. Example: If I were a bird, I would fly from tree to tree, eating berries and building a nest out of twigs.

It's Raining Math!

Each of the raindrops on this page contains a number. Roll 2 dice, and when the 2 numbers either have the product of (multiplication) or the quotient of (division) the 2 dice rolled, colour that raindrop blue. Colour only ONE raindrop per turn.

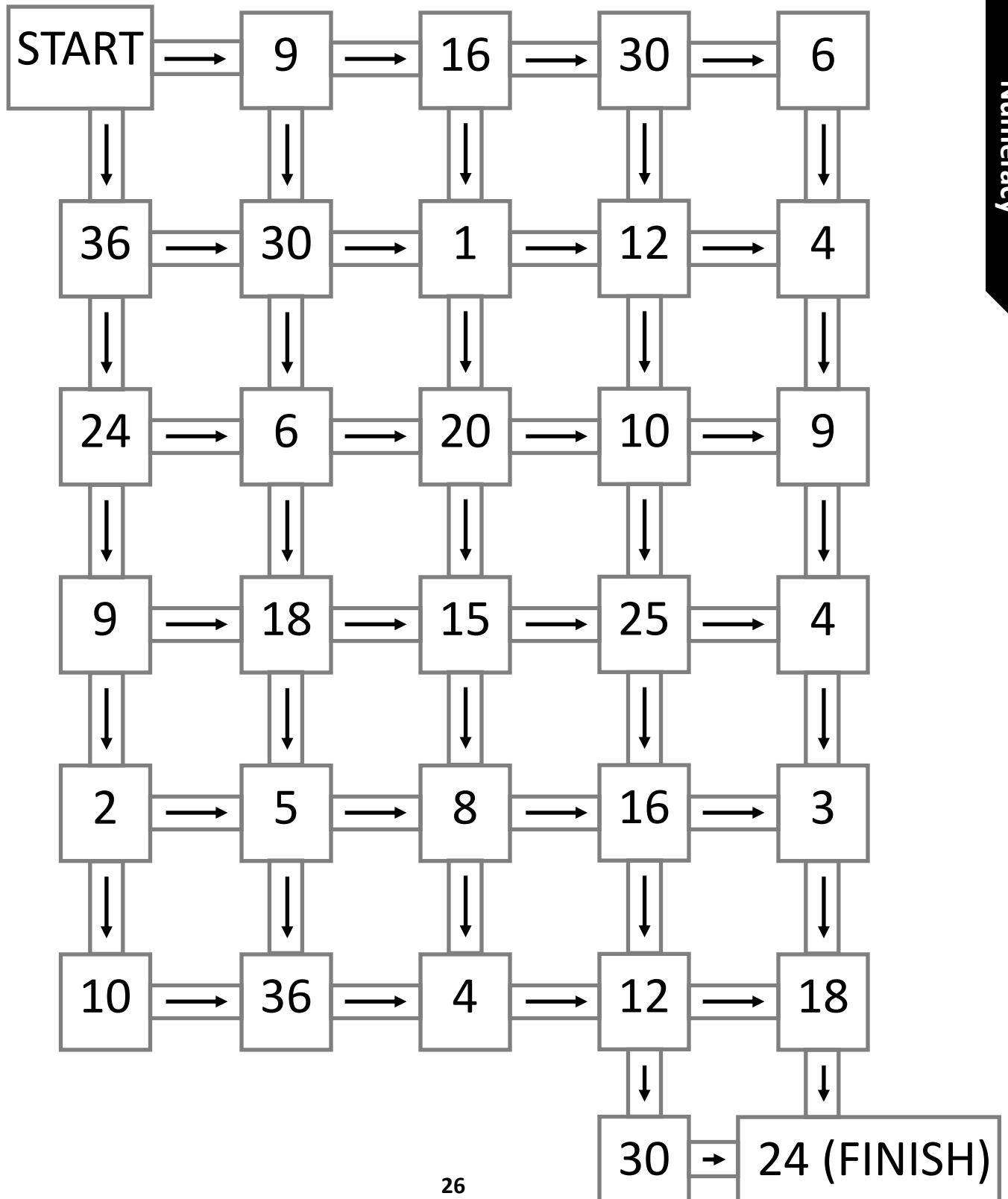
See how many rolls it takes you to colour them all.

30	12	3	6	15	2	1	20
10	5	4	9	16	3	8	6
12	2	18	1	8	24	10	36
20	10	6	16	3	30	25	20
3	24	9	4	8	12	10	2

Math Path

Start at the **START**. Roll 2 dice. If they multiply to 9 or 36, move to that square. If not, roll again! Do the same thing from the next square, and remember to follow the arrows (don't go backwards).

You may colour in the path as you go along, or if you want to play multiple rounds, use a separate piece of paper to count how many rolls it takes you to go from start to finish.



Dizzy Differences

The goal of this game is to see how quickly you can find the difference of 2 dice. To find the difference, subtract the lower number from the higher number.

To play, set a timer for 90 seconds. Roll the dice and figure out the difference, as many times as you can in the 90 seconds. Keep track of how many times you correctly find the difference. Write your “score” in the game boxes.

Example: if you are able to roll the dice and find the difference 10 times in 90 seconds in game 1, then you write “10” in the box for “Game 1”. If, in game 2, you can do it 12 times, write 12, meaning you got faster from game 1 to game 2.

Game 1

Game 2

Game 3

Game 4

Game 5

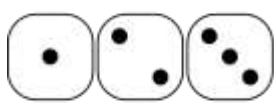
Game 6

Game 7

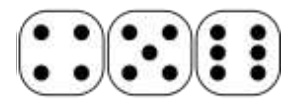
Game 8

Game 9

Game 10



Some Sums



Note: This is a 2-person game.

Instructions: Each player rolls 2 dice. Add up the sum of your 2 dice. Whoever's sum is higher is the winner of that round. Play 3 or 5 rounds. Whoever wins the most rounds wins the game. Write their name in the box below.

Variations: To practice a more difficult math skill, you can use multiplication instead of addition.

If you wish to play single-player, or make the game non-competitive, you can keep track of all your sums below.

<u>Game 1</u>

<u>Game 2</u>

<u>Game 3</u>

<u>Game 4</u>

<u>Game 5</u>

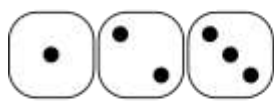
<u>Game 6</u>

<u>Game 7</u>

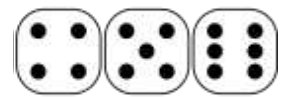
<u>Game 8</u>

<u>Game 9</u>

<u>Game 10</u>



Fraction Cards



“Fraction Cards” is a “build-it-yourself” numeracy game, where the steps of creating the game are themselves a learning activity, too!

Instructions to create the game:

1) Fold a piece of paper in half. There are now 2 parts if you unfold the paper.

- 1 part is $1/2$ (one half)
- Both parts are $2/2$ (two halves) or 1 whole

2) Fold the paper in half again. There are now 4 parts if you unfold the paper.

- 1 part is $1/4$ (one quarter)
- 2 parts are $2/4$ (two quarters) or $1/2$ (one half)
- 3 parts are $3/4$ (three quarters)
- 4 parts are $4/4$ (four quarters) or 1 whole

3) Fold the paper in half again. There are now 8 parts if you unfold the paper.

- 1 part is $1/8$ (one eighth)
- 2 parts are $2/8$ (two eighths) or $1/4$ (one quarter)
- 3 parts are $3/8$ (three eighths)
- 4 parts are $4/8$ (four eighths) or $1/2$ (one half)
- 5 parts are $5/8$ (five eighths)
- 6 parts are $6/8$ (six eighths) or $3/4$ (three quarters)
- 7 parts are $7/8$ (seven eighths)
- 8 parts are $8/8$ (eight eighths) or 1 whole

4) Now, unfold the paper and cut along each fold (you should now have 8 equal-sized cards). Write the following fractions on the cards (one per card): $1/2$, $1/4$, $3/4$, $3/8$, $5/8$, $7/8$, and 1. That leaves 1 card blank: you can repeat one of the above fractions, or call it a “You-Pick Card” where players choose their own fraction when they pick it from the deck.

5) Repeat the above steps (with a different colour of paper, if possible) so you have a 2nd deck of “Fraction Cards”. You can create as many decks as you would like!

6) Now you’re ready to play! Shuffle the decks, divide the cards equally, and each

Go Further...

More activity ideas for numeracy:

- **Using your dice you can practice addition, subtraction, multiplication, or division. For example,**
 - ◇ **Roll 2 dice and add them together. Roll another die, and add it to the sum of the first 2. You can continue until you've rolled all the dice you have, or until you reach a target number. This works for multiplication, too.**
 - ◇ **Start at 20 (or 100, to make it more complicated) and see how many rolls it takes you to subtract all the way to 0. Example: if you roll a 5, then you have 95. If you next roll a 6, you have 89. If you roll a 1, you have 88. And so on, until you reach 0. See how many rolls it takes you, and play again to see if you can get to 0 in fewer rolls.**
 - ◇ **Practice division by rolling 2 dice and multiplying them, then roll another die to see if the product of the first 2 dice can be divided by the third die.**
- **Using a deck of cards:**
 - ◇ **You can start with number recognition by flipping 2 cards and determining which is higher (remove the face cards for this)**
 - ◇ **Practice addition by flipping 2 cards and finding the sum**
 - ◇ **Practice subtraction by flipping 2 cards and finding the difference (subtract the smaller number from the larger number)**
 - ◇ **Practice multiplication (if your child is at that stage) by flipping 2 cards and finding the product**
 - * **Make any of the above activities competitive by playing with 2 (or more) players, and whoever's sum/difference/product is higher/lower (your choice) wins a point; first one to 10 points wins that round.**

If you have internet access, try finding math games online that you can play at home.

Seed Science

Materials



3 Bean Seeds



Soil and Planter Pot



Glass/Jar*



1 Sheet Paper Towel*
or 2 Sheets Toilet Paper*

*these materials are not included in this learning kit

Instructions

Planting the Seeds

1. Fill up the planter pot with soil (leave about 1 centimeter of space at the top of the pot so water does not overflow).
2. Use your finger to press two holes into the soil for 2 seeds (1 seed per hole). Make the holes about 2 to 3 centimeters deep, and space the holes evenly (from each other and from the edge of the pot).
3. Place one seed in each hole. Cover gently with soil.
4. Water your seeds to start the process of germination.
5. In the glass, “plant” the other seed. Get the paper towel/toilet paper wet, and place the seed inside of it (fold it over the seed). Keep the paper saturated (always wet with water) -- don't allow it to dry out!

The Stages of Plant Growth

1. Check your plants every day, paying attention to see if they need to be watered.
2. Watch for the first signs of plant growth! (Watch to see when the roots sprout on the seed in the glass/jar, and when the sprouts appears out of the soil in the planter pot).

How often do plants need to be watered?

Answer: It depends on the plants, the soil, and the temperature!

In general, if the soil feels dry, your plants need some water! Also, if you see the leaves are starting to wilt, it's time to water your plants.

Can you think of any other signs that your plants need some water?



Below, we have defined some science terms related to plant growth.

The pictures below show some of these stages.

Germination: when the seed begins to sprout (sending out little growths, which will become roots and a stem)

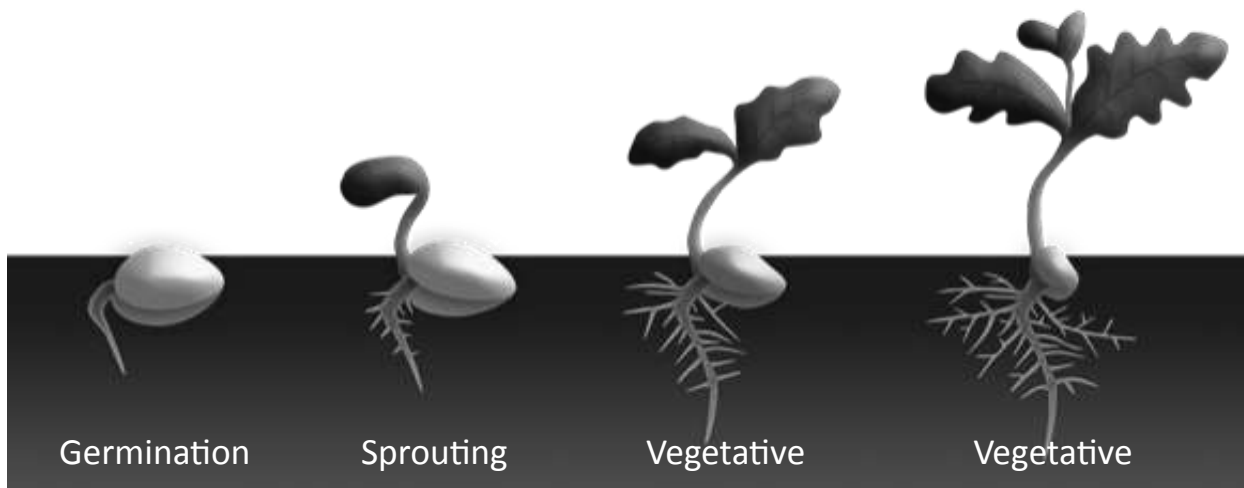
Roots: the part of the plant under the soil. Roots absorb water and nutrients from the soil, helping the plant to grow.

Stem: the part the plant that grows out of the soil. The leaves then grow off the stem.

Leaves: the leaves are the part of the plant that allow the plant to breathe and absorb sunlight, in a process called photosynthesis.

Photosynthesis: the process where a plant uses its leaves to absorb sunlight and carbon dioxide, turning it into oxygen and nutrients for the plant to grow.

Can you label the roots, stems, and leaves on the images below?



In the boxes below, record the day that your seeds germinated, sprouted, and grew leaves (got to the vegetative state of plant growth). Draw what your plant looked like at each stage. What do you think will happen next?

Germination. Day ____	Sprouting. Day ____	Vegetative. Day ____	What will happen next?
-----------------------	---------------------	----------------------	------------------------

Fruits & Veggies

You probably have heard that fruits and vegetables are “healthy”. In other words, they’re good for you! But, do you know why? And did you know that all around the world, there are many varieties of fruits and vegetables that we do not grow here?

Why are fruits and vegetables so good for us?

Veggies & fruit contain a lot of *nutrients*, or things that help us survive & grow.

The word “nutritious” means that something contains helpful nutrients!

Examples of nutrients are fibre, carbohydrates, protein, vitamins & minerals.

Vegetables & fruit contain a lot of nutrients, specifically fibre (which helps you poop regularly!), vitamins, and minerals. Examples include Vitamin A (good for vision and the immune system), Vitamin C (good for the immune system and to repair damaged tissues), potassium (helps us maintain the right amount of fluid in our bodies, and helps our muscles work properly), and many more!

When selecting fruits/veggies, aim for lots of different colours (try finding fruits/veggies you like that are all the different colours of the rainbow!).

Can you name at least 1 fruit and 1 vegetable for each of the colours of the rainbow?

Remember the phrase “Half Your Plate”, which means the goal of having half of your plate be fruits/veggies. Aim to have as many fruits and vegetables as you can, as often as you can.

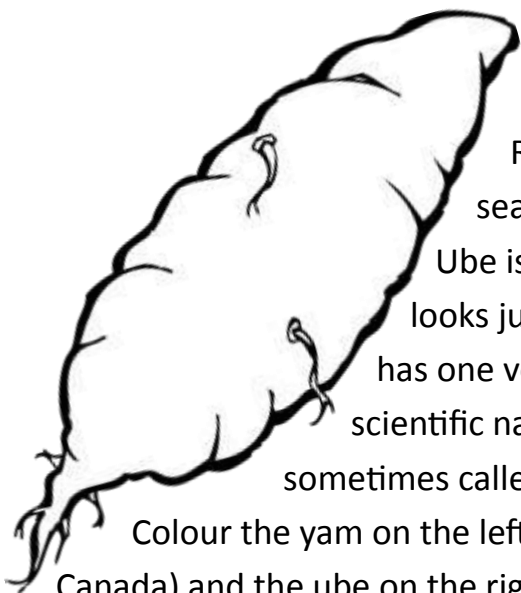
If you don’t fill up half your plate with fruits and vegetables at every meal, don’t worry. Just try to do the best you can.

All about UBE!

Remember “UBE”, the word search clue from page 15? Well,

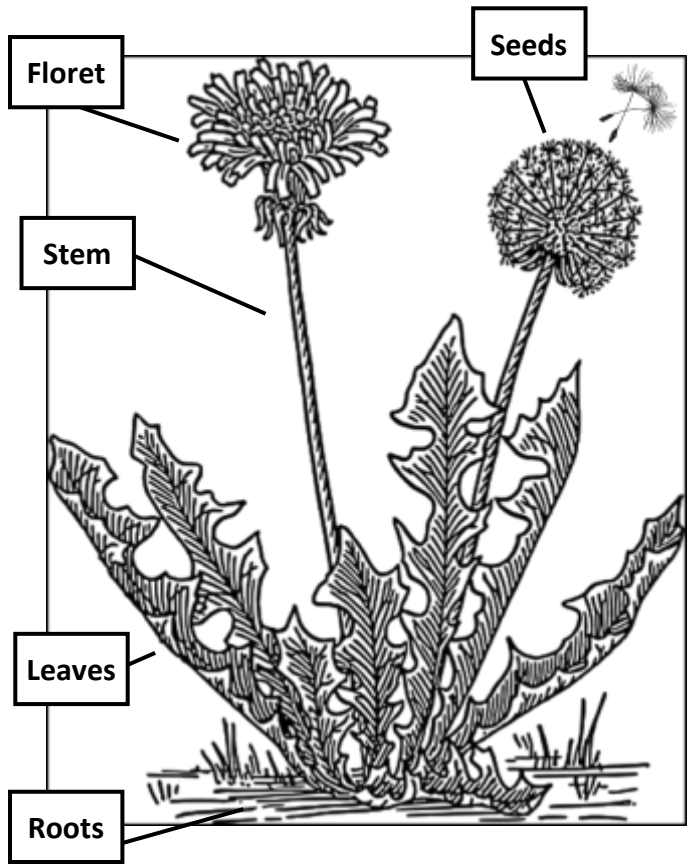
Ube is a tuber (a root vegetable) that looks just like a yam or sweet potato, but has one very major difference: it’s purple! The scientific name for ube is *Dioscorea alata* and is sometimes called “purple yam”. It grows in Southeast Asia.

Colour the yam on the left orange (like what you might see in a supermarket in Canada) and the ube on the right purple. Now all that’s left to ask is, *would you try ube?*

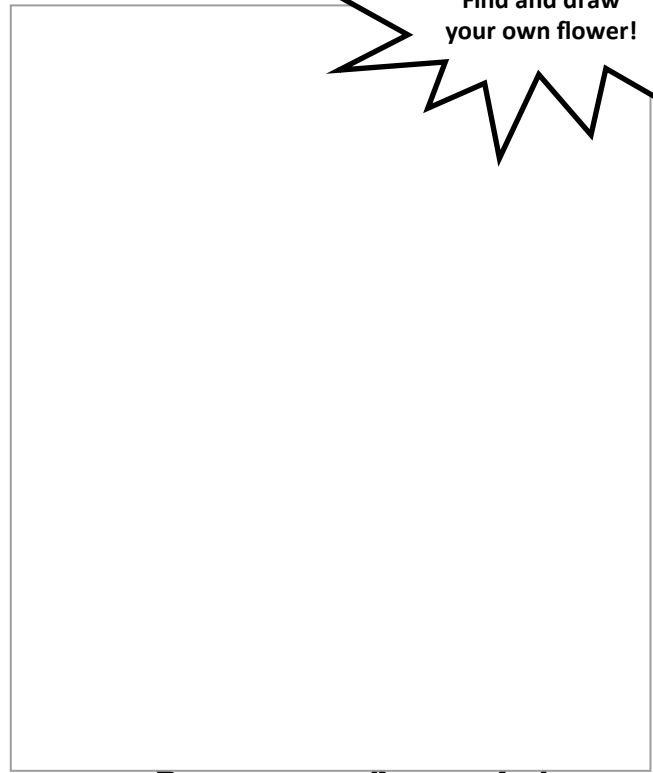




Flower Study



Find and draw your own flower!



Science

Dandelions are flowers with jagged green leaves and thick roots. Dandelions have many tiny flowers collected together into a fluffy, yellow flower head or "floret." When the florets mature (get older), the tops of the dandelions turn into a puff of seeds that blow away like parachutes in the wind.

What happens when the seeds blow away?

They grow to become more dandelions!

Dandelions are not native to North America. They were introduced during colonisation and have spread widely. They are an "invasive species".

Dandelions can be made into tea and are good sources of antioxidants and vitamins A and K! But before harvesting any plants, check with an adult.

How many dandelions can you find near your home?

Fun Facts

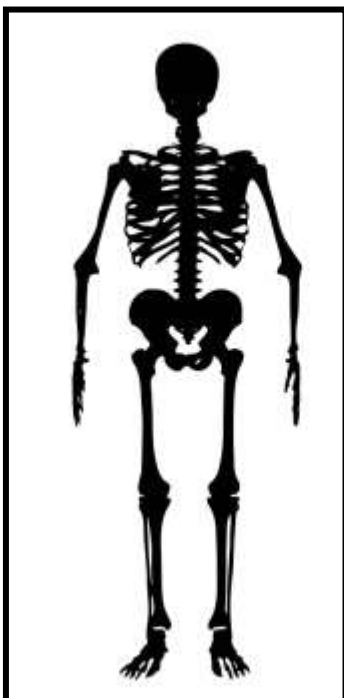
Paint with dandelions! Try rubbing the floret on a piece of paper or the sidewalk to see its yellow color!

Did You Know...?

Here are seven incredible Science facts! Did you know any of these facts? Be sure to share your new knowledge with others!



Many animals and insects have “adaptations” (changes in how they look or act) that help them survive. For example, the Indian Rose Mantis looks identical to a leaf, and is able to blend in with its environment. This helps it to avoid becoming another animal’s dinner!



Babies have around 100 more bones than adults! In a process called “ossification”, babies’ bones, many of which are cartilage, fuse and turn into single bones. At birth, a baby has just over 300 bones, while an adult human has 206. How many bones do you know the name of?



Over half of the world’s oxygen comes from oceans! Marine organisms, such as algae and phytoplankton, use a process called photosynthesis to convert sunlight into oxygen.



Hummingbirds are the only bird that can fly backwards! They can do this because their wings flap in a figure-8 pattern.

Bonus Fact: Many species of hummingbirds’ heart rate can reach over 1200 beats per minute (that’s over 20 beats per second)!




Sharks don’t have a single bone in their body! Instead, they contain only cartilage (which is what the “bones” in human noses and ears are made of). Bonus Fact: Some sharks move non-stop, in order to survive. This is because they must continuously have oxygen going through their gills. If they stopped moving, they would suffocate.




The average cumulus cloud weighs over one million pounds! This is because they are made up of tiny droplets of water or ice crystals, which, when added together, weigh a lot!



In a process called “thermal expansion” (getting bigger because of increased temperature) the metal of the Eiffel Tower in Paris, France expands in the summer heat. It can grow up to 15 centimeters taller in the summer than in the winter! The concept is the same as the mercury in a thermometer expanding as it gets warmer.



Go Further...



More activity ideas for Science:

- Go on an “Indoor Safari”, finding insects that live throughout your house (there are probably more than you think!). Being careful not to harm them, see how many you can find, and document (record) information about what you find. Before you begin, guess what you will find, and where. Afterward, reflect: were you surprised by what you found? Why or why not? Were any of them camouflaged, or in other words, did any of them have any adaptations that helped them blend in?
- “Does it come from a tree?” Ask yourselves this question, and go on a search throughout your home to find and document everything you can find that comes from a tree. Books? Furniture? What about Eucalyptus flavoured lozenges (ok, maybe you don’t have these at home, but if you do, they can be added to the list!). What all will you find?! You may be surprised how much stuff comes from trees!
- Create your own “Did You Know?” science facts sheet (online if you can, otherwise use the STEM book provided in your Summer Learning Kit).
- Learn about the weather! Create a weather tracking chart, observe and record the weather every day, and ask everyone you talk to if they know any “weather words” that they can teach you.

If you want to take your learning online, there are endless science-related websites that you can peruse, so if you have internet access here are a few of our favourites:

- Let’s Talk Science -- a partner organization of Frontier College -- has a lot of family-friendly STEAM activities on their website: www.letstalkscience.ca
- For family-friendly science stories & activities, visit National Geographic’s website: www.nationalgeographic.com/family

Further information on health and nutrition:

- For more on Canada’s Food Guide, visit food-guide.canada.ca
Did You Know? Versions of the Food Guide are available in many languages, including Inuktitut & Ojibwe.
- The First Nations Health Authority in B.C. has produced a document called “Healthy Food Guidelines for First Nations Communities” available here: www.fnha.ca/Documents/Healthy_Food_Guidelines_for_First_Nations_Communities.pdf



Treasure Hunt



Ask an adult to write out a list of items for you to find - either outside or inside. If they write the list in pencil, you can erase it and have them create another list. You can create a competition for yourself by timing it and seeing how long it takes. Compete against yourself by trying to beat your time on the next treasure hunt, or see how long it takes another member of your household to complete the same list.



Streeeeeeeeetch



The name of this activity is “stretch”, all stretched out! And now, it’s time to streeeeetch our bodies! Follow the body movements of the stick figure below, then invent your own workout! Draw your workout movements in the box below, using stick figures (or you can draw yourself in more detail, if you want!) Draw at least 8 movements in your illustrations. Why not take your workout outside?



Physical/Outdoor



Outdoor 5 Senses



Describe what it is like outdoors for 6 days. The days don't have to be all in a row. Any 6 days throughout the summer will work! Each bubble is 1 day and there are 6 days for each sense.

Use the 5 senses to describe the outdoors. There are guiding questions to get you started for each sense, but you can write down other things, too! Has anything changed from day to day?

Try to share the experience by asking your family members for their observations. Do they notice different things than you?

Do you know any other senses that you want to note?

Sight/Vision

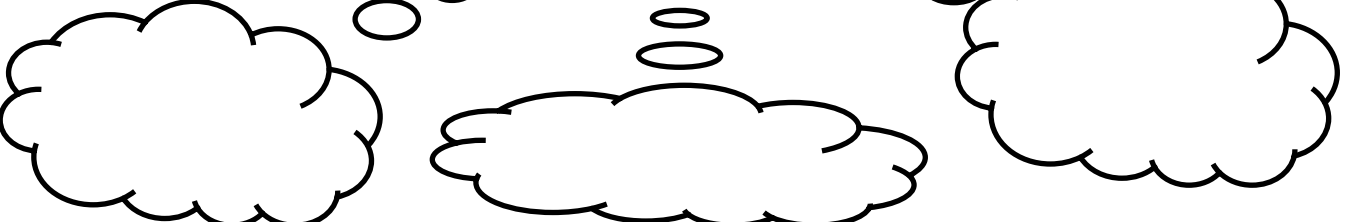
What objects do you see?
 What colours do you notice?
 Do you see anything moving?

Smell/Scent

What scents do you smell?
 Do you smell pleasant smells?
 What about unpleasant smells?

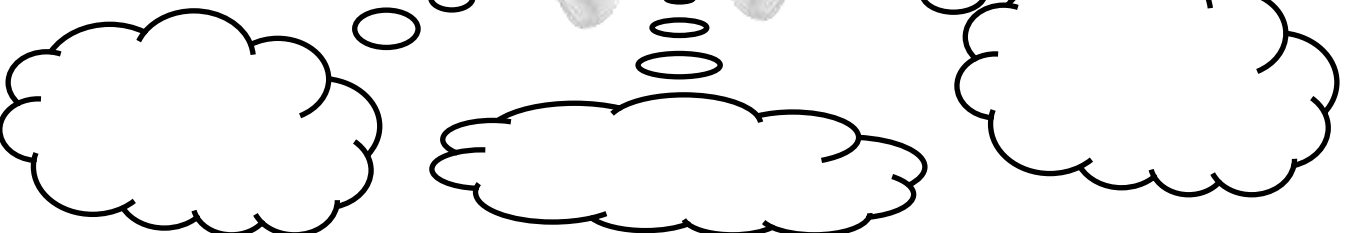
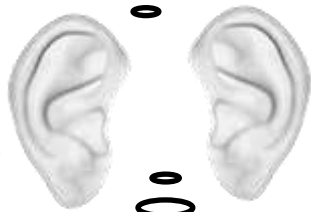
Feel different plants. How would you describe the texture?
What if you use other parts of your body to touch, like your nose?

Touch/Feeling



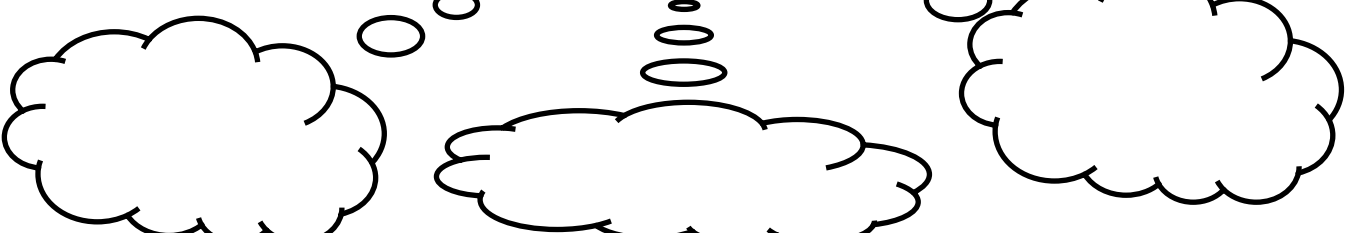
What sounds do you hear?
Do you hear animals/birds?
Do you hear any human-made noises?

Hearing/Sound



If you have a garden or go berry picking, ask an adult if there is anything you can eat from it.

Taste





Obstacle Extravaganza



This activity can be fun for one, or fun for the whole family! The goal is to make your own obstacle course, but how and where you do that is up to you. Create an obstacle course and time yourself as you go through it. Try to make an obstacle course that works for everyone in the family, and then “race to the finish” and compare times.

Use the space below (and use more paper, as needed) to plan your obstacle course (either draw out the plans or write out the plans).

Can you build the ultimate obstacle course?!

After completing your obstacle course, will you change it to “improve” it? If you had fun, build more obstacles courses, or make your first one even longer!



Go Further...



- **When it comes to getting outside or getting physical exercise, many of the greatest ideas lie within children’s imaginations! So, our first suggestion is “Free Play”, every day. Allowing free play has many benefits!**
- **Go on a picnic! Packing your lunch into a picnic basket (try making your own picnic basket from an old cardboard box) is a fun way to get outside! With your food, try packing a blanket and a few books and games.**
- **Do a “Plant Inventory” either indoors or outdoors (or both). Draw a map of your home or an area outside, and plot all of the plants you find on a map. Write down their names, draw them, and write out what you can do with them (are they Medicine? Food? What can you make with them?)**
- **Do a daily “Race around the _____” (fill in the blank with where you want to set up your race-course. Examples: Race around the House; Race around the Yard). Time yourself daily and see if you can go faster. Or, change your course sometimes. Run the race in reverse every second day. Or find your own way to change things up!**

Personal Puzzle

In the supplies included in this kit, you have a blank puzzle. You can draw your own picture on the puzzle, let it dry, then disassemble and reassemble your puzzle. You can share your creation with other members of your household. Permanent markers work best (so the image stays and the ink doesn't run) but pencil crayons or other markers would work too. Just be careful not to get your puzzle wet.

Watercolor Wonders

Here are a few activities that you can do with the watercolor paints included in your craft supplies.

Landscape Painting:

Paint a landscape on white cardstock paper. Thicker paper works better, because the water will decrease the strength of the paper. Be careful to use as little water as possible with the paints, to avoid damaging the paper.

Examples of landscapes include:

- a mountain scene
- a forest scene
- an ocean scene
- a desert scene.

Salt-Glue Art

Note: This activity requires materials that are not included in the craft supplies. If you have them at home, you may choose to do this activity.

On a piece of paper, draw a design using liquid school glue. Immediately pour on table salt, just to cover the glue design. Pour off excess salt. Let it dry completely. Then, using the watercolour paints, get your paintbrush wet with the colour of your choosing, and apply it to the salt-glue design. Watch the watercolours spread! Be careful not to use too much water, otherwise you may wreck the salt design.



Hand Print Picture



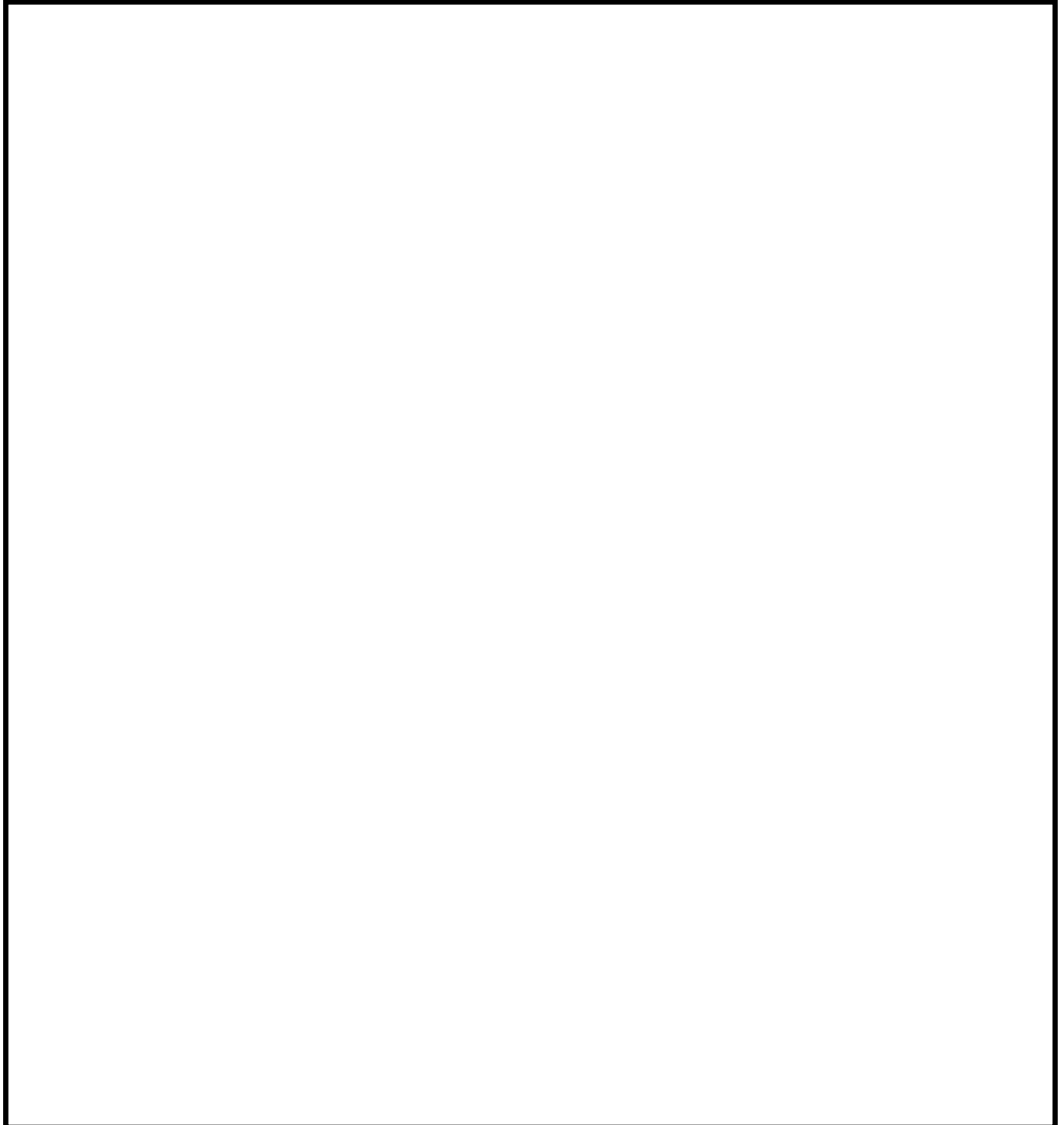
Trace your handprint in the space below. Then, inside of your handprint, draw out a scene from your favourite book. You can draw yourself into the book as a new character, if you would like. Below, provide a short written description of the scene.



Midsummer Mosaic



Using the colour paper included in this kit, or scrap magazines or newspapers you have at home (make sure to get permission to use them), cut various sizes and shapes of paper. Using a glue stick, glue the paper pieces below, to make a picture. If you need ideas, you could do a sunset scene or your favourite book/TV/movie character.





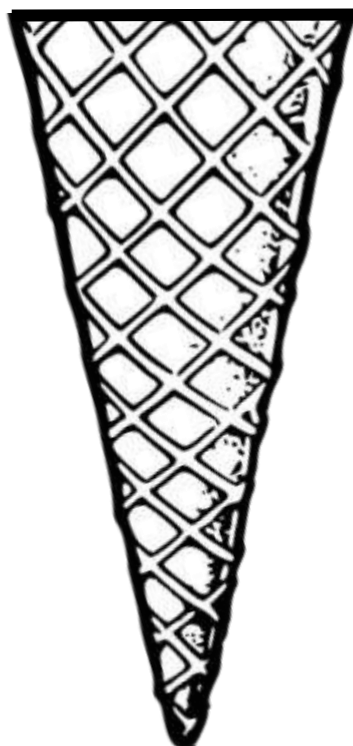
Create a record of how you are feeling. You can draw small images of how you are feeling every day for a week or two (and label each image with the date), or do one large drawing of how you are feeling right now. Will you draw just your face, or your whole body? You can also provide a small written description of your feelings, if you want.



Ice Cream Dream



On the ice cream cone below, draw a few scoops of ice cream on top and colour them. What flavours of ice cream will you include? You can use flavours you've tried, or invent your own! Will you add toppings? Include a written description of your ice cream cone beside each scoop.





Found Art

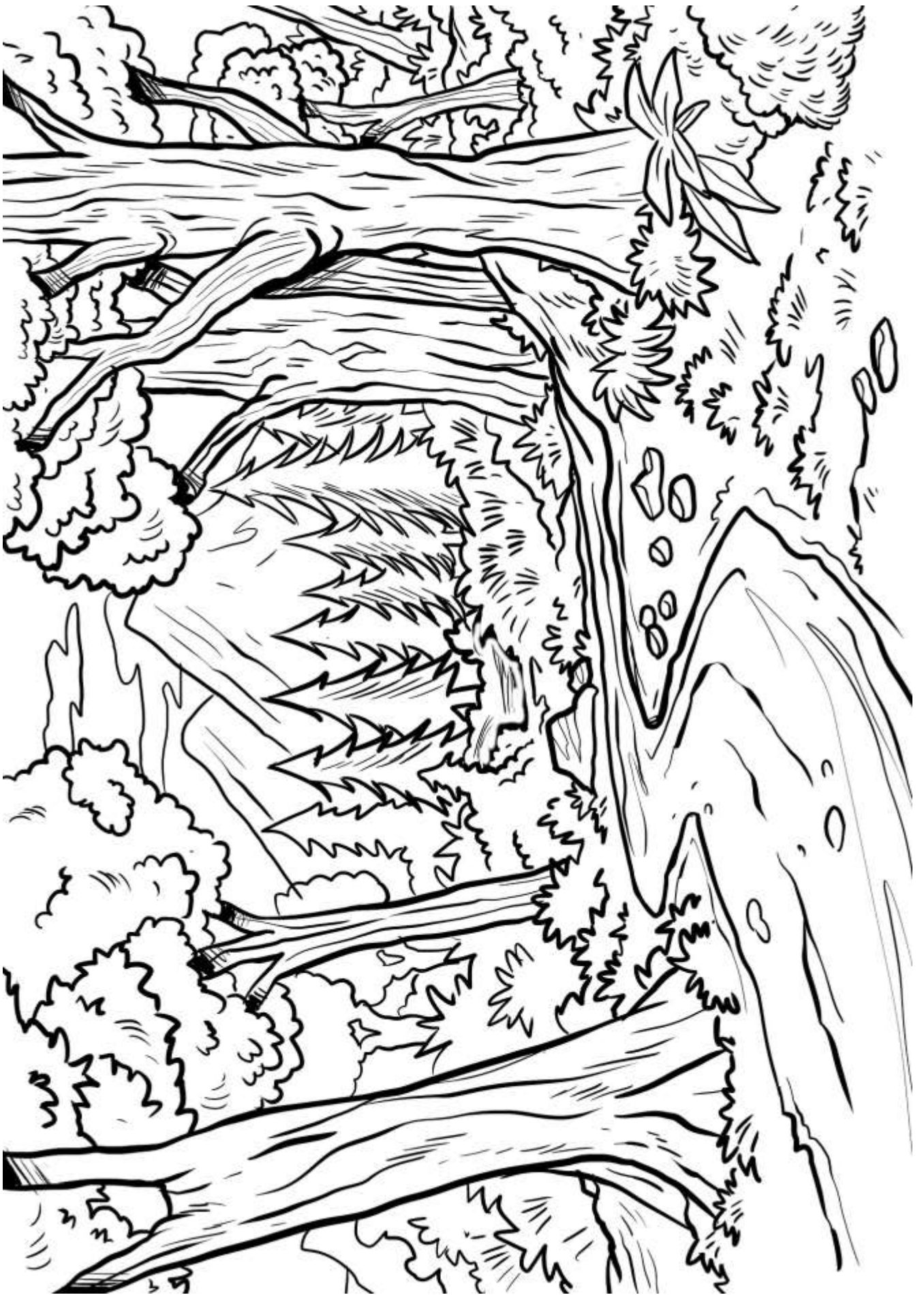


Find some art supplies from stuff around your home. Make sure you have permission from an adult before using the supplies that you find. Make an art project below, using your “found” supplies. Will you make a newspaper mosaic? Use cotton swabs as a paintbrush? Use dandelions and other plants as crayons for their natural dye? Use your imagination and be creative!

Colouring Pages

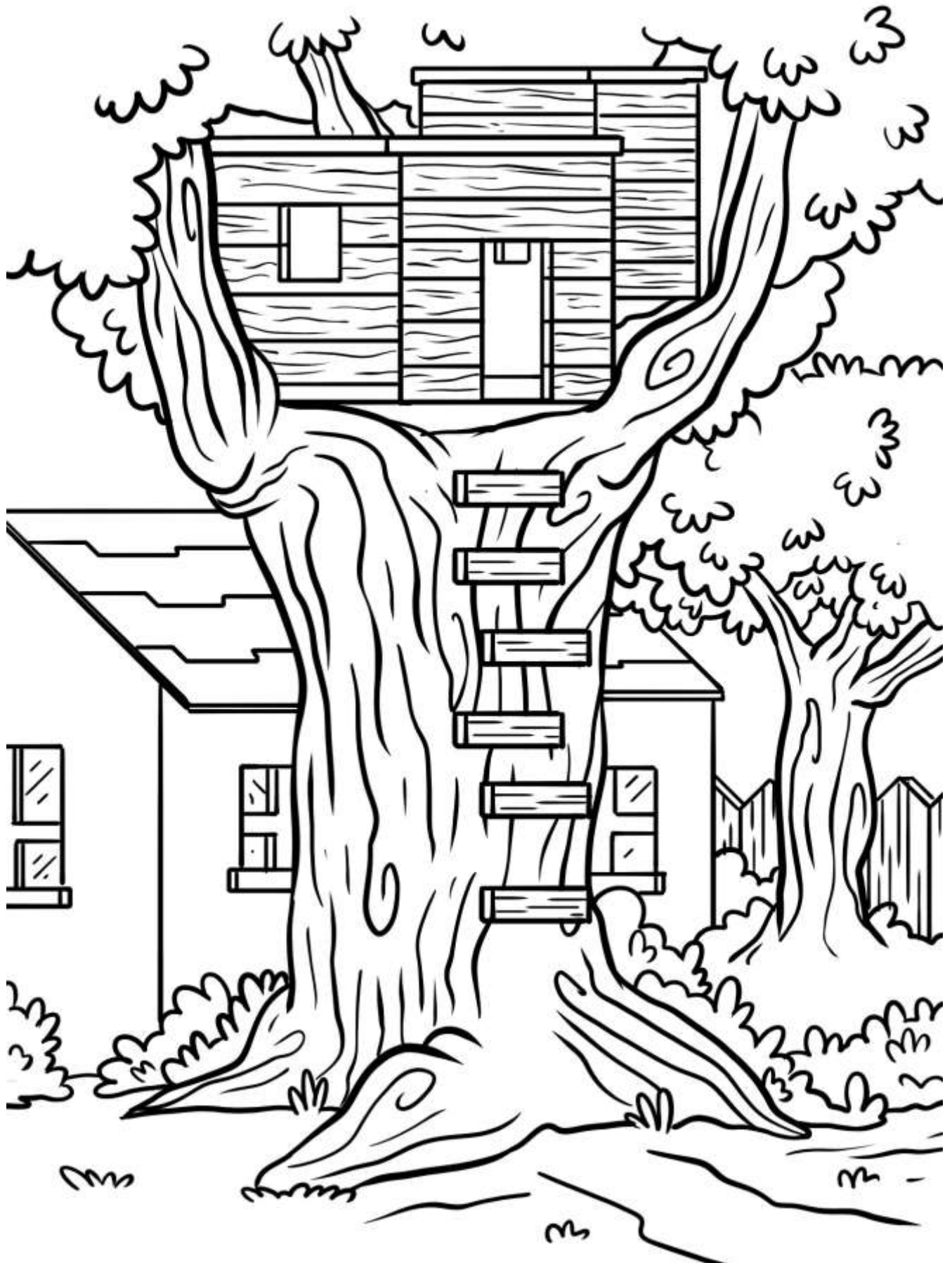
Colour in the images on this page and the next. On separate paper, if you would like, write a story about what you've coloured.







Colouring Page





Black-out Poetry



Find an old magazine, newspaper, book, or other written material. Make sure you have permission to cut out a page of the written material you found. Use a marker or black pencil crayon to “black out” the text that you no longer want, and the remaining text is your poem. See below for an example. You can then glue your “finished” poem here, or on a piece of cardboard or paper to “frame” it. The beauty of poetry is in the eye of the beholder! Be creative and make the poem what you want - there is no wrong way to do it! Even with the example below, would you have “blackened out” the story to form a different poem? (You can try doing so, with the “Before” example.)

Example (Before)

Jess glanced at the clock. “Half-past nine,” she thought to herself.

“She should be here by now!”

Ding-dong. The sound of the doorbell chimed suddenly, interrupting the silence in the house.

Quickly, Jess moved through the hall to open the front door.

“Good evening.” The tall woman at the door greeted Jess and stepped over the threshold, inviting herself in.

Surprised at the brazen attitude of her houseguest, Jess quickly shut the front door and rushed into the house behind the new arrival.

“May I offer you some tea?” Jess asked. “I just made it.”

“Yes, please, it’s been a long journey,” exclaimed the guest.

Example (After)

the clock. “Half-past nine,”

here

Ding-dong. suddenly, interrupting the silence

open the front door.

woman greeted over the threshold, inviting herself in.

brazen attitude of her houseguest, Jess quickly shut the front door and rushed into the house behind the new arrival.

“May I offer you some tea?”

“Yes, please, it’s been a long journey,”



Tiny Book



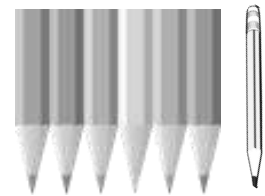
Materials



**1 Sheet of Cardstock Paper
+ 1 Sheet of White Paper**



**Embroidery Thread,
Yarn, or Sewing Thread**



**Pencil Crayons
and a Pencil**

Instructions

1. Choose the Size of your Book and Create the Inside Pages

This is an opportunity to practice math. If you have a piece of paper that is 8.5" by 11", how many "pages" of your book can you get?

Hint: each small piece of paper will be folded in half and "bound" in the middle (with string). For example, if you have a strip of paper that is 1" x 2", when folded in half your Tiny Book will be 1" x 1".

If you have an 8.5" x 11" piece of paper, you could make a 40-page book!

You can do this by cutting the paper into 10 equal-sized sections. When folded in half, this creates 20 sheets (double-sided makes 40 book pages).

If you want a slightly taller (but less thick) book, try cutting the piece of paper into only 8 equal-sized sections. Because each piece gets folded in half, and then each half is double-sided, this means you would have a 32-page book.

2. Make the Cover

Using cardstock paper (or really any paper will work; cardstock paper is just more durable), create a same-sized piece of paper for the cover.

3. Bind your Book


Fold it all together, with the cover on the outside. When you fold your white pages into your cardstock cover, you will probably find the inside pages stick out of the edge of the book a little further. This is because, when folded, some of the pages have to go a further distance to wrap around the other pages, and then they don't stick out as far as the others. You can trim off the excess paper with scissors if you would like.

To bind the book, you can use a stapler, or the thread provided. Either wrap it around the inside cover and tie it on the outside, or for a sturdier book, poke a few holes in the spine of the book (from the inside out (it's easier this way) and "thread" the thread through the holes.

4. Write your Story

How you fill your book is up to you! Will you write a story? Fill it with drawings? What about writing a book of short stories?





Go Further...



- **Just like with physical and/or outdoor activities, arts and crafts activities can be as richly varied as children’s imaginations! “Free crafting” or “Free art” time are fantastic opportunities to let loose your imagination and explore your creativity.**
- **Make a greeting card. Take a piece of cardstock and cut it in half. Fold each half in half, so that it looks like a greeting card. Draw a greeting on the front (“Happy Birthday”, “Happy Anniversary”, “Thank You”, etc.) and draw an image. On the inside, write a message. You can use this card to send to someone for a special occasion.**
- **Keep an art journal. Do 1 drawing a day all summer.**
- **Create your own colouring pages. Draw outlines of animals, plants, landscapes (or anything that you want!), just like a colouring book. Then colour them in!**
- **Make some “Upcycle Art”. Take what would otherwise be recycling or trash and make an art project out of it. Examples include making crafts out of the cardboard from a toilet roll or paper towel roll, or empty egg carton cups.**
- **Make puppets (make a puppet on paper, cut it out, and glue it onto a popsicle stick) and write & act out a puppet show. You can even make a stage (out of an old cardboard box) and decorate different “sets”.**

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