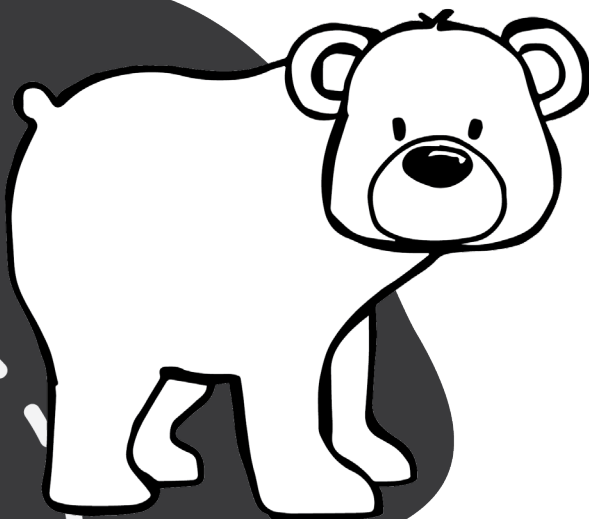


WISE Activity Booklets

A STEM activity booklet for fun on-the-go learning!
Made by WISE Kid-Netic Energy



DIY Activities
Puzzles
Challenges
... and more!



University
of Manitoba

WISE Kid-Netic Energy is a proud member of Actua

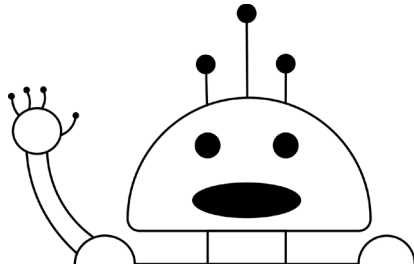
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Youth · STEM · Innovation

With funding from
Canada

Grade K-1
JUNE 2020

Trees - Paper - Living Things
Colours - Our 5 Senses - Material Science



Hello there!

WISE Kid-Netic Energy is a not for profit STEM (Science, Technology, Engineering, and Math) outreach organization at the University of Manitoba. Our organization offers science and engineering workshops, clubs, camps and events to youth from Kindergarten to Grade 12 throughout the province of Manitoba. We reach on average 25 000 to 50 000 youth depending on funding levels. Our approach is simple – present STEM in messy, memorable and engaging ways so Manitoba youth feel motivated to learn more and more. We reach all Manitoba youth, and we particularly target underrepresented youth like girls, indigenous youth and youth facing socio-economic challenges.

All of us at WISE Kid-Netic Energy have been working hard to create these booklets to continue to bring our fun and educational STEM activities to Manitoba youth during these unprecedented times. We are disappointed that we cannot see you in person, and hope that these monthly booklets bring some STEM excitement to your life.

These booklets have been created by our student instructors who are all studying engineering, science, or in another STEM-related field at university. Peek the last page of this booklet to see who created the activities, experiments and recipes within.

All the activities in this booklet are based on the Manitoba Science curriculum. For any teachers viewing this booklet, all the SLO codes are listed at the bottom of each page.

If a link is listed at the bottom of the page, and you have access to the Internet, follow it to check out a video of the activity our instructors have created just for you.

We hope that you enjoy doing the experiments and activities as much as we loved creating them for you.

In this Grade K-1 booklet, the science topics you will be exploring are: trees, paper, living things, colours, our five senses, and more!

**Best of luck, and until we see you again,
the WISE Kid-Netic Energy Crew**

P.S. If you have any suggestions for activities or experiments you would like us to try, contact us through our website, or social media accounts that are listed on the last page of this booklet.

Meet our Amazing Authors!

Alora

Alora just finished her fifth year in university, working towards her bachelor of Science with a major in Neuroscience and a minor in French. She is currently attending the University of Winnipeg. She is aspiring to become a high school science teacher and a guidance counsellor. In her spare time, she enjoys reading, writing, and playing the ukelele.

Amaris

Amaris just finished her first year in sciences at the University of Winnipeg and plans on majoring in biology. In her free time, Amaris likes reading, playing piano and baking.

Huda

Huda is in her first year taking general science courses and she's trying to decide between a degree in Microbiology or Genetics. She enjoys baking and cooking and her favorite activity is watching videos on YouTube!

Reem

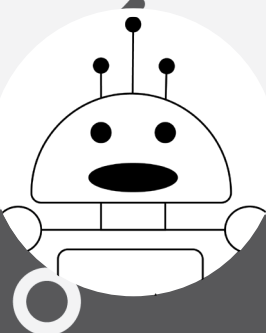
Reem is in her first-year of science at the U. of M and her favourite classes are psychology and microbiology. In her free time, she loves to watch movies and bake desserts

Shannon

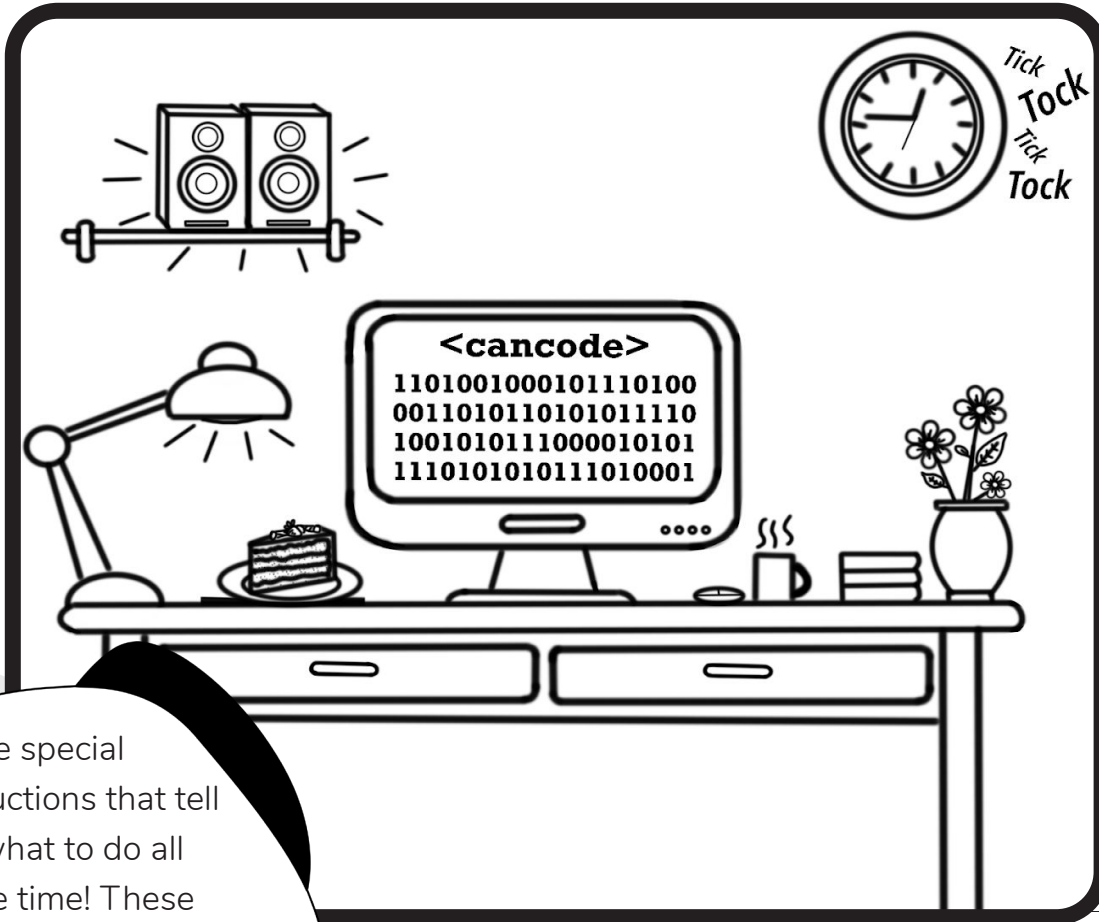
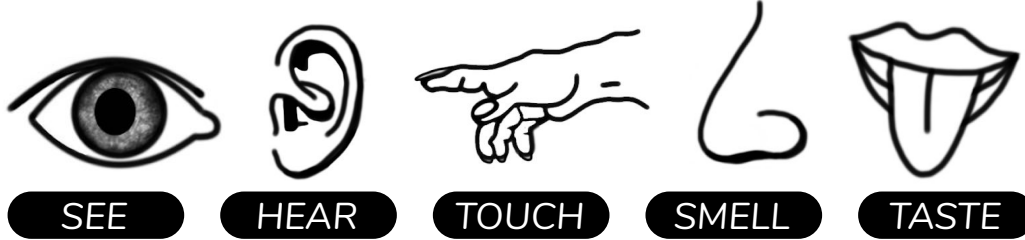
Shannon is finishing up her first year of Engineering. In her spare time she enjoys drawing, exercising, being outdoors, and trying new things. She is super pumped to be apart of WISE this summer!

Esiw the Robot

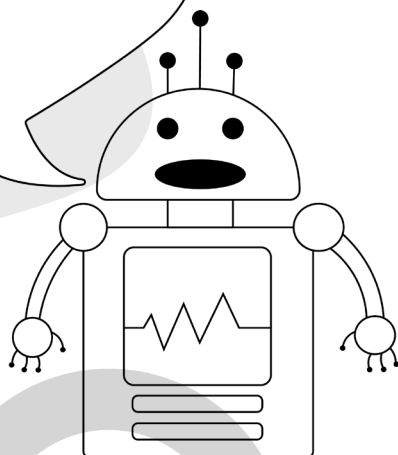
Esiw is a friendly robot that loves to help kids learn about computers & coding! Esiw loves to do math, solve problems and make people laugh!



The 5 Senses at Home



I have special instructions that tell me what to do all of the time! These special instructions are called "code"! Are you good at following instructions?

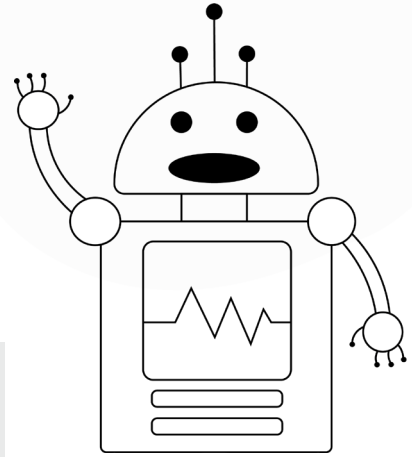


In the image above, can you:

- Colour red** the things you *SEE*?
- Circle** the things you *HEAR*?
- Colour blue** the things you *TOUCH*?
- Square** the things you *SMELL*?
- Colour green** the things you *TASTE*?

The 5 Senses at Work

I love sorting things! Do you? Do you think you can sort the jobs below and match them to senses that help people complete the job?



Draw a line from each job drawing below to a helpful sense for that job at the bottom of the page.



SEE



TOUCH



TASTE



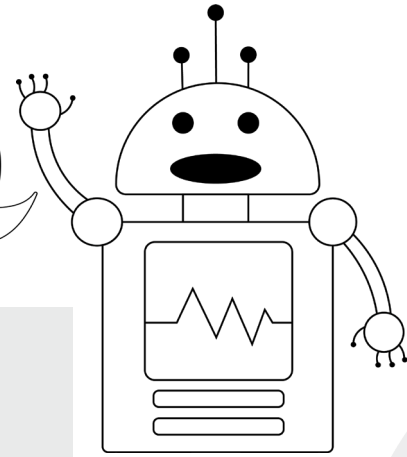
SMELL



HEAR

I Spy at Home

I want to collect data so that I can ID different things around the house; a process called “Machine Learning”. Can you help me out?



Help Esiw find these things by looking around your home. Ask a family member or friend to write down the cool things you see!

I spy with my little eye something that is orange and made of cloth.

I spy with my little eye something that is blue and plastic.

I spy with my little eye something that is white and absorbent.

I spy with my little eye something that is green and recyclable.

I spy with my little eye something that is yellow and made of wood.

I spy with my little eye something that is purple and flexible.

I spy with my little eye something that is red and can be sorted.

I spy with my little eye something that is black and waterproof.

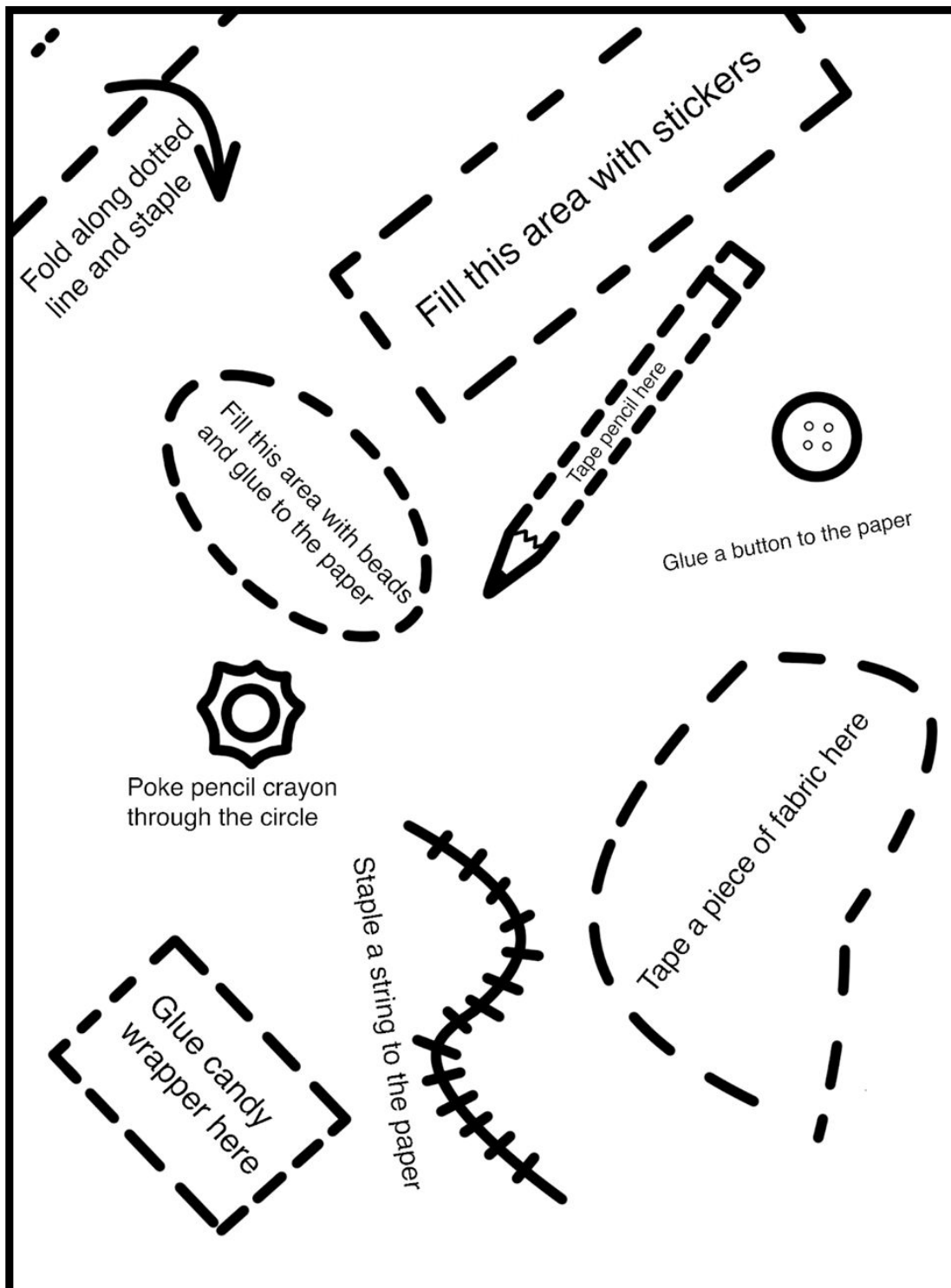
I spy with my little eye something that is brown and hard.

I spy with my little eye something that is grey and metal.

Joining Materials (Part 1)

There are many different ways that materials can be joined together by taping, gluing, stapling and many others.

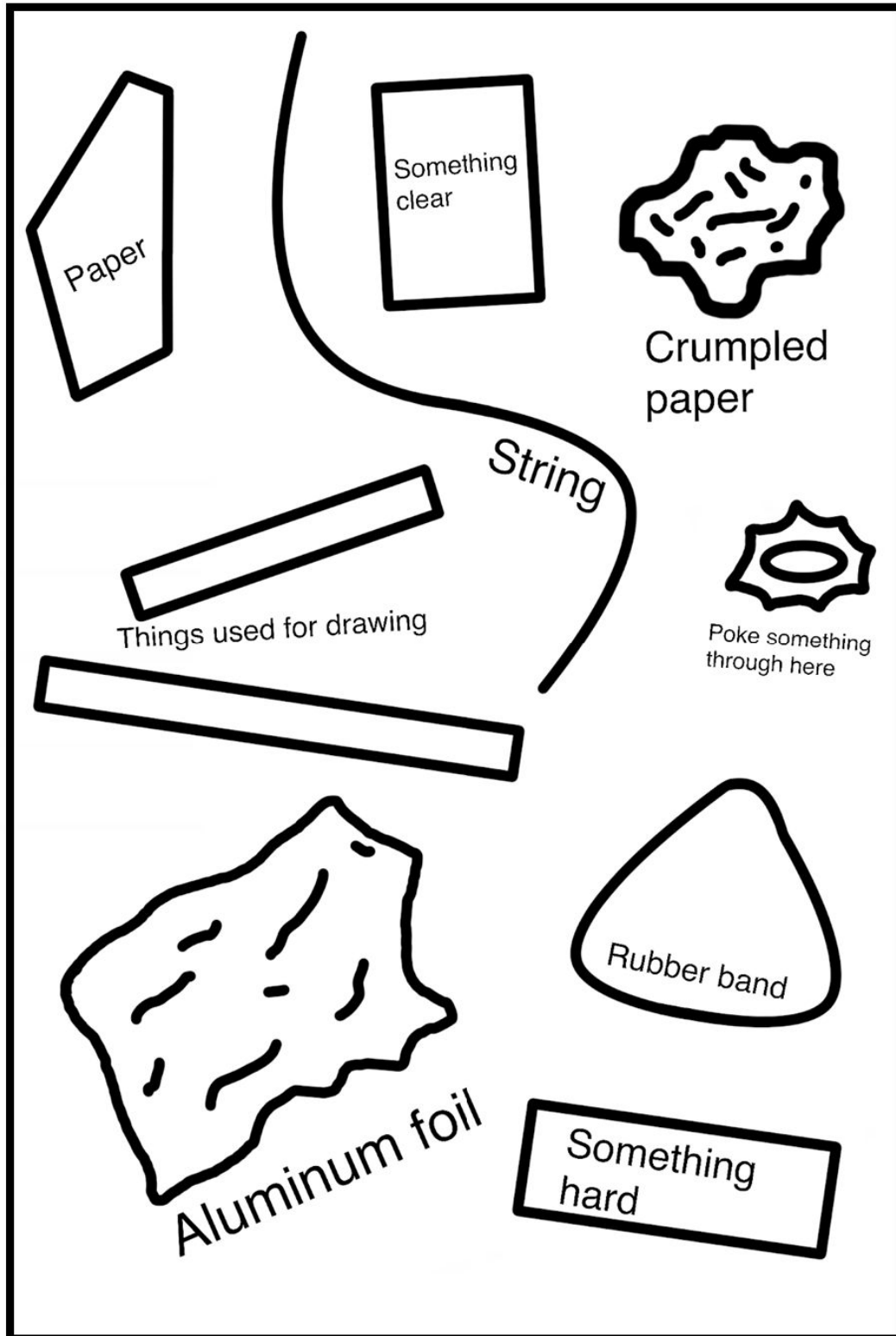
Cut out the page below, find some household items and follow the instructions to see some good methods of joining different materials to paper.



This page is intentionally left blank, because the previous page is meant to be cut up.

Joining Materials (Part 2)

Now it's your turn! Cut out the page below and look around for some household items that meet the descriptions below and think of good ways to attach it to the paper. Try to think of as many methods as you can.

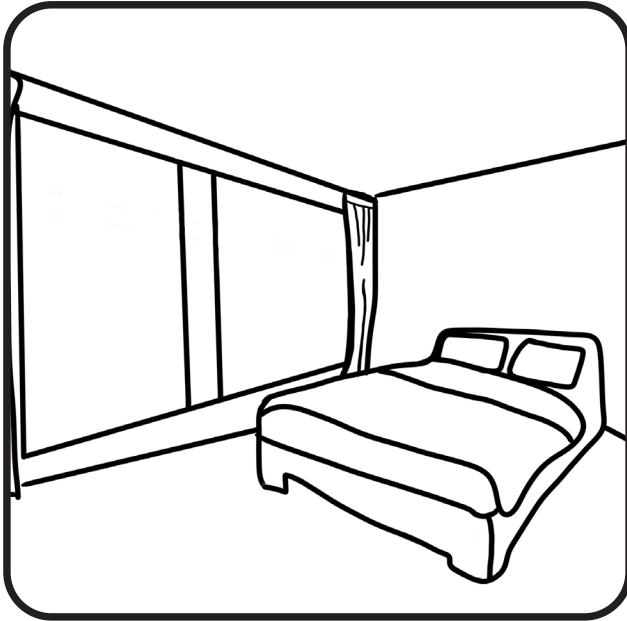


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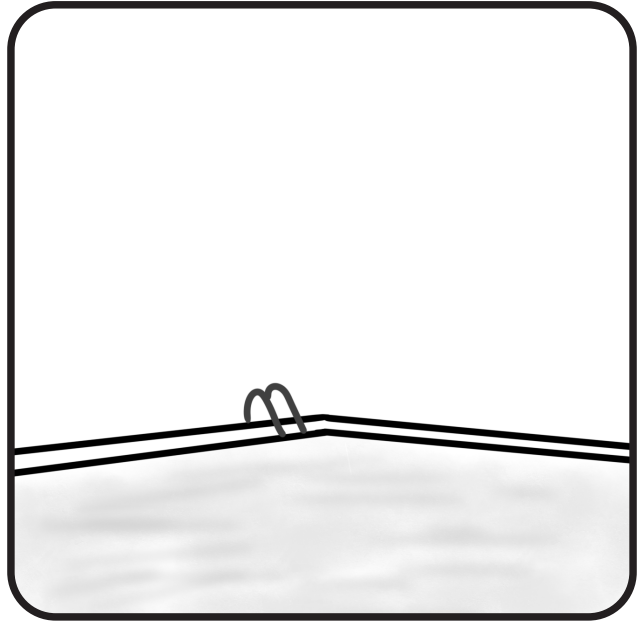


Where is the Sun?

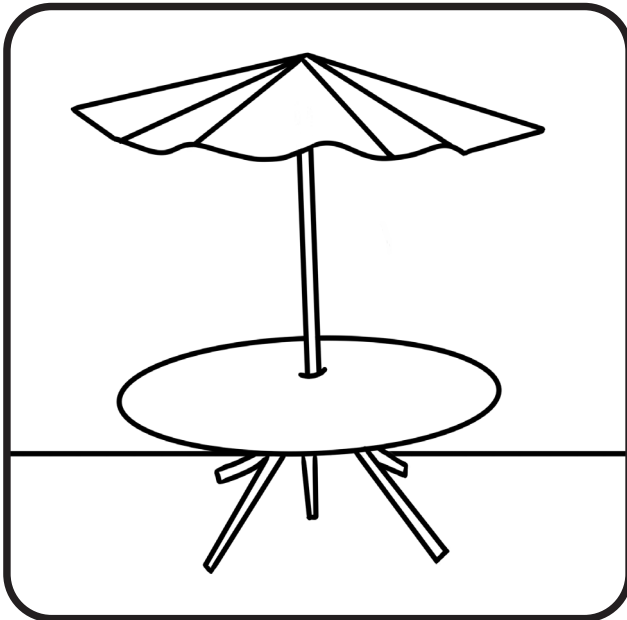
Cut out the four suns at the bottom of the page, and glue each sun into the correct place in the sky in each of the following scenarios.



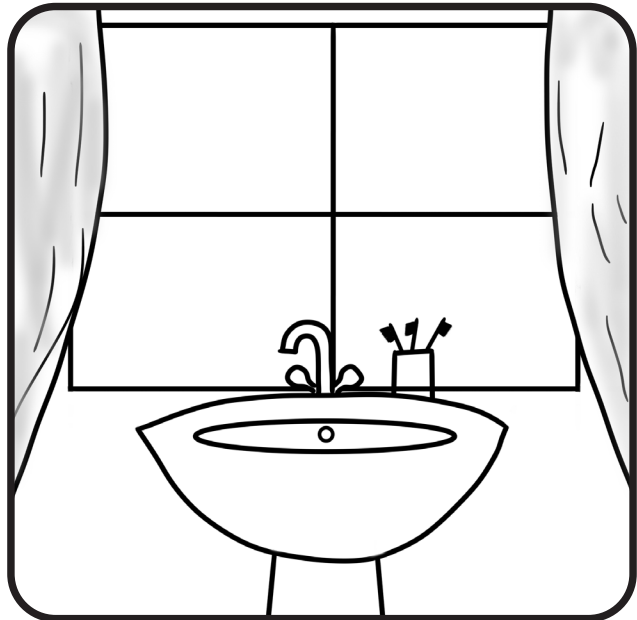
I woke up early in the morning.



I went for a swim.



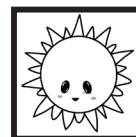
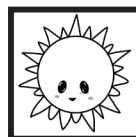
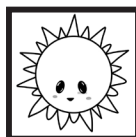
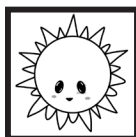
I ate dinner in my backyard.



I brushed my teeth before bed.

SLO : 1-4-03, 1-4-06

You can cut the suns out around the border or cut along the lines of the sun!



Shadow Measuring Activity

The shadows you see outside are caused by objects blocking the light from the sun. The sun reflects off these objects making a dark figure in the shape of the object on the ground.

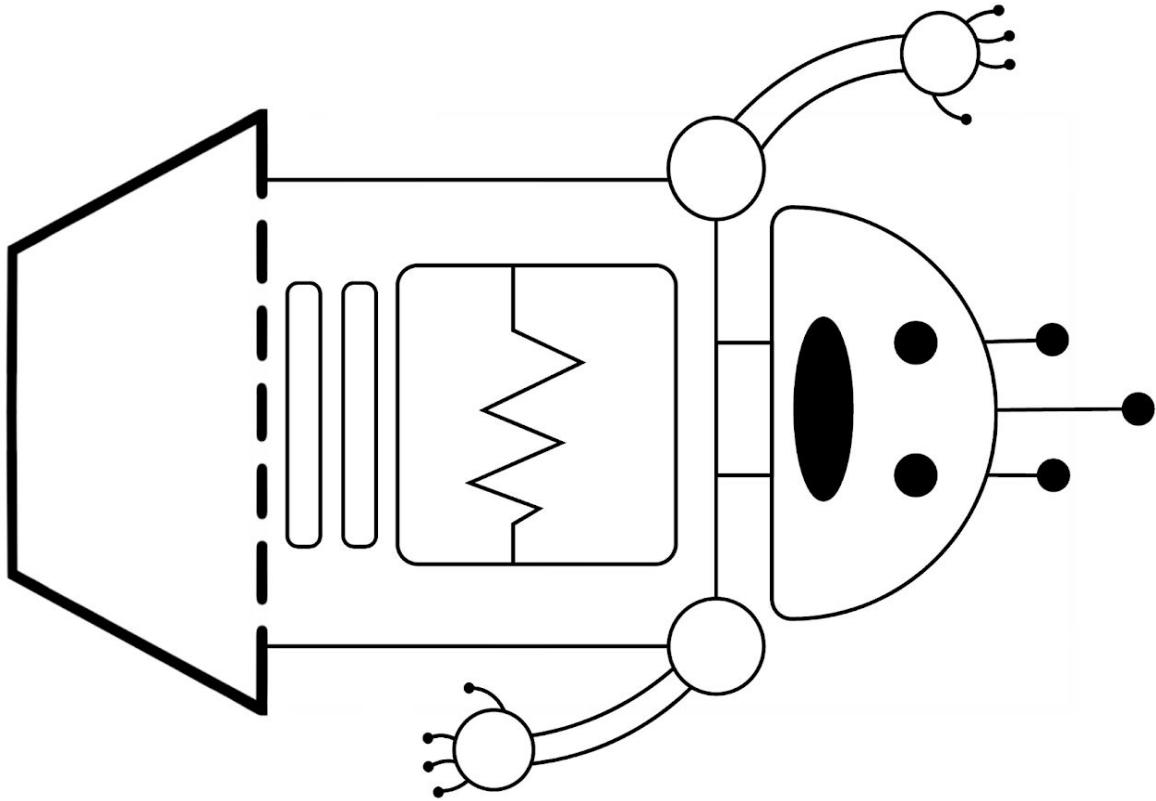
Follow the instructions or “code” below to learn more about the sun and shadows. You can ask a parent to help you out with this activity!

- 1** Colour the picture of Esiw on the next page then cut it out along the solid lines.
- 2** Fold along the dotted lines to make a stand for Esiw.
- 3** Put Esiw outside in a dry, sunny area. (You may need to put a couple rocks on the stand to keep him from falling over.)
- 4** Finally, using a ruler, measure the length of Esiw’s shadow.

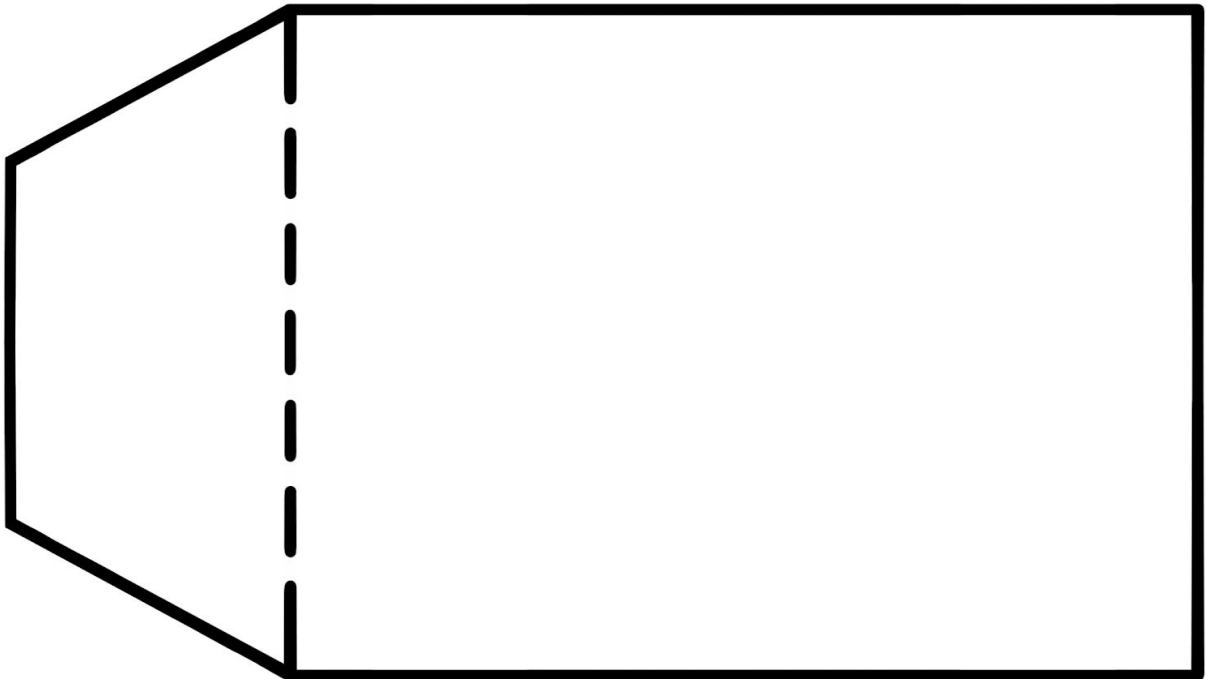
After a while, come back and measure Esiw’s shadow again and observe how it may have changed! Is it longer? Shorter? Is it going in a different direction? You can use the table below to keep track!

Time	Length of Shadow (cm)	Direction Change?
		Yes / No
		Yes / No
		Yes / No
		Yes / No

This area is intentionally left blank, because the previous page is meant to be cut up.



Now it's your turn! Draw whatever you want in the box below and cut it out. Remember to fold along the dotted lines to make a stand!

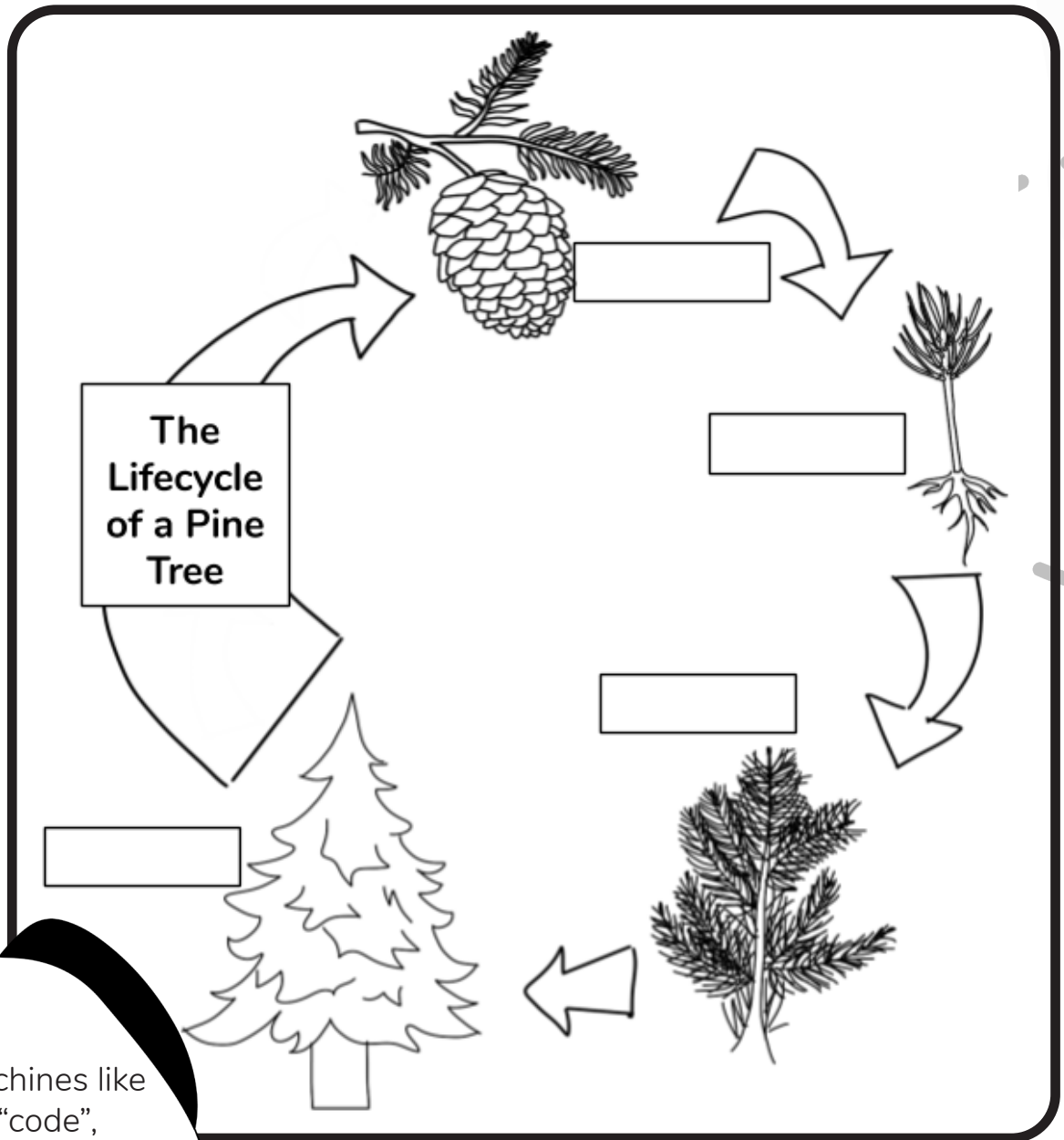


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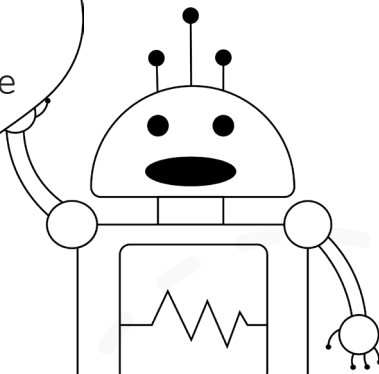
Life Cycle of a Tree

Order the different stages of a growing tree in the image below.

Cut out the names of the different stages below and paste them into the picture!



When machines like me follow "code", it's important that the code is ordered properly, just like the tree cycle above!



Cut these names out:

Pinecone

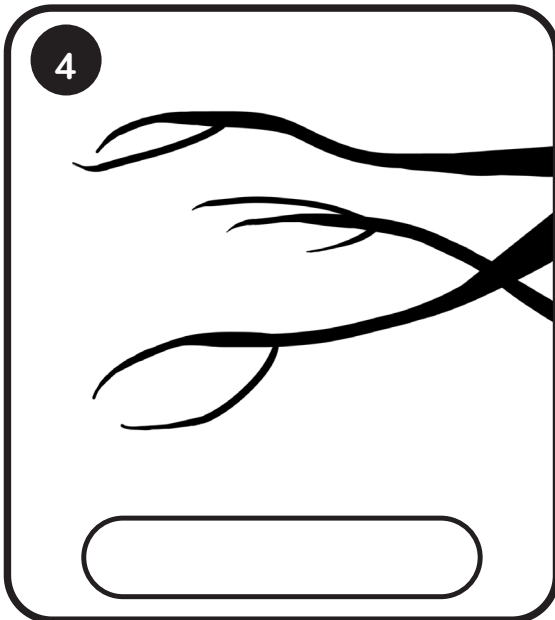
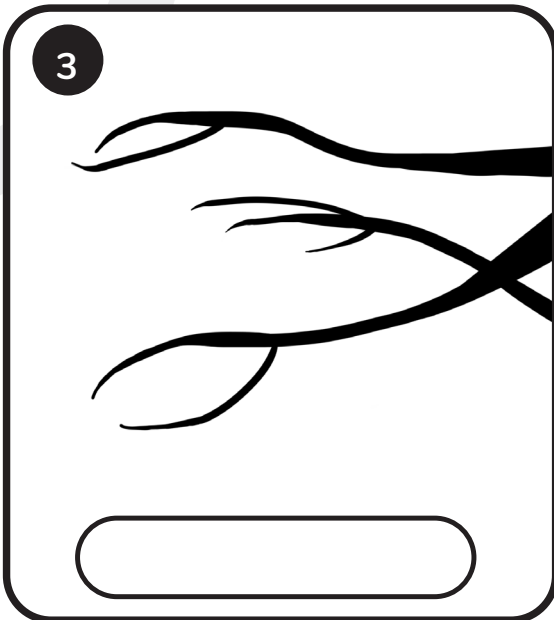
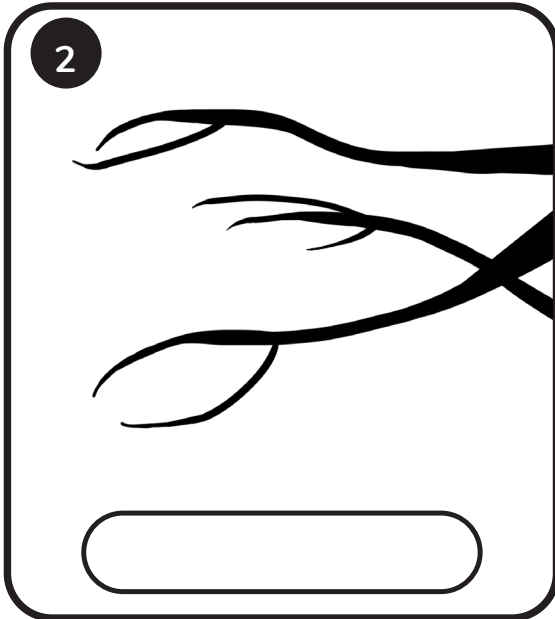
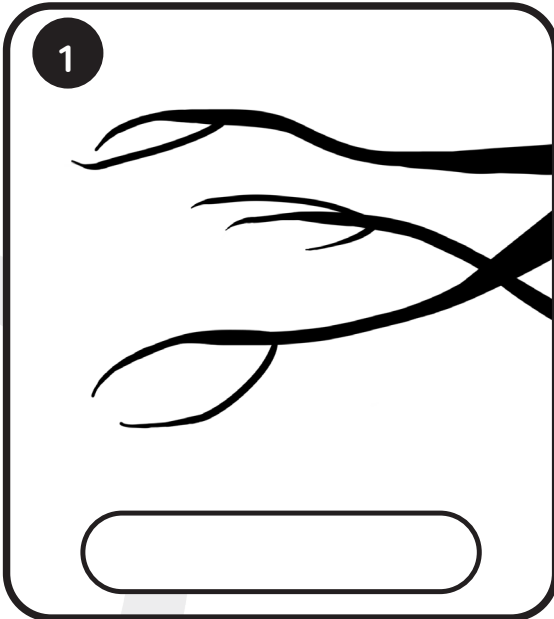
Mature Tree

Sapling

Seedling

Leaves and Seasons

Draw & Color the leaves on the trees in the 4 seasons. Then write the name of the season on the bottom! Make sure you order them correctly!

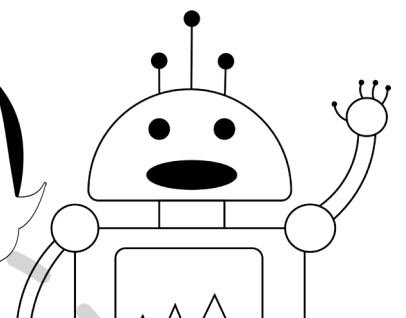


The Seasons:

- Winter
- Summer
- Spring
- Fall

This area is intentionally left blank, because the previous page is meant to be cut up.

Let's keep practicing ordering! Can you order the seasons correctly?

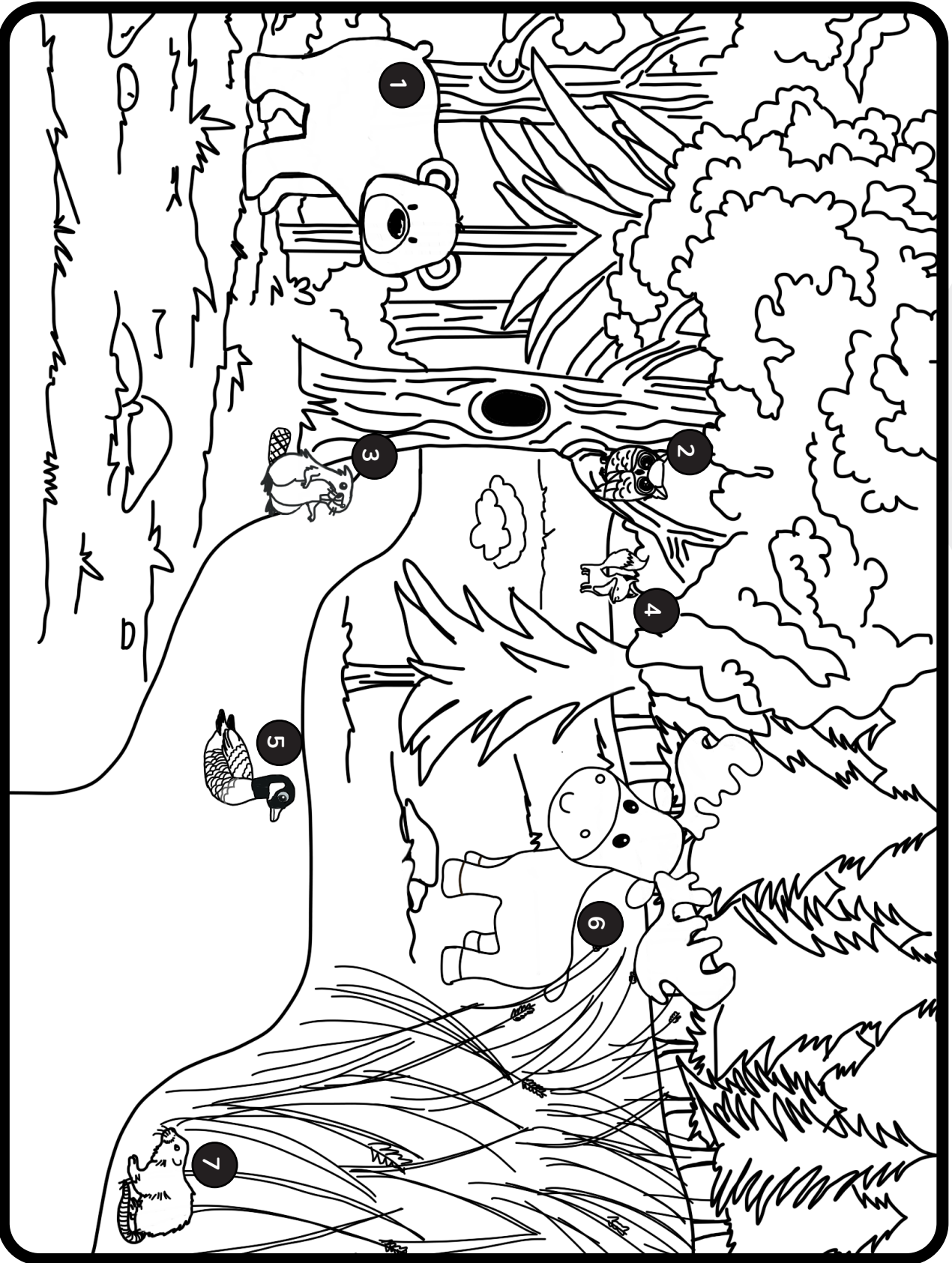


Find the Manitoba Animal!

On the following page (Page 18), help Esiw find all 7 Manitoba animals in the chart below! Esiw knows some things about these animals but needs your help to collect more data so they can learn more. When you find the animal in the picture, write the correct number beside its description below!

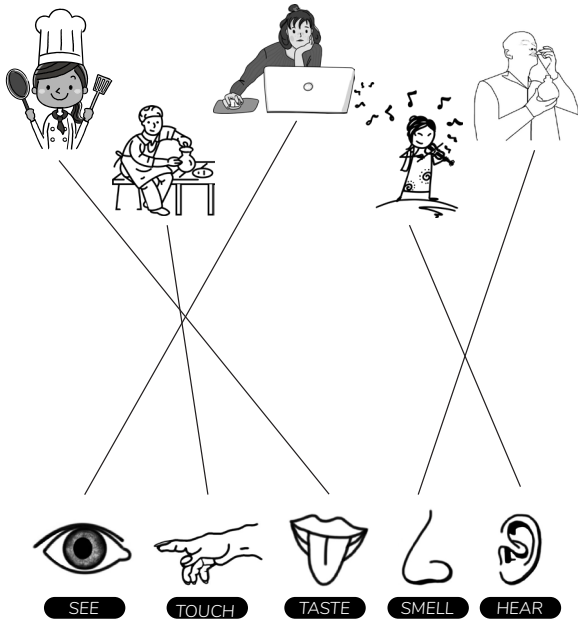
Animal Name	What do they look like?	What number is that animal in the picture?
Owl	This animal has a beak. This animal has feathers. This animal can fly.	
Fox	This animal is furry. This animal is small. This animal has a fluffy tail.	
Moose	This animal is very big! This animal has antlers. This animal has hooves.	
Black Bear	This animal is large. This animal is furry. This animal has paws.	
Beaver	This animal has big front teeth. This animal has a flat tail. This animal builds dams.	
Canadian Goose	This animal can swim. This animal has feathers. This animal leaves Manitoba in the winter.	
Muskrat	This animal has a skinny tail. This animal is furry. This animal is small.	

Find the Manitoba Animal! (continued)

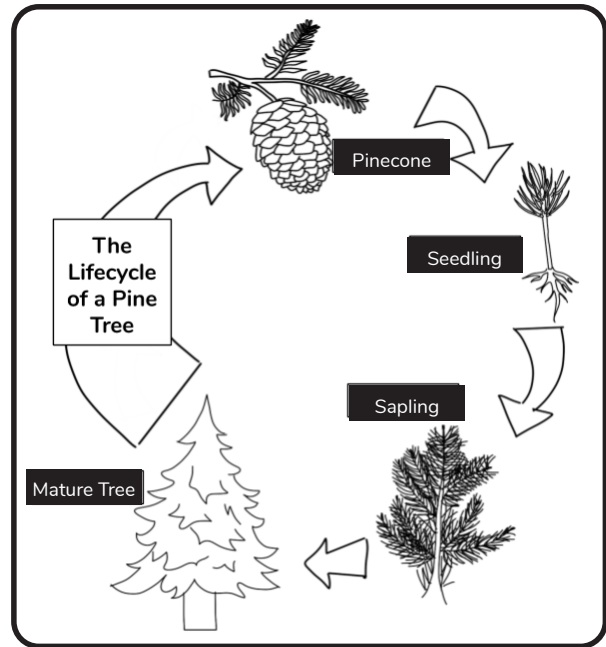


Answer Keys

5 Senses at Work (page 5)



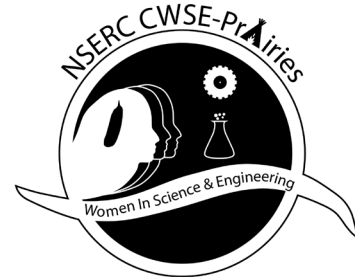
Life Cycle of a Tree (page 15)



Find the Manitoba Animal! (page 17-18)

Animal	Number
Owl	2
Fox	4
Moose	6
Black Bear	1
Beaver	3
Canadian Goose	5
Muskrat	7

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