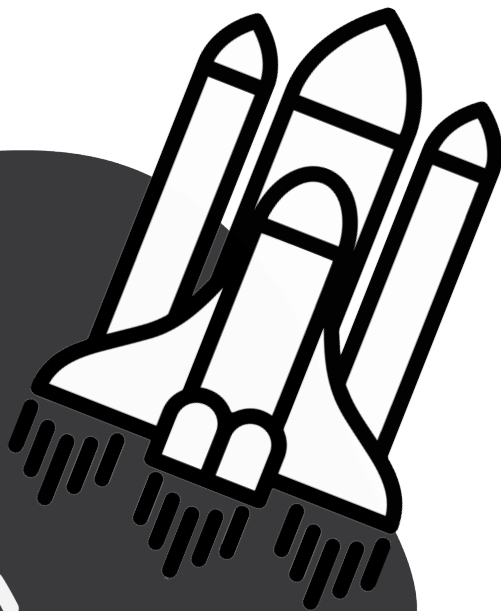


# WISE Activity Booklets

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

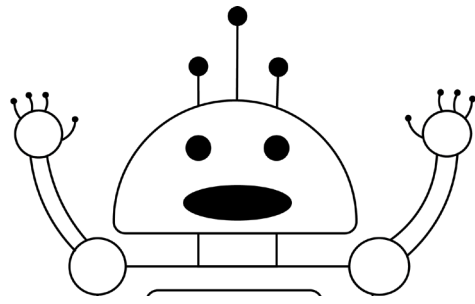
WISE Kid-Netic Energy is a proud member of Actua

A network  
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actua.ca  
**actua**  
Youth • STEM • Innovation

With funding from  
**Canada**

## Grade 6 MONTH 2020

Diversity of Living Things - Electricity  
Flight - Exploring the Solar System



## 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 next 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.

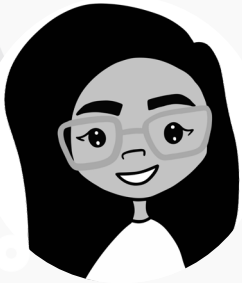
We hope that you enjoy doing the experiments and activities as much as we loved creating them for you.

In this Grade 6 booklet, the science topics you will be exploring are: the diversity of living things, flight, electricity and the solar system!

**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!

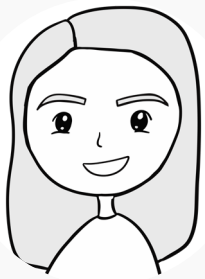
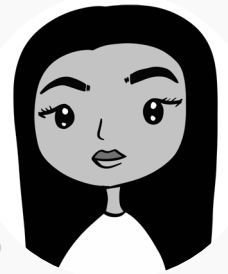


## Alora

**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 counselor. In her spare time, she enjoys reading, writing, and playing the ukulele.

## Habiba

**Habiba** is a second year computer engineering student. In her free time, Habiba loves to learn about everything computer and Internet related, but in her free time she likes to draw, go outside as well cook.



## Katy

**Katy** has completed her second year of Biosystems Engineering at the University of Manitoba and is passionate about environmental sustainability and working with kids. In her spare time she enjoys running, painting, and spending time outside.

## Toni

**Toni** is in her final year of study as a social work student at the University of Manitoba and she hopes to one day work in community development. Toni loves learning and teaching and is happy to be a part of the WISE



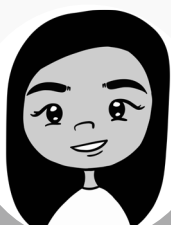
## Esiw the Robot

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!

## ... and our Incredible Editors!



Alex



Bea



Mahalia



Michelle

## Story of Earth

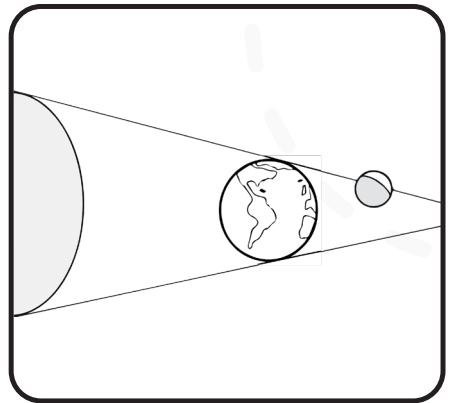
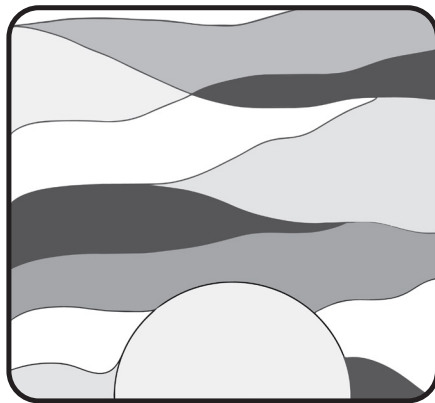
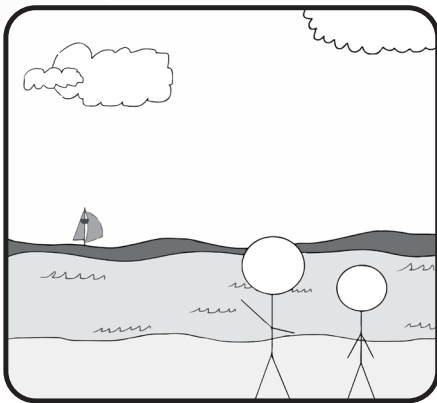
Earth was once believed to be flat. Instead of a globe, people believed that earth was a flat disc, suspended in space. This was called the Flat-Earth Model.

The North Pole was believed to be the center of the Earth, and the continents were arranged in a circle around it. The continents were surrounded by water. It was thought that if you traveled far enough, you would hit the edge of the disc, which was surrounded by a thick ring of arctic ice.

Can you draw what that version of Earth would look like?



But the Flat-Earth Model started being questioned by the Ancient Greeks when their philosophers started noticing things that proved that the Earth was sphere. During partial lunar eclipses, Earth's shadow on the moon was always round. Things appeared on horizons gradually and not all at once. And if the Earth was flat, sunrises and sunsets wouldn't exist because the sun would always be shining.



This meant that eventually the spherical Earth model was accepted worldwide.

Can you draw what the Earth looks like as a sphere?

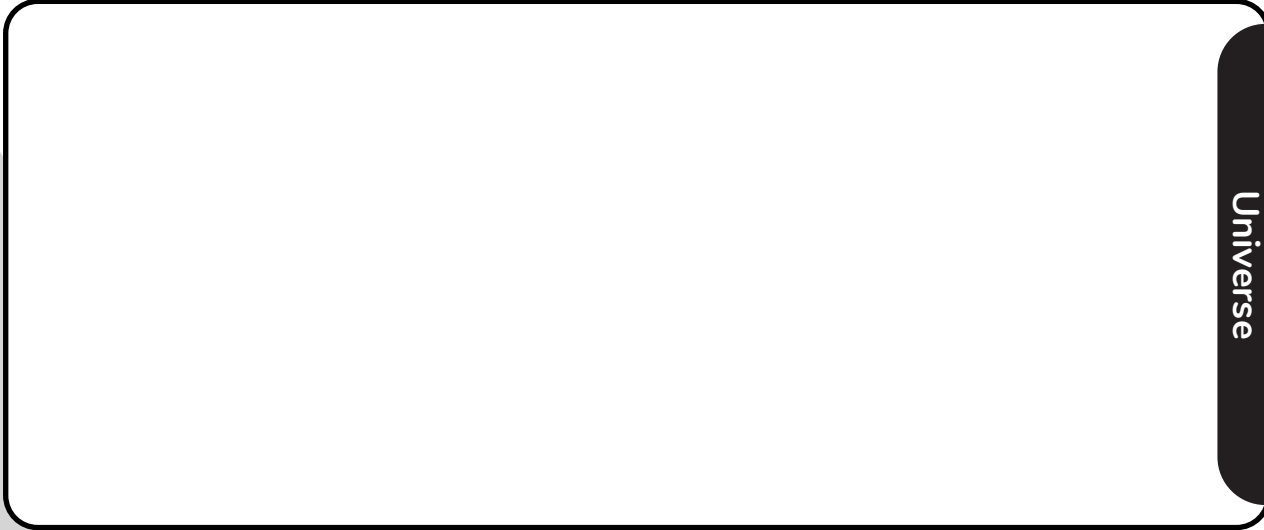


Another belief about the Earth that has changed over time is the Earth-Centred or Geocentric Model of the Universe. This theory said that Earth was the center of our solar system instead of the Sun, and that all the planets, moons and Sun rotated around the Earth. Can you draw what you think the geocentric version of the universe would look like?



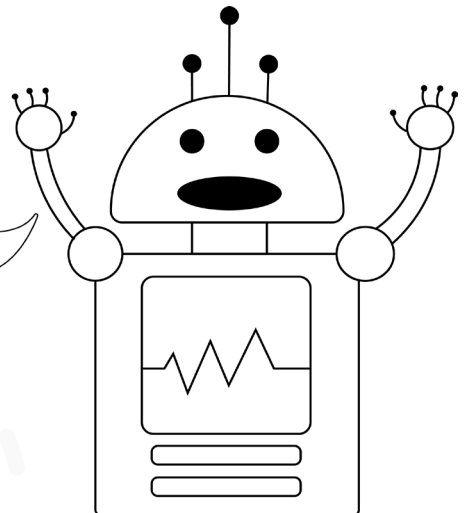
Geocentric Model of the Universe

Eventually, scientists and philosophers started gathering evidence that astronomical bodies didn't revolve around Earth, and instead revolved around the Sun. This model is called heliocentrism and it is accepted as scientific fact across the globe today. Can you draw a picture of our solar system following the heliocentric model?



Heliocentric Model of the Universe

These new theories seemed crazy when they were first proposed, but now they are seen as normal facts. This is common when it comes to new ideas in science. In computer science the idea of talking robots seemed crazy, but look at me now!



## Bernoulli's Bag Experiment

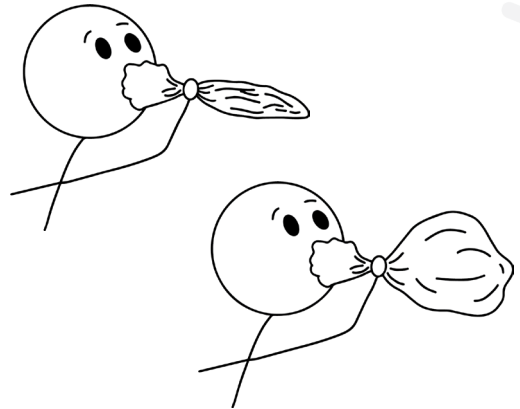
What is the most efficient way to inflate a plastic bag when you are blowing into it? Let's do an experiment testing two different methods to see which one works better!

### Method #1

Step 1. Find a plastic bag. It can be either a grocery bag or a bread bag, but make sure there are no holes in it.

Step 2. Take a deep breath in, hold the bag right up to your face and blow into the bag inflating it as much as possible with just one breath

Step 3. Close the bag with your hand and continue to inflate the bag with the bag right against your face until it is full inflated. How many breaths did it take? \_\_\_\_\_

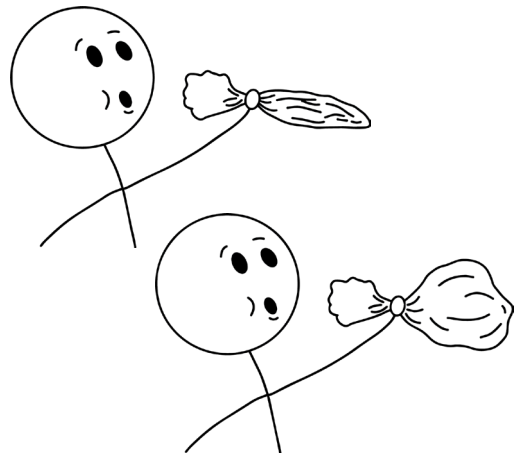


### Method #2

Step 1. Use the same plastic bag as method # 1

Step 2. Take a deep breath in, hold the bag around 30cm from your face and blow into the bag inflating it as much as possible with just one breath

Step 3. Close the bag with your hand and continue to inflate the bag with the bag right against your face until it is fully inflated. How many breaths did it take? \_\_\_\_\_



### Bernoulli's Principle

Why did Method # 2 inflate the bag so much faster? The explanation is Bernoulli's Principle! By holding the bag 30cm away from you face and blowing one big breath of air, you created a stream of air that is moving faster than the surrounding air. According to Bernoulli's Principle, the stream of faster moving air exerts less pressure than the surrounding air, therefore the surrounding air moves toward the stream made by your breath, wanting to go from high pressure to low pressure. The bag during Method # 2 quickly inflates because air from the atmosphere is drawn into the bag along with the stream of air from you lungs. This does not happen in Method #1 because the bag is around your mouth and blocks the surrounding air from entering the bag!

Try this experiment with different plastic bags and see what's the biggest bag you can inflate with just one breath.

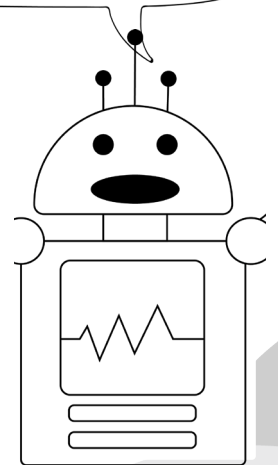
Try challenging a friend or family member to see who can inflate a bag faster and watch them be amazed as you inflate your bag in just one breath!

## Code Your Own Supermarket

Classification systems are used all around us everywhere, from grocery stores to libraries and even contact lists on our phones. One method to classify and sort things is to have a system to create codes for each object being classified. For this activity we are going to be creating a code for different items in a grocery store. This would be similar to how the store is arranged where the category would be which section of the store it is found in, the subgroup might be which aisle it is in and the item shows exactly where in the aisle it is found.

Use the table of codes below to give the items in the list unique barcodes. To create the codes for these barcodes first get the code for the category, then the subgroup, then the item and write them all together.

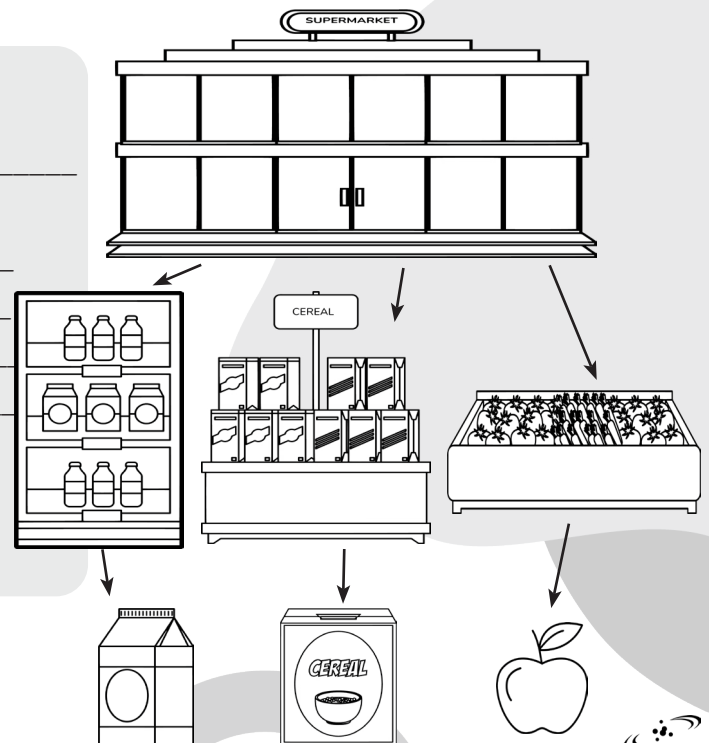
Creating codes is fun! Let me show you how it's done! For example if we were to look at apples, we can see it's in the category of "Produce (08)", the subgroup of "Fruit (01)" and the item is an "Apple (01)". So it's code would be 080101.



| Category          | Subgroup                            | Item   |
|-------------------|-------------------------------------|--|
| Beverages (01)    | Juice (01)<br>Soda (02)             | Apple (01), Cranberry (02), Orange (03)<br>7up (01), Pepsi (05), Rootbeer (03)                         |
| Bakery (02)       | Bread (01)<br>Buns (02)             | Raisin (01), Rye (02), White (03), Whole Wheat (04)<br>Dinner Rolls (01), Hamburger (02), Hot Dog (03) |
| Canned Goods (03) | Pasta Sauce (01)<br>Vegetables (02) | Alfredo (01), Pesto (02), Tomato (03)<br>Beans (01), Corn (02), Peas (03)                              |
| Dry Goods (04)    | Cereal (01)<br>Flour (02)           | Cheerios (01), Fruit Loops (02), Rice Crispies (03)<br>Self-Rising (01), White (02), Whole Wheat (03)  |
| Dairy (05)        | Cheese (01)<br>Milk (02)            | Cheddar (01), Marble (02), Mozzarella (03)<br>Almond (01), Skim (02), Soy (03), Rice (04)              |
| Frozen Foods (06) | Ice Cream (01)<br>Pizza (02)        | Chocolate (01), Strawberry (02), Vanilla (03)<br>Cheese (01), Deluxe (02), Hawaiian (03), Pepperoni    |
| Meat (07)         | Beef (01)<br>Chicken (02)           | Burgers (01), Ground Beef (02), Steak (03)<br>Breast (01), Leg (02), Thigh (03)                        |
| Produce (08)      | Fruit (01),<br>Vegetables (02)      | Apples (01), Cranberries (02), Oranges (03)<br>Carrots (01), Corn (02), Peas (03)                      |

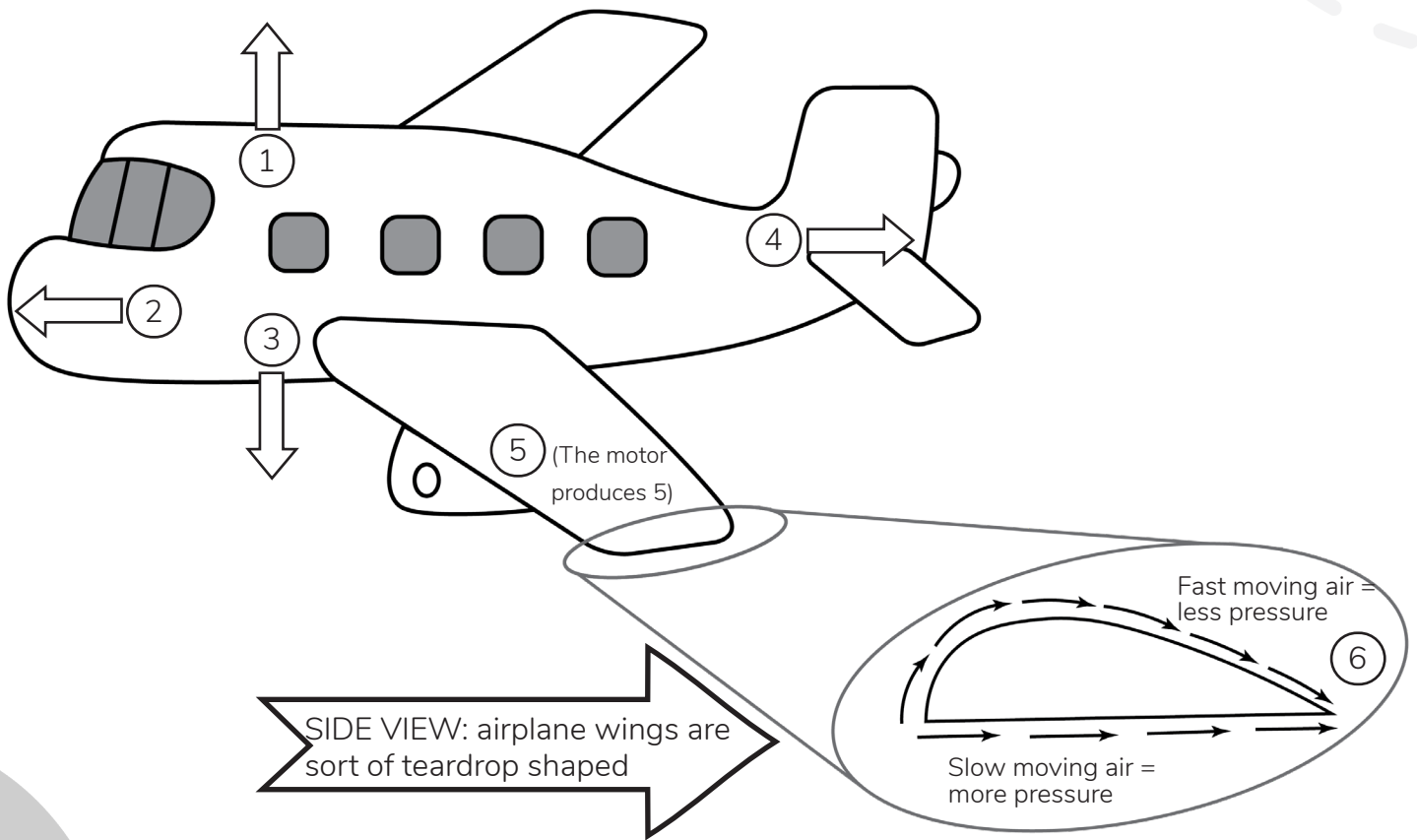
### Find the codes for:

- Ground Beef \_\_\_\_\_
- White Flour \_\_\_\_\_
- Carrots \_\_\_\_\_
- Orange Juice \_\_\_\_\_
- Peas \_\_\_\_\_
- Dinner Rolls \_\_\_\_\_
- Root Beer \_\_\_\_\_
- Cranberries \_\_\_\_\_
- Marble Cheese \_\_\_\_\_
- Deluxe Pizza \_\_\_\_\_
- Rye Bread \_\_\_\_\_
- Vanilla Ice Cream \_\_\_\_\_
- Apple Juice \_\_\_\_\_
- Raisin Bread \_\_\_\_\_
- Almond Milk \_\_\_\_\_
- Chicken Legs \_\_\_\_\_
- Rice Crispies \_\_\_\_\_
- Steak \_\_\_\_\_
- Alfredo \_\_\_\_\_
- Skim Milk \_\_\_\_\_



## Flight Word Scramble

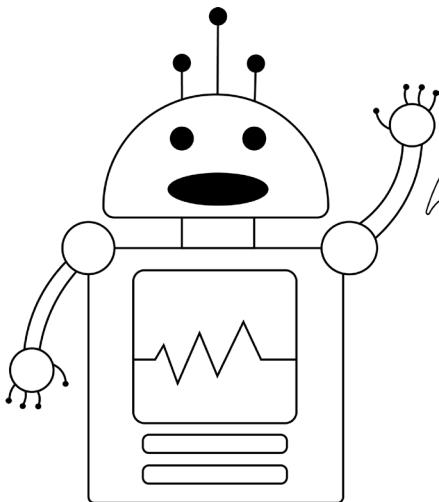
Test your flight knowledge by using the definitions in the table below to scrambled letters to find the terms related to flight. Then match the terms to the numbers on the diagram.



| DEFINITION  | SCRAMBLED WORD      | YOUR ANSWER | DIAGRAM NUMBER |
|---|---------------------|-------------|----------------|
| This pushes the flying object upwards, away from the ground, works in the opposite direction of weight/gravity. | T F L I             |             |                |
| This is a force acting on the flying object to thrust it forward or upward.                                     | P S R U N O O P L I |             |                |
| This slows the flying object from being propelled faster, works against thrust.                                 | G A D R             |             |                |



| DEFINITION   | SCRAMBLED WORD          | YOUR ANSWER | DIAGRAM NUMBER |
|--|-------------------------|-------------|----------------|
| This term states that the faster air flows, the less pressure it has. Allows lift to occur around airplane wings.                            | OELRLSUNBI<br>IEPRNILCP |             |                |
| This is the force acting on the flying object to propel it forward, works opposite from drag.  | RUTSH T                 |             |                |
| Describes the force pulling the flying object towards the ground, working opposite from lift.  | YGIARTV                 |             |                |
| This term refers to anything that flows. Both liquids and gases fall under this category.  | DUFIL                   |             |                |
| This causes an object to move due to the disruption of equilibrium. This will cause the position, speed or direction of an object to change. | NABNAUCLDE<br>COSFER    |             |                |

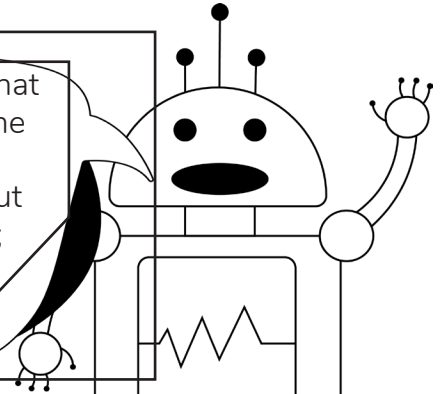


Sometimes when data is input into a program it's in a random order, so it's important for programmers to include a section of their code that puts things in the correct order and unscrambles them, just like you unscrambled all of those words!

## Electricity Usage

Do you have a microwave oven? Do you charge the battery of a device, like a computer or a phone? Do you use hot water to have a shower or bath? These things all require electricity to work! But what is electricity? It is a type of energy that is made by the movement of electrons between atoms. This movement happens at a molecular level that is too small for us to see with our eyes, but electricity can be seen in different forms, such as lightning during a thunderstorm. Lots of people use electricity every single day, in the morning, afternoon, evening and sometimes during the night too!

The 24-hour clock is way to measure time that counts the hours that have passed starting at midnight and resetting 24 hours later at the next midnight. This means we don't have to use am or pm when telling the time, all of the time in the morning is the normal time, but after noon it keeps going up, meaning 1:00pm is written as 13:00; 2:00pm is 14:00 etc. The 24-hour clock is commonly used in coding because it is often easier to use only numbers rather than numbers and letters (AM, PM) together.



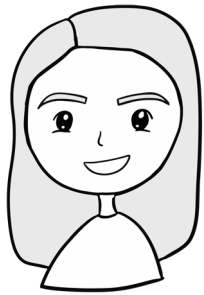
Use the charts below to think about the last day you spent mostly at home and record the electricity you use in one day! Think about ways you use electricity in each room, even when you aren't necessarily in that room. Is your phone still charging in that room, or are you playing music? Don't forget to record the date!

### Daily Electricity Usage Chart

Date: \_\_\_\_\_

|                | Bedroom   | Bathroom  | Kitchen   | Living Room                  |
|----------------|---|---|---|------------------------------|
| <b>Example</b> | <i>Lamp was on (1 hour), charging phone (2 hours)</i> | <i>Electric toothbrush (15 mins), hot water to shower (20 mins)</i> | <i>Toaster oven (5 mins), ceiling light (20 mins), refrigerator</i> | <i>Televisions (30 mins)</i> |
| 12:00-6:00     |   |   |   |                              |
| 6:00 - 8:00    |   |   |   |                              |
| 8:00 - 10:00   |   |   |   |                              |
| 10:00 - 12:00  |   |   |   |                              |
| 12:00 - 14:00  |   |   |   |                              |
| 14:00 - 16:00  |   |   |   |                              |
| 16:00 - 18:00  |   |   |   |                              |
| 20:00 - 22:00  |   |   |   |                              |
| 22:00 - 24:00  |   |   |   |                              |

Now look back at that chart and try to think of different ways you could save energy during the day. Fill out the next chart with ideas on how to save energy.



Here's some hints to get you started:

- turn off the light every time you leave a room
- unplug devices as soon as they are fully charged
- use natural (sun) light during the day
- use energy efficient light bulbs
- turn off any electronic devices that you aren't using
- reduce your screen time

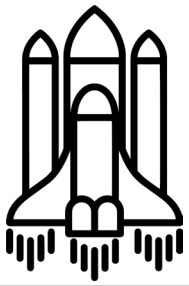
Can you think of more ways to save energy?

|                | <b>Things you can do to reduce your energy usage</b>  |
|----------------|---|
| <b>Example</b> | <i>Do not charge phone overnight, turn off the lamp when I leave the bedroom, figure out everything I need from the fridge so I only have to open it once to get everything out, rather than constantly opening and closing it.</i> |
| 12:00-6:00     |   |
| 6:00 - 8:00    |   |
| 8:00 - 10:00   |   |
| 10:00 - 12:00  |   |
| 12:00 - 14:00  |   |
| 14:00 - 16:00  |   |
| 16:00 - 18:00  |   |
| 20:00 - 22:00  |   |
| 22:00 - 24:00  |   |

## Astro World

Astrology and astronomy may sound similar, but they are actually very different! Astronomy is the science of everything outside Earth's atmosphere like planets and stars and their properties, it's based on research, the laws of physics and math as well as observation. Whereas, astrology is the belief that the location and position of the stars and planets affect the events and people on earth and has no scientific proof.

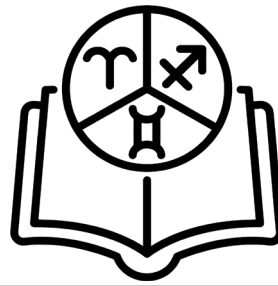
Observe the facts and symbols below and determine if they are part of astrology or astronomy. Put a 0 beside the image if it is a part of astrology and a 1 if it is a part of astronomy.



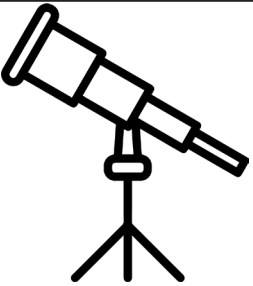
Humans use rockets to get to space.



Some planets have rings such as Saturn, while others, like Earth do not.



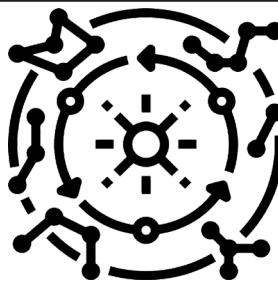
It is believed that if you study the movement of the planets you can find out what will happen to your day.



You can use a telescope to study the planets and their properties and movement.



Depending on what month you are born, you are assigned a zodiac sign.




A constellation is a group of stars that are grouped together in certain positions.



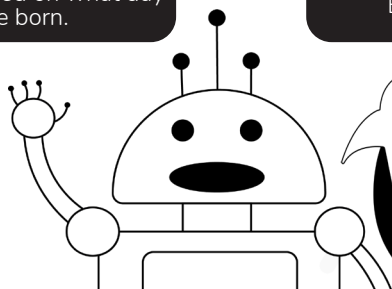
Some believe that your personality is based on what day you were born.



Astronauts are people who leave Earth to visit space.



Some people are experts in reading birth charts and predicting your luck based on your zodiac sign.



1s and 0s are the basis of computer programming. Computers can't understand English or other spoken languages. They can only understand binary, which is a language consisting of only 0s and 1s!

# Electricity Word Search

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

BATTERY

CHARGE

CIRCUIT

COAL

COMPONENT

CONDUCTOR

CURRENT

ELECTRONS

ENERGY

HYDRO

INSULATOR

JOULE

NEGATIVE

NEUTRON

PARALLEL

PARTICLES

POSITIVE

POWER

PROTON

RESISTANCE

RESISTANT

SERIES

SOLAR ELECTRICITY

SOLAR PANEL

STATIC

SWITCH

THERMAL ENERGY

VOLTAGE

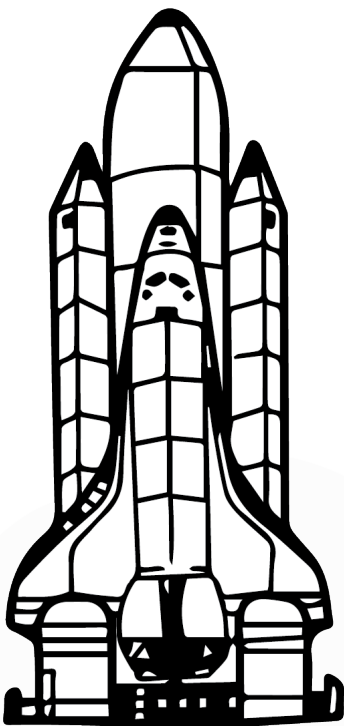
VOLTS

WATTS

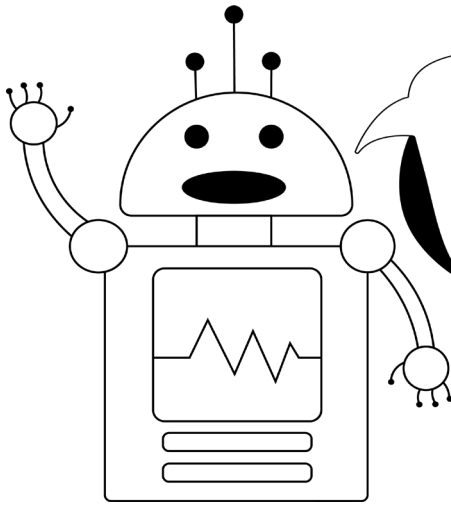
## Name the Variable

You've probably seen an aircraft before, such as a hot air balloon or an airplane. Have you ever seen a spacecraft before though, like a rocket? Though they sound and look pretty similar they have a lot of large differences, from their uses to the way they use different forces. Check out the info below and then test your knowledge on the next page to see how much you learned!

- An aircraft is affected by four forces: drag, lift, thrust and weight. Thrust is the force that moves an aircraft in the direction of the motion. Drag is a force that acts opposite to the direction of motion; it tends to slow down an objects motion. Weight is the force caused by gravity. Lift is the force that holds an airplane in the air. Wings are required to achieve and maintain lift.
- Aircrafts rely on air and differences in air pressure to move themselves around, hence the name AIRcrafts.
- Aircrafts never leave the Earth's atmosphere.
- An aircraft needs to be made of materials that allow it to withstand atmospheric temperatures, including coldness.
- While on board an airplane, for example, essentials for living aren't really needed except for maybe some snacks and drinks



- A spacecraft is affected by two forces: thrust and weight. A spacecraft requires tremendous thrust and stability to escape from the Earth's atmosphere. The spacecraft must rely on thrust to push itself forward in Space.
- Spacecrafts have to be very careful when re-entering Earth's atmosphere because they have enter slow enough so that they don't burn up.
- A space craft needs to be made of materials that allow the craft to withstand the heat caused by re-entering the Earth's atmosphere.
- Spacecrafts don't generate lift.
- Enough of the essentials for living such as food, oxygen, water and toiletries must be stored on the spacecraft to last the entire duration of the trip, which can be several months long.



An important part of coding is choosing an appropriate name for your variables. You want to make sure your variable's names are accurate to what they represent!

Your turn to see if you can tell the difference between aircraft and spacecraft. Read the statements below and decide which variable they belong to, either aircraft or spacecraft. Write the variable's name (either aircraft or spacecraft) on the line beside the statement.

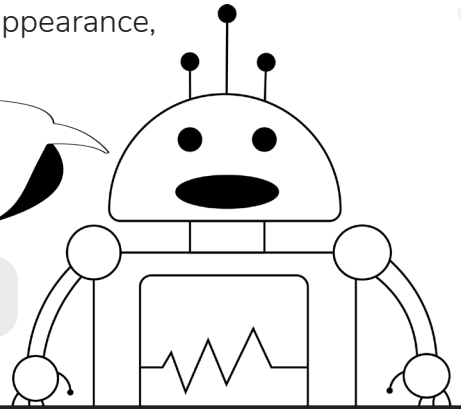
- 1 Requires wings to achieve lift \_\_\_\_\_
- 2 Drag is a factor that controls its speed \_\_\_\_\_
- 3 Requires special materials to withstand extreme heat \_\_\_\_\_
- 4 Travels at the speed of over 25,000 kilometers an hour \_\_\_\_\_
- 5 A machine designed for flight \_\_\_\_\_
- 6 Requires a tremendous amount of thrust and stability \_\_\_\_\_
- 7 Travels beyond the Earth's atmosphere \_\_\_\_\_
- 8 Don't have to pack the essentials for living on board \_\_\_\_\_
- 9 Travels at the speed of up to 1,000 kilometers an hour \_\_\_\_\_
- 10 Flies within the Earth's atmosphere \_\_\_\_\_
- 11 Fuel tanks detach after take off \_\_\_\_\_
- 12 Requires materials that can withstand the cold \_\_\_\_\_

## Community Diversity

We are surrounded by diverse living things! How many different examples of plants, fungi and animals can you observe in your community? Go for a walk and record what you see in the chart. Each sighting will have various variables, including their name, the location of the sighting, the description of their appearance, their food source, and their housing.

Variables are used a lot in programming. Variables are used to store data that can be changed.

Go for a walk around your community and fill out as much of this chart as possible!



### ANIMALS

|                         |   |  |
|-------------------------|---|--|
| Animal_Example_Variable | <b>Location of Sighting:</b> <i>The Seine River, Winnipeg, MB.</i>  |  |
|                         | <b>Description of Appearance:</b> <i>Thick brown fur, flat tail, 4 short legs, small round ears, big front teeth.</i> |  |
|                         | <b>Source of Food:</b> <i>Wood, tree bark, grasses.</i>   |  |
|                         | <b>Type of Housing:</b> <i>Lodge, pile of sticks and river mud.</i>   |  |
|                         | <b>Type of Animal:</b> <i>Beaver</i>  |  |
| Animal_1_Variable       | <b>Location of Sighting:</b>  |  |
|                         | <b>Description of Appearance:</b>   |  |
|                         | <b>Source of Food:</b>  |  |
|                         | <b>Type of Housing:</b>   |  |
|                         | <b>Type of Animal:</b>  |  |
| Animal_2_Variable       | <b>Location of Sighting:</b>  |  |
|                         | <b>Description of Appearance:</b>   |  |
|                         | <b>Source of Food:</b>  |  |
|                         | <b>Type of Housing:</b>   |  |
|                         | <b>Type of Animal:</b>  |  |



Animal\_3\_Variable

Location of Sighting:

Description of Appearance:

Source of Food:

Type of Housing:

Type of Animal:

## PLANTS

Plant\_Example\_Variable

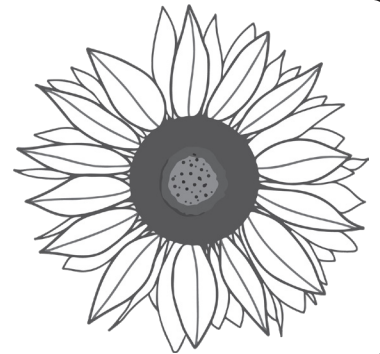
**Location of Sighting:** *My flower garden in Winnipeg, MB.*

**Description of Appearance:** *Large yellow flower, dark center with seeds, tall and strong green stem, approx 2 meters tall.*

**Source of Food:** *Sunlight to photosynthesize and make energy, nutrients from the soil, water from the rain.*

**Surrounding Environment:** *Other flower and vegetables including beans, squash and tomatoes and tall elm trees.*

**Type of Animal:** *Sunflower.*



Plant\_1\_Variable

Location of Sighting:

Description of Appearance:

Source of Food:

Surrounding Environment:

Type of Animal:

Plant\_2\_Variable

Location of Sighting:

Description of Appearance:


Source of Food:

Surrounding Environment:

Type of Animal:

|                  |                            |  |
|------------------|----------------------------|--|
| Plant_3_Variable | Location of Sighting:      |  |
|                  | Description of Appearance: |  |
|                  | Source of Food:            |  |
|                  | Surrounding Environment:   |  |
|                  | Type of Animal:            |  |

## FUNGI

|                        |  |  |
|------------------------|--|--|
| Fungi_Example_Variable | Location of Sighting: <i>The Red River flood plain in Winnipeg, MB</i>   |  |
|                        | Description of Appearance: <i>Large flat and brown mushroom caps on top, light brown stems.</i>                      |  |
|                        | Source of Food: <i>Water from rain, decomposing wood and plant nutrients from the ground and soil.</i>               |  |
|                        | Surrounding Environment: <i>Moss growing at the base of the fungi, damp environment, moisture from the Red River</i> |  |
|                        | Type of Animal: <i>Wild Mushrooms</i>  |  |

|                  |                            |  |
|------------------|----------------------------|--|
| Fungi_1_Variable | Location of Sighting:      |  |
|                  | Description of Appearance: |  |
|                  | Source of Food:            |  |
|                  | Surrounding Environment:   |  |
|                  | Type of Animal:            |  |

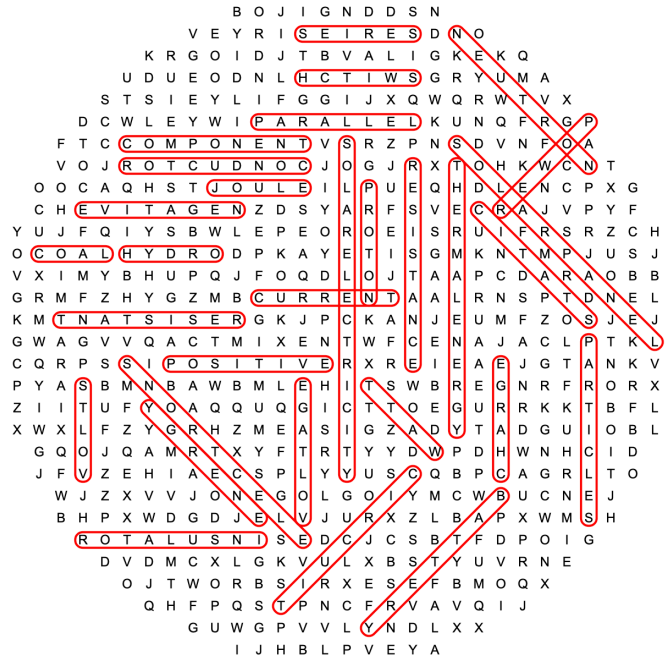
|                  |                            |  |
|------------------|----------------------------|--|
| Fungi_2_Variable | Location of Sighting:      |  |
|                  | Description of Appearance: |  |
|                  | Source of Food:            |  |
|                  | Surrounding Environment:   |  |
|                  | Type of Animal:            |  |

# Answer Keys

## Code Your Own Supermarket (page 7)

1. Ground Beef = 070102
2. White Flour = 040202
3. Carrots = 080201
4. Orange Juice = 010103
5. Peas = 080203
6. Dinner Rolls = 020201
7. Root Beer = 010203
8. Cranberries = 080102
9. Marble Cheese = 050102
10. Deluxe Pizza 060202
11. Rye Bread = 020102
12. Vanilla Ice Cream = 060103
13. Apple Juice = 010101
14. Raisin Bread = 020101
15. Almond Milk = 050201
16. Chicken Legs = 070202
17. Rice Crispies = 040103
18. Steak = 070103
19. Alfredo = 030101
20. Skim Milk = 050202

## Electricity Word Search (page 13)



## Flight Word Scramble (pages 8 - 9)

| SCRAMBLED WORD        | YOUR ANSWER           | DIAGRAM NUMBER |
|-----------------------|-----------------------|----------------|
| TFLI                  | LIFT                  | 1              |
| PSRUNOOLPI            | PROPULSION            | 5              |
| GADR                  | DRAG                  | 4              |
| OELRLSUNBI IEP RNILCP | BERNOULLI'S PRINCIPLE | 6              |
| RUTSH T               | THRUST                | 2              |
| YGIARTV               | GRAVITY               | 3              |
| DUFIL                 | FLUID                 |                |
| NABNAUCLDE COSFER     | UNBALANCED FORCES     |                |

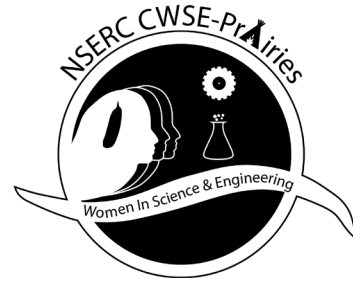
## Astro World (page 12)

- Humans use rockets to get to space. = 1
- Some planets have rings such as Saturn, while others, like Earth do not. =1
- It is believed that if you study the movement of the planets you can find out what will happen to your day. = 0
- You can use a telescope to study the planets and their properties and movement. = 1
- Depending on what month you are born, you are assigned a zodiac sign. = 0
- A constellation is a group of stars that are grouped together in certain positions. = 1
- Some believe that your personality is based on what day you were born. = 0
- Astronauts are people who leave Earth to visit space. = 1
- Some people are experts in reading birth charts and predicting your luck based on your zodiac sign. = 0

## Name the Variable (pages 14 - 15)

1. aircraft
2. aircraft
3. spacecraft
4. spacecraft
5. aircraft
6. spacecraft
7. spacecraft
8. aircraft
9. aircraft
10. aircraft
11. spacecraft
12. aircraft

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