Prairie Wind

https://bit.ly/2xN4ly0

Material: Corten Steel

Height: 14 feet

Weight: 4,000

public art is sMART

powered by: Norman Arts Council

The design of the library and Prairie Wind are specific to this site because of the setting, at the top of a slight hill, and the landscaping that is natural to the prairie. The land east of the site will remain undeveloped so the architects wanted the building to seem organic as part of the "untouched" landscape. The sculpture follows in that same intent to become a natural part of the landscape and needed to marry well with not only the land but also the architecture of the building.

On the summer solstice during the afternoon as the sun is setting in the west, there is a time when the sun shines directly through the oculus at the top of the sculpture. The artist worked with someone from the math department at the university where he works to determine the exact site and placement of the sculpture.

Regularly during the summer as the sun sets and shines on the west wall, as the sun goes down Prairie Wind's shadow on the library wall appears to be melting into the ground.

https://normanarts.org/news/2018/6/new-sculpture-welcoming-visitors-to-normans-newest-library-celebrated-with-dedication-ceremony

James K Johnson

Illinois Based Artist

http://jameskjohnson.com

As a sculptor, I have always been concerned with creating works of art that cause the viewer to pause and reflect upon their surroundings and in doing so become more aware of the environment that they are passing through. In addition, each work of art that I have designed and fabricated is a reflection of past experiences that have shaped my life and the interest that I have in ancient cultures, especially the Mayan and Inca that used art as a means of communicating their lifestyles and cultures. Equally important has been my use of the arch as a means of transforming the viewer from a place and time of activity to one of calm and reflection.

The design for the East Branch Library was inspired by several factors: the design of the library, its location and surrounding environment, and experiences I had while living in the wide open spaces of the Midwest. In part, the sculpture is a reflection of my vision of those experiences and the movement of the wind across the prairie. Equally important was to create a work of art that would attract the attention of the viewer from afar and up close. In addition, the sculpture is intended to have an interactive quality. I hope to accomplish this by placing the sculpture in a position where the winter and summer solstice will cast a light through the upper opening of the sculpture onto the front wall of the library.

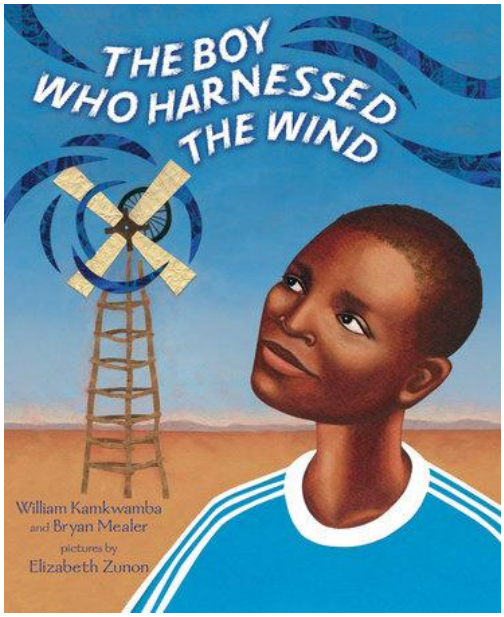
Language Arts

TED Talk with William Kamkwamba

Learning to Take Notes from Video Sources

https://youtu.be/crjU5hu2fag

- Use the provided graphic organizer (next page) to scaffold the process for students.
- Demonstrate to students how to use only 2-3 words or phrases.
- Pause at pertinent points to allow students time to write.
- Use closed captioning to help with spelling but assure them spelling isn't important in this part.



Learning to Take Notes During Oral Reading

- Ask students to listen for additional details they didn't hear in the video
- Pause every 2-3 pages to allow students to add notes using 2-3 words without particular questions to guide them.

Writing a Biography

- Demonstrate (or review) how to plan an essay using their notes.
- Students will write a 2-3 paragraph essay about William Kamkwamba and his windmill.

Take Notes from the TED talk with William Kamkwamba

https://youtu.be/crjU5hu2fag

What did William create?	Where is William's home?	What had William never used before?	How many children are in William's family?
What was William before he discovered the wonders of science?	What did they grow?	What happened one year?	Where did he go to learn about energy?
What two things can a windmill do?	Where did he go to find materials?	Name three things he used to build his windmill.	Why did people start coming to his house?

Additional Activities and Ideas

Read Aloud Lesson

Includes graphic organizer and independent practice

https://www.readworks.org/lessons/grade3/boy-who-harnessed-wind/read-aloud-lesson

Language Arts Unit

The Boy Who Harnessed the Wind Lesson

https://tinyurl.com/yxqkc4rx

Video: The story of this book

https://youtu.be/GNzHvsLh0hw

What's Good and What's Bad about Wind Energy?

April 13, 2015 by Robin Koontz

After reading the article, students will write a persuasive piece either for or against wind energy. Use the planning sheet, map and words/phrases (following pages) to help teach or review the persuasive writing process.

https://www.kidsdiscover.com/teacherresources/whats-good-whats-bad-wind-energy/

Persuasion Map Planning Sheet

Goal or Thesis

A goal or thesis is a statement that describes one side of an arguable viewpoint.

- What is the thesis or point you are trying to argue?

Main Reasons

You will need some good reasons to support your goal or thesis.

Briefly state three main reasons that would convince someone that your thesis is valid.

- Reason 1
- Reason 2
- Reason 3

Facts or Examples

What are some facts or examples you could state to support this reason and validate this argument?

- Fact or Example 1
- Fact or Example 2
- Fact or Example 3

Conclusion

A piece of persuasive writing usually ends by summarizing the most important details of the argument and stating once again what the reader is to believe or do.

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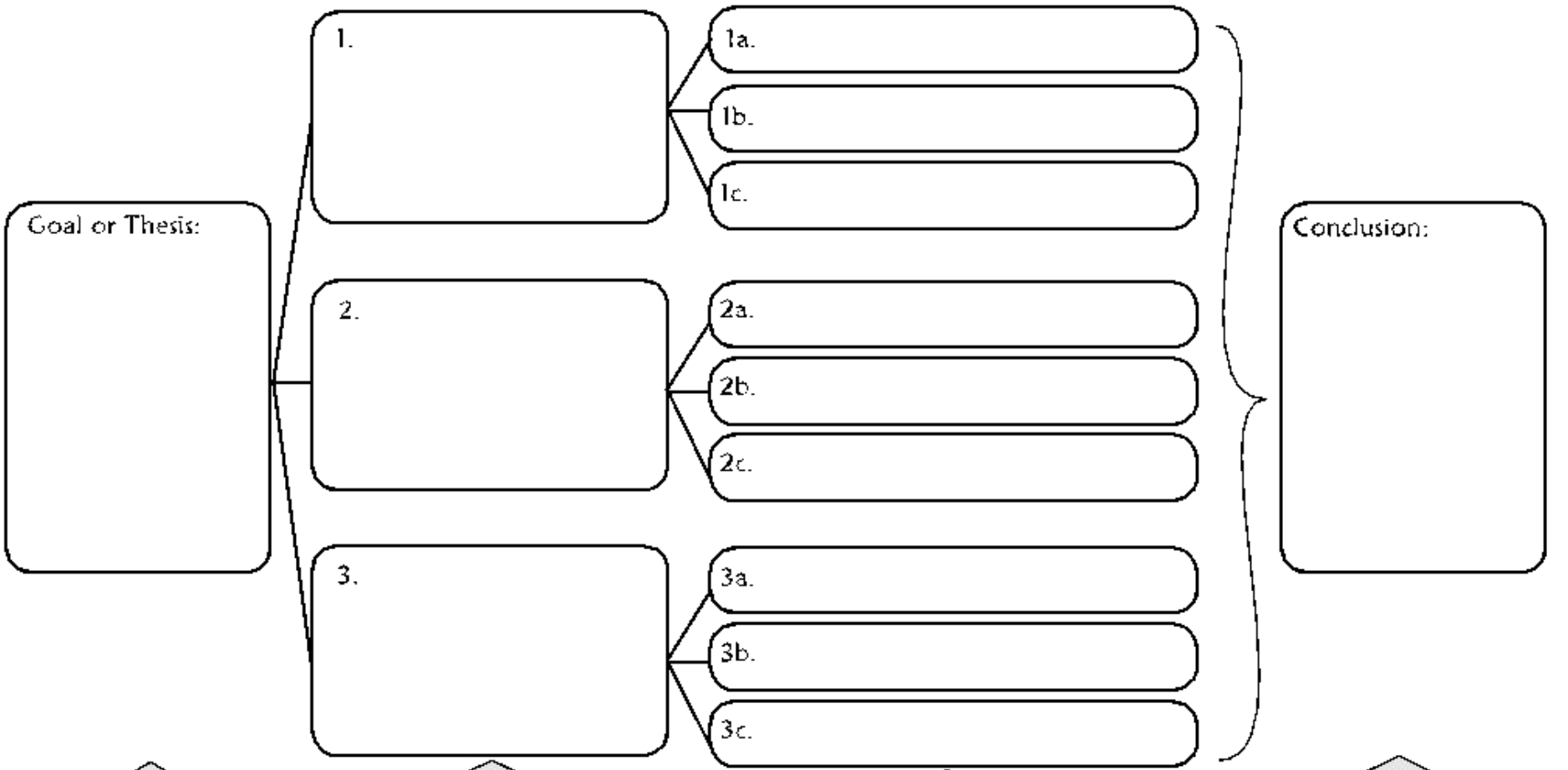
Name:_____ Date:_____

Persuasion Map



Goal or Thesis: A goal or thesis is a statement that describes one side of an arguable viewpoint. Write your own goal or thesis here.

Main Reasons: Briefly state three main reasons that would convince someone that your goal or thesis is valid.

Facts or Examples: Write three facts or examples to support each of your main reasons and validate your goal or thesis.

Conclusion: Conclude your argument by summarizing the most important details of the argument and stating once again what the reader is to believe or do.

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http://www.readwritethink.org/files/resources/printouts/persuasion%20map.pdf

Persuasive Words and Phrases

I am writing to...

I have heard a rumour that...

We can do without this...

How unfair!

Now...

Obviously...

We can solve this by...

I believe that...

This will cause...

A friend of mine says...

If these plans go ahead...

Do you really think…..

Is it really worth…

I am speaking to you today because...

This needs to be dealt with

It will ruin our quality of life.

No-one but a complete idiot will believe that...

Surely...

Of course...

Local people feel that...

This will mean that...

Another thing...

Just think about...

How could you (we) possibly…

What would happen if…

Do you want to be part of…

Try to use some of these words and phrases in your writing.

Remember to write in a forceful manner. You want people to agree with you!

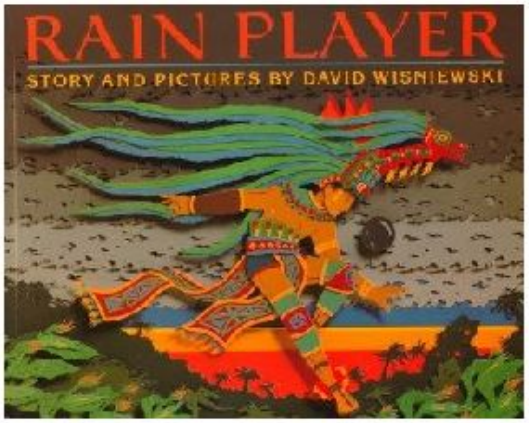
http://www.readingrockets.org/content/pdfs/persuasivewordsphrases.pdf

Public Art is SmART

Norman Arts Council

Prairie Wind

Related Books

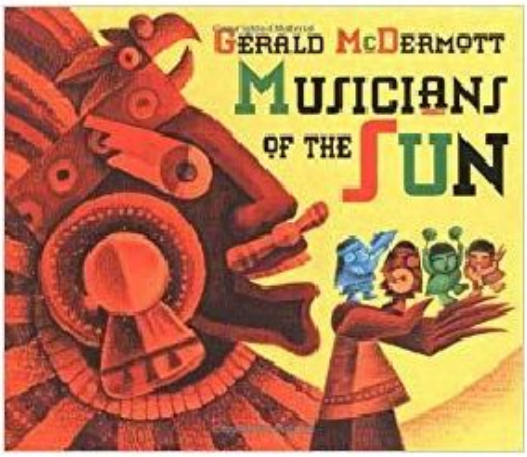


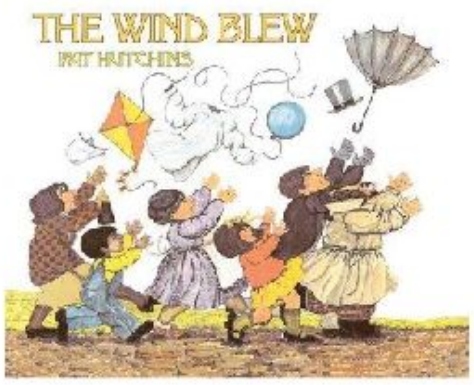
Rain Player
By David Wisniewski

The ancient Mayan belief that the future was divinely decreed and could not be changed is the basis for this original tale of a boy who must defeat the Rain God in a ball game to save his people from disaster. Mayan art and architecture were the inspiration for the spectacular cut-paper artwork.

Musicians of the Sun
By Gerald McDermott

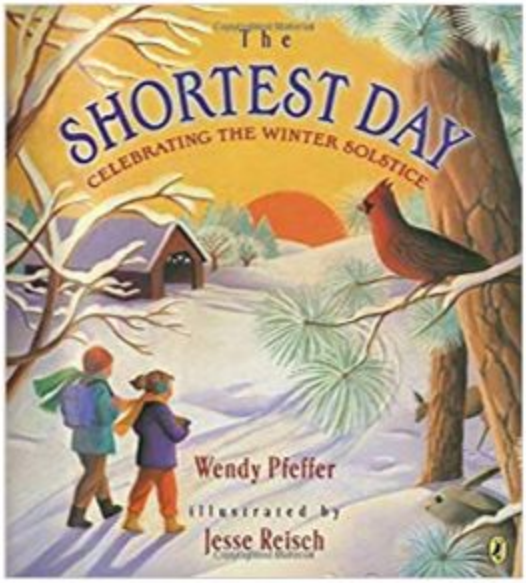
When the Lord of the Night sees that his world is sad and colorless because his four special musicians have been locked-away by Sun, he sends Wind to free them to play their special music and fill the world with happiness once more.





The Wind Blew
By Pat Hutchins

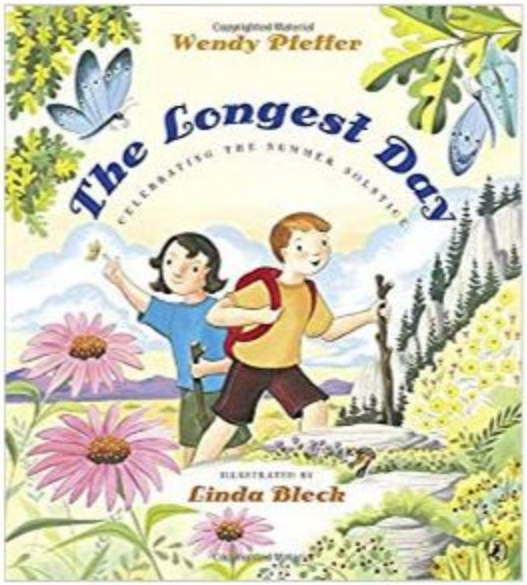
The wind blew, and blew, and blew! It blew so hard, it took everything with it: Mr. White's umbrella, Priscilla's balloon, the twins' scarves, even the wig on the judge's head. But just when the wind was about to carry everything out to sea, it changed its mind!



The Shortest Day

By Wendy Pfeffer

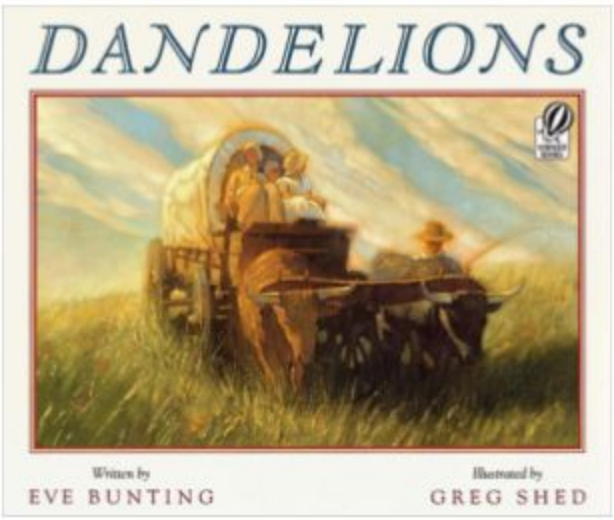
The science, history, and cultural significance of the shortest day of the year: The Winter Solstice!



The Longest Day

By Wendy Pfeffer

The Longest Day takes us on a journey through the history and science behind the summer solstice, with a focus on summer celebrations from various cultures around the world.

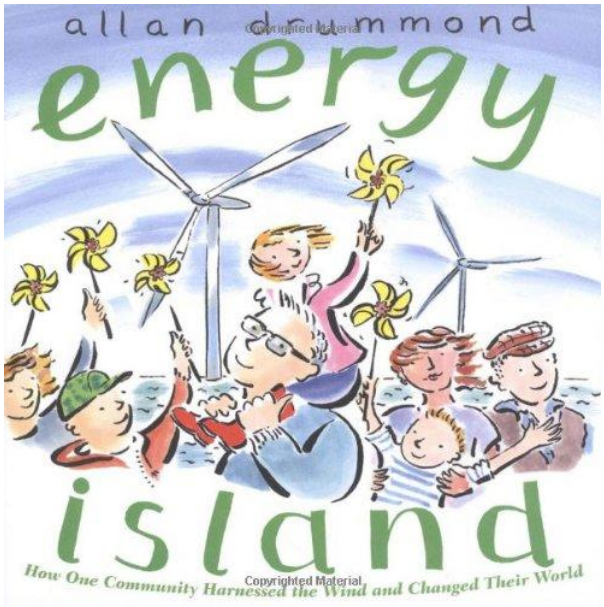


Dandelions

By Eve Bunting

Embarking on a new life, Zoe and her family journey west to the Nebraska Territory in the 1800s. When Zoe and her family arrive at their claim, nothing distinguishes it from the miles and miles of surrounding prairie. Even after they build their soddie, the home can't be seen from any distance. Zoe has never seen Papa so happy or Mama so sad. But when she takes a trip to the small prairie town with Papa, Zoe sees something that might make a difference to their new soddie, and to Mama's life, too.

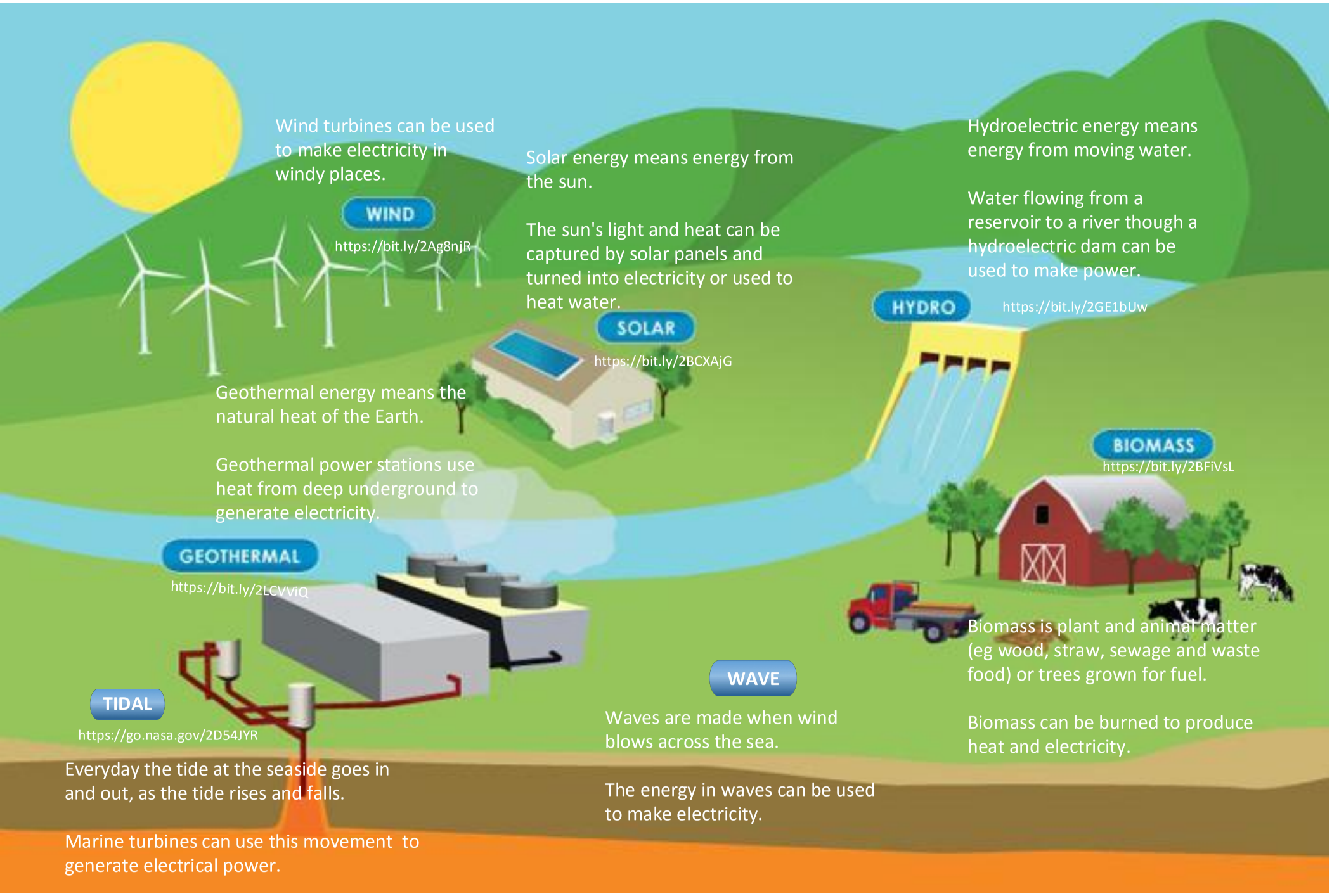
Social Studies



1. Read the story of Energy Island.
2. Divide the class into 7 groups. Each group researches one type of renewable energy.
3. Then one student from each of the renewable energy groups comes together in a new group.
4. Students will make decisions about which renewable resources to use on 4 fictitious islands.

More Kid Friendly Information on Renewable Energy Sources

https://www.ducksters.com/science/environment/renewable_energy.php


Wind turbines can be used to make electricity in windy places.
WIND
https://bit.ly/2Ag8njR
Solar energy means energy from the sun.
The sun's light and heat can be captured by solar panels and turned into electricity or used to heat water.
SOLAR
https://bit.ly/2BCXAjG
Hydroelectric energy means energy from moving water.
Water flowing from a reservoir to a river though a hydroelectric dam can be used to make power.
HYDRO
https://bit.ly/2GE1bUw
Geothermal energy means the natural heat of the Earth.
Geothermal power stations use heat from deep underground to generate electricity.
GEOTHERMAL
https://bit.ly/2LCVViQ
BIOMASS
https://bit.ly/2BFiVsL
Biomass is plant and animal matter (eg wood, straw, sewage and waste food) or trees grown for fuel.
Biomass can be burned to produce heat and electricity.
TIDAL
https://go.nasa.gov/2D54JYR
Everyday the tide at the seaside goes in and out, as the tide rises and falls.
Marine turbines can use this movement to generate electrical power.
WAVE
Waves are made when wind blows across the sea.
The energy in waves can be used to make electricity.

Renewable Resource Islands

This picture is a satellite image of a real island. The fictitious information provided here may or may not be accurate about the island.

Instructions

Use your research on the different types of renewable energy sources to make decisions about which kinds to use on which island. See the example below.

If there is evidence that the source is available, mark "Yes" (see Tidal, Solar, Wind).

If there is evidence that the source is not available, mark "No" (see Wave, Hydro).

If there is not evidence that it is or isn't available, mark "N/A" (see Biomass, Geothermal).

Renewable Energy	Potential to Use		
	Yes	No	N/A
Tidal	x		
Solar	x		
Wave		x	
Biomass			x
Geothermal			x
Hydro		x	
Wind	x		

Example

This island has several protected estuaries with a large volume of water that rises and falls with the tides. The days are sunny and bright but it's not a great place to catch waves. There are no major rivers but lots of wind!

A. Name This Island_____

This picture is a satellite image of a real island. The fictitious information provided here may or may not be accurate about the island.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar			
Hydro			
Wave			
Tidal			
Biomass			
Geothermal			
Wind			

This island has several mountains with rivers flowing down. There are several beautiful waterfalls. The days are almost always sunny with a gentle breeze. On the south end of the island many geysers can be found.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar			
Hydro			
Wave			
Tidal			
Biomass			
Geothermal			
Wind			

B. Name This Island_____

This island has volcanic crater in the middle where gases are released. There isn't much land to farm but there is plenty of wind! There are no rivers on the island and not a lot of sunny days. As you can see there aren't any estuaries but you can catch some waves if you bring your wetsuit.

C. Name This Island_____

This picture is a satellite image of a real island. The fictitious information provided here may or may not be accurate about the island.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar			
Hydro			
Wave			
Tidal			
Biomass			
Geothermal			
Wind			

This island is perfect for surfers hoping to catch a big wave. It's a great place to enjoy the sun's rays. Even on hot days it feels comfortable with a strong breeze to keep you cooled off.

D. Name This Island_____

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar			
Hydro			
Wave			
Tidal			
Biomass			
Geothermal			
Wind			

This island has many acres of farmland where switchgrass grows well. Most days the islanders have to hold on to their hats because the wind is very strong. It is in a peaceful gulf with small waves. The rainy season lasts about 3 months out of the year. Overcast skies are fairly common.

KEY

A. Name This Island The naming of the islands is just for fun

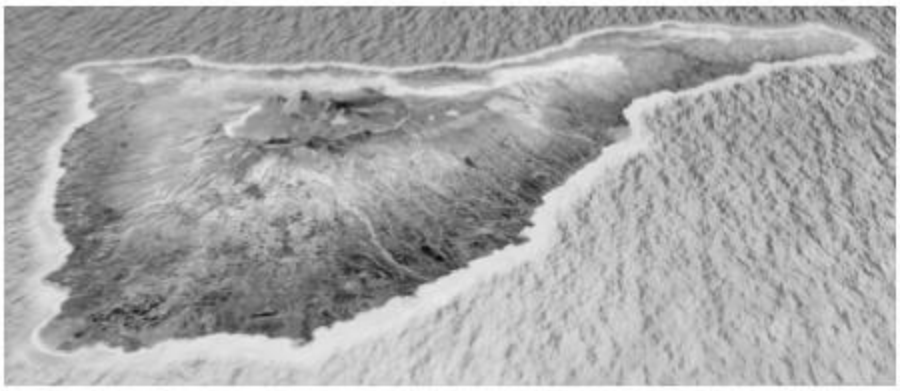
This picture is a satellite image of a real island. The fictitious information provided here may or may not be accurate about the island.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar	x		
Hydro	x		
Wave			x
Tidal			x
Biomass			x
Geothermal	x		
Wind		x	

This island has several mountains with rivers flowing down. There are several beautiful waterfalls. The days are almost always sunny with a gentle breeze. On the south end of the island many geysers can be found.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar		x	
Hydro		x	
Wave	x		
Tidal		x	
Biomass		x	
Geothermal	x		
Wind	x		

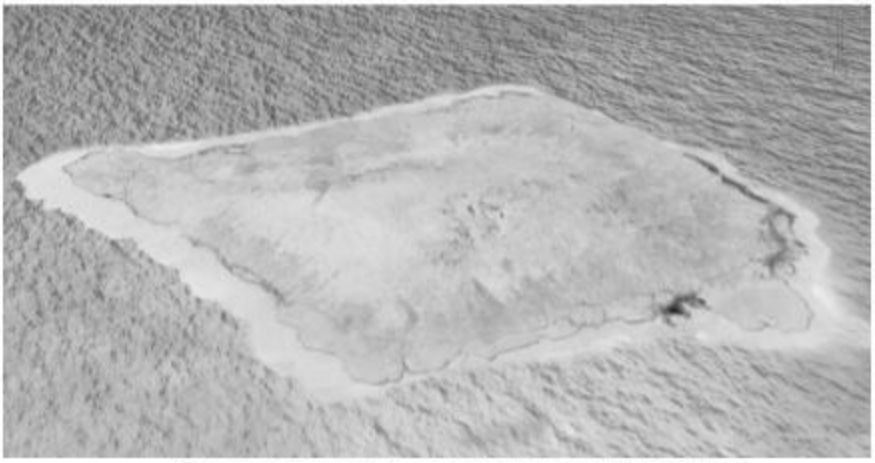
B. Name This Island _____



This island has volcanic crater in the middle where gases are released. There isn't much land to farm but there is plenty of wind! There are no rivers on the island and not a lot of sunny days. As you can see there aren't any estuaries but you can catch some waves if you bring your wetsuit.

KEY

C. Name This Island_____



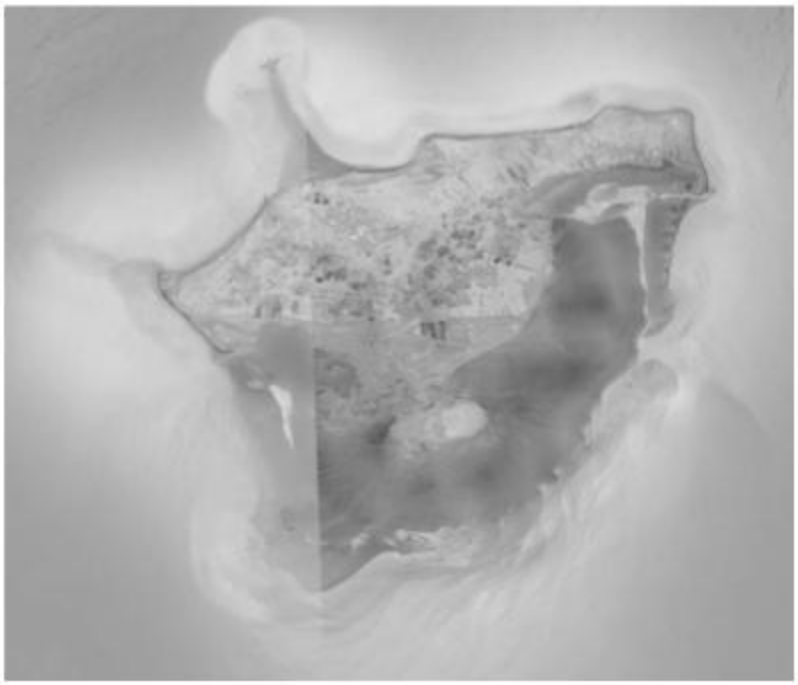
This picture is a satellite image of a real island. The fictitious information provided here may or may not be accurate about the island.

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar	x		
Hydro		x	
Wave	x		
Tidal			x
Biomass	x		
Geothermal			x
Wind	x		

This island is perfect for surfers hoping to catch a big wave in the ocean because there are no big rivers to swim in. It's a great place to enjoy the sun's rays. Even on hot days it feels comfortable with a strong breeze to keep you cooled off. There is a lot of farmland where sugarcane grows well.

D. Name This Island_____

Renewable Energy	Potential to Use		
	Yes	No	N/A
Solar		x	
Hydro			x
Wave		x	
Tidal			x
Biomass	x		
Geothermal			x
Wind	x		

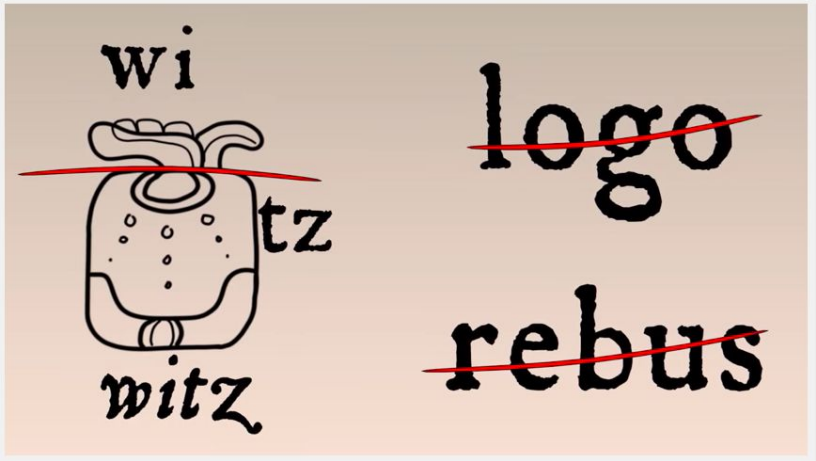


This island has many acres of farmland where switchgrass grows well. Most days the islanders have to hold on to their hats because the wind is very strong. It is in a peaceful gulf with small waves. The rainy season lasts about 3 months out of the year. Overcast skies are fairly common.

Social Studies

Creating Mayan Name Glyphs

Watch



What's hiding inside Maya glyphs - History of Writing Systems #6
https://youtu.be/lgsQndSyfHg

Teacher Instructions

1. Read this whole booklet yourself! (It's an easy read and will help you be prepared to help students create their name in Mayan glyphs)

http://www.famsi.org/research/pitts/MayaGlyphsBook1Sect1.pdf

2. Decide which sections to read as a class, if any, and which parts you will share.

3. Print off the syllabary (pages 17-21), ways to combine the syllables (page 30), Substitutions (page 36).

4. Follow the 3 steps to have students write their name as outlined on pages 33-39.

Step 1

Divide name in syllables

Tiffany

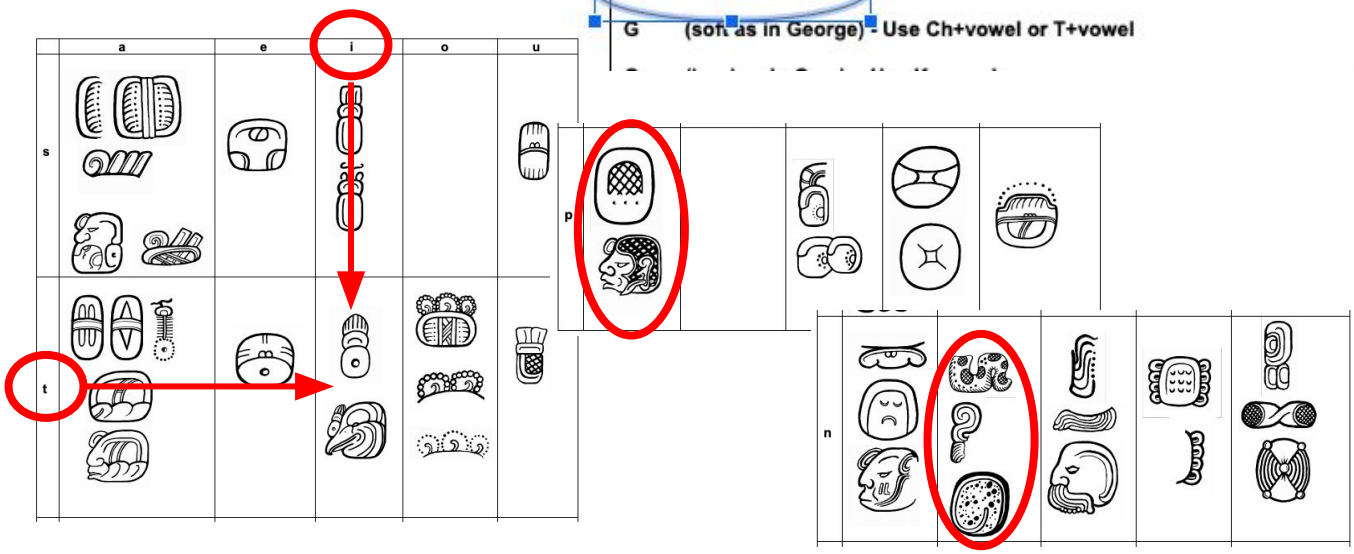
Ti fa ne

Step 2

Find syllables in the chart.

CONSONANT SUBSTITUTIONS:

C	(soft as in Cindy) - Use S+vowel (i.e. sa, se, si, so, or su)
C	(hard as in Cathy) - Use K+vowel
D	Use T+vowel
F	Use P+vowel
G	(soft as in George) - Use Ch+vowel or T+vowel

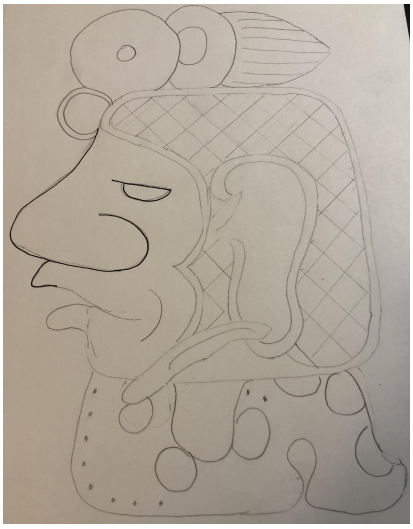


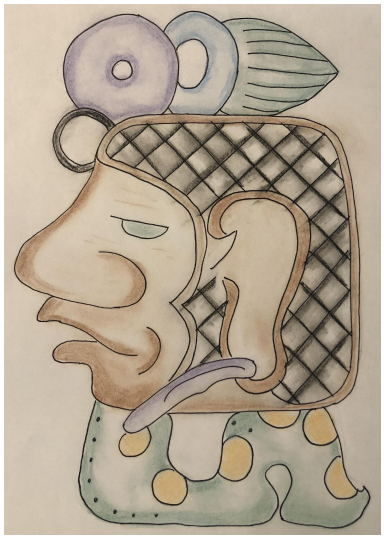
Step 3

Put glyphs together in a block.

Extension: Art with Glyphs

https://theartofeducation.edu/lesson-plans/maya-glyphs-free-lesson-plan-download/





Colored with hard pastels

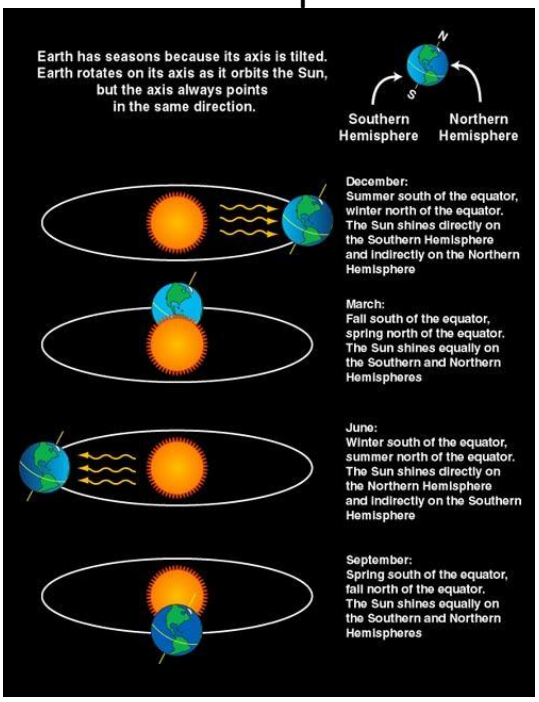
Science

Solstice

Background

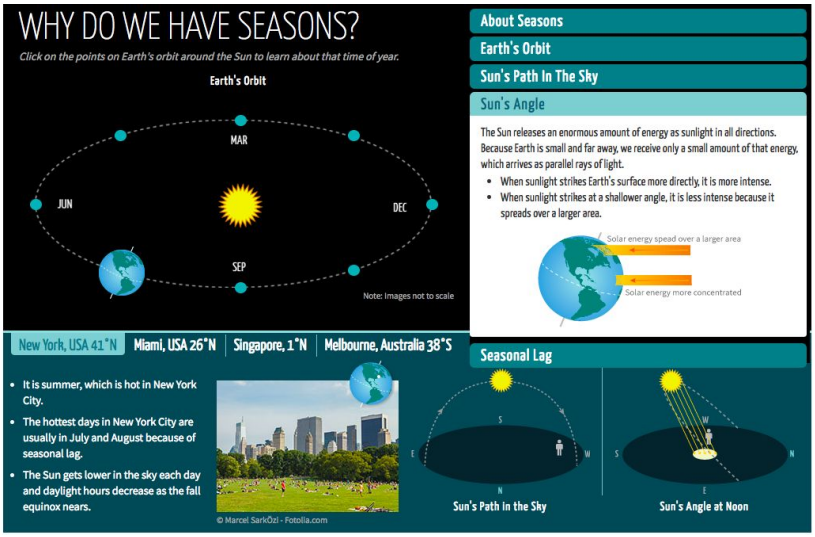
The effect the tilt has on the Earth is that at some times during the year, Earth's orbit makes the northern hemisphere tilt towards the heat and light of the Sun. The increased height of the Sun above the horizon lengthens the length of time this part of Earth receives daylight as well as the intensity of the light. This increases the amount of light this area of the world gets, thus the overall temperature there increases, since more time in the light means less time for the land and air to cool down before being lit and hence warmed again. In contrast, at the same time, the southern part of the Earth is receiving less daylight time and less intense light and thus is colder. In the southern hemisphere, they will always have Winter when the north is having Summer, and vice versa.

Earth Tilt Explained

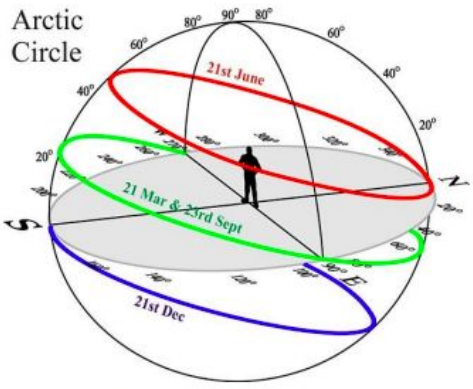


https://spaceplace.nasa.gov/seasons/en/

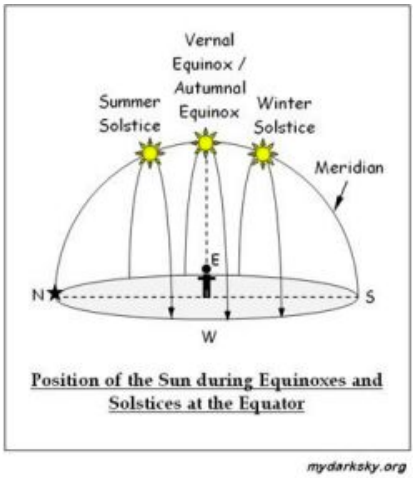
Why Do We Have Seasons Interactive



http://d3tt741pwxqwm0.cloudfront.net/WGBH/npls13/npls13_int_seasons/index.html



Sun's track at the Arctic Circle

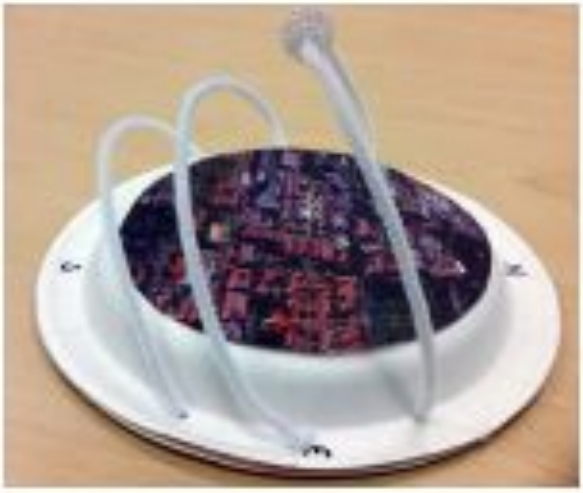


Sun's track at the equator

Create Model of Sun Path

Assembly Instructions

Simple Model



Materials Needed:
2 sturdy 10" paper plates
5 long (12") pipe cleaners
White bead large enough to be threaded onto the pipe cleaner
Adhesive tape, maybe glue
Sharp scissors
Protractor
Satellite image (e.g. from Google Earth™) or crayons for decoration (*optional*)

Construction Time:
30-45 minutes

1. Take one sturdy paper plate, turn it over, mark **N**orth, **S**outh, **E**ast, **W**est directions on the edges.

2. With your protractor, measure 30 degrees above and below **E**ast and **W**est, & mark these with a pen.

3. Punch holes large enough for the pipe clears to fit through at **E**ast and **W**est plus the marks you made 30 degrees above and below (6 holes).

4. Prepare your pipe cleaners:
   - Take two 12" pipe cleaners and cut 2½" off each of them. Tightly twist the top ½" of each together to form one long 18" pipe cleaner. You might use a little drop of glue to hold them together.
   - Take two 12" pipe cleaners and cut 4½" off each one. Tightly twist the top ½" of each together to form one long 15" pipe cleaner.
   - Leave the last pipe cleaner at 12".

http://solar-center.stanford.edu/AO/Sun-Track-Model.pdf

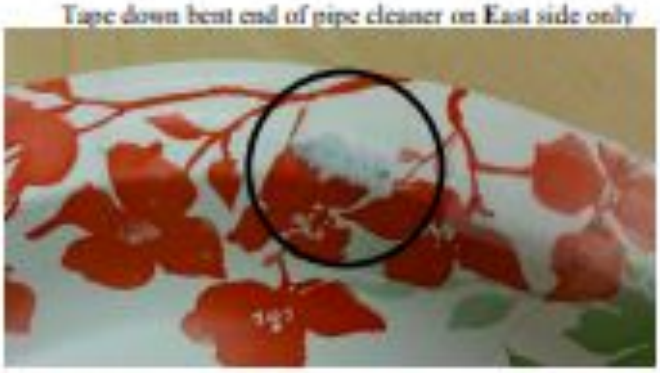
18"

15"

12"

5. Take the short, 12" pipe cleaner and bend ½" of each end at a right angle. Thread each end through the lower holes on both the **E**ast and **W**est sides of your plate. On the opposite side of the paper plate (side without your markings), tape down ONLY the pipe cleaner end on the **W**est side. Leave the end on the **E**ast side loose. On the side with your markings, bend the pipe cleaner slightly down towards the South end of the plate.

Tape down bent end of pipe cleaner on **E**ast side only



6. Take your 15" pipe cleaner, bend down its ends, and thread it through the holes at the **E**ast and **W**est markings of your plate. On the opposite side of the plate, tape ONLY the pipe cleaner end on the **W**est side. Bend the pipe cleaner towards the **S**outh.

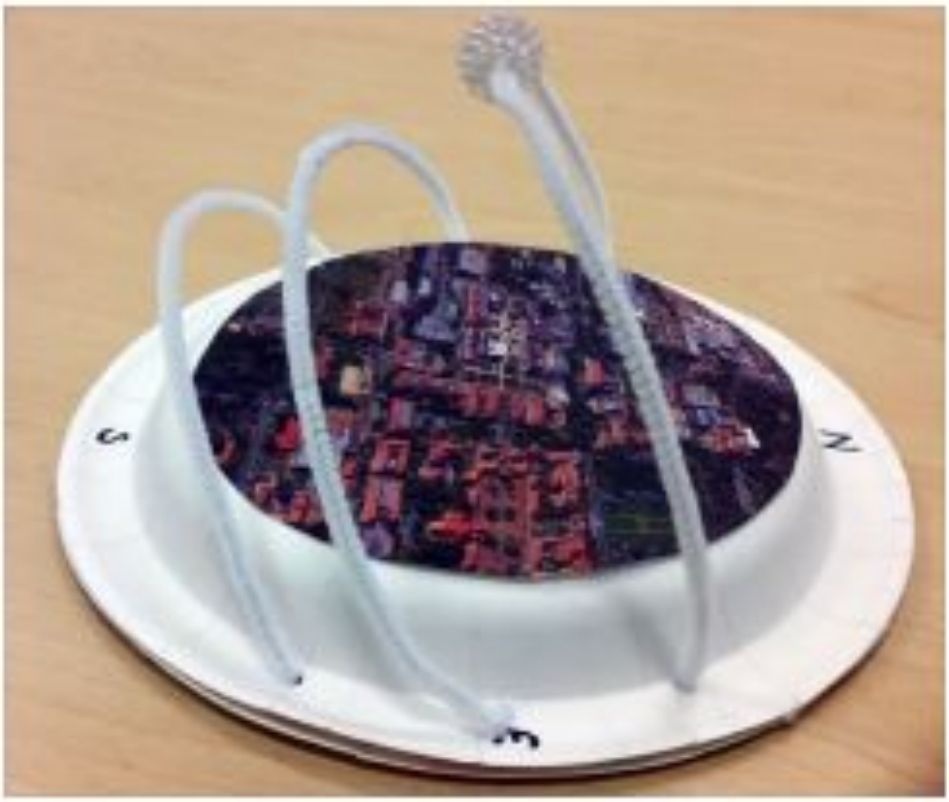
7. With your 18" pipe cleaner, do the same in the holes 30 degrees north of your **E**ast and **W**est holes. You should now have 3 Sun tracks, all bent towards the **S**outh.

8. Insert your second plate into the first, for stability, and tape the 2 plates together around the edges, taking care that you can still pull out the pipe cleaner ends from the **W**est side.

Stack and tape plates together for stability

9. Decorate the surface of your plate, if you wish. We used an satellite image from Google Earth™ showing the Stanford campus.

10. Thread your bead onto one of the pipe cleaners to show the Sun rising and setting at either the equinox (**E**ast-**W**est) or the summer or winter solstice.



Modeling noon on the Summer Solstice at the Stanford University campus.

Science

Grassland Food Webs

Some Background Information

About Grasslands

https://www.nationalgeographic.com/environment/habitats/grasslands/

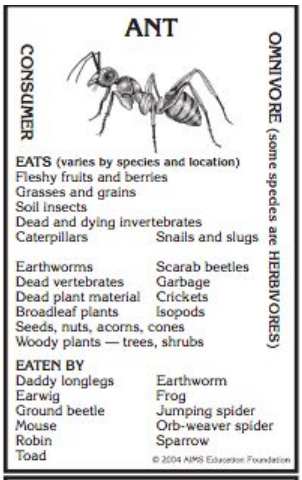
Excellent summary of Grasslands and Prairies

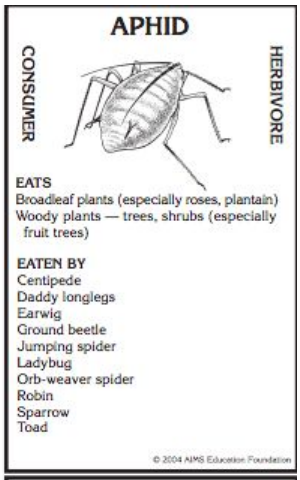
http://www.nhptv.org/natureworks/nwep8d.htm

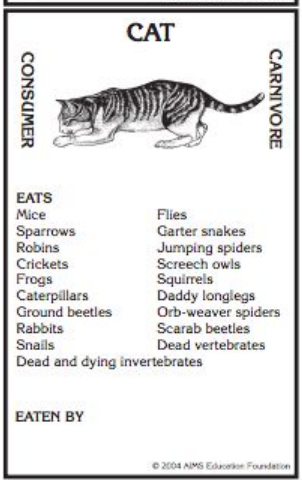
Lesson 1

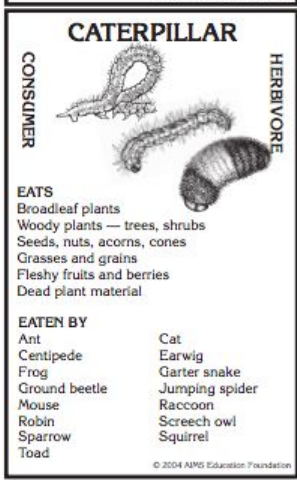
Use Oklahoma Playground Food Web cards to familiarize the students with food chains and food webs. See link

http://www.mooreschools.com/cms/lib/OK01000367/Centricity/Domain/63/AIMS/Life%20in%20the%20Food%20Chain.pdf









Each group will need a set of the cards and either yard/string or popsicle sticks.

- Have groups of students create one chain using the information on the cards.
- Have groups create a different chain with the same starting consumer.
- Have groups create a web using x number of cards and the yard/string or popsicle sticks to link the cards.
-
- Have groups add in 3-5 more cards. What difference does it make?

Lesson 2

Students research animals found in the savanna (African grasslands) and create a class database in Google Sheets.

Prep work:

- If desired, assign students a consumer and a producer.
- Share Google Sheet with students.
- Protect sheet and ranges on sheet.

Spreadsheet for Creating a Grassland Food Web
https://bit.ly/2s6xwcA

1. Students use the “Website” sheet to find reliable web resources to use.
2. Students copy (Cmd + c) and paste (Cmd + v) the diet and predators of their consumer into the “Consumer/Animal” sheet. They determine the type of animal their consumer is.
3. Students use Google Image search to look at their producer. Mark the edible plant parts it has in the “Producer/Plant” sheet.

Producer	Flowers	Seeds	Leaves/Stalks	Berries/Fruit	Bark	Shrub/Tree	Grass/Sedges	Cactus/Succulent
Acacia Tree			x	x	x			
Baobab Tree			x		x	x		
Candelabra Tree			x		x			
Elastic Grass							X	
El Nino Flower			x					
Elephant Grass			x					
Giant Rat's Tail Grass	x		X					
Jackalberry Tree		x	X	X	X	X		
Grewia Bicolor	x	x	x		x	x		
Marula Tree	X	X	X	X	X	X		
Lemongrass								
Pan Dropseed								
Monkey Orange Tree			X	X	X			
Rabbit-Tail Fountain Grass	X	X						
an Red Dropseed								
Red Oat Grass	X	X	X	X				

Animal/Consumer	Diet	Predators (What eats your animal)	Type of Animal (Rodent, Sm… Insects, Spiders, Fish)
African Lion	crocodiles rhinos rodents reptiles insects	poachers	mammals
African Painted Dog	Carnivores,wildebeests,antelopes,rodents and birds	fish,birds,mamals,preditors	mammals
Antlion	ants, arthropods,spiders	birds, crickets	insect
Baboon	insects, trout, salmon, hares, birds, small antelopes, vervet monkeys and shellfish. Omnivores		mammal
Brown Grass Snake	frogs, fish and tadpoles, Lizards and slowworms, shrews, mice, voles, and young birds		
Buffalo Weaver	butterflies,bettles,fruits,and seeds		bird
Chameleon	trees, bushes, insects, locusts, grasshoppers, crickets		reptile
Crested Porcupine	bark, roots, tubers, rhizomes, bulbs, fallen fruits, cultivated crops, insects, small vertebrates, carrion, bones	Kingsnakes, Racers, Cottonmouth, Indigo snake, Eastern coral snake, Eastern Garter Snake, Bullfrog, American alligator, American crow, Horned owl (, Red-tailed hawk, Broad-winged hawk, Broad-winged hawk, Virginia opossum, Coyote, Domestic cat	mammal
Dung Beetle	Insects, Dust, Dung	Bats, Frogs, Reptiles	bug
Elephant	grass, fruit, leaves, bark, seeds, branches,	lions,hyena,lizards	Mammals
Elephant Shrew	Spiders, worms, and grubs	Snakes, lizards, and birds	Mammals

Lesson 3

1. Students will use the class created database to make a card for their consumer that are similar to the cards used in Lesson 1 *This step requires a higher level thinking and will need modeling with follow up.
    1. For example, if it is listed that the assigned animal eats insects, the student will need to reference the other animals that are insects in the list (use Type of Animal column). The student might list Antlion, Dung Beetle, Ant, Rhino Beetle.

    2. Another example, if it is listed that the animal eats grass, the students will need to reference which producers are grasses. The student might list Elephant Grass, Giant Rat's Tail Grass, Pan Dropseed, Star Grass.

2. As students finish have them tape the images of their consumer and producer on a large piece of bulletin paper. [Some direction to have carnivores, then omnivores, then herbivores followed by producers being layered visually down will create a slightly less cluttered food web.

3. Have student draw arrows FROM the items listed on their card TO their consumer. The arrow will be pointing AT the consumer. It might be helpful to tell the student the arrow points from the item being eaten INTO the mouth of the animal eating it. Make sure the students know to draw a line the shortest route possible and to visually plan it out before beginning to draw.

4. The completed food web will be a bit intense but can be used to discuss the food web in that habitat.

Your Name_____

Your Consumer_____

List four other consumers or producers listed in your class database <u>that your animal eats.</u>

Ex: If you animal eats "birds", look through the database to find a bird listed like the "Buffalo Weaver." Write down Buffalo Weaver.

Your Name_____

Your Consumer_____

List four other consumers or producers listed in your class database <u>that your animal eats.</u>

Ex: If you animal eats "birds", look through the database to find a bird listed like the "Buffalo Weaver." Write down Buffalo Weaver.

Your Name_____

Your Consumer_____

List four other consumers or producers listed in your class database <u>that your animal eats.</u>

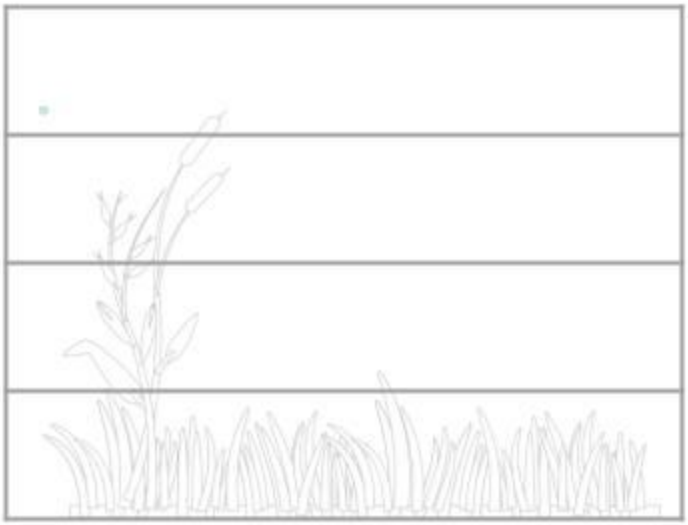
Ex: If you animal eats "birds", look through the database to find a bird listed like the "Buffalo Weaver." Write down Buffalo Weaver.

Your Name_____

Your Consumer_____

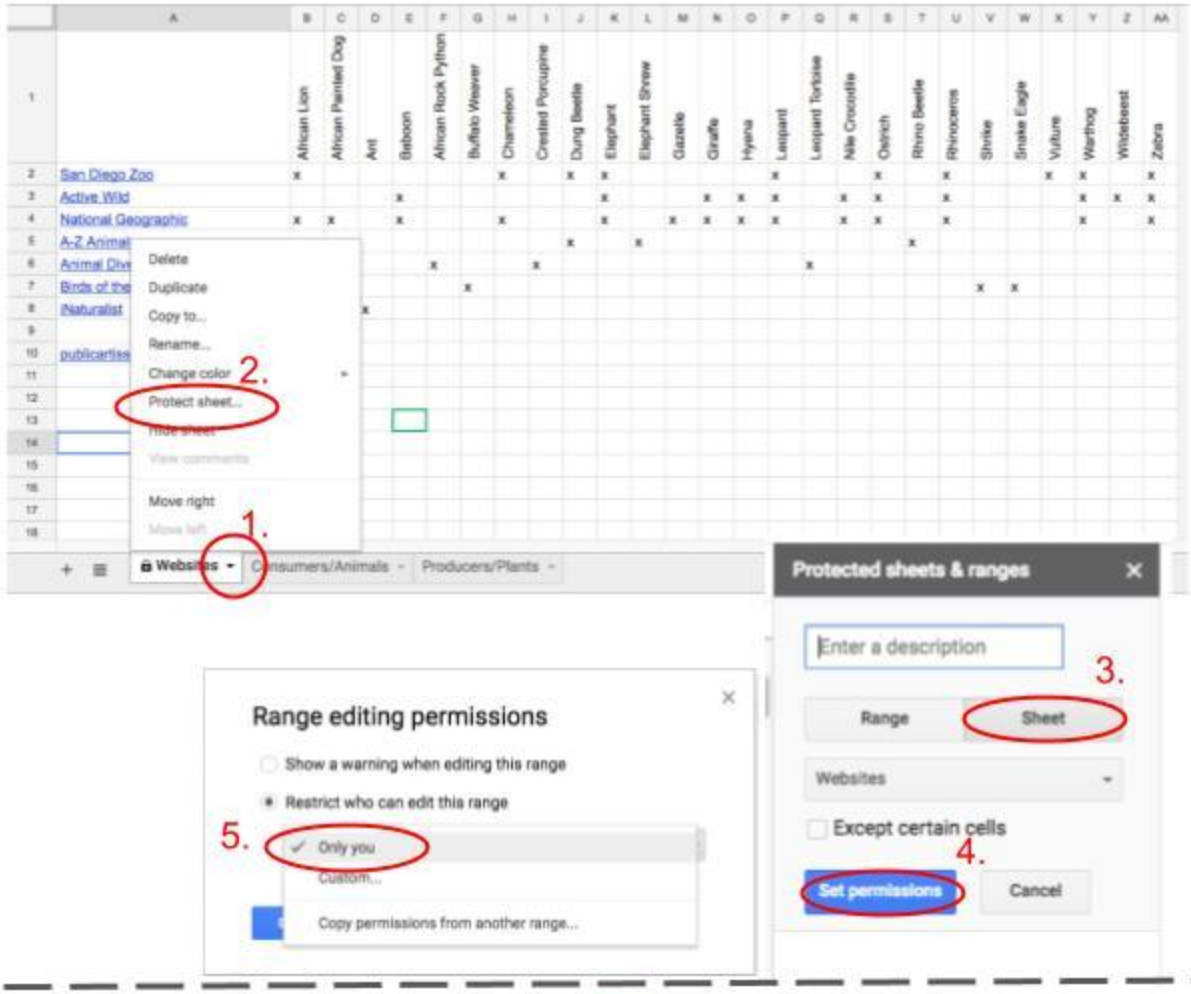
List four other consumers or producers listed in your class database <u>that your animal eats.</u>

Ex: If you animal eats "birds", look through the database to find a bird listed like the "Buffalo Weaver." Write down Buffalo Weaver.

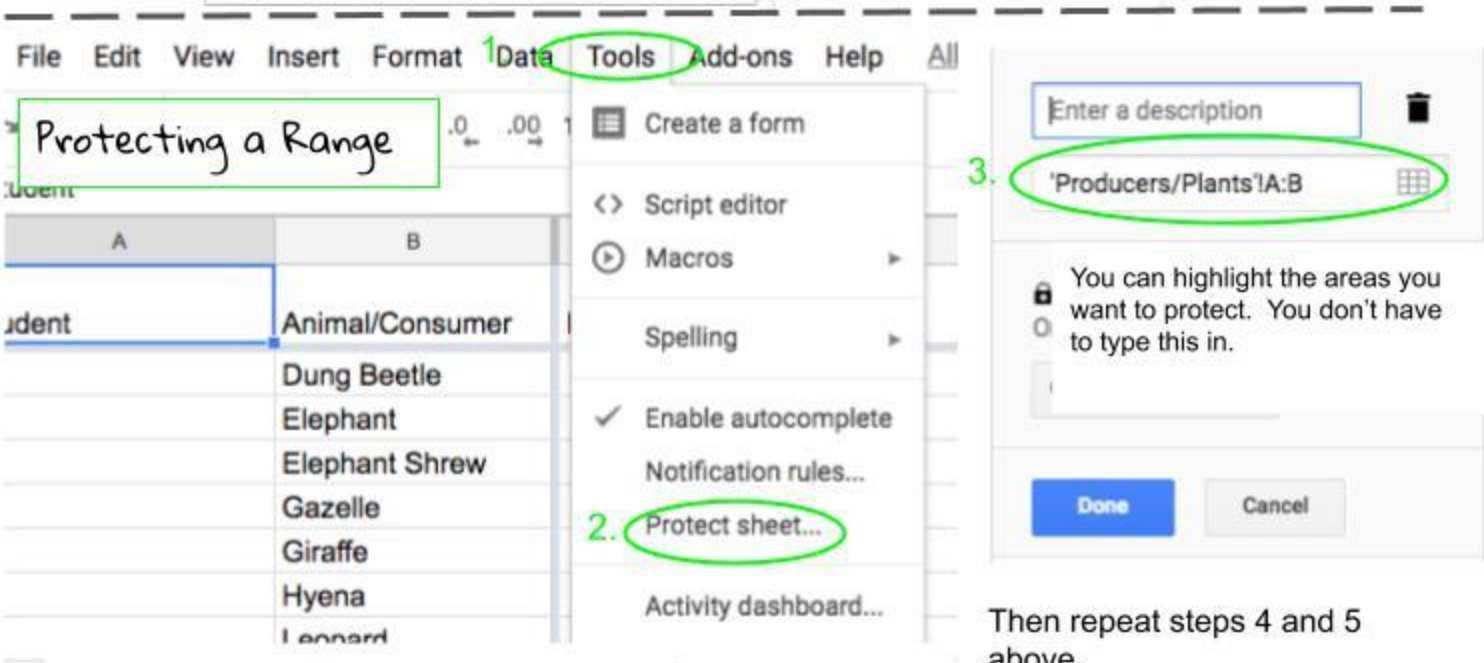


Setting protections, Sharing with Students

All students will be working in the same sheet, so you will need to share it with students. Protecting sheets and ranges that you don't want students to edit will make the activity go smoother but is not required.



Protecting a Whole Sheet (Websites)



Then repeat steps 4 and 5 above.

Recommended to protect columns A & B and Row 1 on both Producers and Consumers tabs.

"Websites" Tab

Animals are included across the top. An "x" is in the column of the websites that have reliable information about that animals.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
1		African Lion	African Painted Dog	Ant	Baboon	African Rock Python	Buffalo Weaver	Chameleon	Crested Porcupine	Dung Beetle	Elephant	Elephant Shrew	Gazelle	Giraffe	Hyena	Leopard	Leopard Tortoise	Nile Crocodile	Ostrich	Rhino Beetle	Rhinoceros	Shrike	Snake Eagle	Vulture	Warthog	Wildebeest	Zebra
2	San Diego Zoo	x						x		x	x					x			x		x			x	x		x
3	Active Wild				x						x			x	x	x		x	x		x				x	x	x
4	National Geographic	x	x		x			x			x		x	x	x	x		x	x		x				x		x
5	A-Z Animals									x		x								x							
6	Animal Diversity Web					x			x								x										
7	Birds of the World						x															x	x				
8	iNaturalist																										

When you click on the cell with the link, a box will pop up above or below it that you can then click on to go to the website.

"Consumers/Animals" Tab

Assign students an animal/consumer to research or allow students to pick (but you will have to enter their names as you will have prevented access to that column).

	A	B	C	D	E
1	Student	Animal/Consumer	Diet (What your animal eats)	Predators (What eats your animal)	Type of Animal (Rodent, Sma Insects, Spiders, Fish, etc)
2		African Lion			
3		African Painted Dog			
4		Antlion			
5		Baboon			
6		Brown Grass Snake			
7		Buffalo Weaver			
8		Chameleon			
9		Crested Porcupine			
10		Dung Beetle			
11		Elephant			
12		Elephant Shrew			
13		Gazelle			
14		Giraffe			
15		Hyena			
16		Leopard			
17		Leopard Tortoise			

These two columns will be just finding the information and filling it in.

Students will have to use the information they find to make a determination on the type of animal.

"Producers/Plants" Tab

Assign students a producer/plant to research or allow students to pick (but you will have to enter their names as you will have prevented access to that column).

Generally, looking at pictures of these plants online will be enough for students to make a determination of which items to mark with an "x". (Some students will need to be told to mark an "x" you literally need to type an "x".)

	A	B	C	D	E	F	G	H	I	J
1	Student	Producer	Flowers	Seeds	Leaves/Stalks	Berries/Fruit	Bark	Shrub/Tree	Grass/Sedges	Cactus/Succulent
2		Acacia Tree								
3		Baobab Tree								
4		Candelabra Tree								
5		Elastic Grass								
6		El Nino Flower								
7		Elephant Grass								
8		Giant Rat's Tail Grass								
9		Jackalberry Tree								
10		Grewia Bicolor								
11		Marula Tree								
12		Lemongrass								
13		Pan Dropseed								
14		Monkey Orange Tree								
15		Rabbit-Tail Fountain Grass								
16		Red Dropseed								
17		Red Oat Grass								
18		Rhodes Grass								

Shrike

Elephant Shrew

Snake Eagle

Buffalo weaver

Dung Beetle

Hyena

Elephant

Chameleon

Alamy/Arco Images

crested porcupine

warthog

African Lion

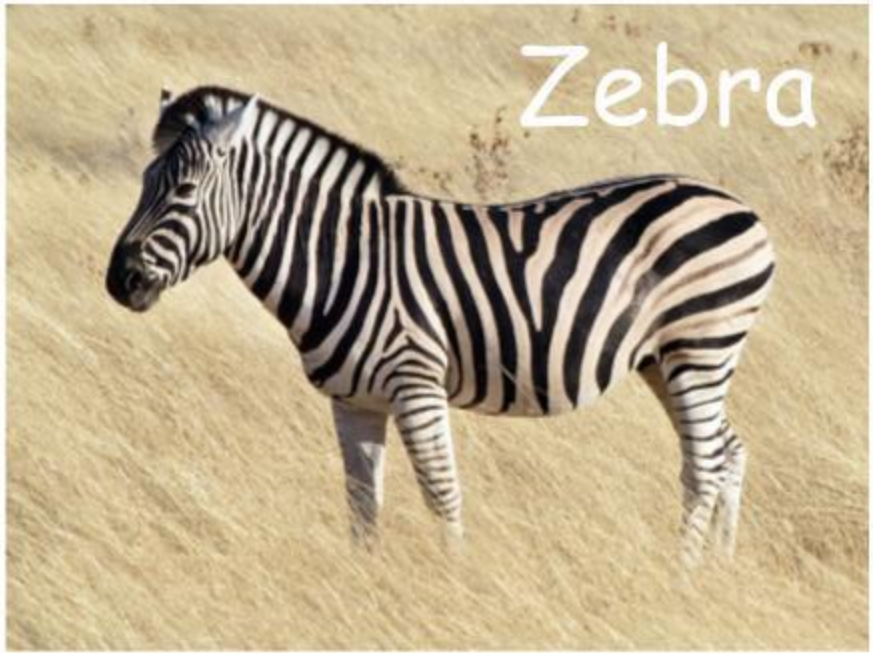
Brown Grass Snake

Vulture

Ostrich

Wildebeest

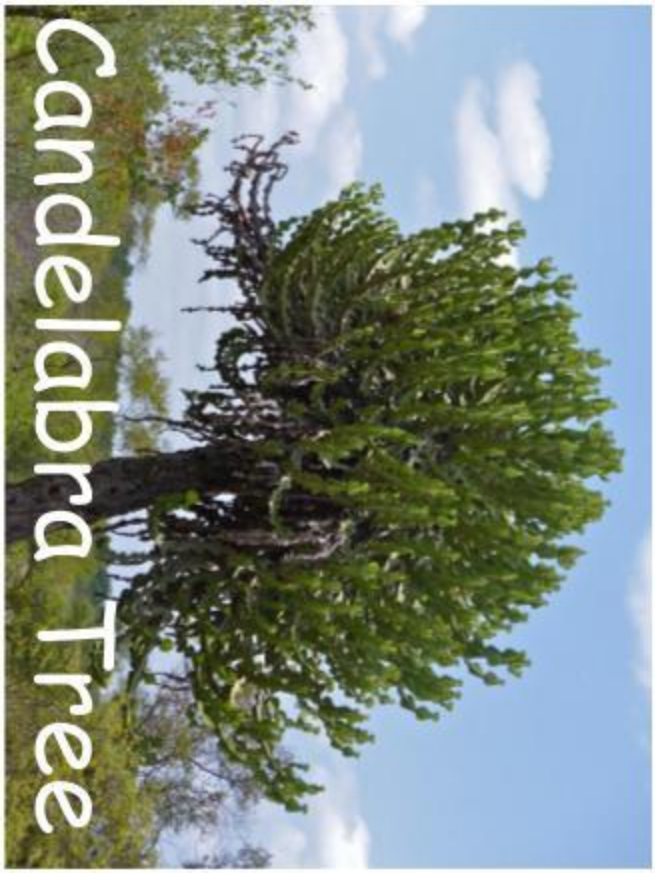
Rhinoceros

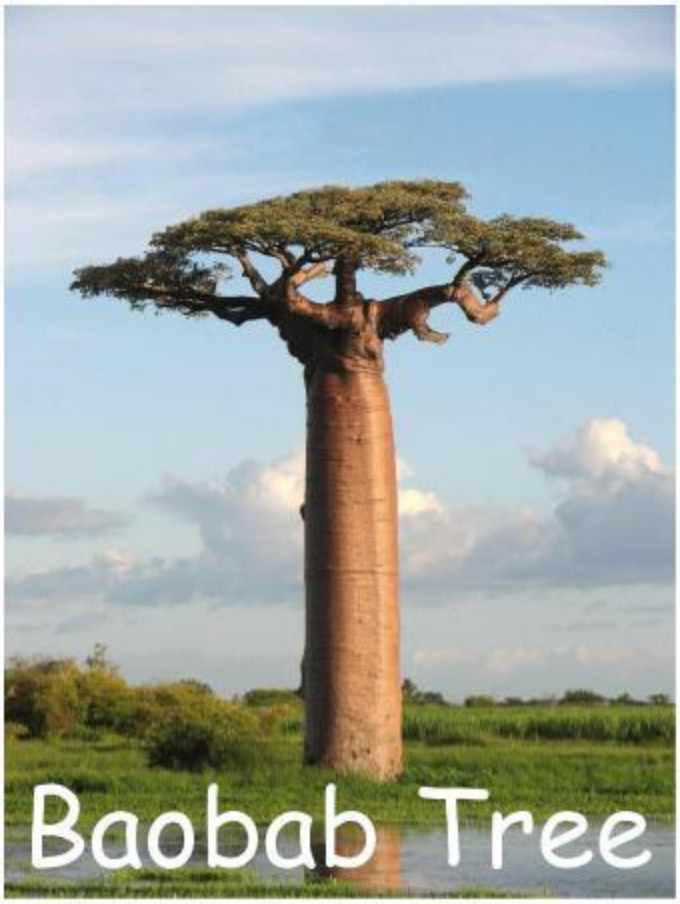

Zebra

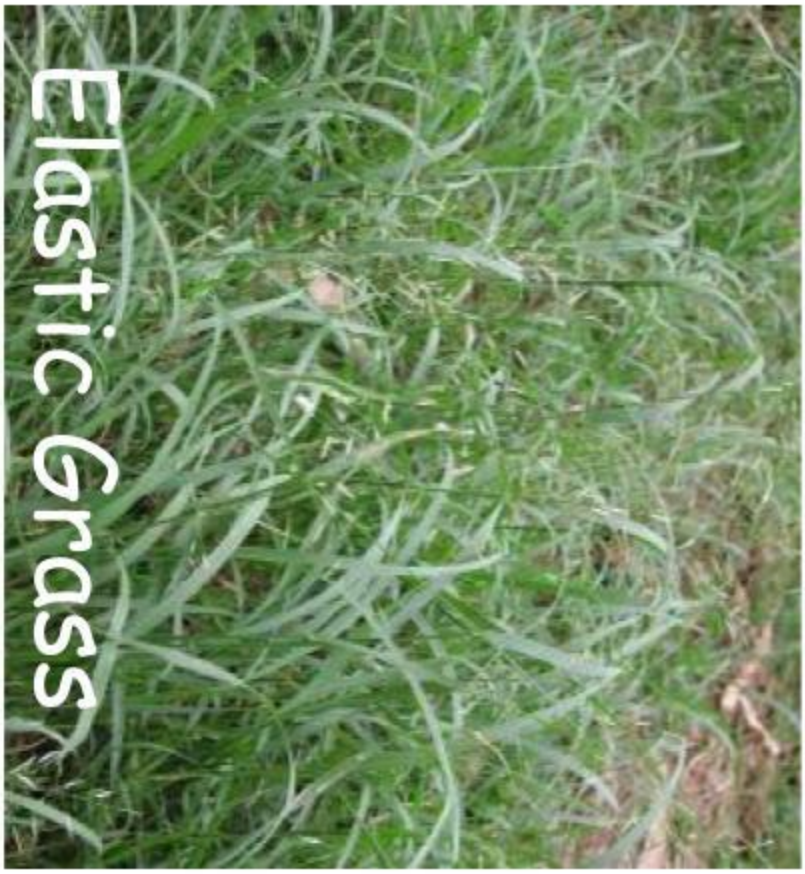
Ant

Hippo

Acacia Tree

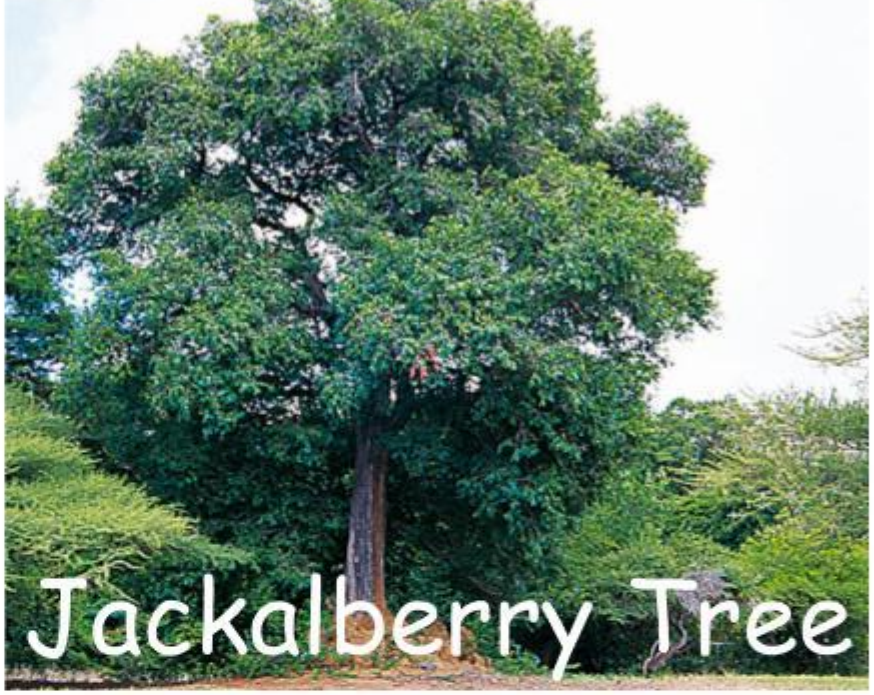

Candelabra Tree


Baobab Tree


Elastic Grass

El Nino Flower

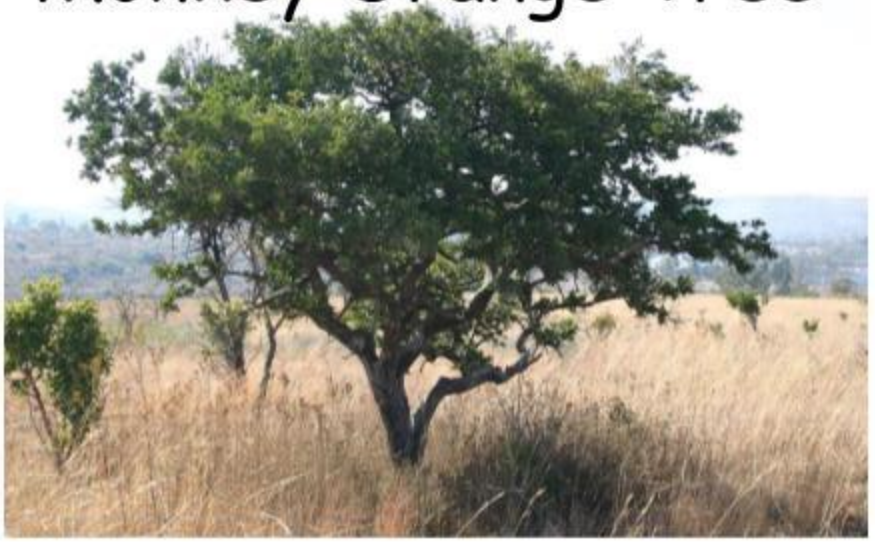
Elephant Grass


Jackalberry Tree

Giant Rats Tail Grass

Grewia Bicolor

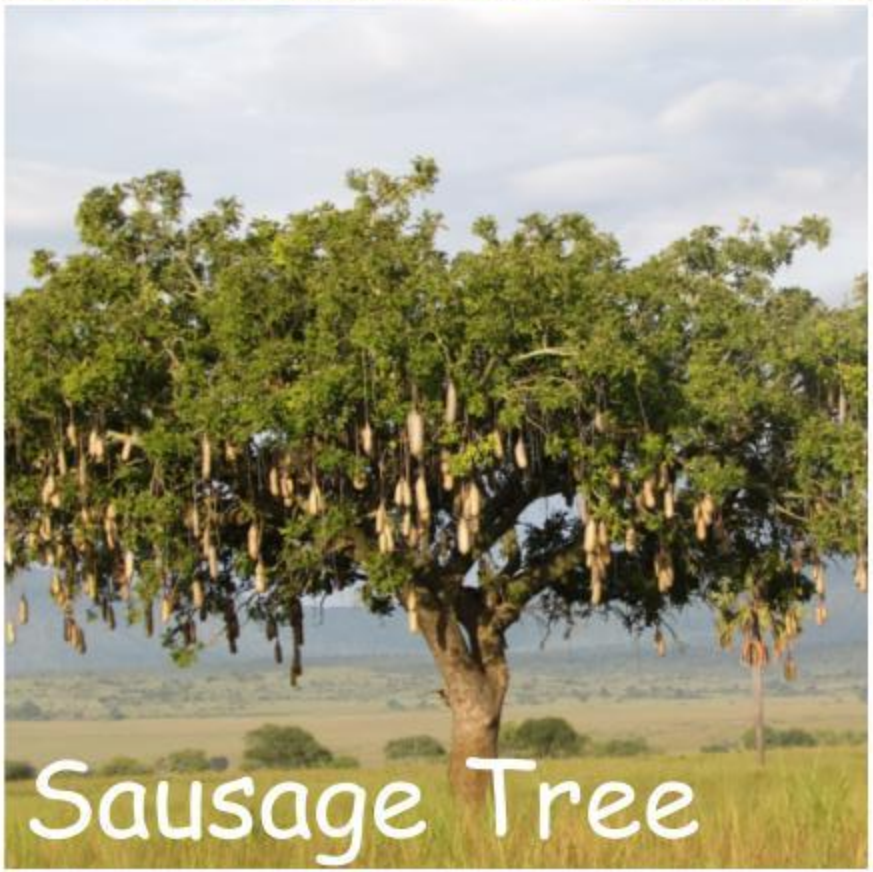
Monkey Orange Tree



Rabbit-Tail Fountain Grass

Red Oat Grass

Red Dropseed


Sausage Tree

River Bushwillow

Star Grass

Rhodes Grass

Toothbrush Tree

Strangler Fig

Umbrella Thorn Acacia

Whistling Thorn

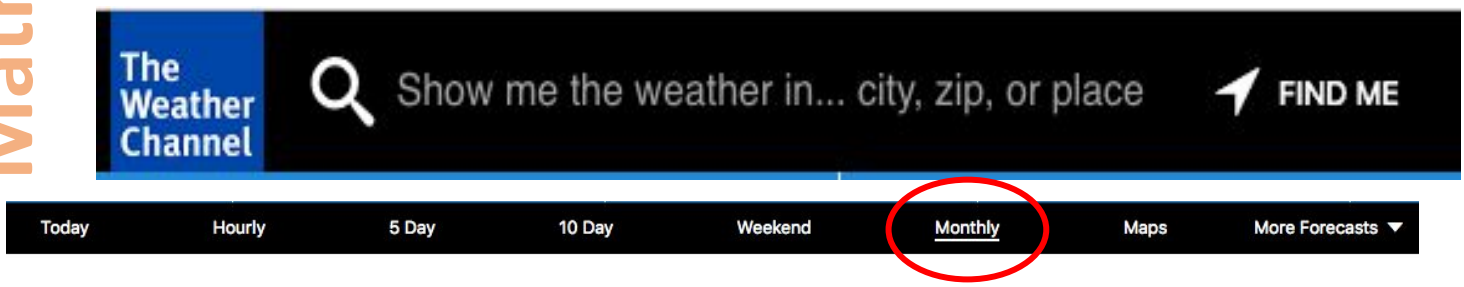
Wild Date Palm

Yellow Fever Tree

Leopard

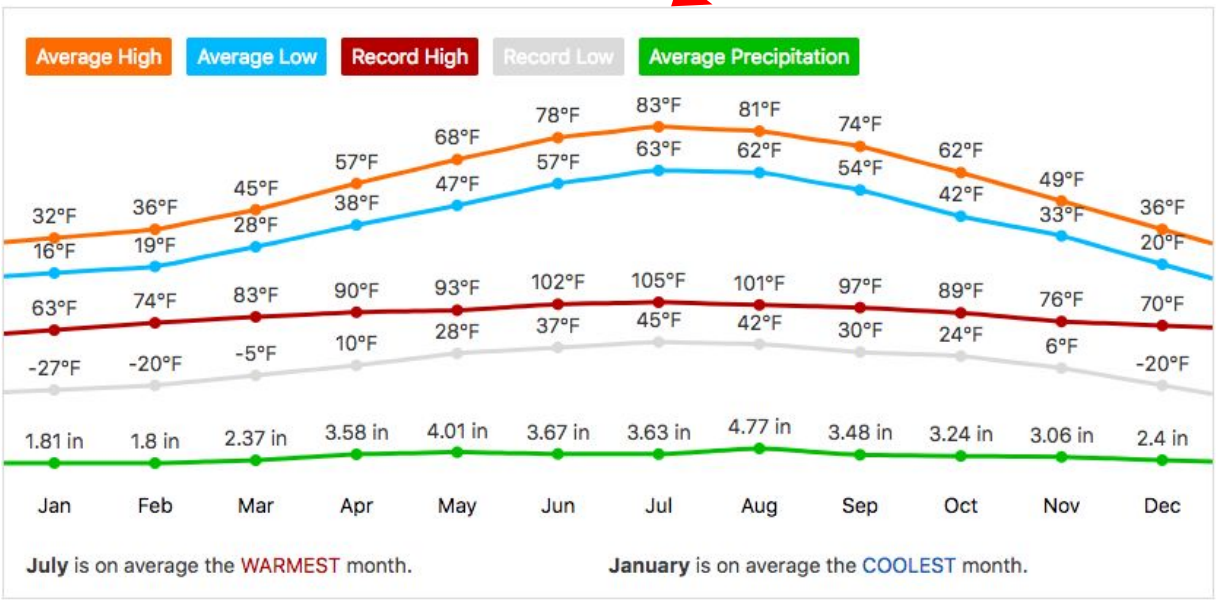
Math

Weather Math



1. Go to weather.com
2. Search for a city.
3. Click on Monthly.
4. Scroll down the page.
5. Use the data in this chart.

Alt: Use same data for all students



6. Students use Precipitation numbers to add decimal numbers for each season.
7. Students make a bar graph out of their data.
8. Have students compare cities and make statements using data

1st sheet: Students researching data
2nd sheet: Students all using data from Norman

Name_____

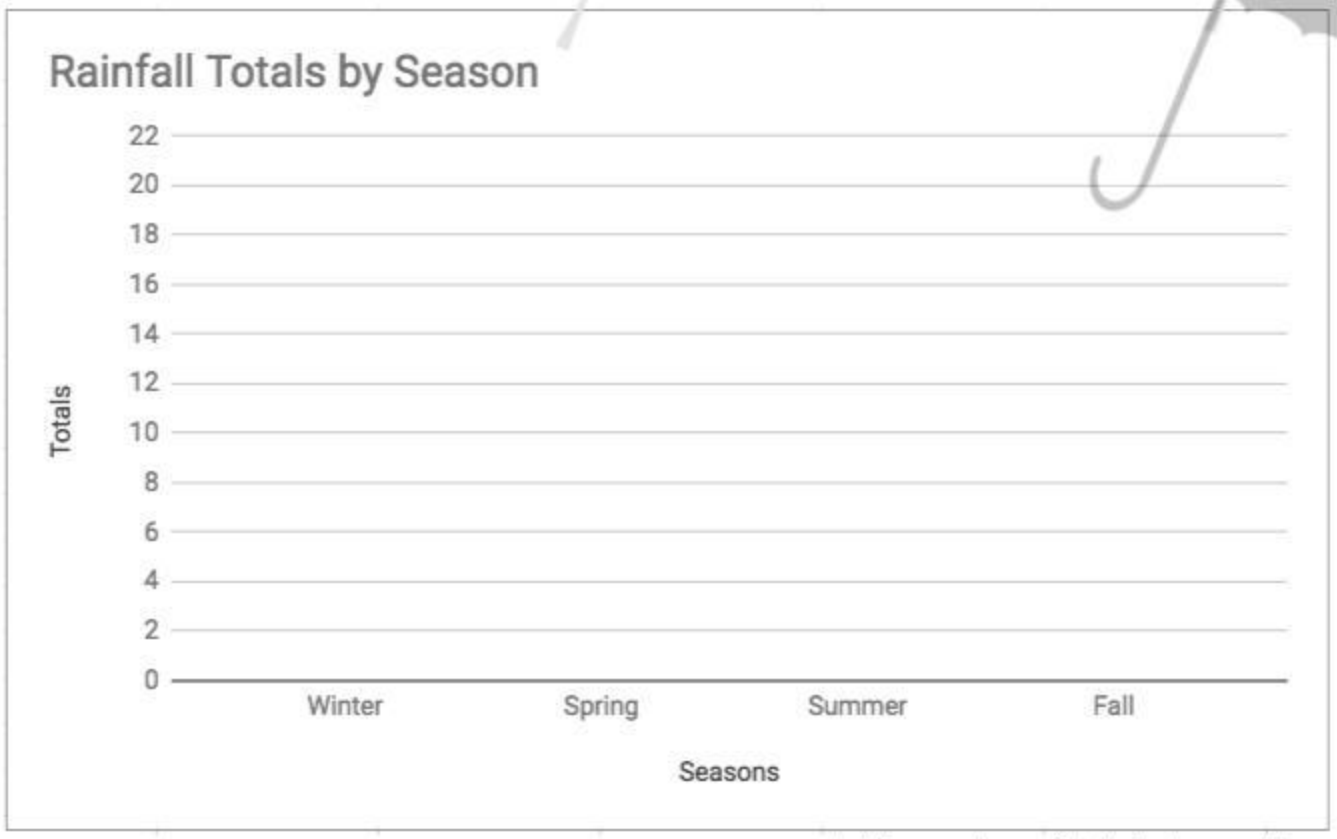
	Winter Totals
January	
February	
March	+

	Spring Totals
April	
May	
June	+

	Summer Totals
July	
August	
September	+

	Fall Totals
October	
November	
December	+

	Rainfall Totals
Winter	
Spring	
Summer	
Fall	+



Name_____ Norman, OK

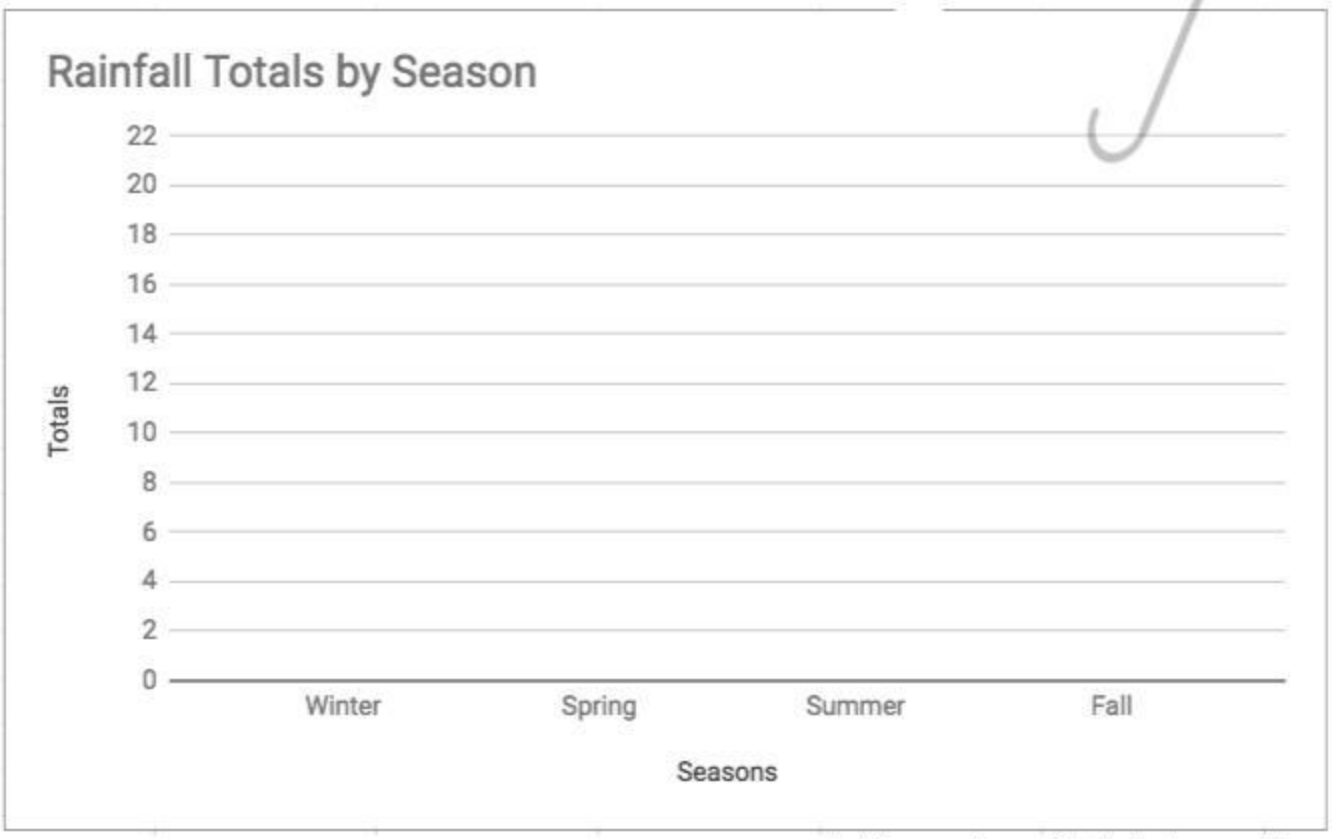
Winter Totals	
January	
February	
March	+

Spring Totals	
April	
May	
June	+

Summer Totals	
July	
August	
September	+

Fall Totals	
October	
November	
December	+

Rainfall Totals	
Winter	
Spring	
Summer	
Fall	+



Adding numbers with decimals, graphing.

Math

Using Fraction in the Weather

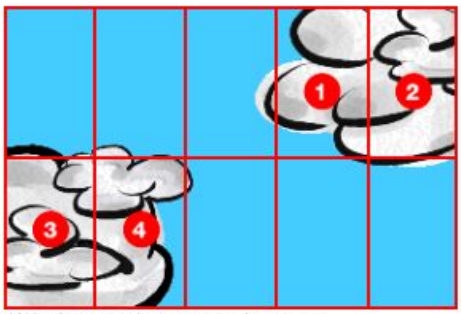
Pie in the Sky

Do this activity together as a class.

http://infouse.com/planemath/activities/sky/sky_1.html

HOME

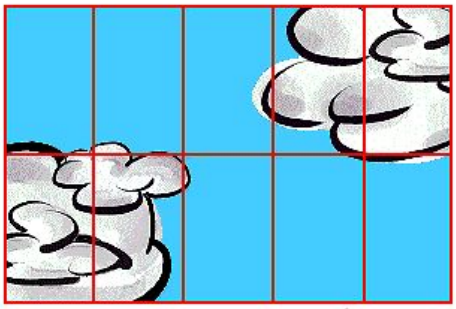
Yes! The number of rectangles at least half full of clouds tops the fraction. The total number of rectangles is the bottom number.



4/10 of the sky is covered with clouds.

You can also use a grid to figure out how much of something there is. Here is a picture of the sky with a grid over it. The grid consists of 10 equal rectangles.

HOME



Online Activity

https://www.weatherbug.com/weather-camera/

In pairs, students will chose a weather cam to watch.
Have them estimate the fraction of the sky covered with clouds during the hours that start with 9 am, 11 am, 1 pm, 3 pm and 5 pm.

Extension Activity

Students use Google images to find an example of the four types of cloud coverage. Share this link with students to create a copy of the Google slide show for students to use to insert the pictures they find.

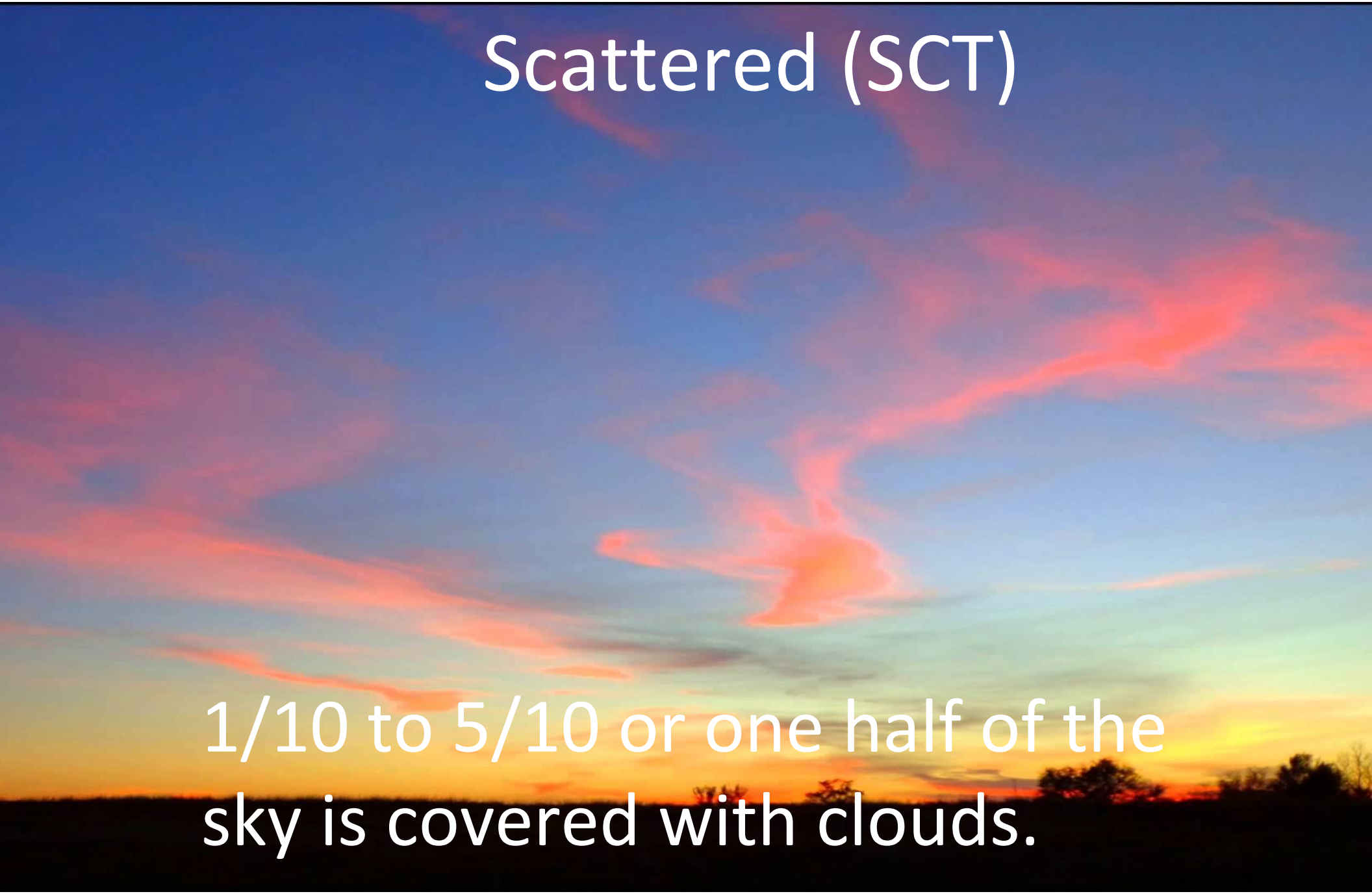
https://docs.google.com/presentation/d/1K64p5Nl5WM1w_u2PJn4wMFFCwDvP2Cwa_w5wlleKFnM/copy?usp=sharing

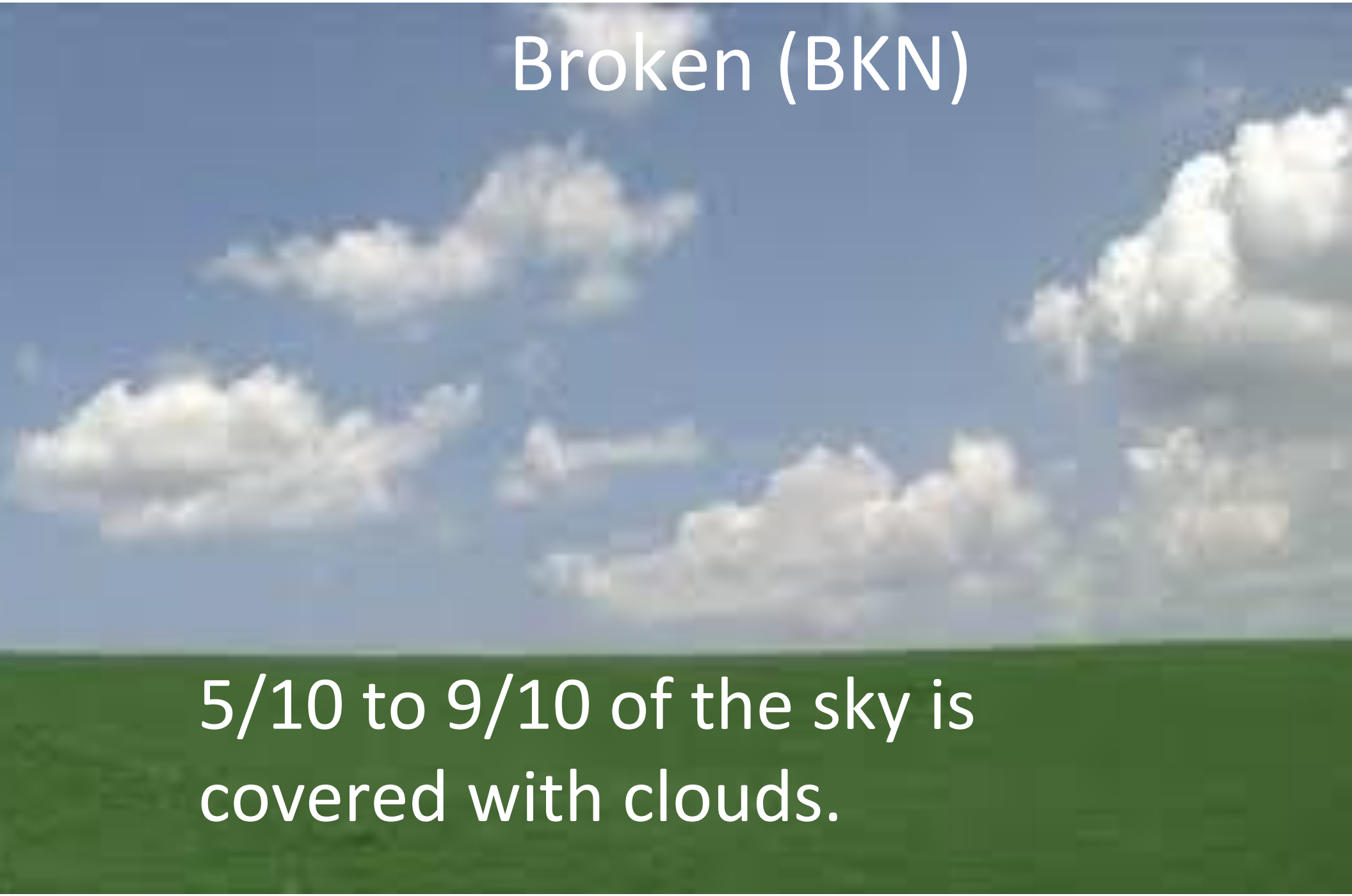
Offline Activity

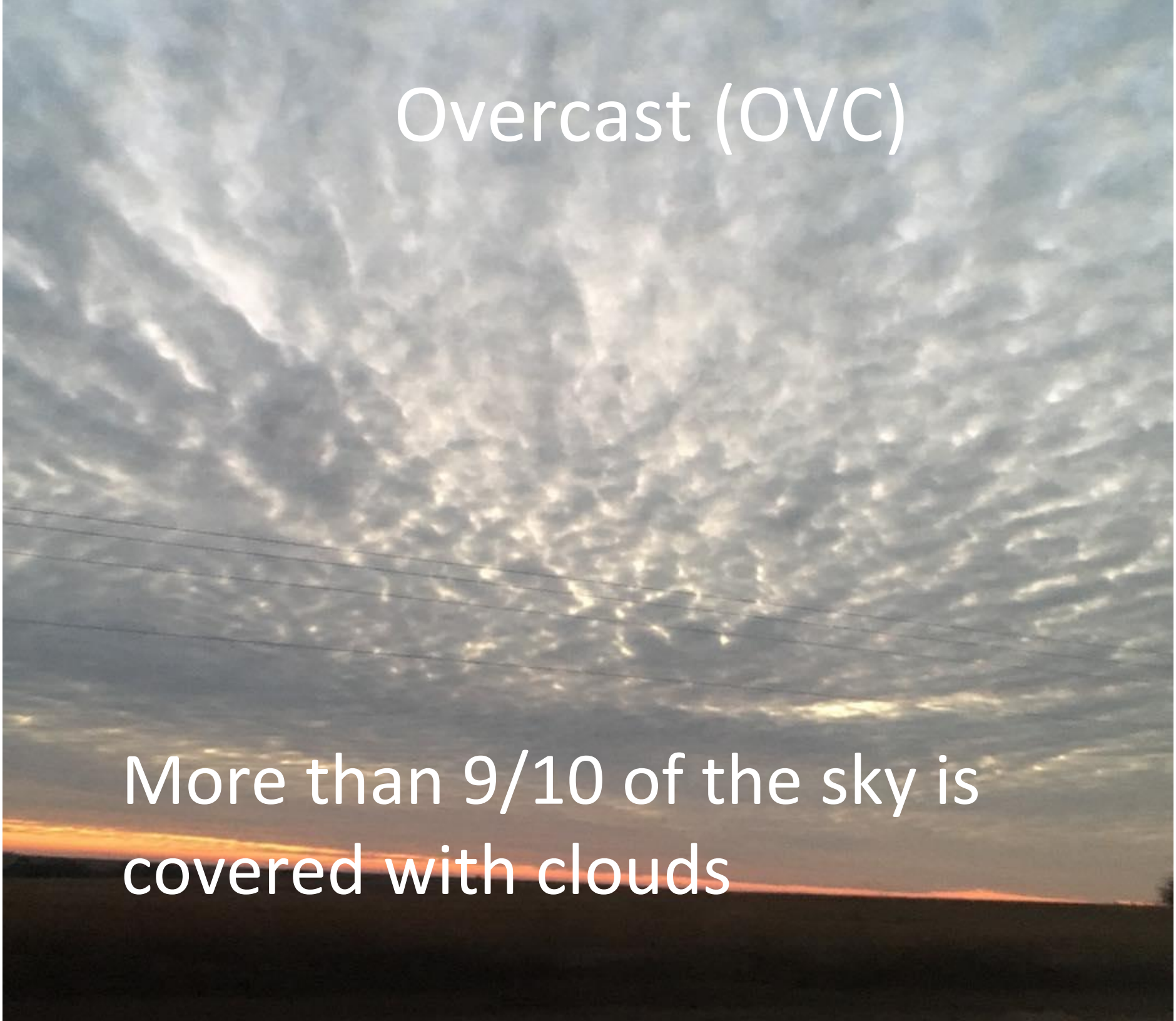
[Following Sheet]

Clear (CLR)

Sky has no clouds or clouds cover less than 1/10 of the sky.


Scattered (SCT)
1/10 to 5/10 or one half of the sky is covered with clouds.


Broken (BKN)
5/10 to 9/10 of the sky is covered with clouds.


Overcast (OVC)
More than 9/10 of the sky is covered with clouds

Cloud Coverage--Using Fractions

Name_____

Draw clouds to cover the "sky" to make the cloud coverage listed above the grid.

Clear (less than 1/10th)

Scattered (1/10-5/10)

Broken (5/10-9/10)

Overcast(more than 9/10)

Art

Aztec Sun Stone Art

Background Information
On the Aztec Sun Stone

youtu.be/Zn03u3-U1fk

Video Tutorial
Art Attack!—Time Travel—Aztec Art!

Youtu.be/P5Abb6trcn8

Supplies:

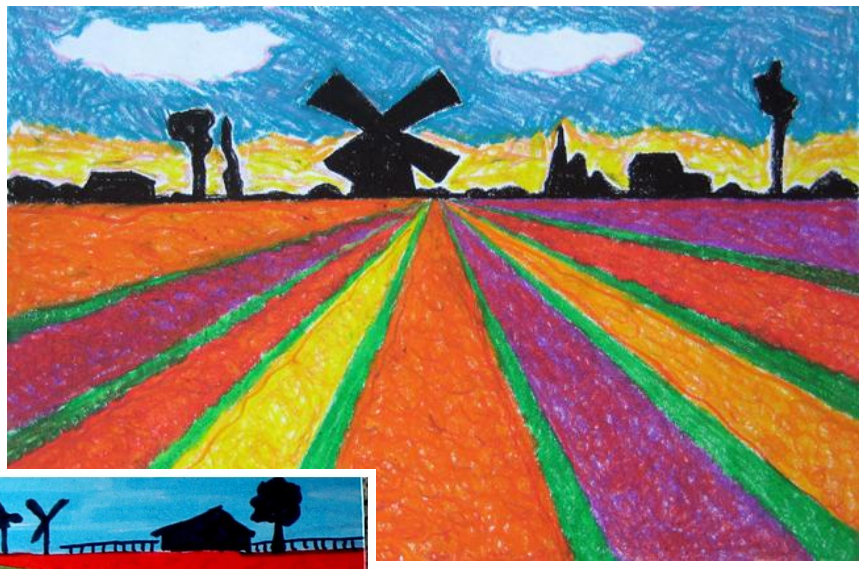
- Piece of cardboard
- Pencil
- Glue
- Black, Gold, Silver Paint
- Rag

One Point Perspective Drawing

Art

Have students with a ruler draw

1. The Horizon Line
2. Select a Vanishing Point
3. Draw Perspective Lines
4. Then add the windmills, trees, house on the horizon to scale.



Use watercolors, markers, oil pastels or some other medium to complete your one perspective art piece inspired by the version here.

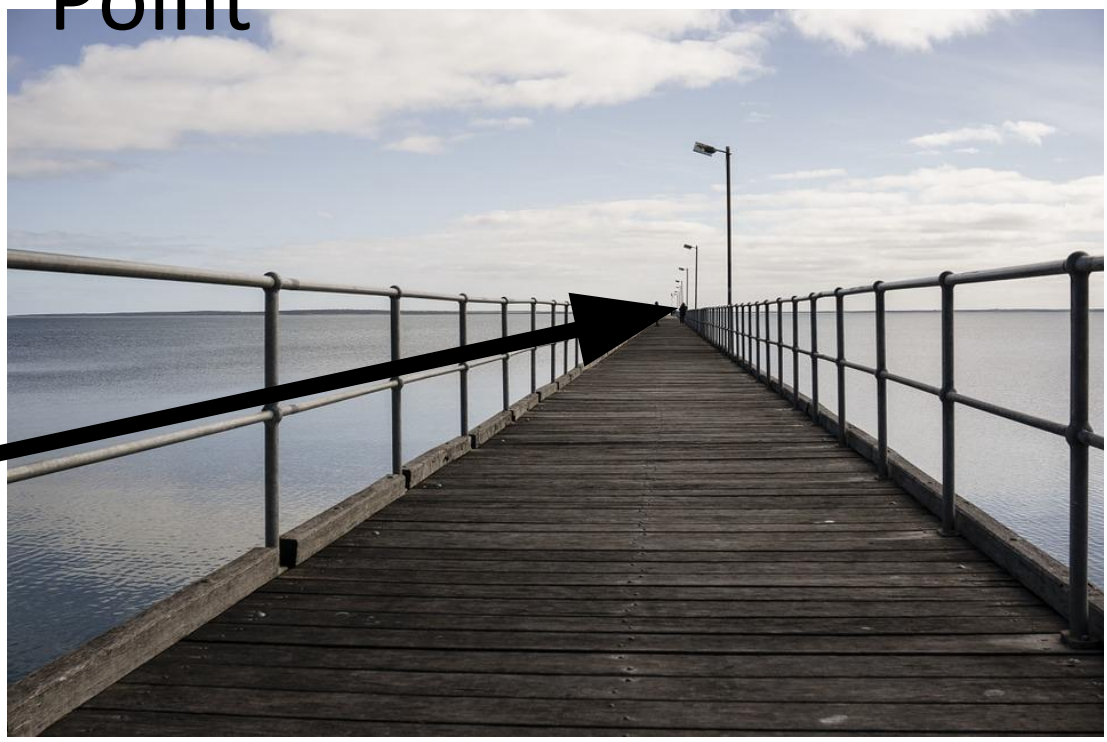
Horizon Line

Vanishing Point

Perspective Lines

Vanishing Point

A point on the horizon line where all perspective lines meet.



The vanishing point exists on the horizon line. Note: it doesn't have to be in the middle of the paper.

Perspective Line

(Orthogonal Lines)

The lines that meet at the vanishing point

Perspective lines are parallel in real life but converge in a one point perspective drawing.

Horizon Line

The horizon line is a special horizontal line that represents eye level to the viewer.

Most of the time the horizon line will be imaginary so while you should include it you should draw it lightly so it can be erased or drawn over later on.

Important Art Terms

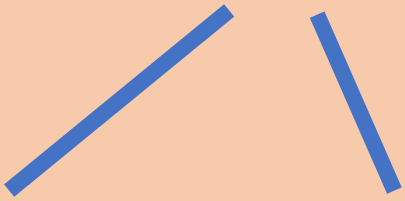
Parallel Lines

Parallel lines are lines that never touch… even if they are extended indefinitely.

Vertical Lines

Lines drawn up and down and perpendicular (right-angled) to the horizon. Vertical lines should be parallel to the sides of your paper.

Slanted Lines



Lines that are neither vertical nor horizontal; slanted lines are diagonal.

Horizontal Lines

Lines drawn from side to side level with the horizon. Horizontal lines will be parallel with the top and bottom edges of your paper.

http://helloartsy.com/one-point-perspective/

Prairie Wind

Oklahoma State Standards

Many standards only change in the depth and breadth as grade levels progress. Generally, standard numbers are given where the base standard applies although working might be slightly different amongst grade levels.

Language Arts

3.1.R.1, 4.1.R.1, 5.1.R.1 Students will actively listen and speak clearly using appropriate discussion rules.

3.1.W.1, 4.1.W.1, 5.1.W.1 Students will report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences at an appropriate pace

3.1.W.2, 4.1.W.2, 5.1.W.2 Students will work effectively and respectfully within diverse groups, share responsibility for collaborative work, and value individual contributions made by each group member.

4.2.R.3 Students will summarize events or plots (i.e., beginning, middle, end, conflict, and climax) of a story or text.

3.2.W.1, 4.2.W.1 Students will develop drafts by categorizing ideas and organizing them into paragraphs.

5.2.W.3 Students will develop drafts by choosing an organizational structure (e.g., description, compare/contrast, sequential, problem/solution, cause/effect, etc.) and building on ideas in multi-paragraph essays.

INFORMATIVE 4.3.W.2 Students will write facts about a subject, including a clear main idea with supporting details, and use transitional and signal words.

3.4.W.1, 4.4.W.1, 5.4.W.1 Students will use domain-appropriate vocabulary to communicate ideas in writing.

Science

2. Developing and using models

5-LS2-1 Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.

Organisms can survive only in environments in which their particular needs are met.

A healthy ecosystem is one in which multiple species of different types are each able to meet their needs

4. Analyzing and interpreting data

5-ESS1-2 The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.

6. Constructing explanations

4-ESS3-2 Humans cannot eliminate the hazards but can take steps to reduce their impacts.

8. Obtaining, evaluating, and communicating information

4-ESS3-1 Energy and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways.

Some resources are renewable over time, and others are not.

5-ESS3-1 Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments

VISUAL ARTS

STANDARD 1: Language of Visual Art: "Presenting" The student will identify and communicate using a variety of visual art terms.

1. Use appropriate art vocabulary to describe art.

STANDARD 2: Visual Art History and Culture: "Responding" The student will recognize the development of visual art from a historical and cultural perspective.

2. Identify connections between different the visual arts and other art disciplines.

STANDARD 3: Visual Art Expression: "Creating" The student will observe, select, and utilize a variety of ideas and subject matter in creating original works of art.

3. Demonstrate understanding and knowledge of composition using the elements of art and principles of design.

STANDARD 4: Visual Art Appreciation: "Connecting" The student will appreciate and utilize visual art to make interdisciplinary connections and informed aesthetic decisions

4. Make learning connections between visual art and other disciplines, such as mathematics, science, Language Arts, social studies, and media arts.

MATH

3.N.3, 4.N.2, 5.N.2 Understand meanings and uses of fractions in real-world and mathematical situations.

5.N.1 Divide multi-digit numbers and solve real-world and mathematical problems using arithmetic.

5.N.3 Add and subtract fractions with like and unlike denominators, mixed numbers and decimals to solve real world and mathematical problems.

SOCIAL STUDIES

Process and Literacy Skills Standard 1: The student will develop and demonstrate Common Core informational text reading literacy skills.

B. Craft and Structure

5. Use text features and search tools (e.g., timelines, maps, charts, graphs, images, artwork, photographs, key words, sidebars, hyperlinks) to locate information relevant to a given topic.

C. Integration of Knowledge and Ideas

7. Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

Visit the Prezi format: https://bit.ly/2xN4ly0