

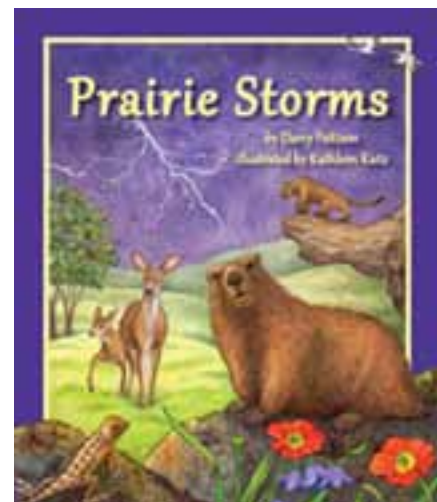
Teaching Activity Guide
Prairie Storms

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by Darcy Pattison
illustrated by Kathleen Rietz

How to Use This Activity Guide (General)

There are a wide variety of activities that teach or supplement all curricular areas. The activities are easily adapted up or down depending on the age and abilities of the children involved. And, it is easy to pick and choose what is appropriate for your setting and the time involved. Most activities can be done with an individual child or a group of children.

For teachers in the classroom: We understand that time is at a premium and that, especially in the early grades, much time is spent teaching language arts. All Arbordale titles are specifically selected and developed to get children excited about learning other subjects (science, geography, social studies, math, etc.) while reading (or being read to). These activities are designed to be as comprehensive and cross-curricular as possible. If you are teaching sentence structure in writing, why not use sentences that teach science or social studies? We also know and understand that you must account for all activities done in the classroom. While each title is aligned to all of the state standards (both the text and the For Creative Minds), it would be near impossible to align all of these activities to each state's standards at each grade level. However, we do include some of the general wording of the CORE language arts and math standards, as well as some of the very general science or social studies standards. You'll find them listed as "objectives" in italics. You should be able to match these objectives with your state standards fairly easily.

For homeschooling parents and teachers in private schools: Use as above. Aren't you glad you don't have to worry about state standards?

For parents/caregivers: Two of the most important gifts you can give your child is the love of reading and the desire to learn. Those passions are instilled in your child long before he or she steps into a classroom. Many adults enjoy reading historical fiction novels...fun to read but also to learn (or remember learning) about historical events. Not only does Arbordale publish stories that are fun to read and that can be used as bedtime books or quiet "lap" reading books, but each story has non-fiction facts woven through the story or has some underlying educational component to sneak in "learning." Use the "For Creative Minds" section in the book itself and these activities to expand on your child's interest or curiosity in the subject. They are designed to introduce a subject so you don't need to be an expert (but you will probably look like one to your child)! Pick and choose the activities to help make learning fun!

For librarians and bookstore employees, after-school program leaders and zoo, aquariums, nature center, park & museum educators: Whether reading a book for story time or using the book to supplement an educational program, feel free to use the activities in your programs. We have done the "hard part" for you.

Animal Card Games:

Sorting: Depending on the age of the children, have them sort cards by:

where the animals live (habitat)	tail, no tail
number of legs (if the animals have legs)	colors or skin patterns
how they move (walk, swim, jump, or fly)	animal class
type of skin covering (hair/fur, feathers, scales, moist skin)	
what they eat (plant eaters/herbivores, meat eaters/carnivores, both/omnivores)	

Memory Card Game: Make two copies of each of the sorting card pages and cut out the cards. Mix them up and place them face down on a table. Taking turns, each player should turn over two cards so that everyone can see. If the cards match, he or she keeps the pair and takes another turn. If they do not match, the player should turn the cards back over and it is another player's turn. The player with the most pairs at the end of the game wins.

Who Am I? Copy and cut out the cards. Poke a hole through each one and tie onto a piece of yarn. Have each child put on a "card necklace" without looking at it so the card hangs down the back. The children get to ask each person one "yes/no" question to try to guess "what they are." If a child answering the question does not know the answer, they should say they don't know. This is a great group activity and a great "ice-breaker" for children who don't really know each other.

Charades: One child selects a card and must act out what the animal is so that the other children can guess. The actor may not speak but can move like the animal, can imitate body parts or behaviors. For very young children, you might let them make the animal sound. The child who guesses the animal becomes the next actor.

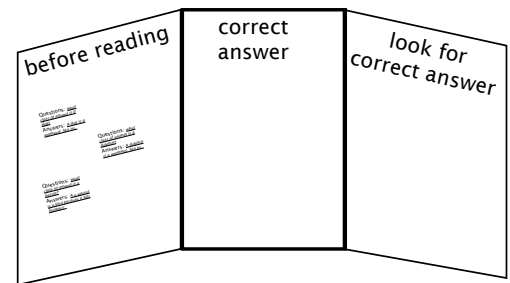
What Do Children Already Know?

Young children are naturally inquisitive and are sponges for information. The whole purpose of this activity is to help children verify the information they know (or think they know) and to get them thinking “beyond the box” about a particular subject.

Before reading the book, ask the children what they know about the subject. A list of suggested questions is below. The children should write down their “answers” (or adults for them if the children are not yet writing) on the chart found in Appendix A, index cards, or post-it notes.

Their answers should be placed on a “before reading” panel. If doing this as a group, you could use a bulletin board or even a blackboard. If doing this with individual children, you can use a plain manila folder with the front cover the “before reading” panel. Either way, you will need two more panels or sections—one called “correct answer” and the other “look for correct answer.”

Do the children have any more questions about the subject? If so, write them down to see if they are answered in the book.



After reading the book, go back to the questions and answers and determine whether the children’s answers were correct or not.

If the answer was correct, move that card to the “correct answer” panel. If the answer was incorrect, go back to the book to find the correct information.

If the child/children have more questions that were not answered, they should look them up.

When an answer has been found and corrected, the card can be moved to the “correct answer” panel.

Pre-Reading Questions

What is a prairie?

What are some other names for prairies?

Where are prairies (in North America and in the world)?

What are some animals that live in prairie habitats?

What are some types of weather that might affect prairies?

What are some ways animals deal with weather?

What is a tornado?

Comprehension Questions & Writing Prompts

Objective Core Language Arts, Speaking and Listening: Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Retell stories, including key details, and demonstrate understanding of their central message or lesson.

Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.

How did the author introduce the changing weather?

What are some of the weather events mentioned in the story?

What are some of the prairie animals mentioned in the story?

How do the animals react to or protect themselves from the weather event?

What are some ways the animals react to changing seasons?

What is the difference between daily weather and seasonal weather?

Which weather event would be scariest for you and why?

What are some things you might do to protect yourself from bad weather?

What are some ways that you protect yourself from seasonal weather (hot summer sun or cold winter snow)?

Which type of weather is the most fun for you and why?

How do you think the prairie habitat is the same as or different than desert, mountain, forest, lake, or ocean habitats.

Do you think any of the animals that live in a prairie habitat might be able to live in any of the other habitats? If so, which ones? If not, why not?

Language Arts & Science: Five Senses

Objective Core Language Literature 4: Identify words and phrases in stories or poems that suggest feelings or appeal to the senses.

Re-read the story and write down any words that relate to the five senses:

Touch	Taste	Sight	Smell	Hearing

Cross-Curricular Vocabulary Activities

Objective Core Language Arts:

Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade-level reading and content.

Identify new meanings for familiar words and apply them accurately (e.g., duck is a bird & the verb to duck). Use words & phrases acquired through conversations, reading/being read to, and responding to texts.

Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade level topic or subject area.

Explain the function of nouns, pronouns, verbs, adjectives, and adverbs in general and their functions in particular sentences.

Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Use frequently occurring adjectives.

Vocabulary game: This activity is a very general idea and is designed to get children thinking of vocabulary words that will then be used as the beginning vocabulary list for a science lesson.

Select an illustration from the book and give the children a specific length of time (five minutes?) to write down all the words they can think of about the particular subject. It is helpful to project an illustration on a whiteboard. Use eBook or book preview found at www.ArbordalePublishing.com.

The children's word list should include anything and everything that comes to mind, including nouns, verbs, and adjectives. At the end of the time, have each child take turns reading a word from his/her list. If anyone else has the word, the reader does nothing. However, if the reader is the only one with the word, he/she should circle it. While reading the list, one person should write the word on a flashcard or large index card and post it on a bulletin board or wall.

At the end, the child with the most words circled "wins." And you have a start to your science vocabulary list. Note: if a child uses an incorrect word, this is a good time to explain the proper word or the proper usage.

Glossary/Vocabulary words: Word cards may be used (see Appendix) or have children write on index cards, a poster board, or on a chalkboard for a "word wall." If writing on poster board or chalkboard, you might want to sort words into nouns, verbs, etc. right away to save a step later if using for Silly Sentences. Leaving the words posted (even on a refrigerator at home) allows the children to see and think about them frequently. The glossary has some high-level words. Feel free to use only those words as fit your situation.

Using the Words: The following activities may be done all at once or over a period of several days.

- Sort vocabulary words into nouns, verbs, adjectives, etc. and write what they are on the backs of the cards. When the cards are turned over, all you will see is "noun," etc. (these can then be used for the "silly sentences" on the next page).
- After the cards have been sorted, go over the categories to ensure that all cards have been placed correctly. (Mistakes are a great opportunity to teach!)
- Choose two words from each category and write a sentence for each word.
- Write a story that uses at least ten vocabulary words from the word sort.
- Have children create sentences using their vocabulary words. Each sentence could be written on a separate slip of paper. Have children (individually or in small groups) sort and put sentences into informative paragraphs or a story. Edit and re-write paragraphs into one informative paper or a story.

Silly Sentence Structure Activity: This "game" develops both an understanding of sentence structure and the science subject. Use words from the "word wall" to fill in the blanks. After completing silly sentences for fun, have children try to fill in the proper words by looking for the correct information in the book.

Word Bank

See Glossary for words in Spanish and the definition in English.

Adjective	Noun			Verb
bushy	air	ice	snow	bask
cloudless	ash	January	snowfall	blow
cloudy	bald eagle	July	snowflake	boom
dry	bison	June	snowstorm	build
fertile	blizzard	land	soil	burn
flat	burrowing owl	lesser earless lizard	spring	call
frosty	climate	lightning	squall, downpour	coat
frozen	cloud	livestock	storm	crash
icy	cloudiness	March	summer	depend
low	cold front	May	sun	dig
muddy	cougar	nest	surface	dump
nutritious	December	nitrogen	tail	eat
parched	deer	November	thunder	echo
puffy	den	nutrient	thunderstorm	emerge
rough	desert	October	tornado	flash
sandy	drift	plains	tree	flee
soft	dust storm	prairie	white-out	flutter
stormy	evaporation	prairie chicken	wildfire	fly
thick	February	prairie dog	wildlife	freeze
treeless	fire	precipitation	wind	gather
underground	fog	rain	winter	graze
wet	forest	rainbow		grow
white	funnel cloud	red fox		hunt
windy	fur	sandhill cranes		pass
	grass	savanna		precipitate
	grassland	September		preen
	ground	shoot (plant)		prevent
	ground hog	shower		release
	habitat	shrub		shed
	hail	skunk		stir
	hailstorm	sky		take wing
	heat wave	sleet		thunder

Word Search

Find the hidden words. Even non-reading children can match letters to letters to find the words! Easy—words go up to down or left to right (no diagonals). For older children, identify the coordinates of the first letter in each word (number, letter).

	A	B	C	D	E	F	G	H	I	J
1	R	A	S	P	R	O	V	E	W	N
2	W	E	A	R	I	X	E	T	I	S
3	E	G	R	A	S	S	L	A	N	D
4	A	Z	A	I	A	U	C	A	S	T
5	T	W	Y	R	V	E	L	D	T	O
6	H	I	S	I	A	D	O	N	E	A
7	E	N	T	E	N	S	U	N	P	D
8	R	D	O	S	N	I	D	Y	P	E
9	T	O	R	N	A	D	O	V	E	S
10	I	N	M	D	U	M	P	S	A	T

GRASSLAND

SAVANNA

STEPPE

PRAIRIE

VELDT

STORM

CLOUD

TORNADO

SUN

RAYS

WIND

WEATHER

Edible Sorting and Classifying Activity

Objective Core Language Arts Vocabulary Acquisition and Use: Sort common objects into categories (e.g., shapes, foods) to gain a sense of the concepts the categories represent.

Gather a cup of edible “sorting items.” For example:

- As many different kinds of M&Ms as you can find
- Chocolate & peanut butter chips
- Hershey Kisses
- Peanuts or other type of nuts



Ask the children to sort the items into groups. There is no right and wrong, only what makes sense to the child. When finished, ask the child:

What feature or attribute (color, size, ingredient, etc.) did you use to sort the items?

- Are there some items that fit more than one group or don't fit any group?
- Is it easy to sort or were there some items that were a little confusing?

If more than one person did this, did everyone sort by the same attribute? To extend the learning, graph the attributes used to sort the items (blank graph below).

Graph the attributes that children used to sort their items.

What was the most common attribute (size, shape, color, etc.) used?

10				
9				
8				
7				
6				
5				
4				
3				
2				
1				
attribute				

Classifying Animals

Just as we sort candy, scientists sort all living things into groups to help us understand and connect how things relate to each other. Scientists ask questions to help them sort or classify animals.

Based on the answers to the questions, scientists can sort the living organisms. The first sort is into a Kingdom. There are five commonly accepted Kingdoms: Monera, Protista, Fungi, Plantae, and Animalia. All of the living things in this book belong to Animalia or the Animal Kingdom.

The next big sort is into a Phylum. One of the first questions that a scientist will ask is whether the animal has (or had at some point in its life) a backbone. If the answer is “yes,” the animal is a vertebrate. If the answer is “no,” the animal is an invertebrate.



Each Phylum is broken down into Classes, like mammals, birds, reptiles, fish, insects, or gastropods (snails). Then each class can be broken down even further into orders, families, genus and species, getting more specific.



The scientific name is generally in Latin or Greek and is the living thing’s genus and species. People all over the world use the scientific names, no matter what language they speak. Most living organisms also have a common name that we use in our own language.



Some questions scientists ask:

- Does it have a backbone?
- What type of skin covering does it have?
- Does it have a skeleton? If so, is it inside or outside of the body?
- How many body parts does the animal have?
- Does it get oxygen from the air through lungs or from the water through gills?
- Are the babies born alive or do they hatch from eggs?
- Does the baby drink milk from its mother?
- Is it warm-blooded or cold-blooded?

Using what you know, and information and pictures in the book, see how many Animal Chart squares you can fill in for each animal.

	Animals		
Appendages	legs (how many)		
	flippers/fins		
	wings		
	tail/no tail		
	horns/antlers		
Feet or hands: if they have; may have more than one	claws		
	web		
	toes		
	opposable thumbs/toes		
	hooves		
Movement: may do more than one	walks/runs		
	crawls		
	flies		
	slithers		
	swims		
	climbs		
	hops		
Backbone	backbone/vertebrate		
	no backbone/invertebrate		
Skeleton	inside skeleton (endoskeleton)		
	outside skeleton (exoskeleton)		
	no skeleton		
Body covering	hair/fur/whiskers/quills		
	feathers		
	dry scales or bony plates		
	moist scales		
	smooth, moist skin		
	hard outer shell		
	hard outer covering		
Color/patterns	stripes or spots		
	mostly one color		
	skin color changes		
	bright, vivid colors		
Gets oxygen	lungs		
	gills		
Body temperature	warm-blooded (endothermic)		
	cold-blooded (ectothermic)		
Babies	born alive		
	hatch from eggs		
	born alive or hatch from eggs		
Metamorphosis	complete		
	incomplete		
	none		
Teeth	sharp		
	flat		
	no teeth (bill/beak)		
Food	plant eater (herbivore)		
	meat eater (carnivore)		
	both (omnivore)		

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	flat		
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Food	plant eaters (herbivore)		
	meat eather (carnivore)		
	both (omnivore)		

Animal Sorting Cards







Grasses



Most of us think of grass as the pretty green grass found in yards...but that is just one of the many different types of grass.



Grasses are nonwoody plants with hollow, round stems and narrow leaves that grow from the base.



Grass roots grow deeper than the plant is tall. The deep roots help the plants grow again after fire. The deep roots also help the plants survive long periods of drought





Fire is an important part of the prairie ecosystem. It keeps trees and shrubs from growing and taking over. Native Americans noticed that bison and other animals thrived in areas that had burned (from lightning) and may have even started some fires to help the prairies.



It is said that early settlers crossing the North American continent would see grass as far as they could see. They often referred to the prairie as a sea of grass because it reminded them of the ocean...water as far as one could see. Their covered wagons were sometimes called “prairie schooners,” a referral to the ships in which the settlers may have crossed the ocean.



The Grasses We Eat!

Many animals eat grass and so do we! Or at least, we use parts of the grass plant to make other foods that we eat. Can you identify which grass is used to make the foods we eat? Can you think of other foods that come from these grasses?



Wheat



Corn



Rice



Oats



cookie



**corn on
the cob**



oatmeal



rice



bread



cornbread



cracker



cereal

Weather, Climate & Seasons

Weather is the the condition at a certain place and time: precipitation, temperature, wind, and barometric pressure. Weather can change quickly: rain or snow can start or stop, temperatures move up and down, wind can change speed and direction, and the barametric pressure (air pressure) changes.

Climate is the average weather condition at a place over a period of years based on temperature, wind velocity and precipitation

A **season** is one of the four natural weather divisions of the year: spring, summer, fall, and winter. Each season has an average weather condition different than the other seasons.

Do the following statements refer to weather, climate, or season?

1. Grasslands have an average of 20 to 50 inches (51 to 127 cm) of precipitation per year. Most of the precipitation in 6 or 8 months with long periods of drought during which fires may occur.



2. Expect temperatures to reach 80F (upper 20s C) today.



3. Look for rain showers turning to sleet in the evening.

4. On average, deserts receive less than 10 to 12 inches of precipitation each year and rainforest receive more than 60 inches.



5. Leaves turn bright colors and fall off trees.



6. Thunderstorms are expected to develop in the afternoon.

7. Most precipitation during this time of year is sleet or snow.



8. A hail stone fell that was the size of a baseball.

9. Early-morning fog is expected to lift and we should have a sunny sky by early afternoon.



10. Some mountain tops have snow all year round.

Prairie or Grassland

my definition

my drawing

Precipitation

my definition

my drawing

Wildfire

my definition

my drawing

Weather

my definition

my drawing

Math: Measuring (compare & contrast)

Objective Core Mathematics Measurement:

Order three objects by length; compare the lengths of two objects indirectly by using a third object.

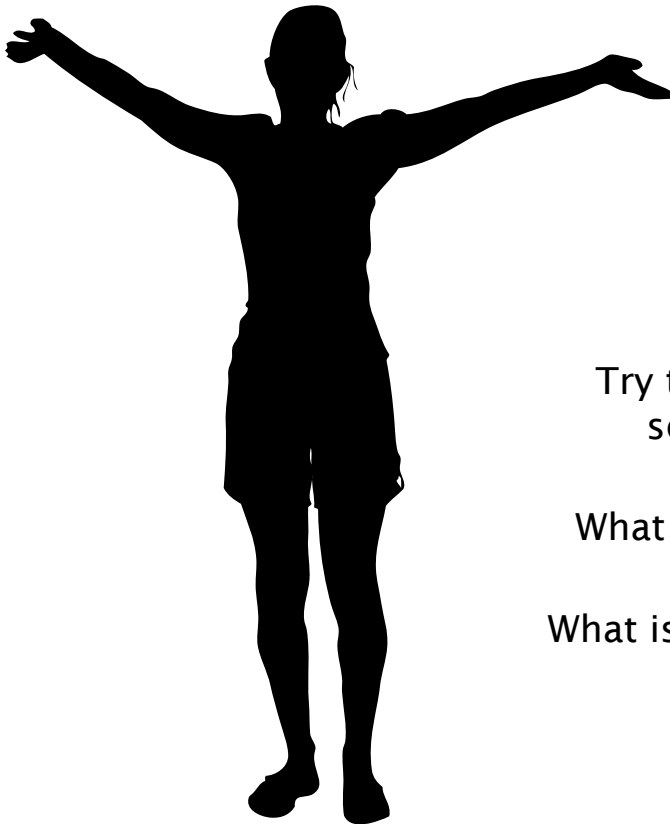
Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length

What standard measuring tool would you use to measure something in:

Inches or centimeters

Feet or meters

Pounds or kilograms



Try to imagine how big or small something is compared to something you know.

What are some other things about the same size?

What is something that weighs about the same?

How big is it?

Using the right measuring tool (yard stick or measuring tape) and chalk, mark off how big something is on the playground, sidewalk, or driveway.

If you were to lie down on or next to the line, how many times would you have to lie down in order to equal the size?



Tall grasses can grow as tall as ten feet and average a height of six to eight feet.



Some prairie plants have roots that go 12 feet below ground.



What are some things around you that are six feet tall?

What are some things around you that are ten feet?

Describe the roots compared to the height of the plants shown above.

If you were in a field of tall grass that averages six feet in height, would you be able to see around you?

Do you think all grass could grow to ten feet? Why or why not?

An adult male bison stands about 6 1/2 feet high at the shoulder.

An adult male bison can be as long as 12 1/2 ft

A bison bull weighs up to 2,000 pounds and a cow weighs up to 1,000.

A bison eats 30-50 pounds of feed each day.



If you were standing next to a bison, which would be taller?

Is a bison longer or shorter than you are tall? What about your mother or father? What is something that is about as long as a bison?

How much do you weigh? How does that compare to what a bison eats every day? It's a good thing a bison eats plants!

An adult sandhill crane stands 3 to 4 feet tall.

An adult sandhill crane has a wingspan (from tip of one wing to the tip of the other wing) of 6 to 7 feet.

An adult sandhill crane weighs 6 to 12 pounds.

Sandhill cranes average 25 to 35 miles per hour in flight.

During migration, sandhill cranes can fly up to 300 miles in one day.



If you were standing next to a sandhill crane, which would be taller?

Is a sandhill crane's wingspan wider or shorter than you are tall?

How much do you weigh? How does that compare to a sandhill crane?

How fast do you think you walk? Do you think that's faster or slower than how fast a sandhill crane flies? Next time you are in the car, ask the driver to tell you when you are driving 25 to 35 miles per hour so you can get a feel for their speed.

Bison Map Activity

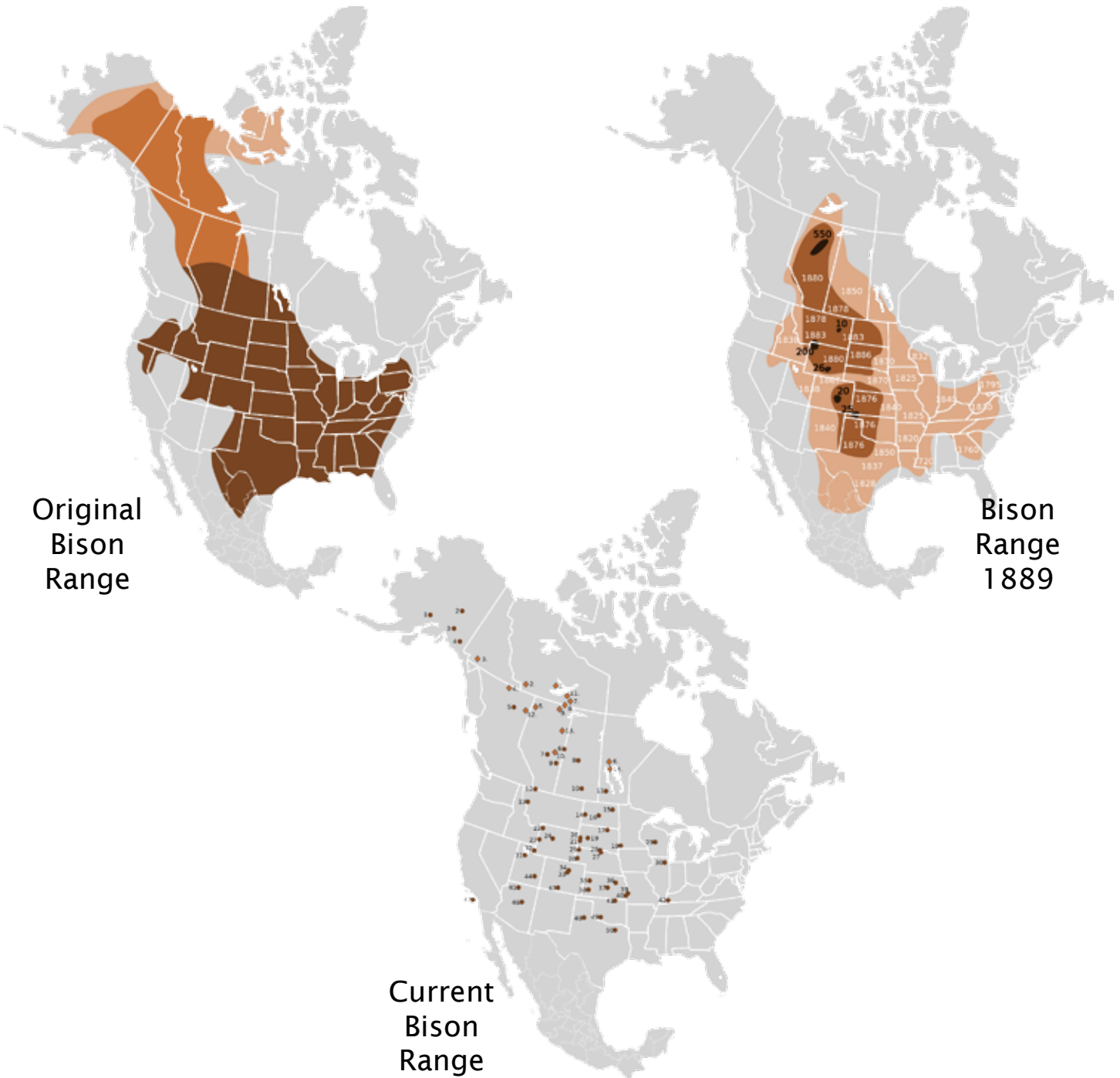
Using these maps as a reference, color the areas where these animals once lived on the blank map (in appendix).

Did they ever live in your area?

If so, which type of bison?

Do they live there now?

Holocene bison
wood bison
plain bison



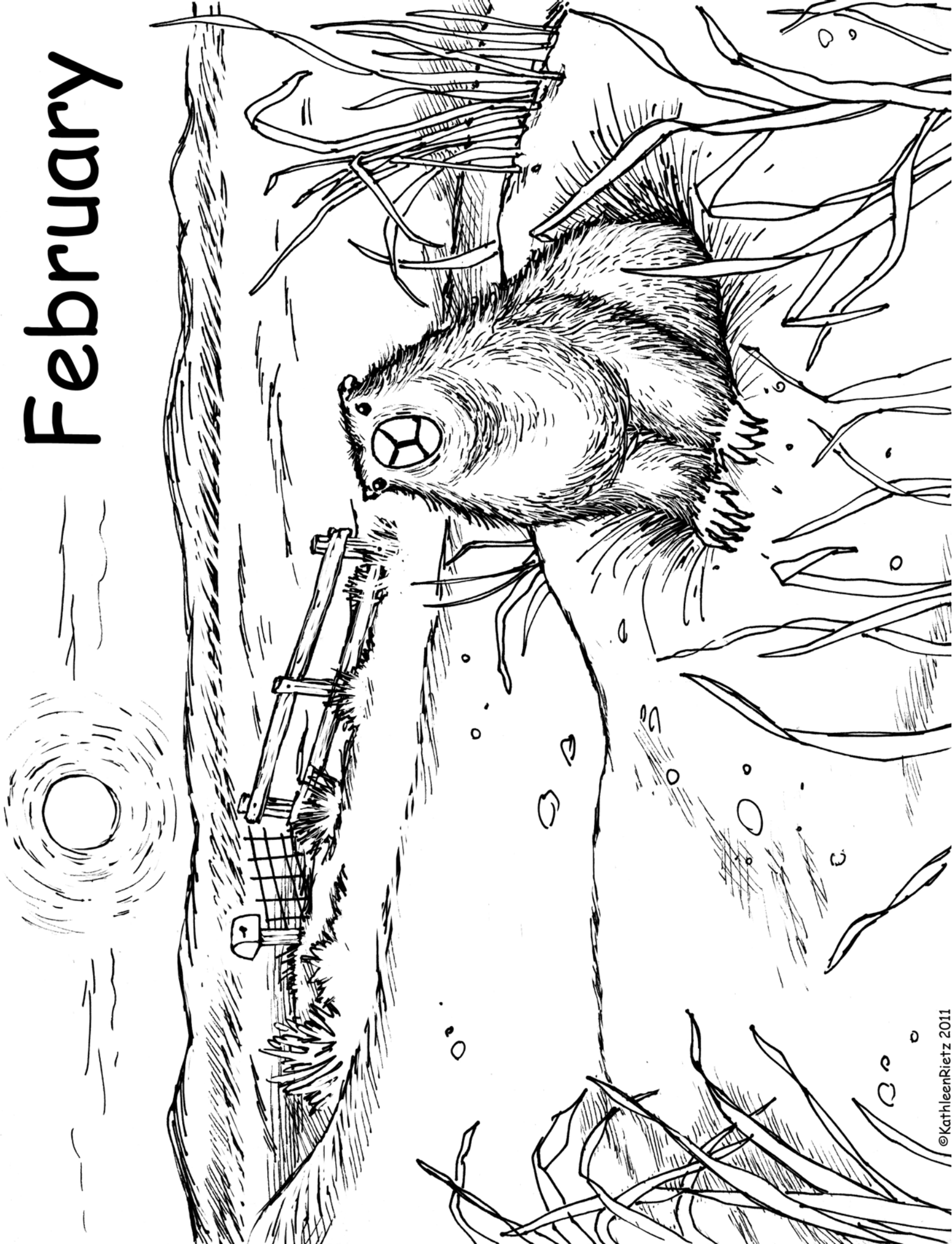
July



August



February



Glossary

Word	Definition	Part of Speech	Spanish
air	the invisible gaseous substance surrounding the earth, a mixture mainly of oxygen and nitrogen	noun	aire
air pressure	the weight of the air: the more air, the higher the pressure, the less air, the lower the pressure	noun	presión
anemometer	a weather instrument that measures wind speed	noun	anemómetro
animal	any member of the kingdom Animalia: can move voluntarily, get and eat food, and respond to stimuli	noun	animal
anticyclone	a clockwise rotating area of air with good weather; it is the opposite (anti) of a cyclone, also called ridge or high pressure.	noun	anticiclón
April	4th month of the year, spring in the Northern hemisphere, known for rainy weather	noun: time/ week/ month/ season	abril
arch	a large curved structure or form	noun	arco
ash	small, fine dust-size pieces of burned materials	noun	fresno
August	8th month of the year, summer in Northern hemisphere	noun: time/ week/ month/ season	agosto

Word	Definition	Part of Speech	Spanish
autumn (fall)	the season between winter and summer; leaves appears on trees, flowers begin to grown again, temperature warms	noun: time/ week/ month/ season	otoño
baking	hot enough to feel like one is in an oven	adjective	hornada
bald eagle	a type of bird of prey; recovered from endangered listing, the U.S. national symbol	noun: animal	águila (feminine noun)
ball	a round or almost round object	noun	pelota
barometer	a device for measuring air pressure	noun	barómetro
barometric pressure	another word for atmospheric pressure because it is measured with an instrument called a barometer.	noun	presión atmosperhic
bask	to lie in or be exposed to a pleasant warmth (sunshine)	verb	tomar el sol
bison	a large herbivore mammal with a shaggy coat, frequently miscalled "buffalo"	noun: animal	bisonte
black	a dark color, the opposite of white	adjective	negro
blanket	to cover completely	verb	cubrir
blizzard	snow falling with winds faster than 35 mph and visibility of 1/4 mile or less over an extended time	noun	nevasca
blow	to force a strong current of air	verb	soplar
bone	the hard tissue that makes the skeleton of vertebrates.	noun: body part	huesos
boom	to puff up, raise feathers, and dance around with a loud call to attract female attention	verb	retumbar
branch	natural subdivisions of a plant stem; especially a secondary shoot or stem	noun: plant	rama

Word	Definition	Part of Speech	Spanish
brown	a color	adjective	marrón
build	to put pieces together, to make bigger	verb	construir, fabricar
burn	to damage or destroy by fire, heat, or chemicals	verb	quemar
burrow	an animals' hole or excavation in the ground used shelter or habitation	noun	madriguera
burrowing owl	a small owl that nests in burrows instead of trees	noun: animal	Lechuza llanera, Chicuate
bushy	heavy, thick hair or branches/leaves	adjective	breñoso
call	to make a loud noise (animal), to speak loudly; Dolch Sight word, Grd 2	verb	llamar
celsius	a temperature measurement scale where 0° represents the freezing point of water and 100° represents the boiling point of water; formerly known as centigrade.	noun	grado Celsius
chill	a feeling of being cold	noun	gelidez
cirrus	high-altitude cloud composed of narrow bands or patches of thin, generally white, fleecy parts	noun	cirro
claw	a sharp, curved nail on the toe of an animal	noun	garras
clench	to close, grasp, or hold onto something tightly	verb	agarrar
climate	average weather condition at a place over a period of years based on temperature, wind velocity and precipitation	noun	ambiente
cloud	visible collection of tiny water droplets or ice crystals in the atmosphere	noun	nube
cloudburst	a short period with a lot of heavy rain	noun	chaparrón
cloudiness	the amount of cloud cover in the sky at any given point in time	noun	nubosidad

Word	Definition	Part of Speech	Spanish
cloudless	no clouds in the sky	adjective	despejado
cloudy	full of clouds, not clear	adjective	nublado
coat	to cover something with something else	verb	cubrir
cold front	a warm-cold air boundary with the cold air advancing	noun	frente frío
condensation	the change of a vapor to liquid	noun	condensación
cougar	a large, powerful tawny-brown cat	noun: animal	el puma
crackle	to make ongoing, short sounds	verb	crujir
crash	to fall from sky or hit something so hard it makes a loud noise	verb	caer, chocar
creep (crept=past tense)	to move quietly and slowly	verb	trepar
cumulonimbus	a cloud type associated with rain that is dense and vertically developed	noun	cumulonimbo
cumulus	dense, white, fluffy, flat-based cloud with a multiple rounded top and a well-defined outline, usually formed by the ascent of thermally unstable air masses	noun	cúmulo
dash	to move with sudden speed	verb	guiones
December	12th month of the year, winter in Northern hemisphere	noun: time/ week/ month/ season	diciembre
deer	large, brown wild animal (ruminant mammal), males grow antlers and are called bucks, females are does, babies are fawns	noun: animal	venado, ciervo
defiant	refusing to give in	adjective	desafiador
den	a shelter, natural or constructed, used for sleeping, for giving birth and raising young, and/or for providing shelter during winter.	noun	guarida

Word	Definition	Part of Speech	Spanish
depend	to rely on	verb	depende
desert	land area that receives less than 10-12 inches (25-30 cm) of rain per year	noun: habitat	desierto
dig	break up and move earth with a tool or machine, or with hands , paws, snout, etc.	verb	cavar
disappear	to no longer exist, vanish	verb	desaparecer
drift	a large pile of snow or sand made by wind	noun	duna
drum	to make a rhythmic noise, could be on a musical instrument	verb	tambalear
dry	not wet or moist	adjective	seco
dump	to leave or get rid of something in a careless way	verb	dejar caer
dust storm	sand or dirt blowing in a windstorm	noun	tormenta de arena
early	near the beginning of a time period	adjective	temprano
eat	to bite and swallow food as nourishment	verb	comer
echo	to repeat a sound	verb	resonar
emerge	to come out of	verb	salir
evaporation	to convert or change into a vapor	noun	evaporación
fall	the season between winter and summer; leaves appear on trees, flowers begin to grow again, temperature warms	noun: time/ season	otoño (las estaciones = seasons)
February	2nd month of the year, winter in Northern hemisphere	noun: time/ month	febrero
fertile	very productive; enhancing the growth of new life	adjective	fértil
fire	flames and heat from something burning	noun	fuego

Word	Definition	Part of Speech	Spanish
flash	to quickly shine or to shine on and off very quickly	verb	brillar
flat	level, even	adjective	plano
flee	to run away or escape from a dangerous situation	verb	escapar
flutter	to move back and forth	verb	aletear
fly	to move quickly through the air; Dolch Sight word, grade 1	verb	volar
fog	a cloud on or close to the ground	noun	encainada
forest	a diverse community of plants and animals in which trees are the most easily seen	noun: habitat	bosque
freeze	to turn from a liquid into a solid because of cold temperatures	verb	congelar
front (weather)	a boundary between two different air masses	noun	frente
frost	Ice crystals formed by deposition of water vapor on a relatively cold surface.	noun	helada
frosty	covered with a thin white layer of ice that looks like powder; cold, chilly	adjective	helado
frozen	treated or affected by freezing	adjective	congelado
funnel cloud	a rotating column of air extending from a cloud but not reaching the ground	noun	nube embudo
fur	the hairy coat of a mammal	noun: body part	pelaje, pieles
gather	to collect in one place	verb	recoger
gnaw	to keep biting or chewing on something with teeth	verb	carcomer
grass	a nonwoody plant with hollow, round stems and narrow leaves that grow from the base	noun	hierba
grassland	an ecosystem with a dry, temperate climate long periods of the summer, and freezes in the winter with grasses, no trees or shrubs	noun	herbazal

Word	Definition	Part of Speech	Spanish
graze	to eat growing grass	verb	apacentar
ground	the solid part of the Earth's surface	noun	tierra
ground hog	a small furry mammal that hibernates in a burrow in winter, said to predict spring's arrival	noun: animal	marmota de América
grow	to get bigger in size (Dolch) Sight word, grade 3	verb	crecer
habitat	an address: a combination of the physical environment - the rocks and land and water - as well as all of the organisms that live in the same place	noun	hábitat
hail	frozen ice balls of precipitation from thunderstorms	noun	granizo
hailstorm	a storm of frozen iceballs of precipitation	noun	granizada
heat wave	unusually hot and uncomfortable weather that lasts from a few days to several weeks	noun	ola de calor
herd	a group of certain large animals that associate together	noun	rebaño
hibernating	in the act of spending the winter in close quarters in a dormant condition	adjective	hibernación
hollow	openings (in trees, rocks\)	noun	huecos
huge	very large	adjective	"enorme"
hunt	to chase or search for animals for the purpose of catching or killing	verb	cazar
ice	frozen form of water	noun	hielo
icy	covered with ice, or extremely cold	adjective	helado
January	1st month of year, winter in Northern hemisphere	noun: time/ week/ month/ season	enero

Word	Definition	Part of Speech	Spanish
July	7th month of year, summer in Northern hemisphere	noun: time/ week/ month/ season	julio
June	6th month of year, summer in Northern hemisphere	noun: time/ month	junio
land	an area of ground	noun	terrestre
ledge	a narrow flat surface or shelf	noun	repisa
lesser earless lizard	a small type of lizard that burrows into ground, found in prairies and deserts	noun: animal	lagartijas espinosas
lightning	a visible explosion of electricity made by a thunderstorm	noun	relámpago
linger	to stay somewhere longer than necessary usually because it is fun	verb	"tardar, permanecer "
livestock	domesticated animals, barn animals	noun	ganado
low	small in height or close to the ground	adjective	bajo
March	3rd month of year, spring in Northern hemisphere	noun: time/ week/ month/ season	marzo
May	5th month of year, spring in Northern hemisphere	noun: time/ week/ month/ season	mayo
more	additional or greater quantity or time	adjective	mas
mouse	a small rodent	noun: animal	ratón

Word	Definition	Part of Speech	Spanish
muddy	covered with mud (soft, wet earth)	adjective	lodoso
nervous	feeling excited and worried	adjective	nervioso
nest	a place used by birds, insects, fishes, turtles, rabbits, etc, for depositing their eggs or raising young	noun	nido
nitrogen	a nonmetallic element necessary for the growth of organisms (especially plants)	noun	nitrógeno
November	11th month of year, fall in Northern hemisphere	noun: time/ week/ month/ season	noviembre
nutrient	a substance that provides the nourishment needed for the survival of an organism	noun	nutrientes, alimentos nutritivos, sustancia nutritiva
nutritious	providing nourishment	adjective	nutritivo
October	10th month of year, fall in Northern hemisphere	noun: time/ week/ month/ season	octubre,
parched	very dry, very thirsty	adjective	árido
pass	to move past something	verb	pasar
plains	a region of flat, treeless land covered with grasses	noun: habitat	llanura
prairie	a grassy, unforested area.	noun	pradera
prairie chicken	also called prairie grouse, a medium to large chicken-like bird that is native to the prairie habitat	noun: animal	pollo de la pradera
prairie dog	a type of rodent (mammal) found in North America, usually live in large social colonies, related to squirrels, some species are considered pests and others are threatened or endangered	noun: animal	perritos de la pradera

Word	Definition	Part of Speech	Spanish
precipitate	the act of water in any form (rain, snow, sleet, or hail) as it falls to the ground	verb	precipitado
precipitation	any form of water (rain, snow, sleet, or hail), falling to the earth's surface	noun	precipitación
prediction	an educated guess about an outcome.	noun	predicción
preen	to clean feathers with a bill, like a bird does	verb	limpiarse
prevent	to keep from happening	verb	evitar
puffy	big, round, and light	adjective	hinchado
rage	to be very angry or violent	verb	furia
rain	liquid precipitation in the form of drops	noun	lluvia
rainbow	an arch of color caused by the reflection and refraction (bending) of sunlight passing through raindrops	noun	arco iris
red fox	largest of all foxes	noun: animal	zorro rojo
release	to let go, to free	verb	liberar, soltar
roar	to make a long, loud, deep sound	verb	rugir
rough	uneven, coarse	adjective	áspero
sandhill cranes	large crane (bird) found in Midwest US, migrating	noun: animal	grulla canadiense
sandy	covered with sand	adjective	arenal
savanna	a tropical or subtropical grassland	noun: habitat	sabana
September	9th month of the year, beginning of fall (autumn) in Northern hemisphere	noun: time/ week/ month/ season	septiembre
shed	to cast off, to separate	verb	quitarse
shoot (plant)	young plants	noun	brotos

Word	Definition	Part of Speech	Spanish
short, shorter, shortest	close to the ground	adjective	bajo, mas bajo, lo mas bajo
shower	a short period of rain or snow	noun	
shrub	a low, thick bush	noun	arbusto
skunk	a small black and white animal that protects itself by emitting a stinky smell by lifting its tail when frightened	noun: animal	zorrillo
sky	the space seen above the earth (air)	noun	cielo
sleet	a mixture of snow and rain	noun	lluvia congelada
snow	small, white crystal flakes of frozen precipitation; each individual flake always has six sides	noun	nieve
snowfall	the amount of snow accumulated in a given period	noun	nevada
snowflake	an individual, six-pointed cluster of ice crystals that falls from a cloud	noun	copo de nieve
snowstorm	a storm with frozen precipitation	noun	ventisca
soar	to fly about	verb	cernerse
soft	yielding readily to touch or pressure; easily penetrated, divided, or changed in shape, gentle or mild	adjective	blando, suave
soil	the top layer of the earth's surface, consisting of rock and mineral particles mixed with organic matter	noun	suelo
spring	the season between winter and summer; leaves appears on trees, flowers begin to grown again, temperature warms	noun: time/ week/ month/ season	primavera
squall, downpour	a sharp, sudden increase in wind speed associated with rainstorm	noun	chubasco, turbonada
stir	to move around	verb	revolver, mover

Word	Definition	Part of Speech	Spanish
storm	a violent disturbance of the atmosphere with strong winds and usually rain, thunder, lightning, or snow	noun	temporal
stormy	windy, rainy weather	adjective	tempestuoso
straw	1) the yellow stems of dried grasses, 2) a hollow tube through which to drink	noun	paja
sudden	no warning	adjective	repentino
summer	the hottest season of the year, between spring and fall	noun: time/ week/ month/ season	verano
sun	the star closest to Earth, the center of our solar system; a ball of hot, glowing gases giving Earth heat and light.	noun	sol
surface	the top layer or outside of something	noun	superficie
sweep	to move or spread quickly through an area	verb	barredura
tail	(life science) the rear, elongated part of many animals, used for balance, combat, communication, mating displays, fat storage, movement and steering; (comet) a long line of gas and dust that flow away from the nucleus of the comet	noun	cola
take wing	to fly away	verb	volar
tall/taller/ tallest	greater (and comparative) height than something or someone else	adjective	alto, mas alto, lo mas alto
thick	heavy, full	adjective	grueso
thunder	to make a loud noise	verb	tronar, vociferar

Word	Definition	Part of Speech	Spanish
thunder	the sound produced by a lightning discharge	noun	trueno
thunderstorm	localized storm that produces lightning and thunder	noun	tormenta eléctrica
tornado	a rapidly spinning column of air that may come down during a thunderstorm and touch the ground	noun	tornado
tower	to be much taller than someone or something	verb	encumbrarse, estar mas alto
tree	a type of plant with a permanent woody stem	noun: plant	árbol
treeless	without trees	adjective	sin árboles
trot	to walk with short, quick steps	verb	trotar
turn	to change position to face a different direction	verb	darse vuelta
undaunted	determined and not afraid	adjective	impávido, sin miedo, fuerte
underground	under the earth	adjective	subterráneo
unmovable	can't be moved	adjective	sin mover
unplug	to remove a plug (from an electrical outlet) or a blockage	verb	"desenchufar"
unshaken	having positive feelings after something bad	adjective	impertérrito
vortex	a spinning flow of air.	noun	vórtice
wade	to walk in or through water that's not very deep	verb	vadear
wail	to make a long, high sound or cry	verb	gemir
warm, warmer, warmest	having a comfortable amount of heat (Dolch) Sight word, grade 3	adjective	caliente
watch	to look at something for a long time	verb	mirar
wet	covered with water or other liquid	adjective	mojado
whistling	the sound made by something moving rapidly	adjective	"silbido"
white	a color, the opposite of black, lack of any color	adjective	blanco

Word	Definition	Part of Speech	Spanish
white-out	a weather condition where only snow can be seen, limited visibility	noun	blanco-hacia fuera
wide	a large distance from one side to another	adjective	ancho
wildfire	a fire started by natural causes	noun	"incendios forestales, fuego fatuo"
wildlife	large wild animals like deer, mice, birds, etchant have not been domesticated for human use	noun	fauna
wind	the natural movement of the air in the atmosphere	noun	viento
wind shear	any sudden change in wind speed or direction	noun	cizalladura del viento
wind velocity	wind speed and wind direction.	noun	velocidad del viento
windy	having a lot of wind or breeze	adjective	ventoso
winter	the coldest season of the year, precipitation in some areas freezes to snow or ice	noun: time/ week/ month/ season	invierno
wispy	thin and weak	adjective	tenue

Answers

Silly Sentences

Prairies, seas of grass, or grasslands are huge areas of flat land covered with grass.

Some grasslands have tall grass, some short, and some have mixed grasses.

Fire is an important process in grassland habitats.

After plants burn, the ash provides nutrients to the soil and nitrogen is released below ground.

As a result, new plant shoots that emerge after the burn are more nutritious for wildlife and livestock.

Fire also prevents trees and shrubs from taking over the grassland.

Lightning can cause wildfires, especially if weather conditions are dry and windy.

Grasslands receive an average of 10 to 40 inches (about 25 to 100 cm) of precipitation each year.

Less rain would turn the grassland to desert and more rain would allow more trees to grow into forests.

Word Search

	A	B	C	D	E	F	G	H	I	J
1	R	A	S	P	R	O	V	E	W	N
2	W	E	A	R	I	X	E	T	I	S
3	E	G	R	A	S	S	L	A	N	D
4	A	Z	A	I	A	U	C	A	S	T
5	T	W	Y	R	V	E	L	D	T	O
6	H	I	S	I	A	D	O	N	E	A
7	E	N	T	E	N	S	U	N	P	D
8	R	D	O	S	N	I	D	Y	P	E
9	T	O	R	N	A	D	O	V	E	S
10	I	N	M	D	U	M	P	S	A	T

GRASSLAND	3B	SAVANNA	3E	STEPPE	4I
PRAIRIE	1D	VELDT	5E	STORM	6C
CLOUD	4G	TORNADO	9A	SUN	7F
RAYS	3C	WIND	5B	WEATHER	2A

The Grasses We Eat!

Wheat: cookies, bread, crackers, some cereals

Corn: corn on the cob, cornbread, some cereals

Rice: rice, some cereals

Oats: some cookies, oatmeal, some cereals

Weather, Climate & Seasons

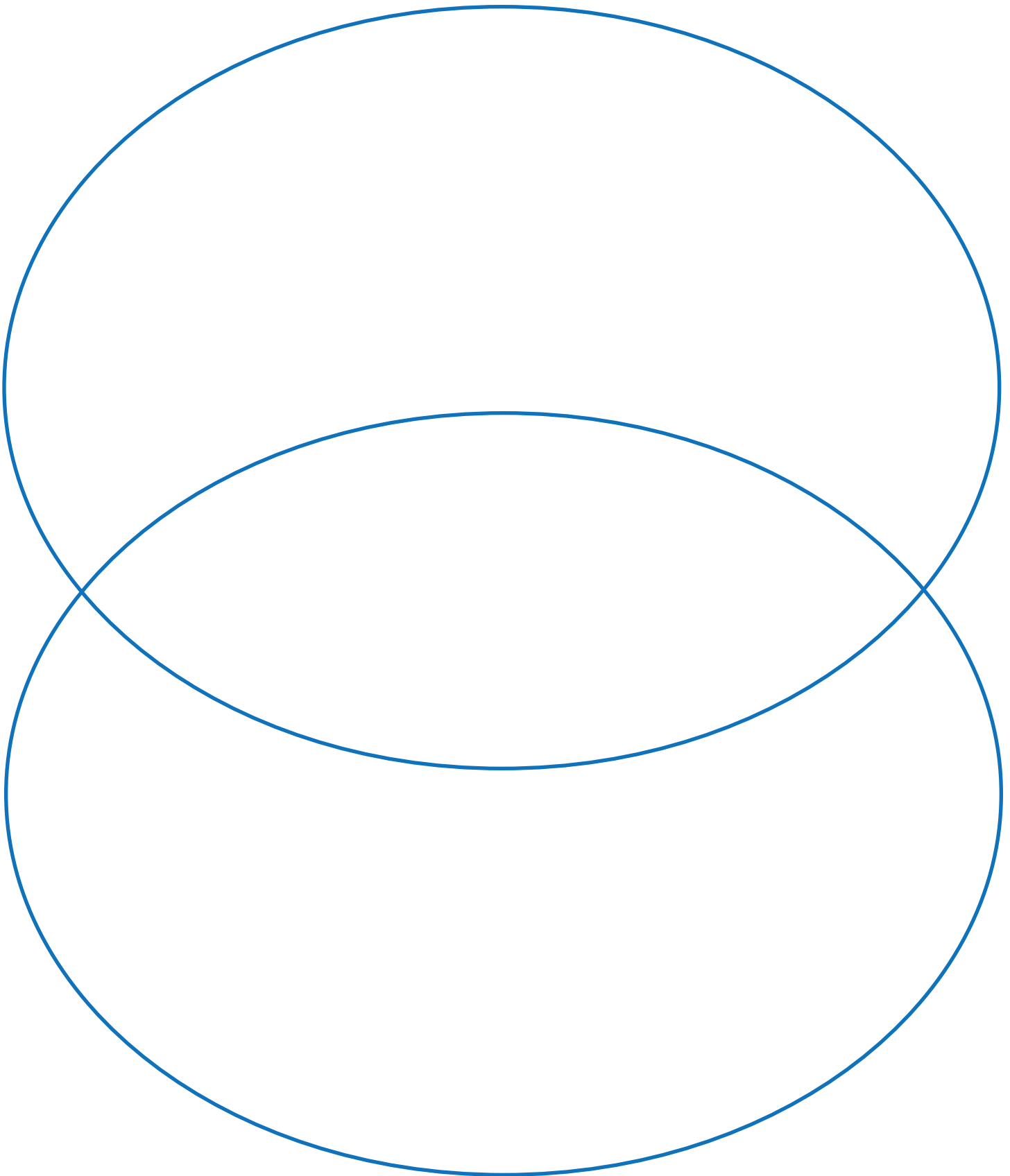
1. Climate
2. Weather
3. Weather
4. Climate
5. Season (Autumn)
6. Weather
7. Season
8. Weather
9. Weather
10. Climate

Appendix A—“What Children Know” Cards

<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>	<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>
<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>	<p>Question:</p> <p>My answer:</p> <p>This information is correct! This information is not correct; can you find the correct information?</p>

Appendix B—Venn Diagram

Compare and contrast two types of daily or seasonal weather.



Appendix C—North America Map

