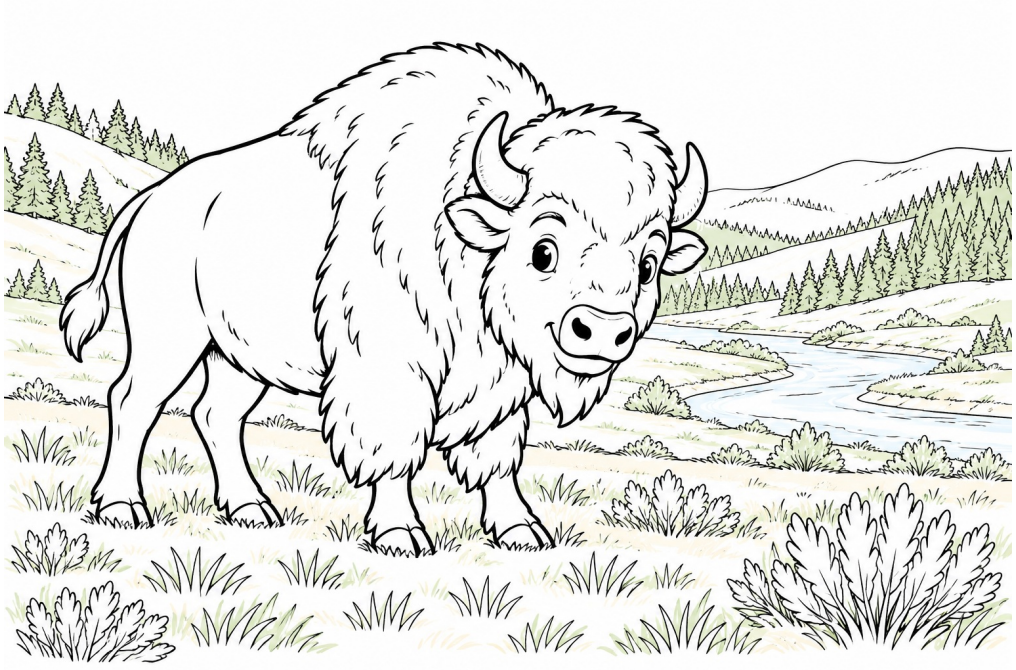
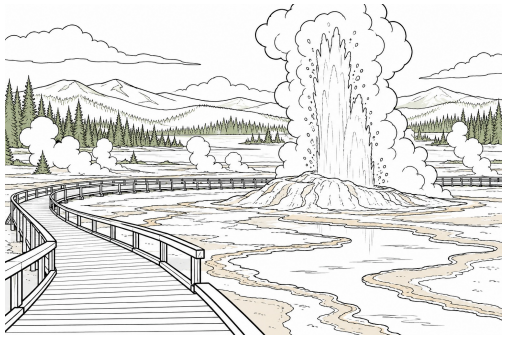
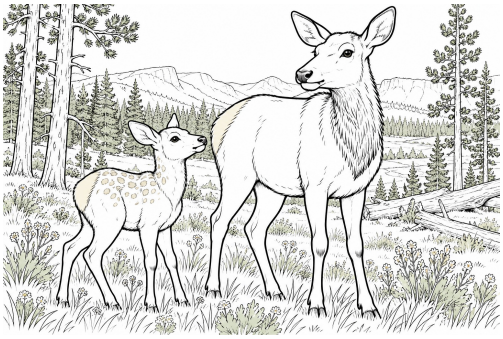
Yellowstone

A Wild Base Family activity book for ages 4-6, 7-9 and 10+







PRINT BY AGE | PAGE RANGES

Ages 4-6: activities 3-14; answers 39-41.
Ages 7-9: activities 15-26; answers 42-44.
Ages 10+: activities 27-38; answers 45-47.
Shared parent guidance and sources: 48-50.

This book belongs to

Choose your discoveries

Choose a comfortable challenge level. Each packet has its own introduction and answers. Reading aloud, talking and pointing count as exploring.

AGES 4-6 | ACTIVITIES 3-14 | ANSWERS 39-41

Picture-led puzzles, a broad-path bison maze, sorting, counting, coloring and conversation. A grown-up can read the short directions.

AGES 7-9 | ACTIVITIES 15-26 | ANSWERS 42-44

Geyser science, wildlife connections, landscape math, word puzzles, history and a family strategy game.

AGES 10+ | ACTIVITIES 27-38 | ANSWERS 45-47

Illustrated mysteries, a demanding maze, evidence puzzles, a changing-terrace model and deeper discoveries.

PRINT AND PACK

Print US Letter at actual size, or fit to A4. Grayscale works. Pack a pencil, crayons and a clipboard. Single-sided pages are easy to share.

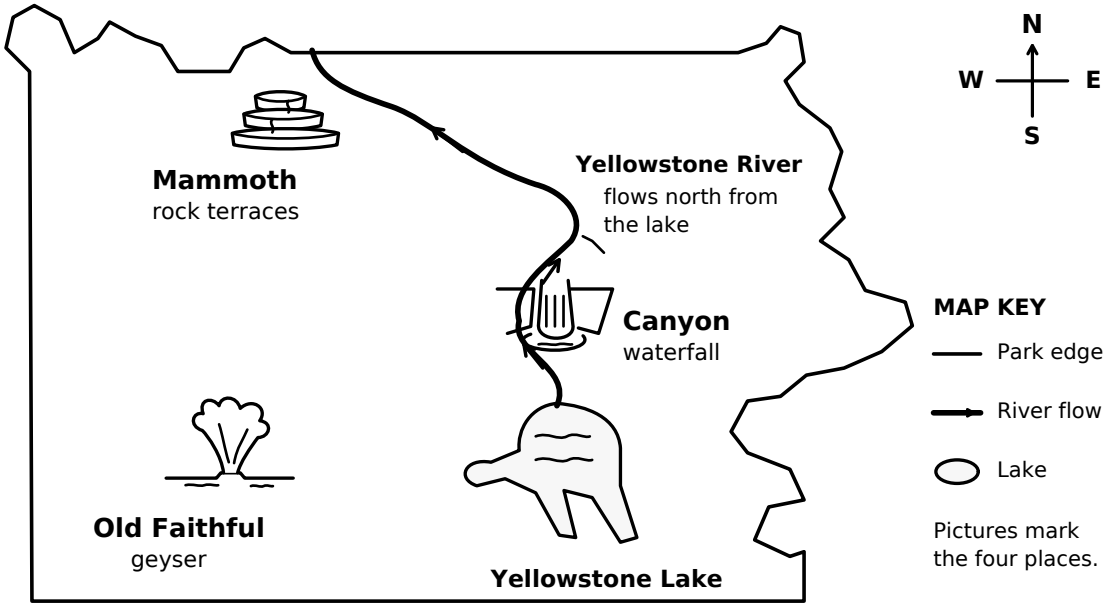
Shared parent guidance and sources: pages 48-50. Answer references use the page numbers in the PDF you are reading.

Passenger play only; keep the driver free to concentrate.

START YOUR EXPLORER PACKET **AGES 4-6**

Hello Yellowstone

Point to a geyser, rock steps, a canyon and a lake. Let’s meet Yellowstone!



Simplified park locator

FOUR PLACES TO MEET

Old Faithful is a geyser: a hot spring that shoots water and steam. Mammoth has rock steps called terraces. The Yellowstone River runs through a canyon. Yellowstone Lake holds water high in the mountains.

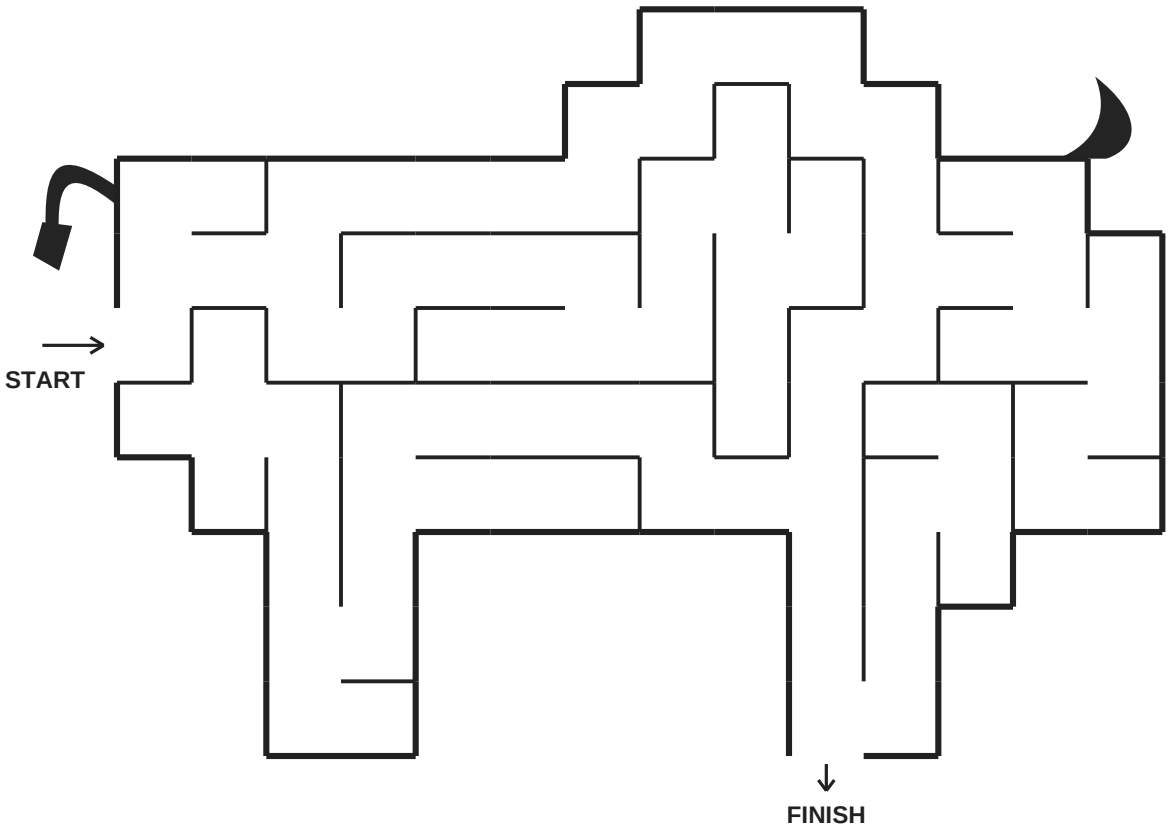
Circle Old Faithful. Put a star beside the lake. Point to the place farthest north.

You need a pencil and crayons. Try the puzzles in any order. Answers begin on page 39.

SHAPED MAZE | GENTLE **AGES 4-6**

A path through a bison

Start at the arrow. Stay between the walls until you reach FINISH. Point to the bison’s high shoulder hump before you begin.



A SNOW SHOVEL WITH HOOVES

Strong neck and shoulder muscles help a bison sweep snow aside with its head. Under the snow are grasses to eat.

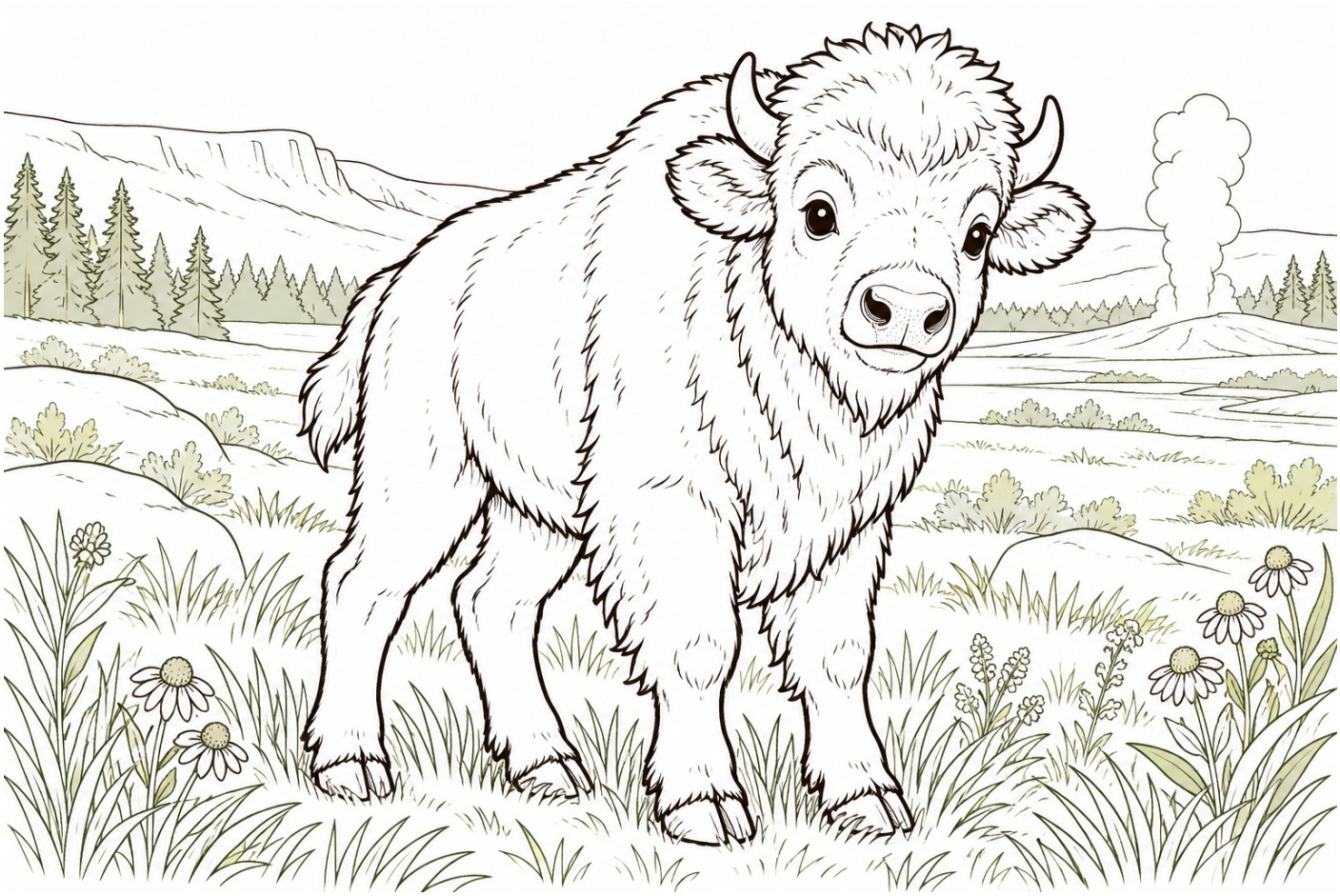
NOTICE AND CONNECT

Use your hand to show a sweeping motion. Where would snow hide a bison’s food?

COLOR AND DISCOVER **AGES 4-6**

Built for a cold place

Color the bison. Find its hump, horns, hooves and shaggy coat. Add three clumps of grass.



LOOK CLOSELY

A bison’s thick coat helps it keep warm. Its muscles help move snow. Its mouth gathers grass. Each part has a job.

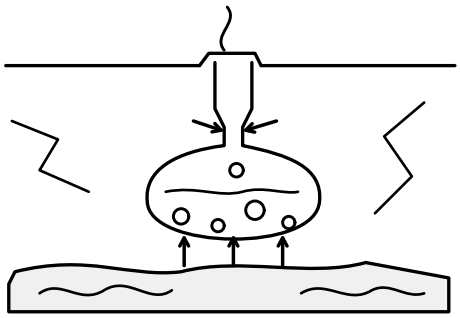
Say which body part does each job: keeps warm; gathers food.
Tell someone how your winter coat helps you.

PUT A STORY IN ORDER **AGES 4-6**

Up goes the geyser

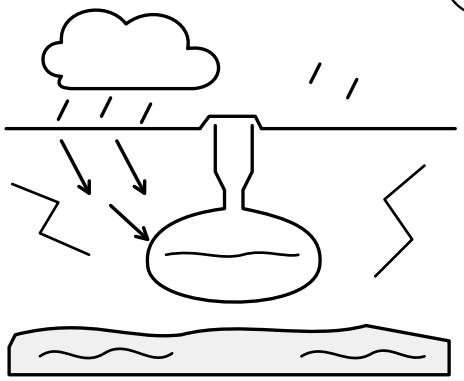
Point to what happens first. Then write 1, 2, 3 and 4 in the circles.

A



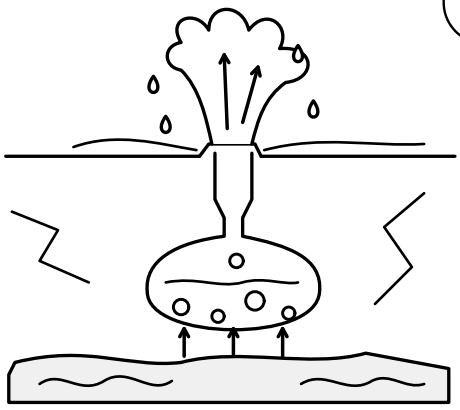
Hot water waits.

B



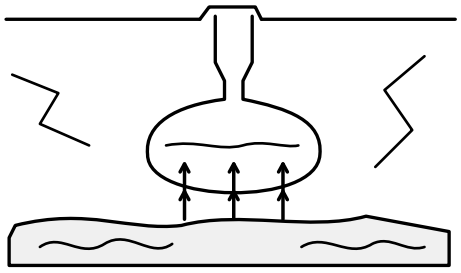
Rain soaks in.

C



Up goes the geyser!

D



Hot rock heats water.

DISCOVERY

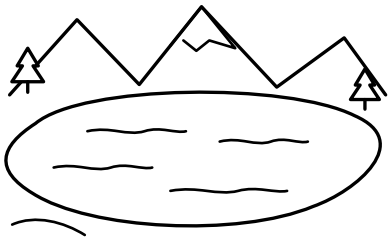
A geyser needs water, heat and underground passages.

MATCH AND DRAW **AGES 4-6**

Water makes shapes

Point to the picture that matches each clue. Then draw water flowing out of the lake.

LAKE



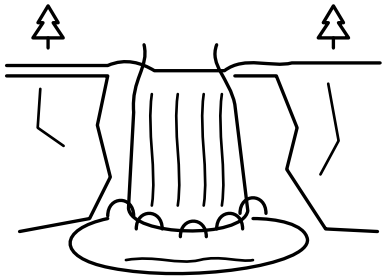
Wide water gathers.

RIVER



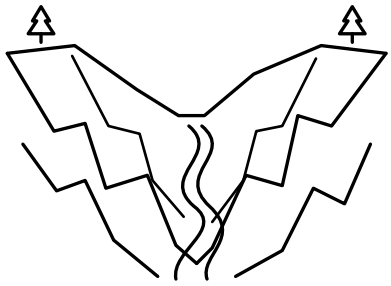
Water keeps flowing.

WATERFALL



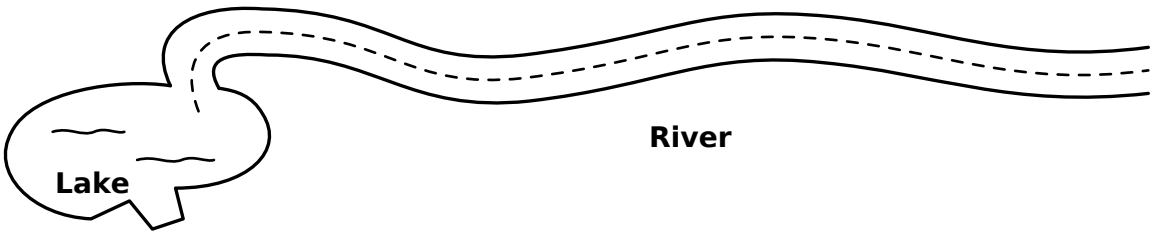
Water drops down.

CANYON



A deep valley has tall sides.

The Yellowstone River flows OUT of Yellowstone Lake.



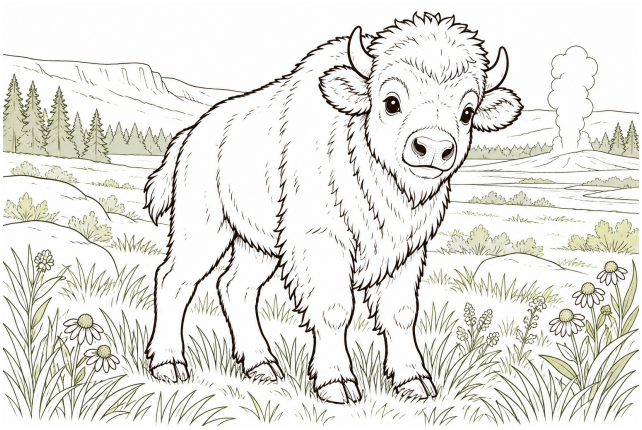
Add an arrow showing the river leaving the lake.

WILDLIFE SORTING **AGES 4-6**

What is for lunch

Draw a line from each food picture to the animal that eats it.

Bison eat grasses. Black bears eat berries and insects.



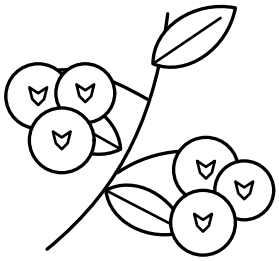
BISON



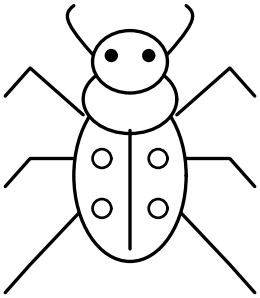
BLACK BEAR



GRASS



BERRIES



INSECT

COUNT AND CIRCLE

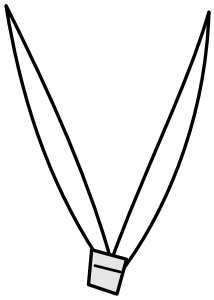
How many food pictures? _____

Circle the foods that come from plants.

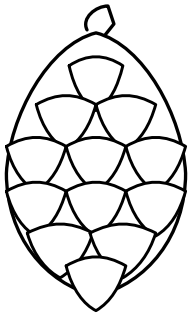
PATTERNS IN A PINE FOREST **AGES 4-6**

Needles and cones

Look at each picture pattern. Draw the picture that comes next.

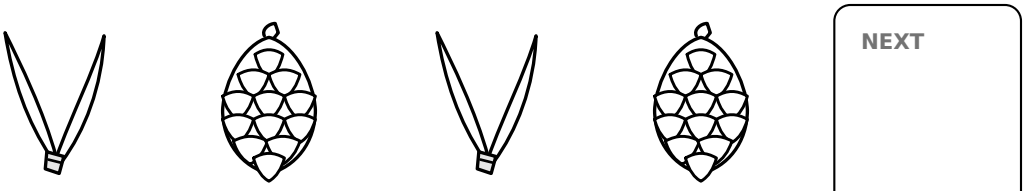


A pair of pine needles



A seed-bearing cone

Lodgepole needles grow in pairs. Seeds grow inside cones.



NEXT



NEXT

Draw two pairs of needles. How many needles? _____

TWO PAIRS

PEOPLE AND HISTORY AGES 4-6

A place with a long story

People knew Yellowstone long before it became a national park in 1872. Many Indigenous nations have continuing connections to this place.

LONG AGO

People traveled through this land and used its resources. Obsidian, a shiny volcanic rock, could be shaped into sharp tools.

IN 1872

Yellowstone became a national park. A park is a place set aside to be protected.

TODAY

Tribal communities keep their connections to Yellowstone. Rangers and visitors also help care for the park.

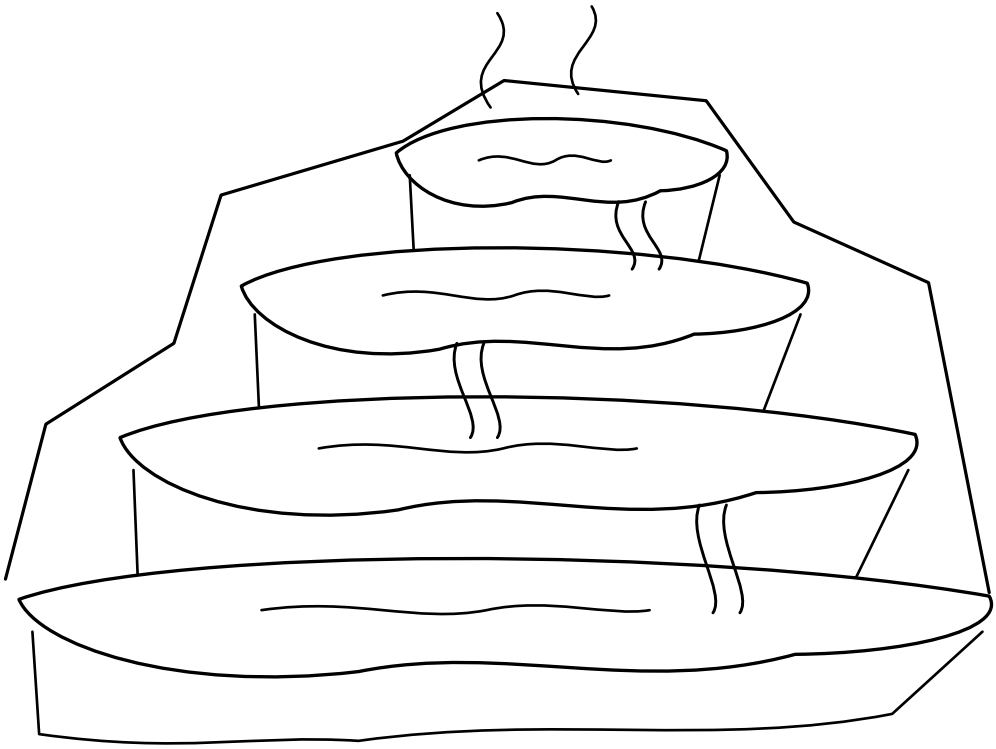
Point to the earliest part of the story. Circle the word TODAY. Talk about one way your family can care for a place.

DRAW YOUR CARE-FOR-A-PLACE IDEA

COUNT AND BUILD **AGES 4-6**

Rock steps at Mammoth

Color Mammoth’s rock steps. Then count the blocks you add.



WATER BUILDS ROCK

Hot water carries minerals. At the surface, minerals leave the water and build rock terraces.

Draw 2 rock blocks, then 3 more. How many? _____

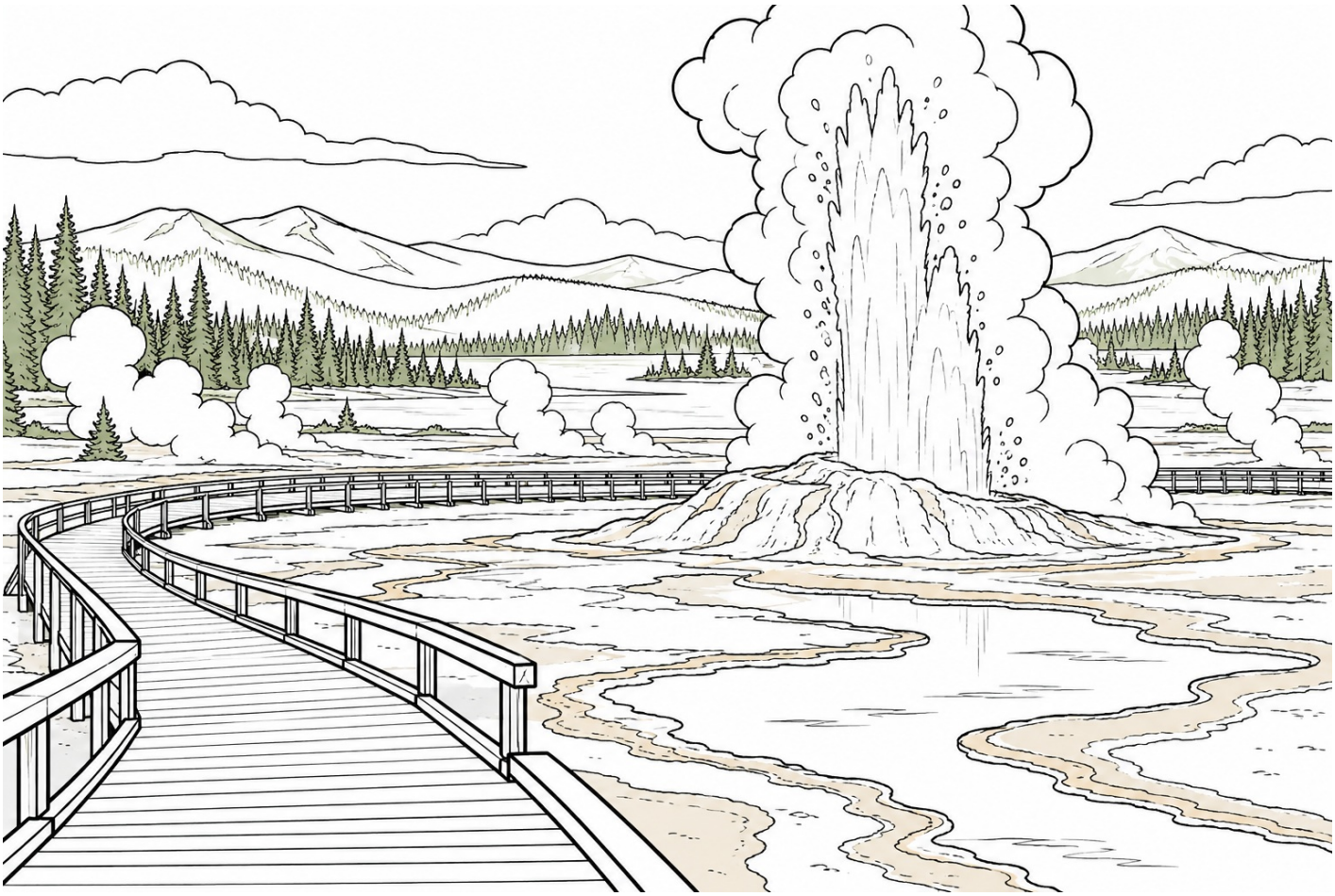
2 + 3

4 + 2 = _____ 6 - 1 = _____

COLOR AND LOOK CLOSELY **AGES 4-6**

A fountain from the ground

Color the geyser and its surroundings. Draw a cloud above it. Find the boardwalk: it lets people watch without stepping on the hot ground.



OLD FAITHFUL

Old Faithful is one of Yellowstone’s many geysers. Its eruptions send water and steam upward from underground.

Trace the boardwalk with your finger. Which way does the spray go?

FAMILY ROAD BREAK AGES 4-6

A quiet ride game

Play together as passengers. Choose a shape in this book. Say “I spy a shape that is…” and give one clue. Everyone may guess.

TRY THESE

A circle like a pool
A triangle like a mountain
A curvy line like a river
A branching shape like antlers

DRAW A NEW SHAPE CLUE FOR YOUR FAMILY

ONE MORE ROUND

Think of a Yellowstone animal. Give a clue about its body or food, without saying its name.

Take turns being the clue giver. There is no score to keep.

REMEMBER AND SHARE AGES 4-6

My Yellowstone discoveries

Choose something from your visit or from this book. Draw it, tell someone about it, or ask a grown-up to write your words.

A PLACE THAT SURPRISED ME

AN ANIMAL OR PLANT I LEARNED ABOUT

My new Yellowstone word is

One thing I can explain now is

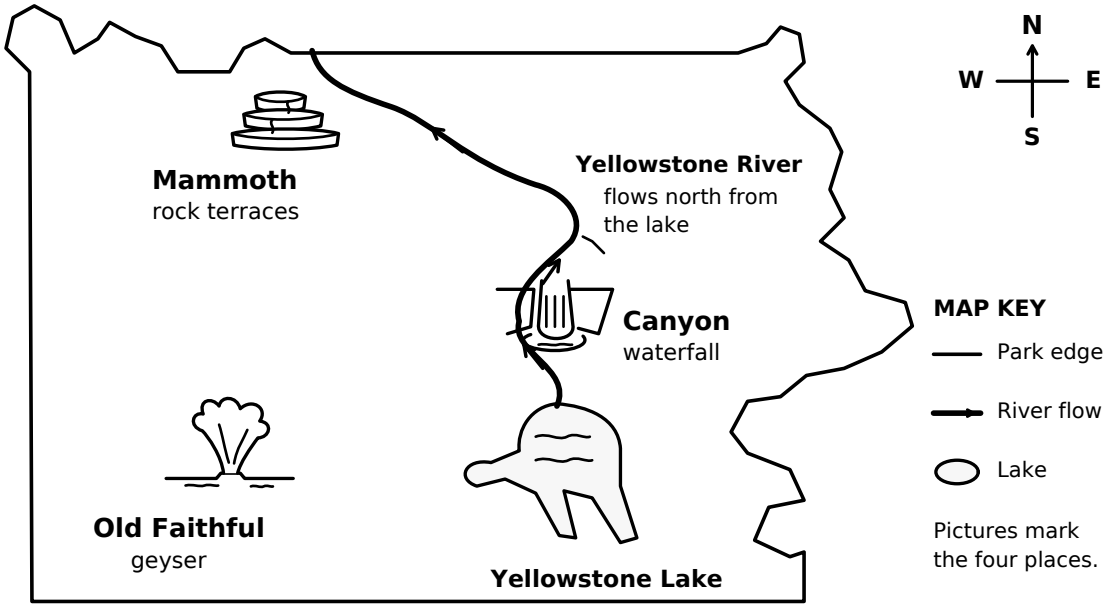
NOTICE AND CONNECT

Show someone your favorite page. Ask them to tell you something they learned too.

START YOUR EXPLORER PACKET **AGES 7-9**

Four places one wild park

Yellowstone lies mostly in Wyoming, with parts in Montana and Idaho. Hot water, ice and rivers have shaped very different places inside one park.



Simplified park locator

READ THE LANDSCAPE

Mammoth: hot water deposits rock terraces. Old Faithful: tight underground plumbing helps a geyser erupt. Canyon: a river flows between steep, colorful walls. Lake: a large high-elevation lake feeds the Yellowstone River.

1. Which feature is farthest north? _____

2. Which is southwest of Canyon? _____

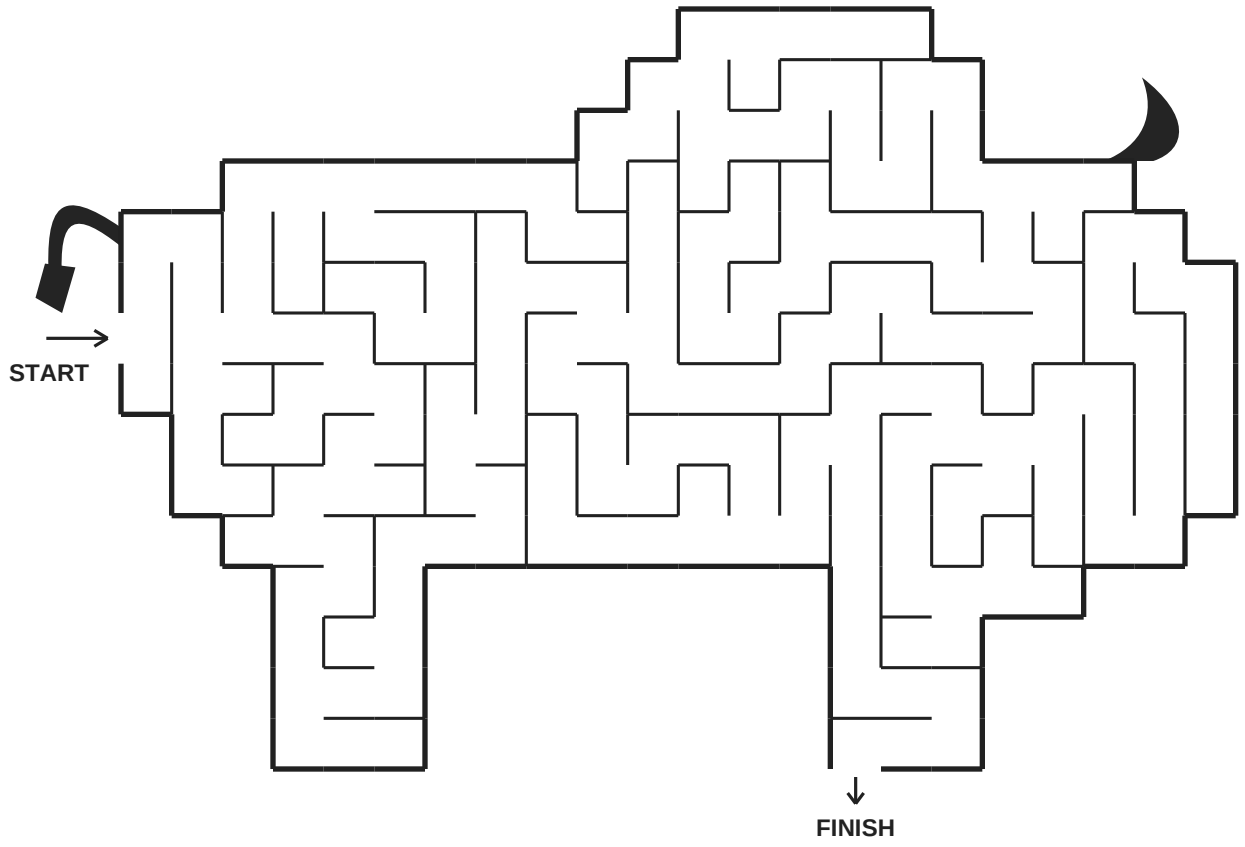
3. Follow the drawn river from the lake. Does it first go north or south? _____

Use a pencil, crayons and a clipboard. Answers begin on page 42. A feature locator shows relative positions; use the park map to plan travel.

SHAPED MAZE | MODERATE **AGES 7-9**

The bison route challenge

Plan a route from START to FINISH. At a fork, look ahead before you commit. The maze fills the bison’s body, hump, head and legs.



A LIVING SNOWPLOW

Bison use strong neck and shoulder muscles to swing their heads through snow. That opens a way to the grasses and sedges below.

NOTICE AND CONNECT

Find the hump and the smaller hindquarters in the outline. How does the body shape connect to the winter job?

SEQUENCE AND EXPLAIN **AGES 7-9**

Inside a geyser

Rain and snowmelt supply underground water. Hot rock supplies heat. Cracks carry the water. In a geyser, narrow places restrict the flow. When pressure drops, some very hot water rapidly boils and drives an eruption.

A
Hot rock heats the underground water.

B
Water and steam rush upward in an eruption.

C
Rain and snowmelt enter cracks in the ground.

D
Restricted flow holds very hot water under pressure.

E
An initial overflow lowers pressure; rapid boiling begins.

Write the letters in order: ____ → ____ → ____ → ____ → ____

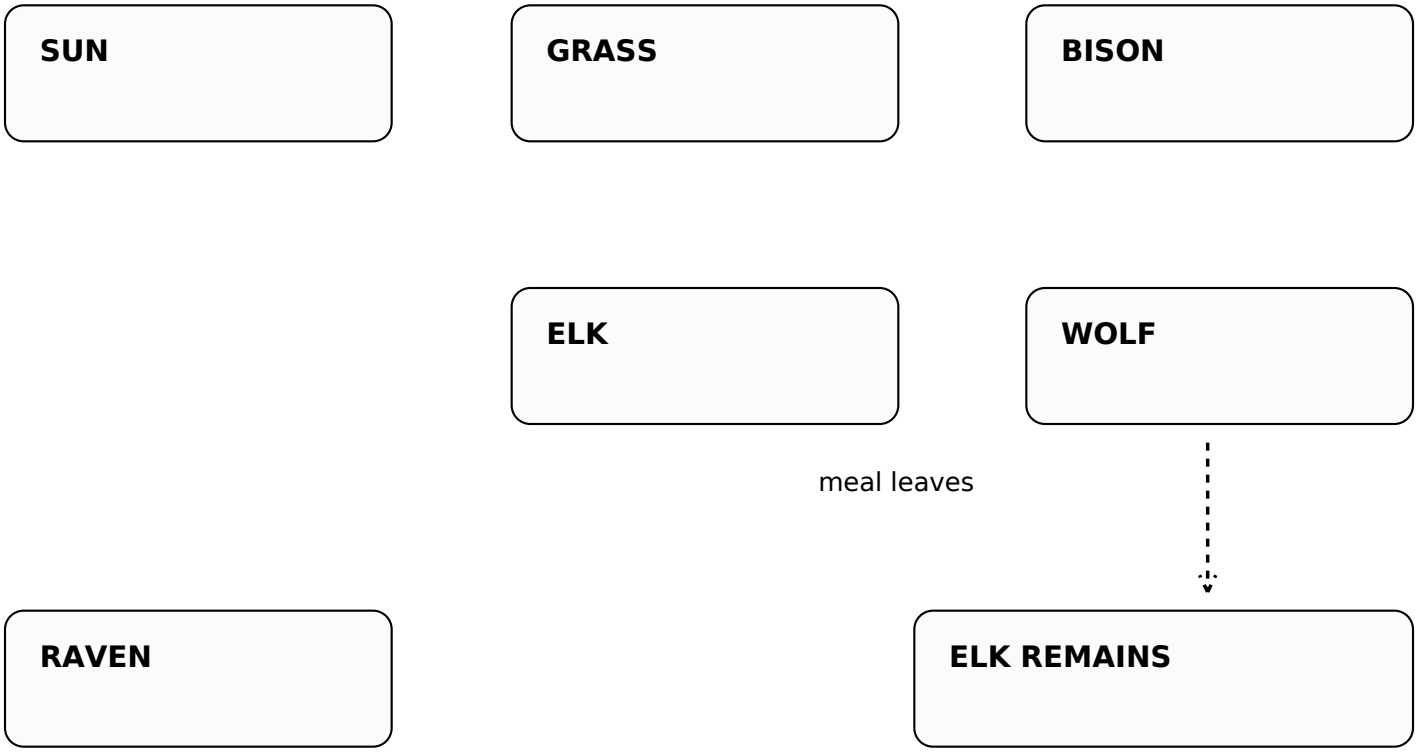
NOTICE AND CONNECT
Where does the heat come from? Explain why heat alone cannot make a geyser. Draw a water path on the back.

BUILD A FOOD WEB AGES 7-9

Who gets energy from whom

Plants use sunlight. Bison and elk eat grasses. Wolves eat elk. Ravens eat some remains left after a wolf’s meal. A scavenger eats dead animals or the remains of a meal.

BUILD THE CONNECTIONS
Draw four solid energy arrows: sunlight to grass, then three feeding links. Use the facts above. Finish with a fifth arrow from the remains to the raven.



Trace the sun’s energy to the wolf. Then follow the leftover meal to the raven.

NOTICE AND CONNECT
Which two animals may find it harder to reach grass under deep snow?

COMPARE AND CALCULATE AGES 7-9

Falls terraces and travel math

Upper Falls drops 109 feet. Lower Falls drops 308 feet. Both are on the Yellowstone River. At Mammoth, terraces grow as hot-spring water leaves travertine rock behind.

1 WATERFALL COMPARISON

How many feet taller is Lower Falls than Upper Falls?
Show your subtraction.

2 A FAMILY STOP | STORY PROBLEM

Your family spends 18 minutes observing and 12 minutes sketching. How many minutes is that altogether? _____

3 TIME TO EXPLORE | STORY PROBLEM

You have 90 minutes at a stop. If the first two activities take 30 minutes, how much time remains? _____

TWO WAYS A LANDSCAPE CHANGES

Canyon: flowing water wears away and carries material.
Mammoth: hot-spring water leaves new rock behind.

NOTICE AND CONNECT

Which place shows material being added? Which shows material being worn away?

WORD SEARCH AND SORT **AGES 7-9**

Hidden words hidden groups

A mudpot is a bubbling mixture of water and clay. Find eight Yellowstone words running right, down or diagonally down-right. Then sort them into three discovery groups.

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

GEYSER MUDPOT STEAM CANYON
RIVER LAKE BISON ELK

Heat and hot water: _____

Land and flowing water: _____

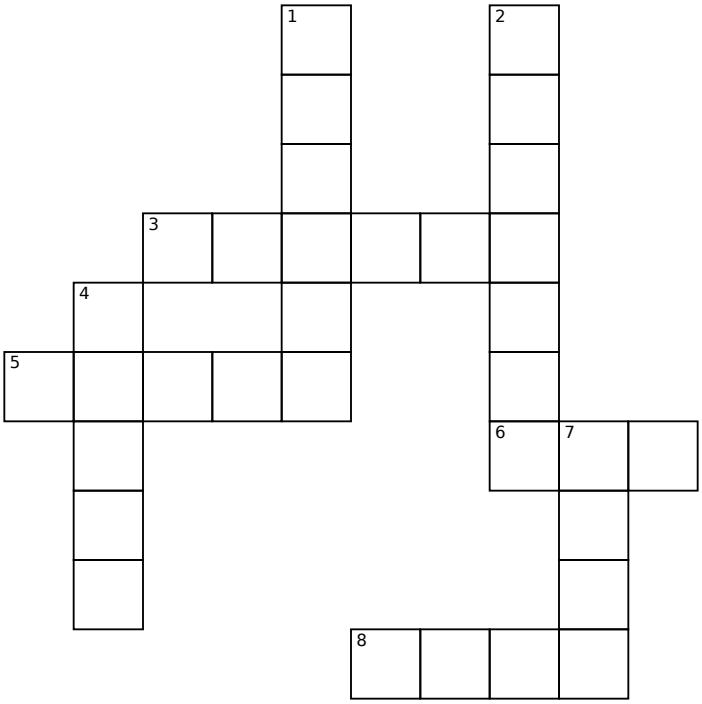
Living things: _____

Discovery: which two hidden words name animals that graze? Explain what graze means.

CROSSWORD | MODERATE **AGES 7-9**

Words that explain the park

A terrace is a step-like ledge; a canyon is a deep valley. A geyser is a hot spring that erupts. A pine has needles and seed-bearing cones. Use these ideas and what you have learned.



ACROSS

3. Hot spring that sometimes erupts. (6)

5. Grass-eater with a shoulder hump. (5)

6. Large deer whose males grow antlers. (3)

8. Tree with needles and seed-bearing cones. (4)

DOWN

1. Deep valley cut into the landscape. (6)

2. A step-like rock ledge at Mammoth. (7)

4. Water flowing in a natural channel. (5)

7. Large body of water surrounded by land. (4)

Optional word bank: BISON CANYON ELK GEYSER LAKE PINE RIVER TERRACE

Choose one word and point to a place or picture in this packet that explains it.

DEDUCE FROM EVIDENCE AGES 7-9

The missing feature labels

Four field notes A-D lost their labels. Each describes a different hydrothermal feature. Use the definitions and clues to restore all four names.

THE FOUR FEATURES
Hot spring: a pool whose water circulates freely.
Geyser: restricted plumbing can produce eruptions.
Mudpot: acidic water and rock make bubbling clay.
Fumarole: little water reaches the surface; steam and gases escape.

1. A and C have liquid water at the surface.

2. B releases steam and gases, with almost no liquid water at the surface.

3. Only D has bubbling clay.

4. C has the restricted plumbing that can produce an eruption.

Note	Feature name	Clue that helped
A		
B		
C		
D		

Explain: how did identifying B and D make A easier to solve?

TIMELINE AND PERSPECTIVE AGES 7-9

Yellowstone has a long history

People have lived in and traveled through the Yellowstone region for more than 11,000 years, long before it became a national park. Indigenous nations continue their relationships with this land.

1995
Wolf reintroduction begins in Yellowstone.

1872
Yellowstone becomes a national park.

1916
The National Park Service is established.

1. Write these three dates from earliest to latest.

_____

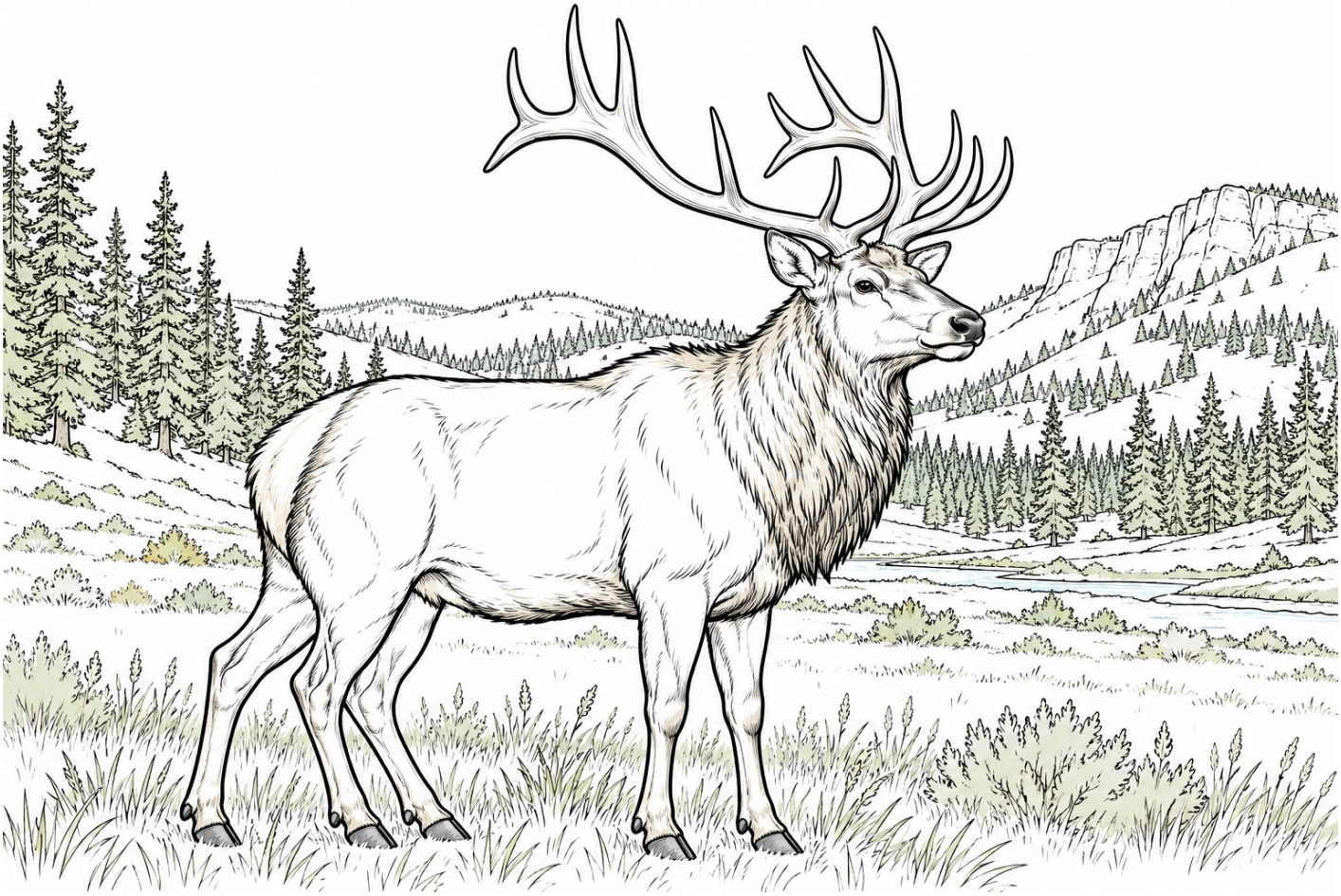
2. How many years passed from park designation to wolf reintroduction? Show your calculation.

THINK BEYOND THE DATES
Why would a timeline beginning in 1872 leave out an important part of Yellowstone’s story?

COLOR AND COMPARE **AGES 7-9**

Observe like a naturalist

A naturalist studies living things and their surroundings. Color the elk, then use details in the drawing and facts below to compare it with a bison.



LOOK FOR EVIDENCE

Elk are large deer. Male elk usually grow branching antlers, shed them and grow a new set. Bison have a shoulder hump and short horns.

One visible difference is _____

A question I would investigate is _____

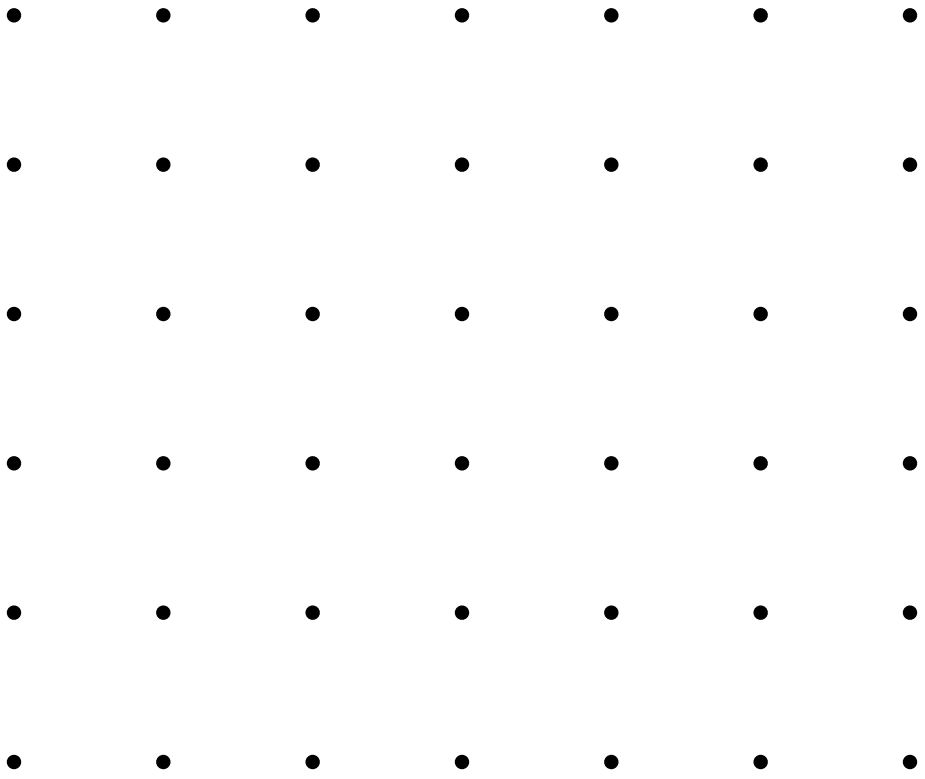
FAMILY ROAD BREAK AGES 7-9

Dots and boxes

Two players take turns drawing one straight line between neighboring dots. Lines go across or down. Never draw a line that is already there.

HOW TO SCORE

Finish the fourth side of a box? Write your initial inside and take another turn. When every box is claimed, the player with more boxes wins. Equal scores are a tie.



Player 1 initials _____ Player 2 initials _____

Final score _____ to _____ Winner or tie _____

Strategy question: when might giving away one box help you win more boxes later?

REMEMBER AND SHARE AGES 7-9

My evidence and memories

Choose a discovery from the trip or this packet. A strong explanation connects an idea with something you noticed or learned.

My discovery

The evidence that helps explain it

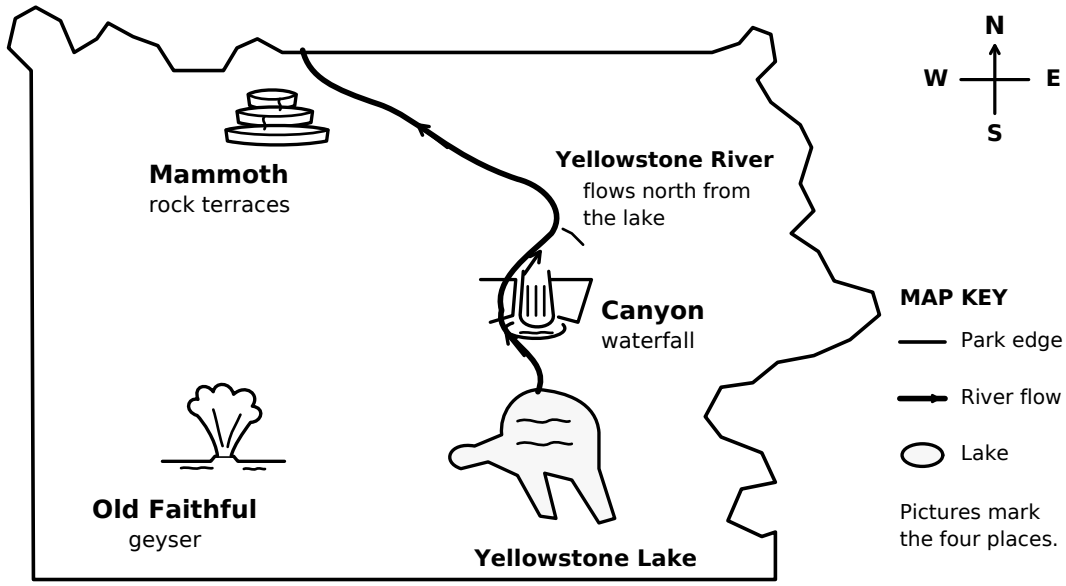
DRAW A DETAIL YOU WANT TO REMEMBER

One question I still have

START YOUR EXPLORER PACKET **AGES 10+**

Read a changing landscape

Yellowstone brings together volcanic heat, flowing water, wildlife and human histories. A watershed is the land whose water drains toward a shared outlet.



Simplified park locator

FOUR PLACES TO EXPLORE

Mammoth: hot water builds travertine rock terraces. Old Faithful: narrow underground plumbing helps a geyser erupt. Canyon: a river cuts through colorful rock. Lake: where does the water go after it leaves?

1. Name the feature southwest of Canyon. _____

2. Trace the Yellowstone River north from the lake. What landscape does it pass through?

_____

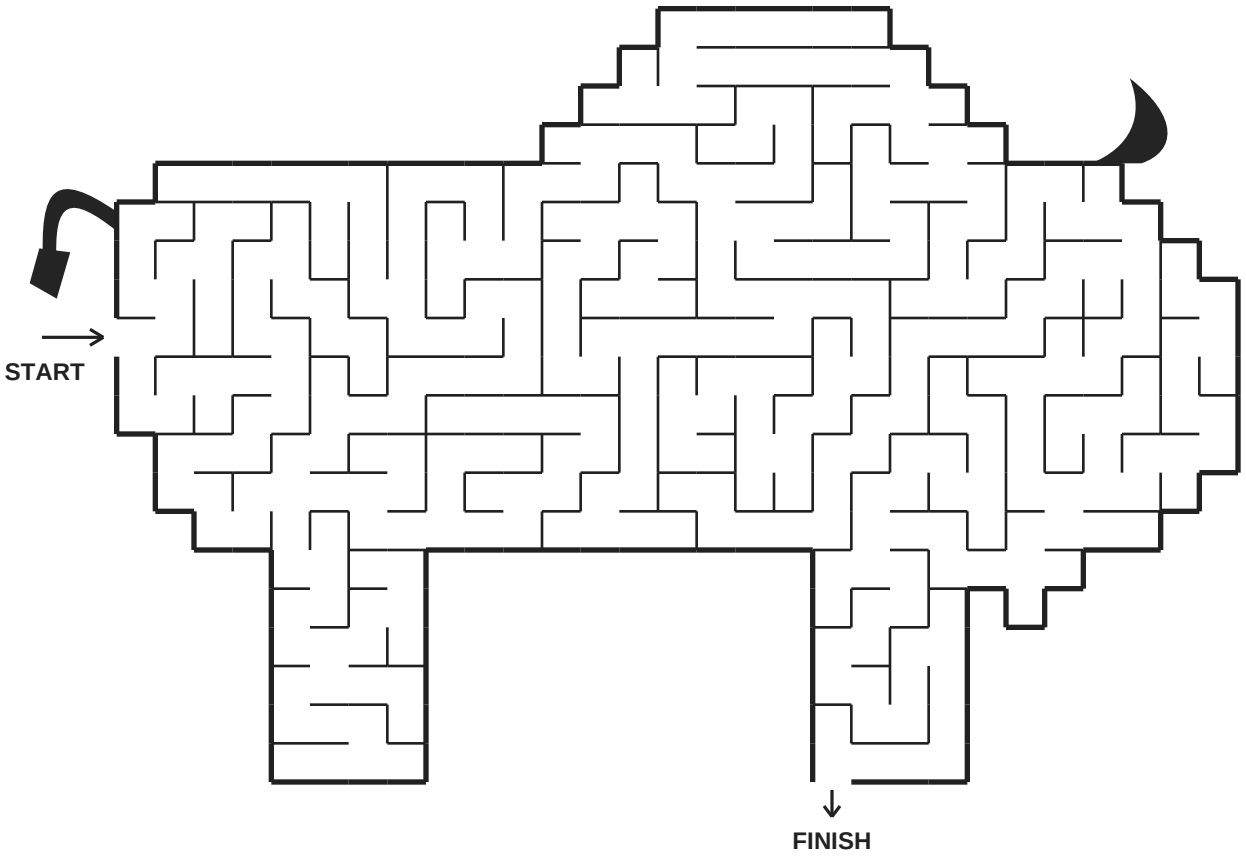
3. Choose one place above to investigate in this packet.

Bring a pencil, crayons and a clipboard. The feature locator shows relative positions. Answers and optional puzzle hints begin on page 45.

SHAPED MAZE | CHALLENGING **AGES 10+**

The bison backtracking test

Find the one route from START to FINISH. Plan several turns ahead. Mark a dead end lightly so you do not investigate it twice.



STRUCTURE SERVES A PURPOSE

A bison’s front-heavy outline is distinctive. Powerful neck and shoulder muscles move the head through snow, uncovering the grasses and sedges that dominate its diet.

NOTICE AND CONNECT

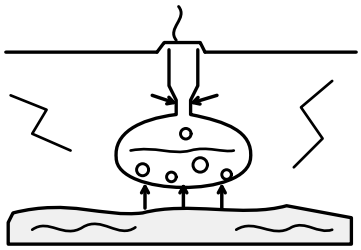
Which route decision fooled you? Explain how you changed your plan rather than simply trying the same path again.

ILLUSTRATED SCIENCE MYSTERY **AGES 10+**

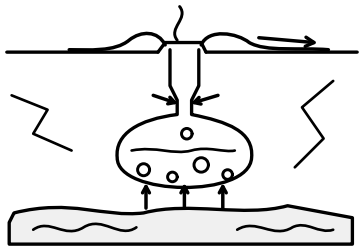
Catch the geyser mix-up

Match three label cards to the three scenes. Cross out the one false card. Plumbing means the connected cracks and passages that carry water underground.

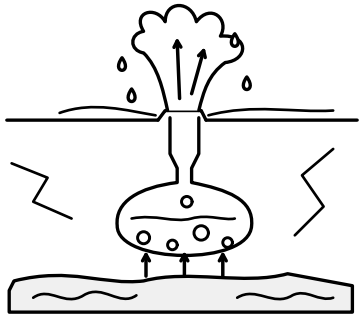
1



2



3



A | SCENE _____
Expanding steam drives water out in an eruption.

B | SCENE _____
Narrow plumbing holds very hot water under pressure.

C | SCENE _____
Cold water freezes into a plug and makes the geyser erupt.

D | SCENE _____
Some water overflows. Pressure drops and rapid boiling begins.

ANOTHER HOT-WATER CLUE
A fumarole is a vent that releases steam and gases with very little liquid water at the surface. Optional: tell someone how it differs from a geyser.

BUILD AND QUESTION A FOOD WEB AGES 10+

Energy through a wild community

A grazer feeds on grasses and similar plants. Grasses feed bison and elk; elk feed wolves. Ravens eat animal remains, including remains of wolf kills. Food arrows point from food to the organism gaining energy.

A. Draw three feeding arrows between GRASS, BISON, ELK and WOLF.

GRASS

BISON

ELK

WOLF

ELK REMAINS

RAVEN

B. Link ELK REMAINS to RAVEN. Say how leftovers from one meal can feed another animal.

EVIDENCE OR OVERREACH

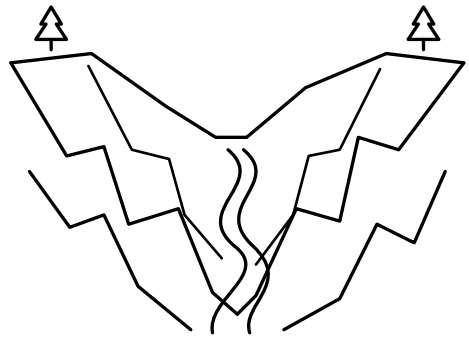
“If elk numbers change, every population must change by the same amount.” Does the web prove this? Circle YES or NO. Optional: name another factor that might matter.

COMPARE THE CLUES AGES 10+

The canyon color mystery

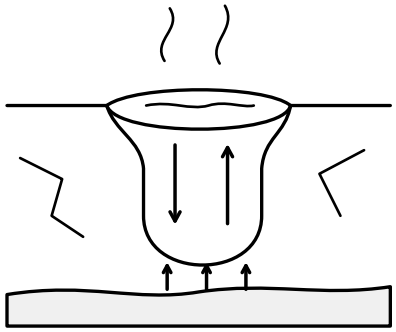
Two places can show similar colors for different reasons. Look at the scenes and use the evidence to solve the mystery.

A CANYON



Changed rock contains iron. Erosion wears away and carries rock and soil.

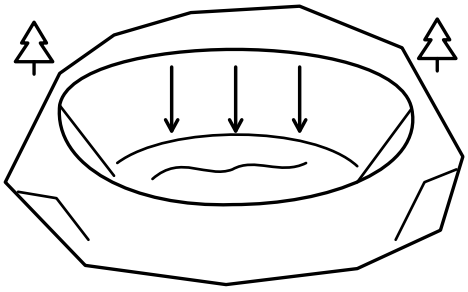
B HOT SPRING



Color bands can hold thermophiles: heat-loving microorganisms.

CIRCLE A OR B

1. Which colors can come from living communities? A / B
2. Which colors come from changed rock and iron? A / B
3. Does a matching color prove a matching cause? YES / NO



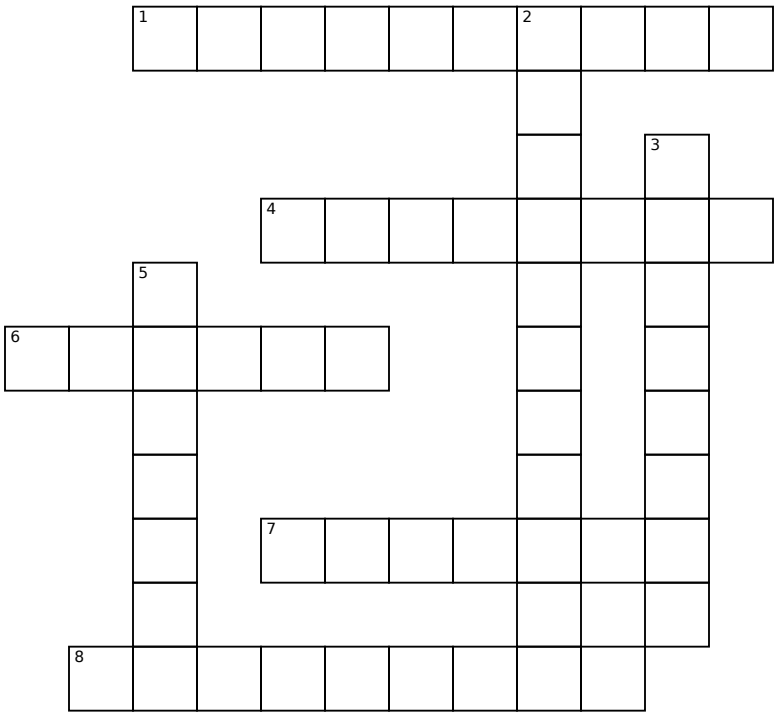
ONE MORE LANDSCAPE CLUE

About 631,000 years ago, a huge eruption removed magma and ground collapsed. The broad depression is a caldera. Point to the part that sank. Optional: explain the arrows.

CROSSWORD | CHALLENGING **AGES 10+**

Wild words connect

Use the clues and the discoveries in this packet. Write one letter in each square. Try the crossings before using the optional hints with the answers.



ACROSS

1. Rock deposited by the hot-spring water at Mammoth. (10)

4. Vent releasing steam and gases. (8)

6. Animal that feeds on grasses and similar plants. (6)

7. Wearing away and movement of rock or soil. (7)

8. Land area whose water drains to a shared outlet. (9)

DOWN

2. Heat-loving microorganism. (11)

3. Connected cracks and passages carrying water underground. (8)

5. Large depression formed when ground collapses after a huge eruption. (7)

Optional hints are with the answers on page 46.

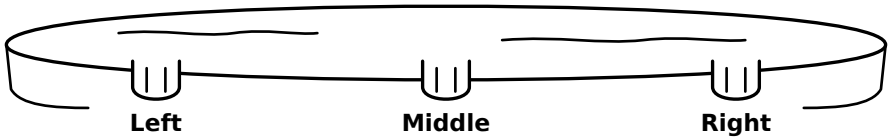
MAMMOTH MODEL | MULTI-STEP REASONING **AGES 10+**

A terrace reroutes its water

Hot water at Mammoth dissolves minerals from underground limestone. At the surface, minerals leave the water and build travertine rock. Growing rock can change the water's route. Use this model to work out how.

MODEL RULES

Each round, water spills over the lowest rim. That outlet gains 3 height units as minerals build rock. Other rims stay unchanged. For equal heights, choose left before middle before right.



Complete one round at a time. Record the outlet used and all three heights after the round.

Round	Outlet used	Left rim	Middle rim	Right rim
Start	-	2	4	7
1				
2				
3				
4				
5				
6				

B. Use (final height - starting height) ÷ 3 to find how often each outlet carried water. Left _____ Middle _____ Right _____

C. How many MORE rounds until Right has carried water twice? _____

Name the outlets used in those extra rounds. _____

Optional: explain why water does not keep using the outlet that started lowest.

WATERSHEDS AND A CODE AGES 10+

Follow the water

A watershed is the land that drains to a common outlet. The Continental Divide separates water flowing toward different ocean systems. Yellowstone Lake drains north into the Yellowstone River.

TWO WATER ROUTES

Yellowstone Lake → Yellowstone River → Missouri River → Mississippi River → Gulf of Mexico

Snake River → Columbia River → Pacific Ocean

Optional: 1. Which route reaches the Pacific? _____

2. Does “north” always mean “toward the Pacific”? Explain.

DECODE A LANDSCAPE RULE

Each coded letter is three places AFTER its real letter. To read it, move back three. For example, D means A and A means X. Spaces stay in place.

ZDWHU IROORZV WKH ODQG

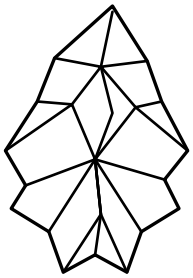
Optional: Then explain how the decoded rule connects to the word watershed.

MATCH EXHIBITS AND LABELS AGES 10+

The museum mix-up

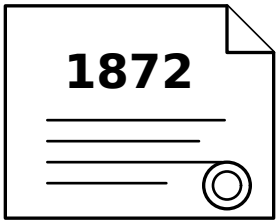
Three exhibits lost their labels. Read their clues, then match each exhibit to the best label. Yellowstone’s human story stretches back more than 11,000 years and continues today.

A



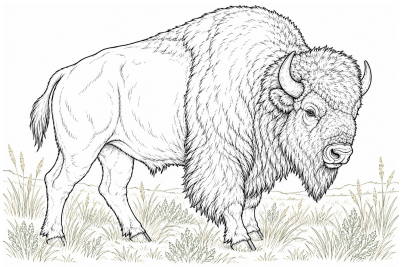
Obsidian Cliff stone was traded far beyond Yellowstone, long before the park existed.

B



In 1872, Yellowstone became a national park.

C



Today, the Eastern Shoshone Tribe runs a buffalo restoration program on the Wind River Reservation.

LABELS

1 Continuing relationships and care
2 Long-distance trade before park designation
3 A new national park

Exhibit A → label _____ B → label _____ C → label _____

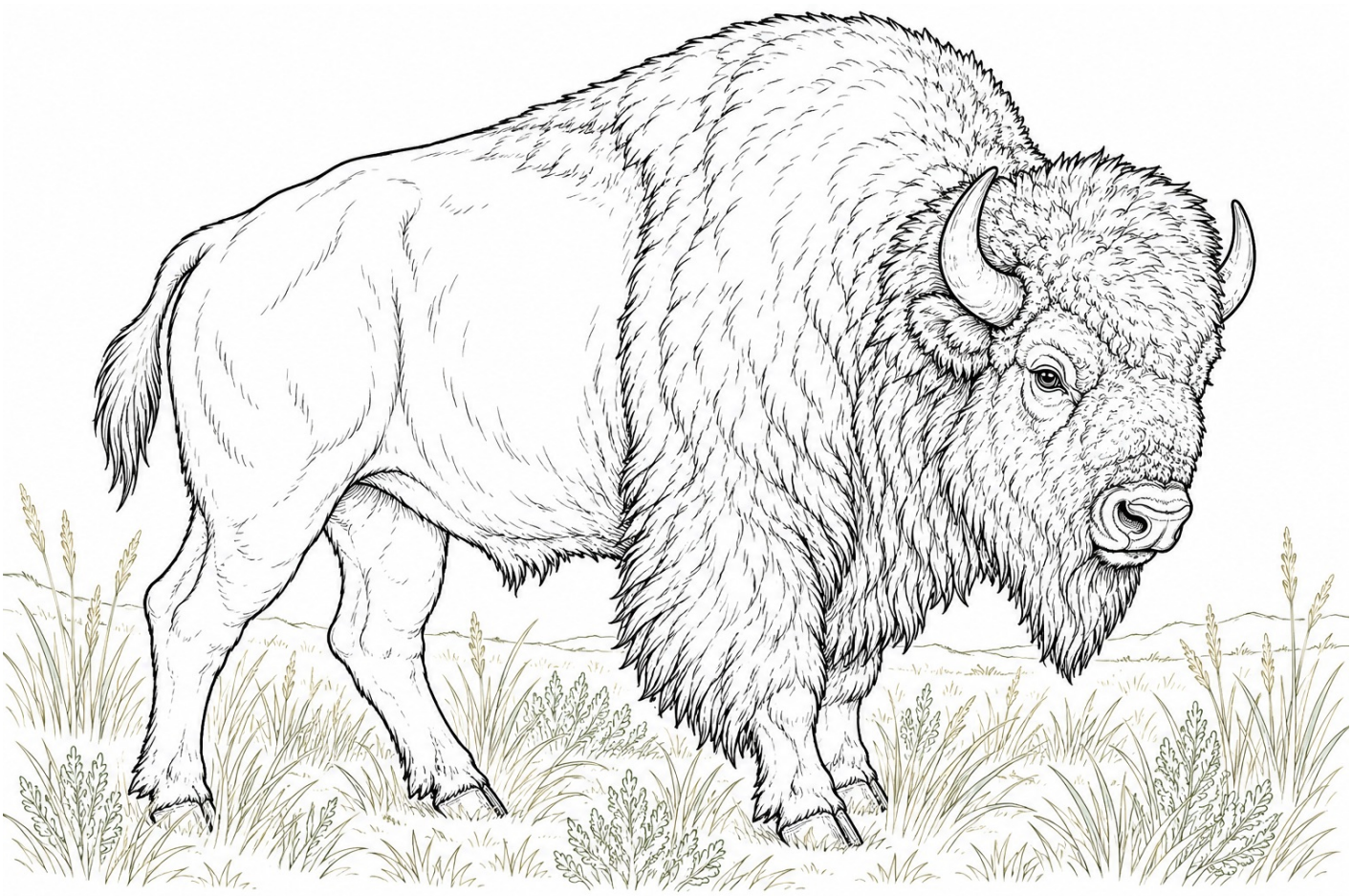
CHOOSE THE MUSEUM HEADLINE

Circle the best fit: HUMAN HISTORY BEGINS IN 1872 / A LONG PAST AND CONTINUING CONNECTIONS

NATURALIST COLOR STUDY AGES 10+

A winter-ready grazer

Color the bison study. Add three labels that connect visible structures with their functions. Use the information below, not guesswork about hidden features.



STRUCTURE AND FUNCTION

Shoulder and neck muscles: move the head through snow.
Thick coat: insulation against cold.
Mouth: gathers grasses and grass-like plants.

Optional: Compare the heavy front of the body with the hindquarters. How does the silhouette connect to a winter feeding strategy?

FAMILIAR ROAD BREAK AGES 10+

The number rest stop

Place 1-9 in each row, each column and each bold 3 × 3 box. Every number appears once in each. This is a quiet break between Yellowstone investigations.

7	8	6			4		5	
9	3							
2		1		9	3	7		
							9	5
4			7				2	
	1			4	5	3		
			3				8	
5		3				1		9
6	2					5	3	7

A WAY IN

Find a row, column or box with only a few gaps. List the missing digits, then use the crossing row and column to eliminate choices. Use pencil.

Afterward: teach someone one deduction you made without guessing.

SYNTHESIZE AND REMEMBER AGES 10+

Make a discovery worth sharing

Choose a Yellowstone question you can now explain. Support your answer with two details from this packet, an exhibit or your own observations.

My question

My explanation and two supporting details

DRAW A MODEL OR DETAIL THAT HELPS EXPLAIN YOUR IDEA

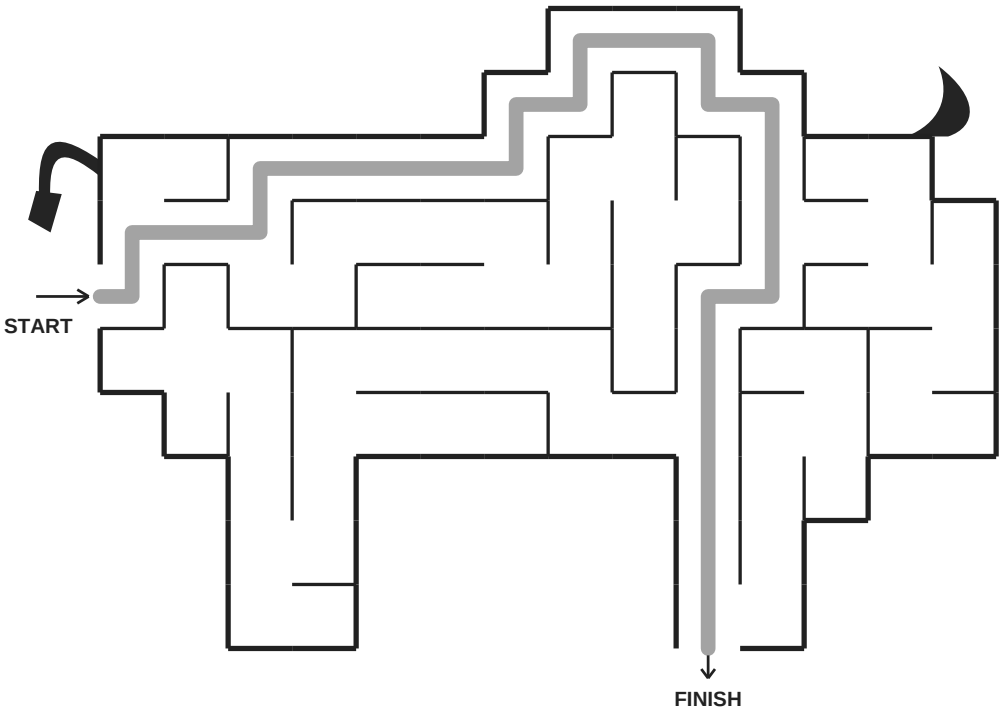
One thing I want my family to remember

ANSWER KEY 1 OF 3 AGES 4-6

Answers and helpful nudges

Give a small hint first, then invite the child to point, say or show the answer.

Page 4 A path through a bison



Page 3 Hello Yellowstone
Circle Old Faithful; star Yellowstone Lake. Mammoth is highest on the locator and farthest north.

Page 5 Built for a cold place
Coat → keeps warm; mouth → gathers food. Three grass clumps are requested. Colors may vary. A child might compare a bison’s coat with a warm jacket.

Page 6 Up goes the geyser
Order B, D, A, C. Card numbers: A=3, B=1, C=4, D=2. Besides water, a geyser needs heat and underground passages.

ANSWER KEY 2 OF 3 AGES 4-6

Answers to small discoveries

Use the page label in the footer to find each activity.

Page 7 Water makes shapes

Lake: wide gathered water. River: flowing water. Waterfall: dropping water. Canyon: a deep valley with tall sides. The arrow should point out of the lake and follow the river shown in the drawing.

Page 8 What is for lunch

Grass → bison. Berries and insect → black bear. There are 3 food pictures. Circle grass and berries: they come from plants. These are only part of each animal’s diet.

Page 9 Needles and cones

Pattern 1: paired NEEDLES. Pattern 2: paired NEEDLES. Two pairs contain 4 needles. The cone picture shows the scales around a seed-bearing pine cone.

Page 10 A place with a long story

LONG AGO is earliest. Circle TODAY. Care ideas include staying on paths, leaving rocks and plants where they are, keeping food away from wildlife and taking litter away.

ANSWER KEY 3 OF 3 AGES 4-6

Answers and family conversations

For open-ended work, look for curiosity and a connection to the place rather than one perfect picture.

Page 11 Rock steps at Mammoth

2 + 3 = 5; 4 + 2 = 6; 6 - 1 = 5. Water carries dissolved minerals and leaves travertine rock behind. The illustration shows water flowing over rock terraces.

Page 12 A fountain from the ground

The spray goes upward. The boardwalk curves through the scene. Clouds and colors vary. A useful explanation: underground water gets hot and comes out through the geyser.

Page 13 A quiet ride game

Many clues work. Example: “I spy a curvy line that carries water” could be a river. Animal clues should connect to a feature or food, such as the bison’s hump or grass diet.

Page 14 My Yellowstone discoveries

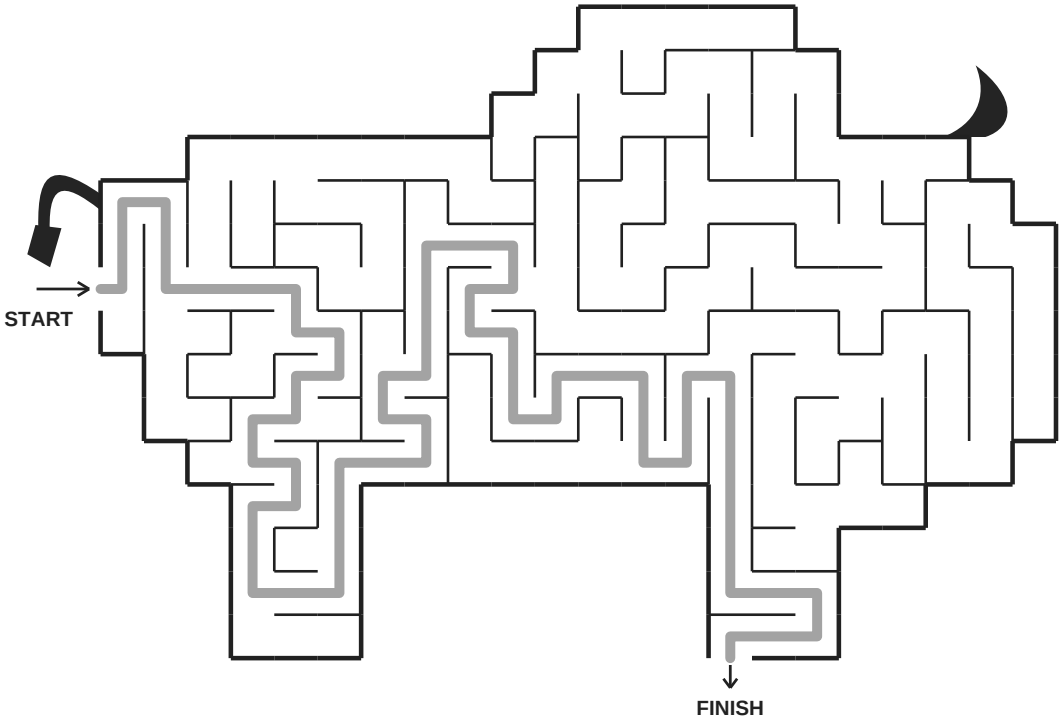
Possible words: geyser, terrace, canyon, bison. Possible explanation: “Water leaves rock at Mammoth.” Invite the child to explain the drawing in their own words.

ANSWER KEY 1 OF 3 AGES 7-9

Routes and connected ideas

Try one hint before the answer. In the maze, return to the last unexplored fork.

Page 16 The bison route challenge



Page 15 Four places one wild park

1 Mammoth. 2 Old Faithful. 3 North. The Yellowstone River flows out of the lake at its north end.

Page 17 Inside a geyser

Order C, A, D, E, B. Water enters cracks; rock heats it; restricted flow holds it; overflow lowers pressure; rapid boiling drives eruption. Heat alone is not enough: water and connected passages are also needed.

Page 18 Who gets energy from whom

Solid energy arrows: SUN → GRASS; GRASS → BISON; GRASS → ELK; ELK → WOLF; ELK REMAINS → RAVEN. The dotted arrow shows that a wolf’s meal leaves remains, not another feeding link. A scavenger eats dead animals or meal remains. Snow can hide grass from bison and elk.

ANSWER KEY 2 OF 3 **AGES 7-9**

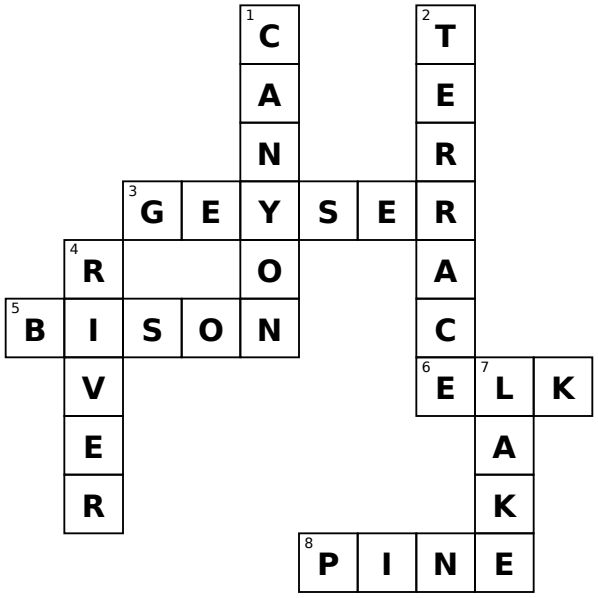
Word puzzles and evidence

Page 19 Falls terraces and travel math: 308 - 109 = 199 feet; 18 + 12 = 30 minutes; 90 - 30 = 60 minutes. Mammoth adds rock; erosion wears away the canyon.

Page 20 Hidden words hidden groups

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

Page 21 Words that explain the park



Page 20 Hidden words hidden groups

Heat/hot water: GEYSER, MUDPOT, STEAM. Land/water: CANYON, RIVER, LAKE. Living things: BISON, ELK. Both animals graze: they feed on grasses and similar plants.

Page 22 The missing feature labels

A hot spring; B fumarole; C geyser; D mudpot. Clue 2 fixes B; clue 3 fixes D; clue 4 fixes C. Only hot spring remains for A. Clue 1 is a useful cross-check.

Crossword first-letter hint, if needed: B, C, E, G, L, P, R, T. Each answer describes something introduced in the packet.

ANSWER KEY 3 OF 3 AGES 7-9

History observations and play

Open-ended questions reward a reasonable explanation supported by the information provided.

Page 23 Yellowstone has a long history

Earliest to latest: 1872, 1916, 1995. Gap: 1995 - 1872 = 123 years. A timeline beginning in 1872 leaves out thousands of years of Indigenous history and does not show continuing Tribal relationships.

Page 24 Observe like a naturalist

Possible comparison: elk have longer-looking legs and males have branching antlers; bison have a shoulder hump and short horns. A good question could ask how elk find food in winter.

Page 25 Dots and boxes

There are 5 × 6 = 30 boxes. Completing a box earns another turn. Scores should add to 30 at the end. The result depends on the moves. One strategy is to avoid creating a long chain of easy boxes for your opponent.

Page 26 My evidence and memories

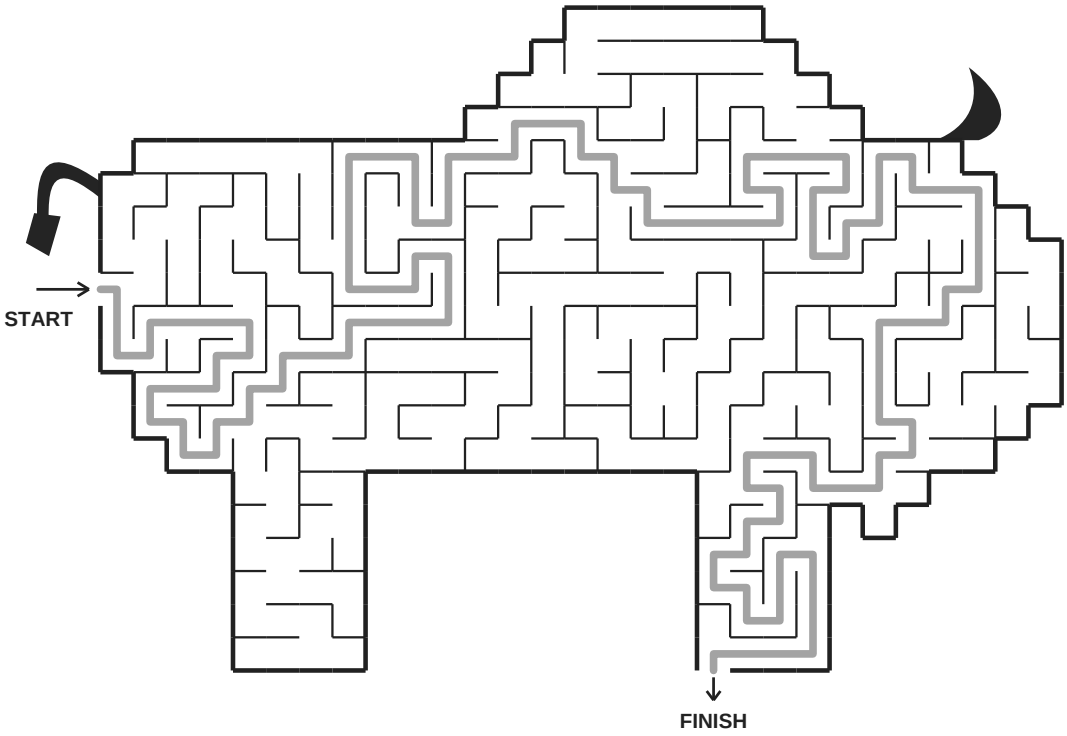
Example: “Mammoth’s steps are made of rock. Hot water carries minerals, and those minerals are deposited as travertine.” Drawings and questions vary.

ANSWER KEY 1 OF 3 AGES 10+

The route and the reasoning

Use these explanations to check the evidence as well as the final answer.

Page 28 The bison backtracking test



Page 27 Read a changing landscape

1 Old Faithful. 2 The Grand Canyon of the Yellowstone. The selected investigation question may vary.

Page 29 Catch the geyser mix-up

Scene 1 → B; scene 2 → D; scene 3 → A. Cross out C. Heating and a pressure drop, not freezing, help drive the eruption. A fumarole releases steam and gases with little surface water.

Page 30 Energy through a wild community

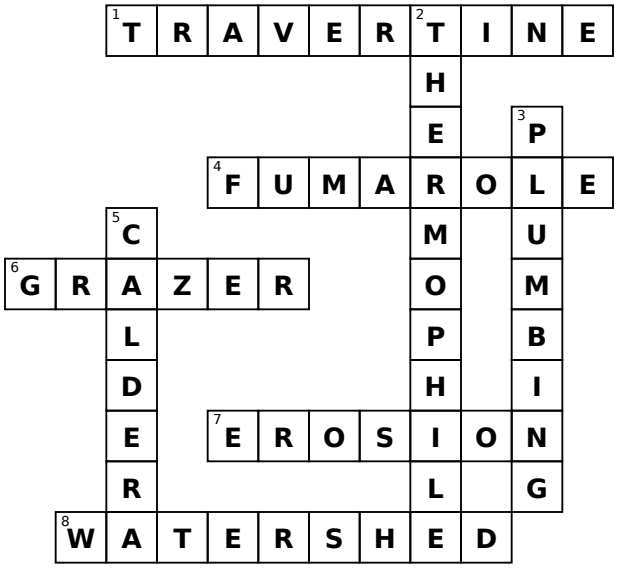
GRASS → BISON; GRASS → ELK; ELK → WOLF; ELK REMAINS → RAVEN. Circle NO: the web does not prove equal population changes. Weather, other foods, births, deaths and movement may also matter. A grazer eats grasses and similar plants.

ANSWER KEY 2 OF 3 **AGES 10+**

Numbers words and models

Page 31 The canyon color mystery: 1 B, the hot spring. 2 A, the canyon. 3 NO. Similar colors can have different causes: living microbes versus changed rock and iron. In the caldera diagram, the central ground drops after material beneath it is removed.

Page 32 Wild words connect



Page 33 A terrace reroutes its water

Rd	Outlet	L	M	R
1	Left	5	4	7
2	Middle	5	7	7
3	Left	8	7	7
4	Middle	8	10	7
5	Right	8	10	10
6	Left	11	10	10

B: Left 3, Middle 2, Right 1. C: 2 more rounds, Middle then Right. Deposited minerals raise a rim, changing which outlet is lowest.

Model hint: compare all current heights before adding 3 to the chosen rim.

Page 34 Follow the water

1 Snake → Columbia → Pacific. 2 No: Yellowstone Lake drains north, yet its water eventually reaches the Gulf through the Missouri and Mississippi. Code: WATER FOLLOWS THE LAND. Land slopes and divides determine drainage routes.

Page 32 Wild words connect | Optional hints

Hint by clue number: 1 across starts T; 2 down starts T; 3 down starts P; 4 across starts F; 5 down starts C; 6 across starts G; 7 across starts E; 8 across starts W. Use the clue lengths and crossings before looking at the filled grid.

ANSWER KEY 3 OF 3 **AGES 10+**

History art and a rest stop

Page 35 The museum mix-up: A → 2; B → 3; C → 1. Circle A LONG PAST AND CONTINUING CONNECTIONS. The exhibits connect long-distance trade, park designation and a continuing Tribal relationship.

Page 37 The number rest stop

7	8	6	1	2	4	9	5	3
9	3	5	6	7	8	2	1	4
2	4	1	5	9	3	7	6	8
3	6	7	2	8	1	4	9	5
4	5	9	7	3	6	8	2	1
8	1	2	9	4	5	3	7	6
1	9	4	3	5	7	6	8	2
5	7	3	8	6	2	1	4	9
6	2	8	4	1	9	5	3	7

Page 36 A winter-ready grazer

Labels may connect shoulder/neck muscles with snow sweeping, coat with insulation, and mouth with gathering plants. The heavy front supports the snow-moving action.

Page 38 Make a discovery worth sharing

Example: “A geyser is more than hot water. It also needs water pathways, and narrow sections hold hot water under pressure. A pressure drop can trigger rapid boiling.” Other well-supported explanations are welcome.

A NOTE ON THE HISTORY DISCUSSION

A useful family conversation can connect evidence of long-ago trade with continuing Tribal relationships. Indigenous communities belong to Yellowstone’s present as well as its past.

FOR THE GROWN-UPS FAMILY GUIDE

Before you head outside

Use the book on the drive, at a safe stop or after your visit. Save drawing and writing for places where your child can sit comfortably and pay attention to their surroundings.

THERMAL AREAS

Walk on boardwalks and designated trails. Keep children close. Do not touch thermal water or runoff, and do not step off the path to retrieve dropped objects; ask a ranger.

WILDLIFE

Never approach or feed wildlife. Stay at least 100 yards (91 m) from bears, wolves and cougars, and 25 yards (23 m) from other wildlife, including bison and elk. Move back if an animal comes closer.

BEFORE THE TRIP

Review current park conditions, closures and full safety guidance. Weather and services can change. Keep food secured, follow ranger directions and use the official park map for travel.

Official safety guidance
https://www.nps.gov/yell/planyourvisit/safety.htm

Current conditions
https://www.nps.gov/yell/planyourvisit/conditions.htm

Print note: each child packet contains 12 activity pages, 3 answer pages and these shared reference pages. Supplies: pencil, crayons and clipboard. Edition: October 2026.

Sources for curious families

These primary sources support the facts in the activities. The editable source package includes the detailed fact and puzzle-verification records.

Heat water and geyser plumbing
https://www.nps.gov/yell/learn/nature/hydrothermal-systems.htm

Geysers hot springs mudpots and fumaroles
https://www.nps.gov/yell/learn/nature/hydrothermal-features.htm

Circulation in hot springs
https://www.nps.gov/yell/learn/kidsyouth/hydrothermal.htm

Heat-loving microorganisms
https://www.nps.gov/yell/learn/nature/thermophilic-communities.htm

Mammoth terraces and travertine
https://www.nps.gov/thingstodo/yell-mammoth-hot-springs-trails.htm
https://www.nps.gov/yell/planyourvisit/explore-mammoth.htm

Bison
https://www.nps.gov/yell/learn/nature/bison.htm

Elk
https://www.nps.gov/yell/learn/nature/elk.htm

Black bears
https://www.nps.gov/yell/learn/nature/bear.htm

Black-bear berries and insects
https://www.nps.gov/articles/000/american-black-bear.htm

Wolves
https://www.nps.gov/yell/learn/nature/wolf.htm

Ravens and scavenging
https://www.nps.gov/yell/learn/nature/raven.htm

Lodgepole pine needles and cones
https://www.nps.gov/yell/learn/nature/forests.htm

Sources checked October 26, 2026. National Park Service unless another publisher is named. Supplied WBF illustrations are retained; diagrams and puzzles are newly built for this revision.

Sources for curious families

These primary sources support the facts in the activities. The editable source package includes the detailed fact and puzzle-verification records.

Canyon colors and waterfall heights
https://www.nps.gov/yell/planyourvisit/canyonplan.htm

Yellowstone Lake and its outlet
https://www.nps.gov/yell/learn/nature/yellowstone-lake.htm

Park places and river routes
https://www.nps.gov/yell/learn/kidsyouth/places.htm
https://www.nps.gov/yell/planyourvisit/upload/yell-grte-tear-off-map-2023-web.pdf

Snake River
https://www.nps.gov/yell/learn/nature/snake-river.htm

Snake Columbia confluence
https://www.nps.gov/nepe/learn/historyculture/confluence-overlook.htm

Caldera formation | US Geological Survey
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Sources checked October 26, 2026. National Park Service unless another publisher is named. Supplied WBF illustrations are retained; diagrams and puzzles are newly built for this revision.