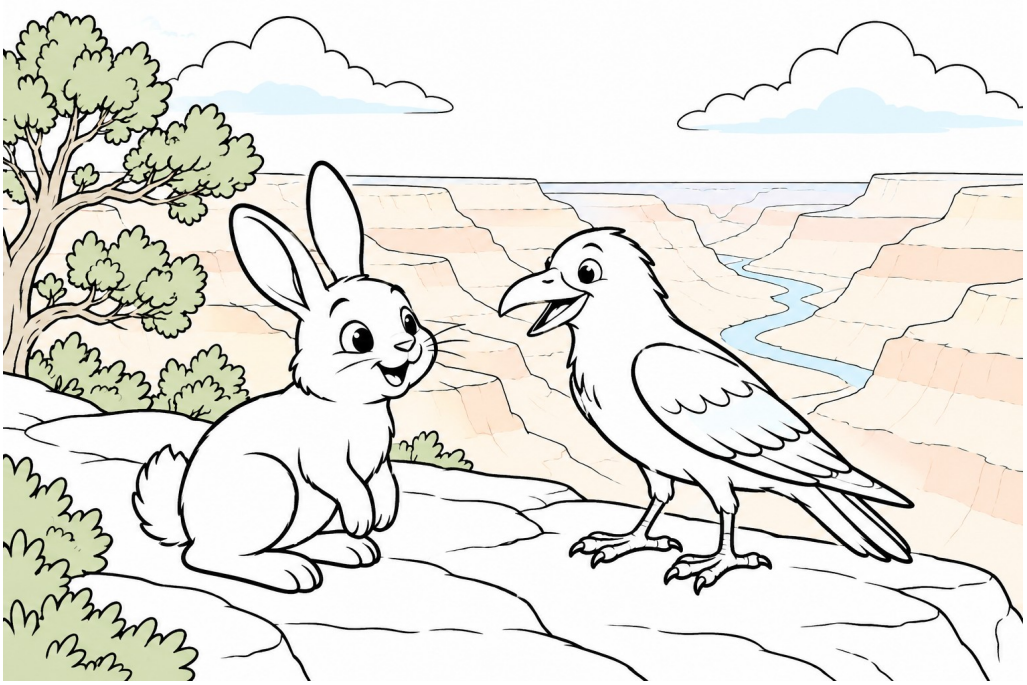
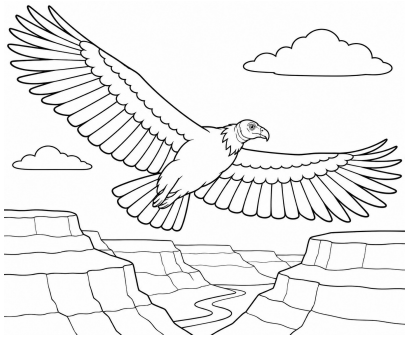
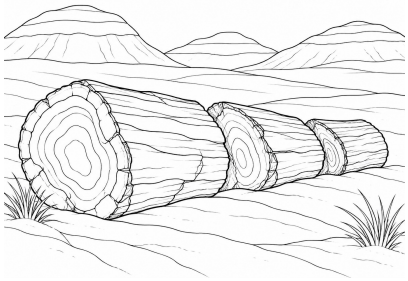
Northern Arizona

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. Each age packet teaches what it needs and includes complete answers. Reading aloud, pointing and talking count.

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

Friendly coloring, four-picture stories, matching, food sorting, picture patterns, counting and a family guessing game.

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

Science sequences, food webs, comparison math, word search, crossword, evidence clues, history and dots and boxes.

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

Pictured science mysteries, ecological evidence, a changing model, a route code, naturalistic observation and independent Sudoku.

PRINT AND PACK

Print US Letter at actual size, or fit to A4. Grayscale works. Pack a pencil, crayons and a clipboard. Each separate packet has activities 1-12, answers 13-15 and references 16-18.

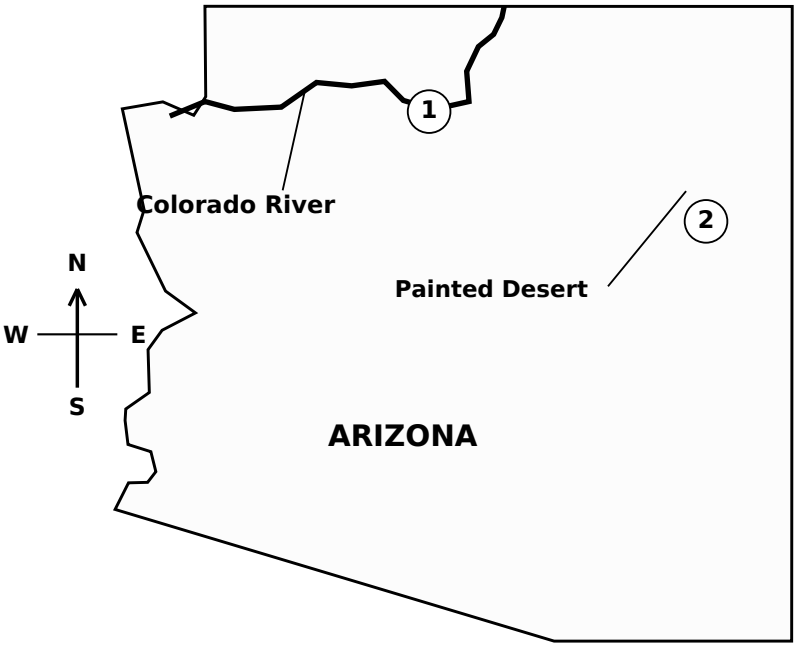
Shared guidance and sources: pages 48-50. Answer references use the ordinary page numbers in the PDF you are reading.

Passenger play only; keep the driver free to concentrate.

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

Hello canyon country

Circle Grand Canyon on the locator, then put a star beside Petrified Forest.



1 Grand Canyon

2 Petrified Forest

Numbered visitor stop

River

Simplified regional locator.
North is at the top.

FOUR PLACES TO EXPLORE

Grand Canyon: a deep valley. Colorado River: water below the rim. Petrified Forest: fossil logs. Painted Desert: colorful banded hills.

Point to Grand Canyon and Petrified Forest. Which park dot is farther east?

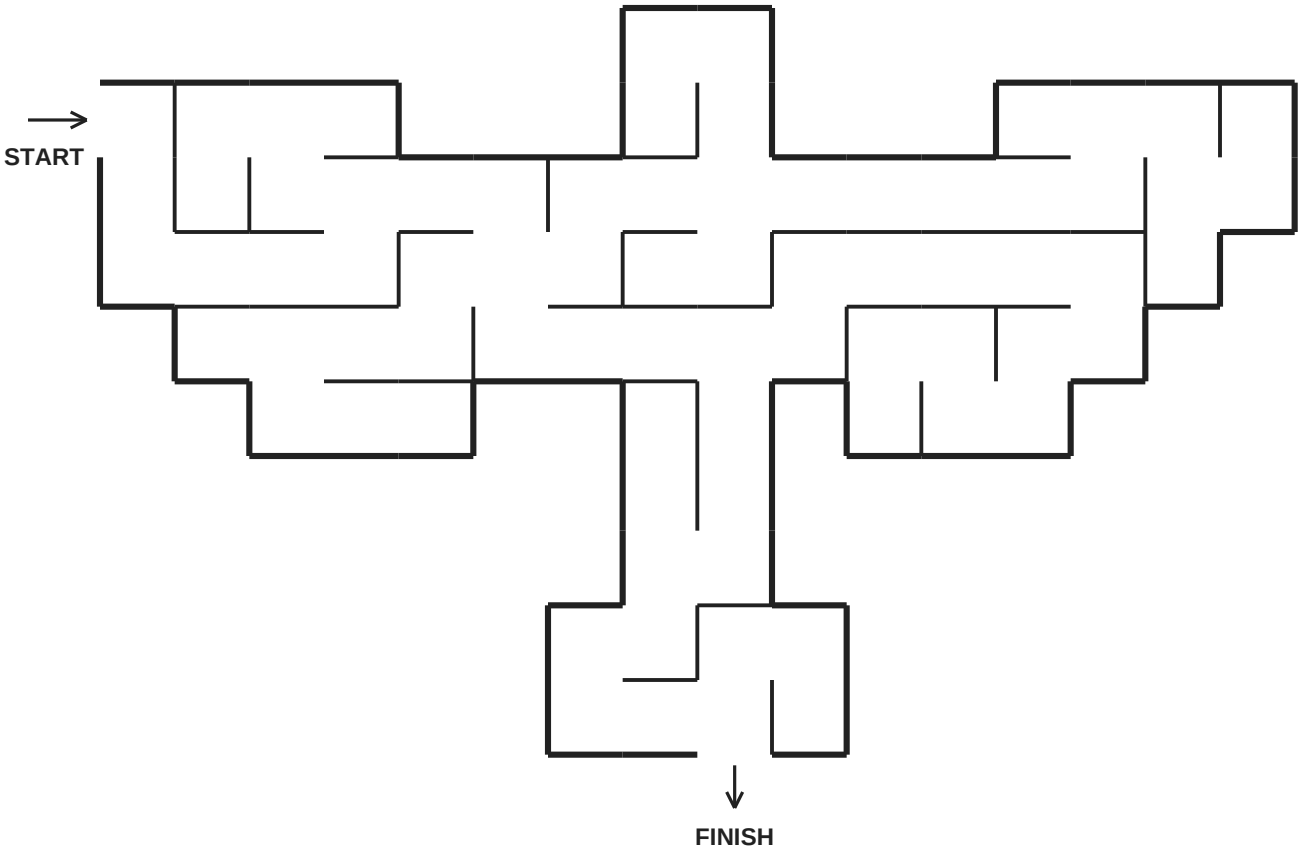
Choose one place above to investigate in this packet.

Answers: page 39 (Routes and first discoveries).

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

Wings wide for a maze

Follow START to FINISH inside the condor’s wide wings and body.



RIDING THE AIR

California condors soar on warm air that rises. Soaring helps them travel without flapping all the time.

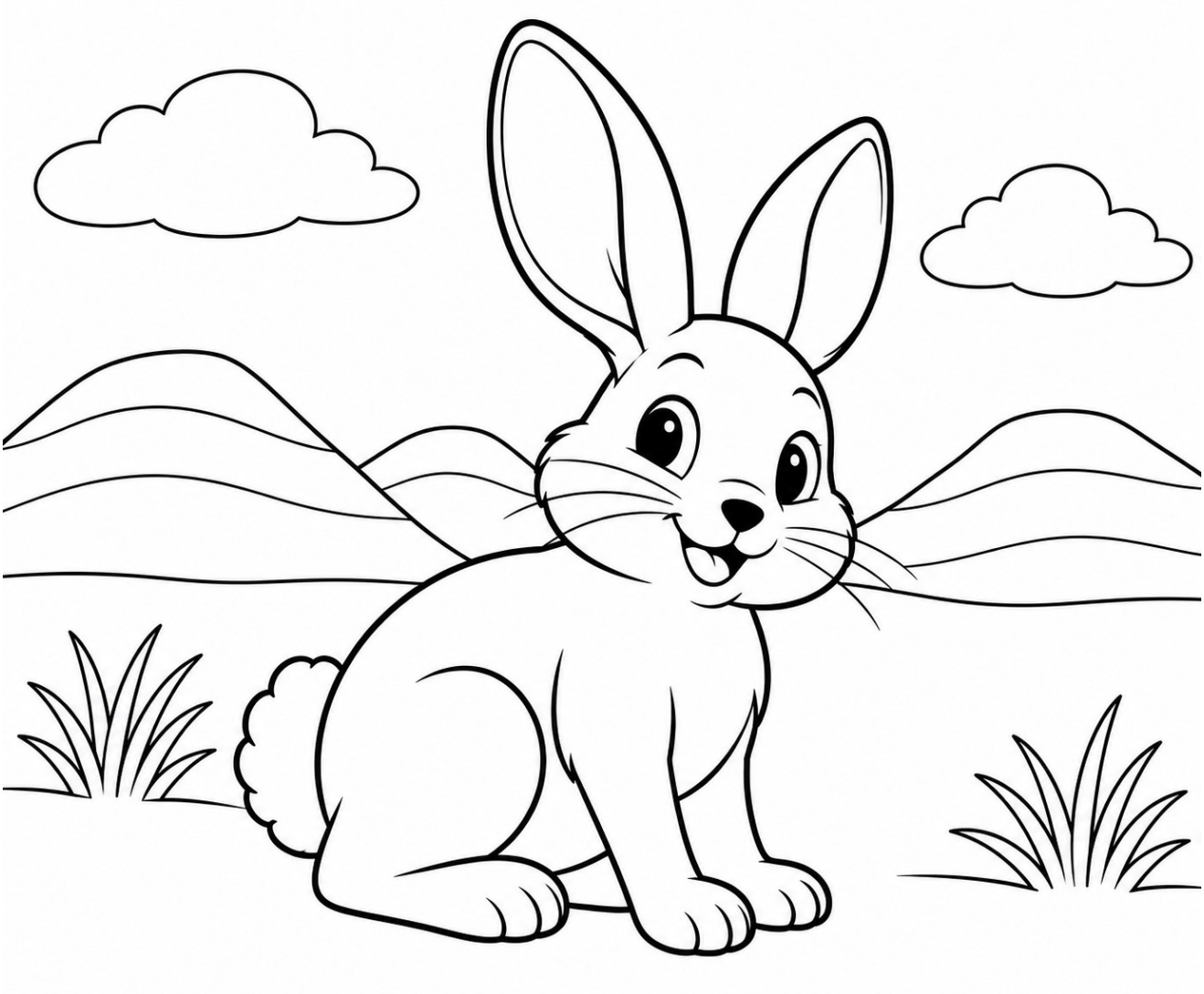
NOTICE AND CONNECT

Hold your arms wide like wings. How can rising air help a bird stay aloft?

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

Meet a long eared neighbor

Color the animal. Find its ears, nose and feet. Leave some white space if you like.



LOOK CLOSELY

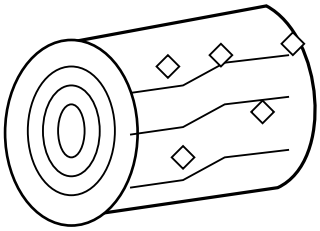
A jackrabbit has long ears and strong back legs. It eats plants and can move in long leaps.

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

A tree becomes a fossil

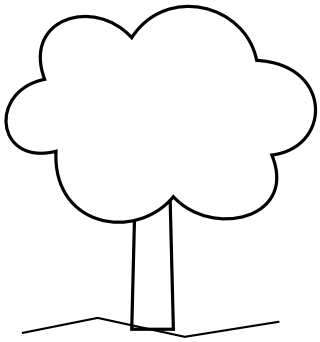
Point to what happens first. Then write 1, 2, 3 and 4 in the circles.

A



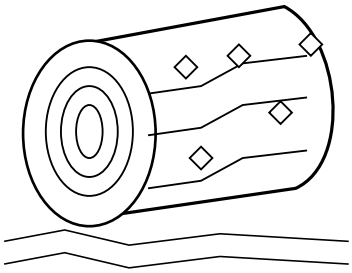
Minerals preserve the log.

B



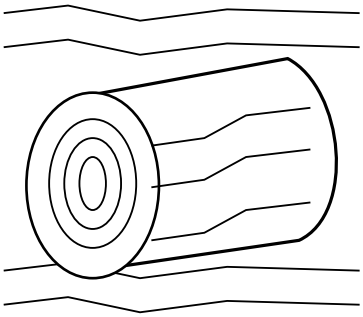
A tree grows and falls.

C



Erosion uncovers the fossil.

D



Sediment buries the log.

DISCOVERY

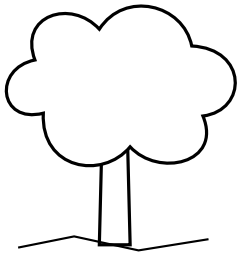
Water can carry minerals into buried wood. A fossil keeps clues to a tree from long ago.

MATCH AND DRAW AGES 4-6

Water and land clues

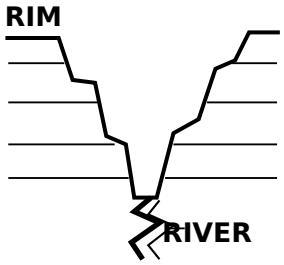
Point to the picture that matches each clue. Then add a water-flow arrow below.

A



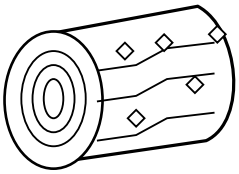
A living plant.

B



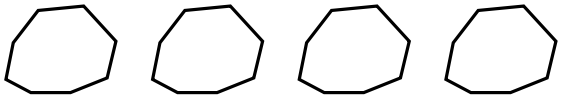
A deep valley.

C



An ancient tree clue.

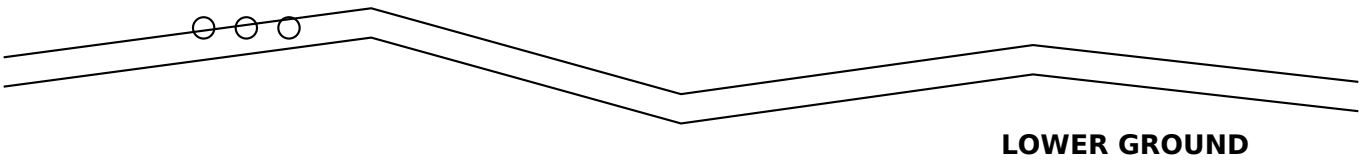
D



Loose pieces of rock.

Match these clues to A-D: valley ___ fossil ___ plant ___ stones ___

HIGHER GROUND



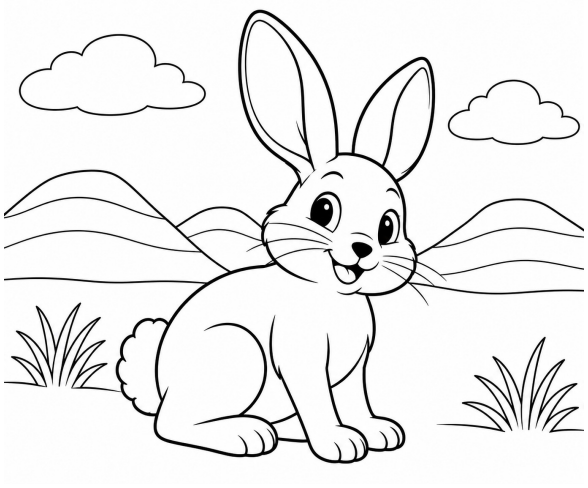
LOWER GROUND

Draw an arrow showing water moving toward lower ground.

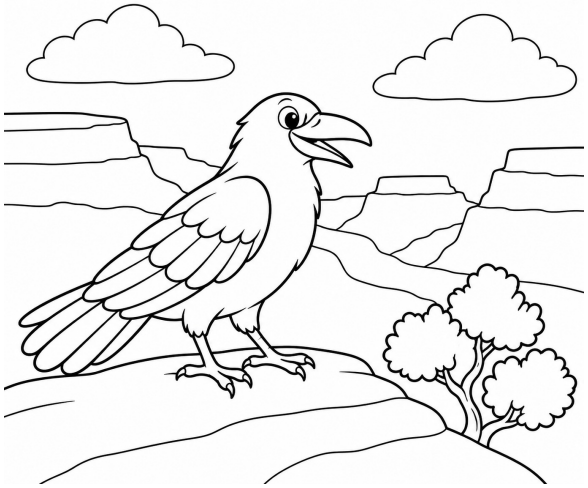
WILDLIFE SORTING **AGES 4-6**

What is for lunch

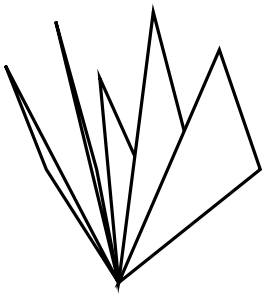
Draw lines from each food to the animal that eats it. Jackrabbits eat grass and leaves. Ravens eat insects.



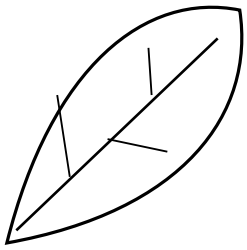
JACKRABBIT



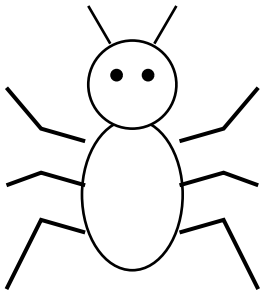
RAVEN



GRASS



LEAVES



INSECT

COUNT AND CIRCLE

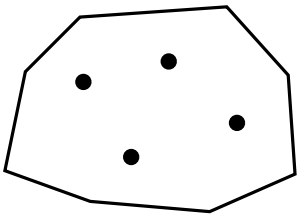
How many food pictures? ____

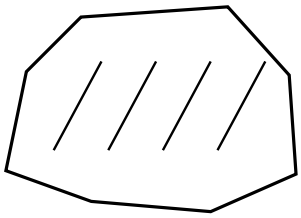
Circle the foods that come from plants.

LOOK SAY AND DRAW **AGES 4-6**

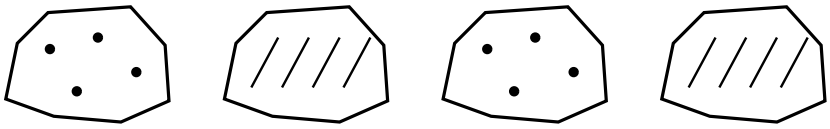
Rock picture patterns

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

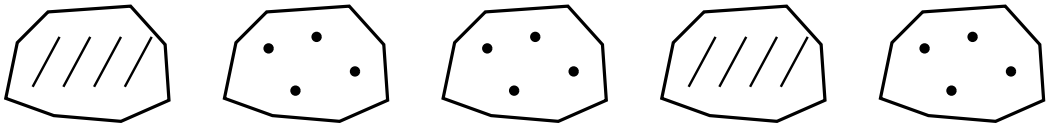




Compare the two shapes. Look for the repeating part.



NEXT



NEXT

Draw 2 pairs of dotted rocks. How many altogether? ____

TWO PAIRS

PEOPLE AND HISTORY AGES 4-6

A place with a long story

Grand Canyon has a human story far older than its park name. Read the three parts with a grown-up.

LONG AGO

People lived in and traveled through canyon country long before a national park existed.

IN 1919

Grand Canyon became a national park, a place set aside to be protected.

TODAY

Hopi and Havasupai communities are among the Tribes with continuing canyon relationships.

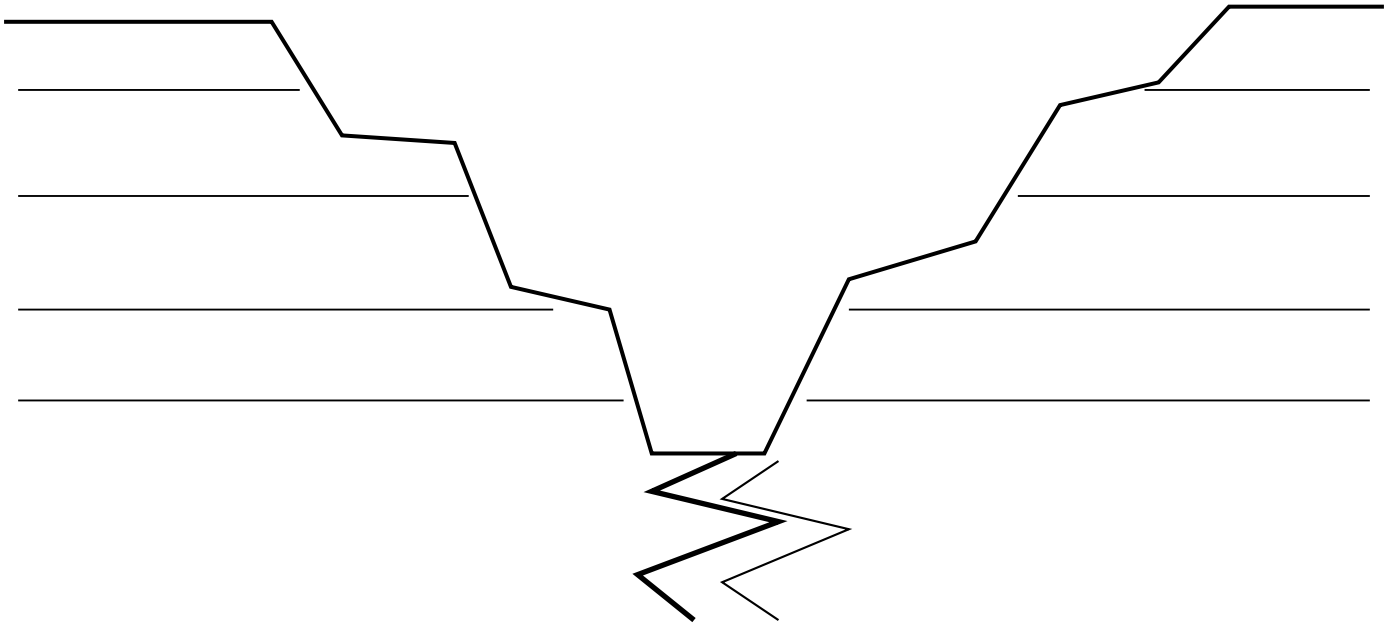
Point to the earliest part. Circle TODAY. Talk about one way your family can care for a place.

DRAW YOUR CARE-FOR-A-PLACE IDEA

COUNT AND BUILD **AGES 4-6**

Build a riverbank

Color the big picture. Then draw the small parts and count them.



MOVING WATER

Moving water can carry loose sand and stones, called sediment.

Draw 4 stones, then 3 more. How many? ____

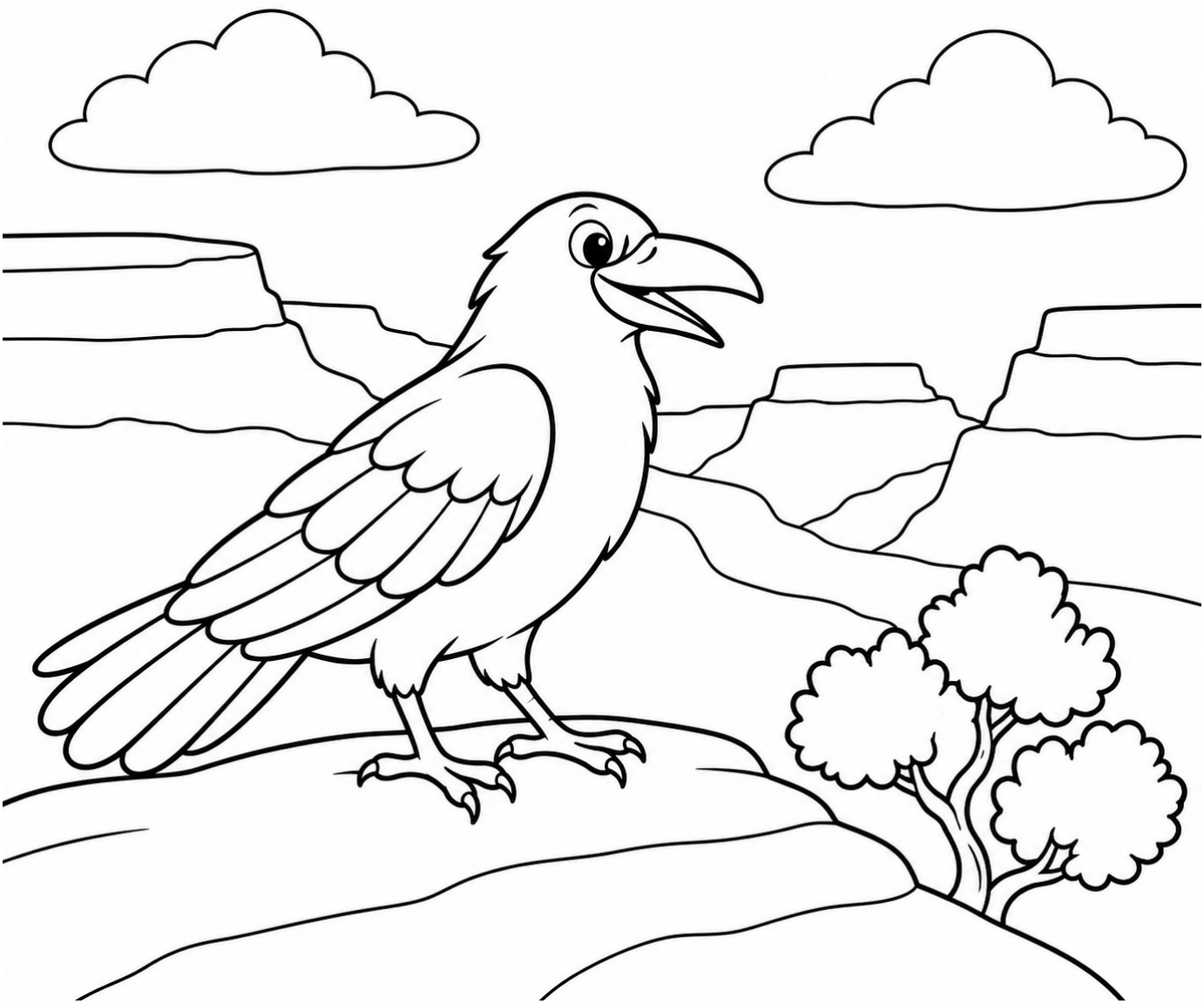
4 + 3

5 + 2 = ____ 8 - 3 = ____

COLOR AND NOTICE AGES 4-6

Your canyon postcard

Color the scene and point to something near and something far.



LOOK AT THE SCENE

Find the bird and canyon walls. Point to something near and something far.

I spy canyon shapes

Choose a picture in this packet. Give a shape clue without naming it. Take turns guessing.

TRY A CLUE

“I spy long ears.”
“I spy a deep valley with steep sides.”
“I spy a log with rings.”

DRAW A NEW CLUE

ONE MORE ROUND

Tell a shared story using river, bird and fossil. Each person adds one sentence.

Keep the driver free to concentrate.

REMEMBER AND SHARE AGES 4-6

My Arizona discoveries

Choose a discovery from this packet or a visit. Draw it and tell someone what you learned. A grown-up may write your words.

A PLACE THAT SURPRISED ME

A CLUE I WANT TO REMEMBER

My new word is

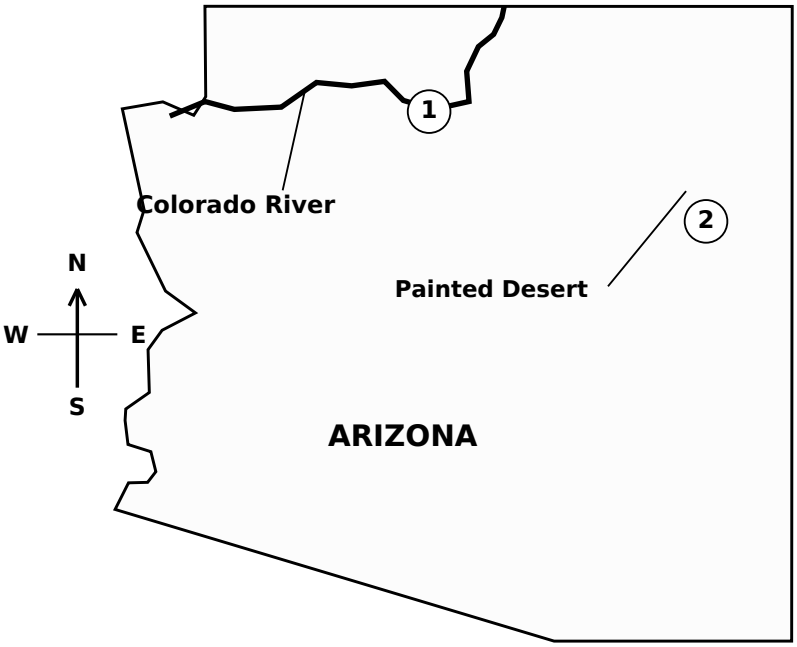
One thing I can explain now is

Show your favorite page to someone in your family.

START YOUR EXPLORER PACKET AGES 7-9

Three stories in one region

Read the land like a story. Grand Canyon records rock layers and later river carving. Petrified Forest keeps fossil trees. Painted Desert hills preserve clues to ancient rivers and soils.



1 Grand Canyon

2 Petrified Forest

Numbered visitor stop

River

Simplified regional locator. North is at the top.

FOUR PLACES TO EXPLORE

Grand Canyon: a deep valley. Colorado River: water below the rim. Petrified Forest: fossil logs. Painted Desert: colorful banded hills.

Which numbered park lies farther east? Which one is farther north?

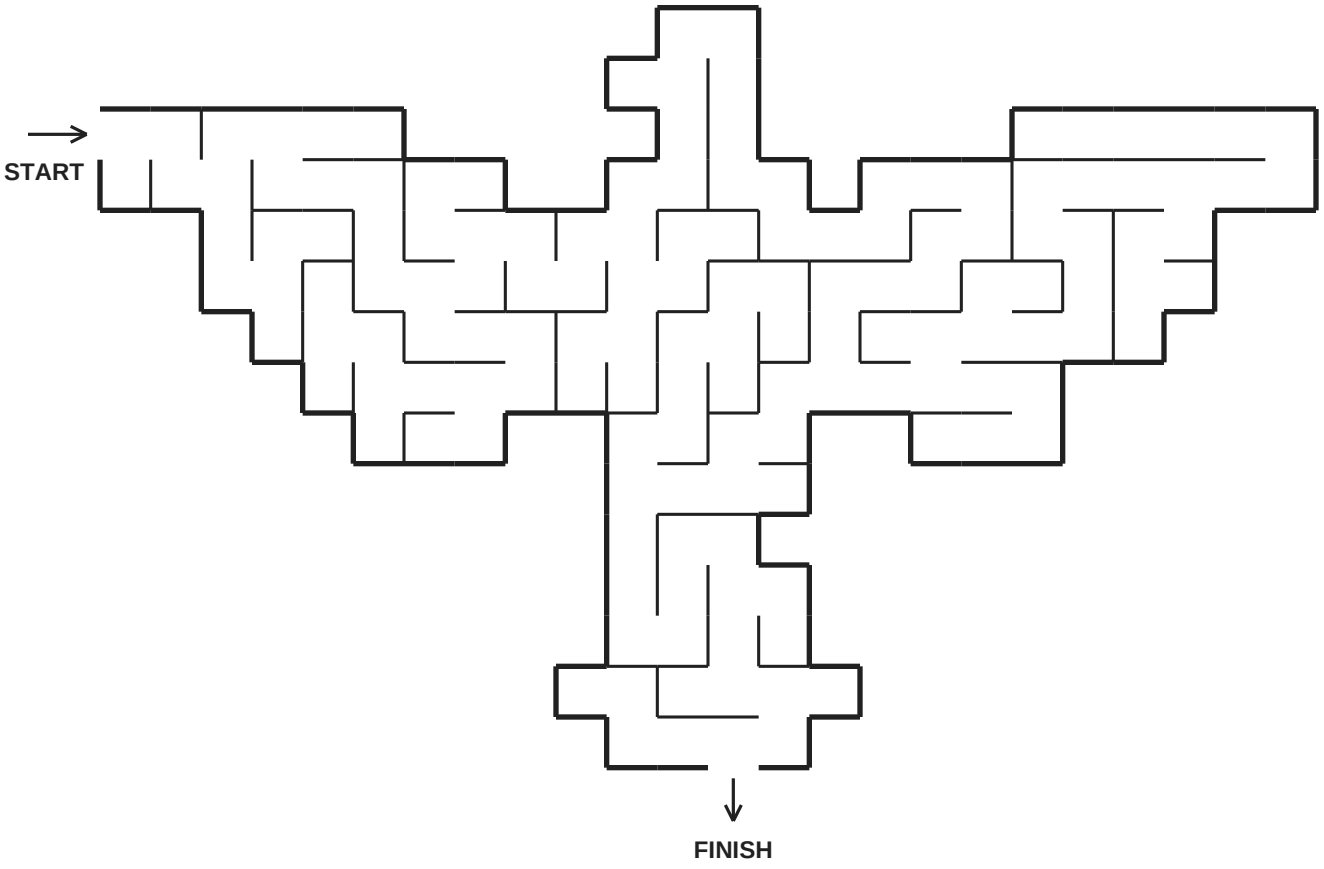
Choose one place above to investigate in this packet.

Answers: page 42 (Routes and first discoveries).

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

The condor route challenge

Find the route from START to FINISH through the condor’s spread wings and body. Look ahead at a fork before choosing a passage.



SOARING SCIENCE

A thermal is a column of rising warm air. Condors circle within thermals to gain height, then glide onward. They are scavengers, feeding on animals already dead.

NOTICE AND CONNECT

Trace a rising spiral with your finger. Why might circling save a bird from constant flapping?

SEQUENCE AND EXPLAIN AGES 7-9

From tree to stone

Most petrified wood here is quartz, a mineral. Put the process cards in order using cause and effect.

A
Minerals preserve the buried wood.

B
A tree grows.

C
Erosion uncovers the fossil.

D
Sediment buries a fallen log.

E
The tree falls.

Order: ____ → ____ → ____ → ____ → ____

Which step makes a clue visible or removes material? Explain.

Connect one step to something you could notice in a park picture.

BUILD A FOOD WEB AGES 7-9

Energy across canyon country

Grass uses sunlight. Jackrabbits and grass-eating insects eat grass. Ravens eat insects and animal remains. Condors eat dead animals, including jackrabbits. Food arrows point toward the eater.

BUILD THE CONNECTIONS
Draw one sunlight arrow and five feeding arrows using the facts above. Add a dashed arrow from a jackrabbit that dies to its remains.

SUN

GRASS

JACKRABBIT

INSECTS

RAVEN

JACKRABBIT REMAINS

CONDOR

Trace one linked route through the community.

NOTICE AND CONNECT
Which two animals share grass? Which two share animal remains?

COMPARE AND CALCULATE AGES 7-9

Compare places and numbers

Use the numbers in each story. Show how you know, then compare the two pictured discoveries.

1 COMPARE THE MODEL

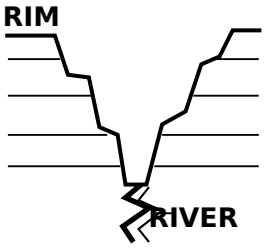
Two stream trials move 16 and 30 pebbles. How many more move in the second trial? Show subtraction.

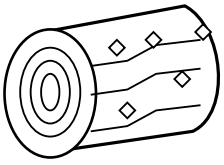
2 A FAMILY STOP

A family watches for 17 minutes and sketches for 14. How many minutes is that altogether?

3 TIME TO EXPLORE

You have 75 minutes at a stop. The first two activities take 31 minutes. How much time remains?





NOTICE AND CONNECT

Canyon water carries loose material away. Mineral-rich water can preserve a buried log. Which changes location and which preserves structure?

WORD SEARCH AND DISCOVERY AGES 7-9

Find words then connect them

Find eight words going right, down or diagonally down-right. Then sort every found word into one of the three groups below.

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

CANYON RIVER FOSSIL QUARTZ

CONDOR LAYER SOIL HILL

LAND AND WATER: _____

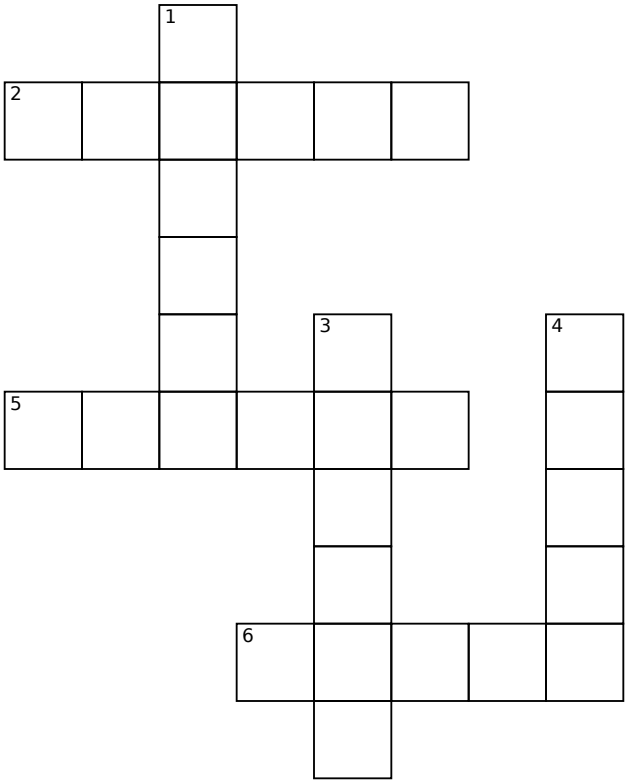
ROCK AND EARTH: _____

LIFE CLUES: _____

USE YOUR NEW VOCABULARY **AGES 7-9**

Canyon connections crossword

Use the clues and discoveries from this packet. Put one letter in each square. Check the crossing letters.



ACROSS

2. Mineral that makes up most park fossil wood. (6)

5. Large scavenging bird that rides rising air. (6)

6. Water flowing along a natural channel. (5)

DOWN

1. A deep valley with steep sides. (6)

3. Evidence of life long ago. (6)

4. One band in a stack of rock. (5)

NOTICE AND CONNECT

Choose two answers. Explain a connection between them rather than just putting them in a sentence.

DEDUCE FROM EVIDENCE AGES 7-9

The missing feature labels

Four field notes A-D lost their labels. Each describes a different feature. Use every clue to restore the names.

THE FOUR FEATURES

Canyon: deep valley with steep sides. Fossil log: ancient tree structure preserved in mineral. Thermal: rising warm air. Sediment: loose sand or stones.

1. A and C are solid material.

2. B is moving air.

3. Only D is a deep valley.

4. C preserves a tree’s old structure.

Note	Feature name	Clue that helped
A		
B		
C		
D		

Explain how identifying B and D made A easier to solve.

More than dates on a timeline

People knew these places before their federal designations. Tribal communities continue their relationships with the land today.

1919
Grand Canyon becomes a national park.

1893
A forest reserve protects the canyon area.

1908
Grand Canyon becomes a national monument.

1. Put the three dates in order from earliest to latest.

2. How many years passed between the first and last dates?

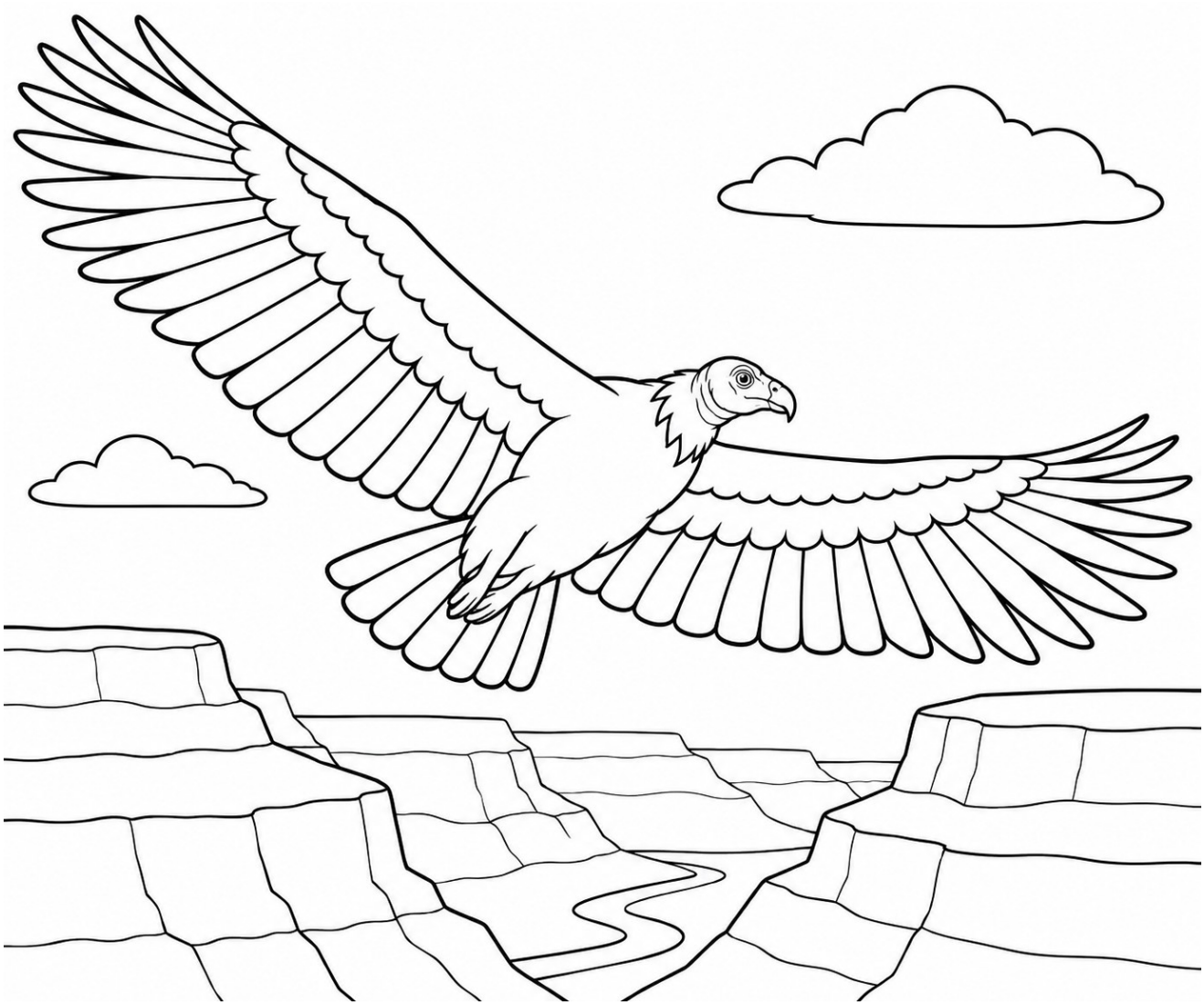
Show your subtraction.

THINK BEYOND THE DATES
Why would beginning this place’s story with a federal designation leave out important people and relationships?

COLOR AND OBSERVE **AGES 7-9**

Wide wings close looking

Color the condor study. Adult condors have large white patches under the wings. Look for long flight feathers at the wing tips and the small head.



COMPARE VISIBLE FEATURES

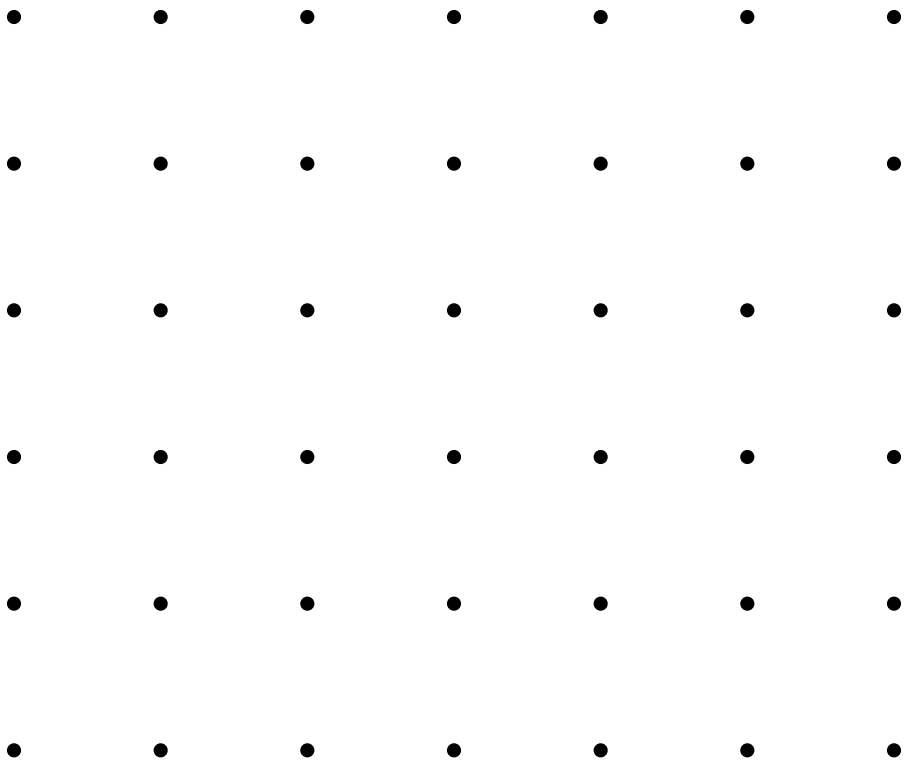
Compare a wing-tip feather with the short feathers near the body. How do the long feathers help form a broad wing?

FAMILY ROAD BREAK AGES 7-9

Dots and boxes on the road

Two players connect neighboring dots horizontally or vertically. Complete a box? Add your initial and take another turn. Most boxes wins; equal scores tie.

Player initials: ____ and ____



How many boxes can be claimed? ____

Final score: ____ to ____

A MEMORY ROUND

Name a discovery. The next person repeats it and adds another. How long can your shared list grow?

REMEMBER AND EXPLAIN AGES 7-9

My evidence and memories

Pick a place from the packet. Record something you noticed or learned, and explain what it tells you.

Place and discovery

A DETAIL THAT SUPPORTS MY IDEA

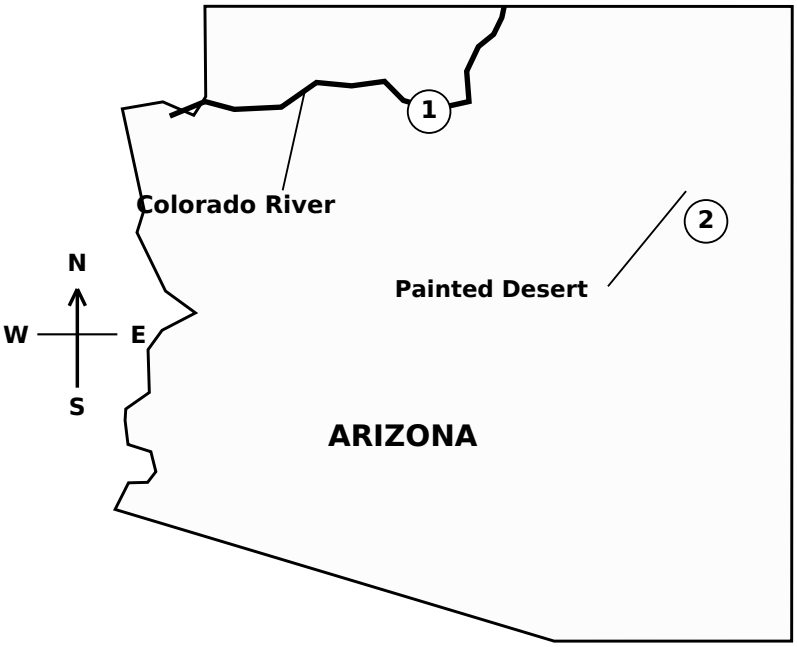
This detail matters because

One question I want to explore next

START YOUR EXPLORER PACKET AGES 10+

Read a landscape in layers

Northern Arizona holds events on different timescales. Distinguish the making of rock from the later carving of a canyon, and living communities from a history frozen in the past.



1 Grand Canyon

2 Petrified Forest

Numbered visitor stop

River

Simplified regional locator. North is at the top.

FOUR PLACES TO EXPLORE

Grand Canyon: a deep valley. Colorado River: water below its rim. Petrified Forest: fossil logs. Painted Desert: banded hills exposing the Chinle Formation.

Which numbered park lies farther east? Which one is farther north?

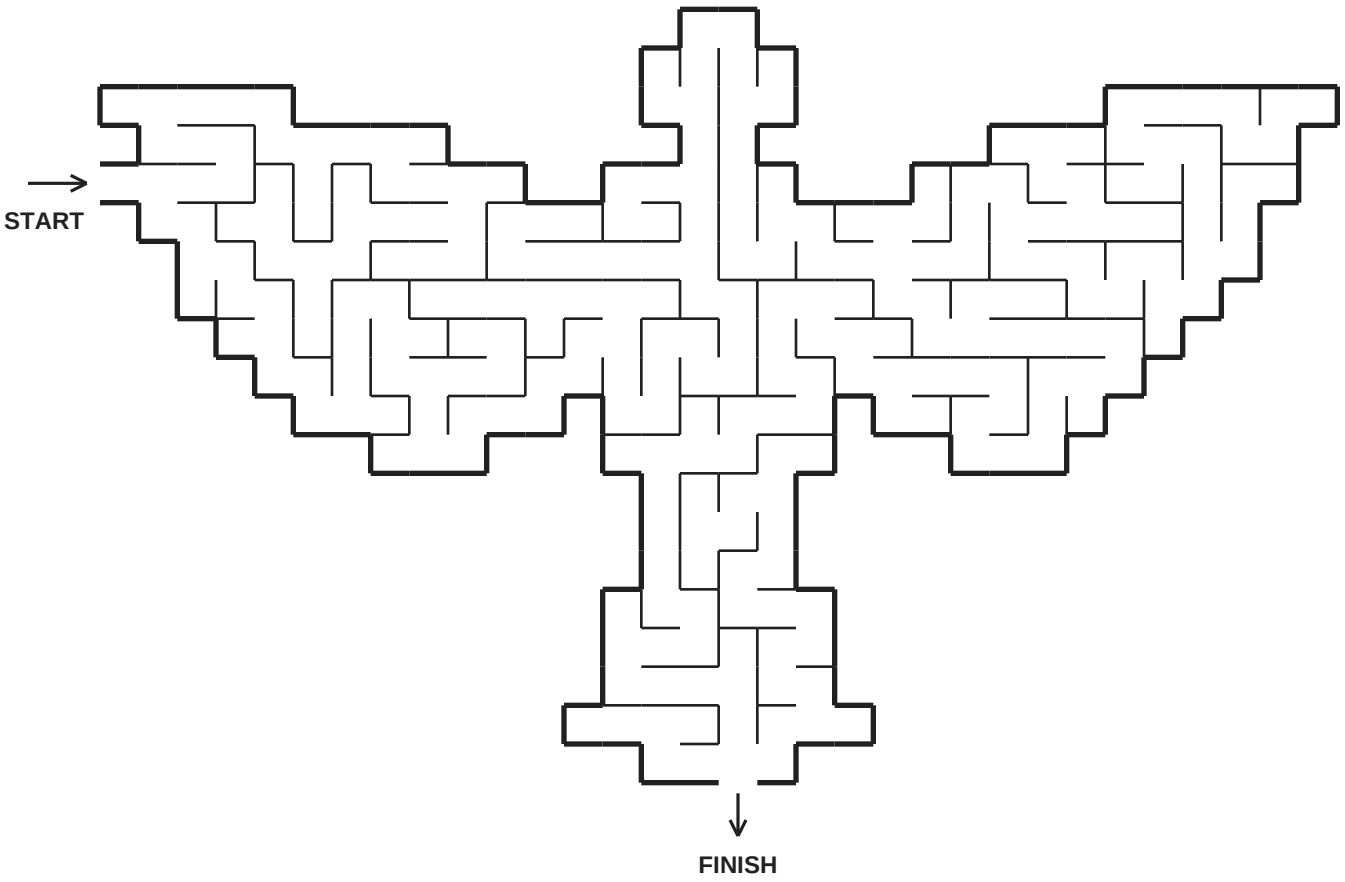
Choose one place above to investigate in this packet.

Answers: page 45 (Routes and first discoveries).

SHAPED MAZE | CHALLENGING **AGES 10+**

The long condor passage

Work through the wings, body and tail from START to FINISH. Keep track of unexplored branches; long dead ends make looking ahead worthwhile.



LIFT WITHOUT CONSTANT FLAPPING

A thermal is an updraft of warm air. Condors use thermals to soar while searching for carrion: animals already dead. An animal with that feeding role is a scavenger.

NOTICE AND CONNECT

How can a bird travel efficiently over a large area while searching for scattered food?

ILLUSTRATED SCIENCE MYSTERY **AGES 10+**

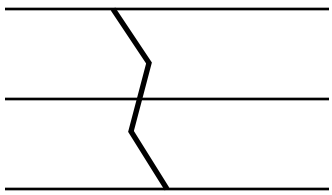
Catch the rock story mix up

Match three label cards to the three scenes. Cross out the one false card. Use the picture evidence.

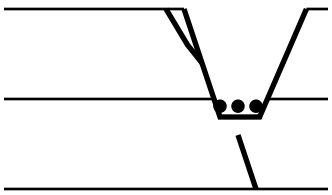
1



2



3



A | SCENE ____
A channel cuts older layers and a crack.

B | SCENE ____
Two undisturbed layers have formed.

C | SCENE ____
The lower rock layer formed after the upper one.

D | SCENE ____
A crack crosses both layers.

ONE MORE CLUE
A crack or channel must be younger than the rock it cuts. Which picture shows that relationship?

BUILD AND QUESTION A FOOD WEB AGES 10+

Energy across canyon country

Grass uses sunlight. Jackrabbits and grass-eating insects eat grass. Ravens eat insects and animal remains. Condors eat dead animals, including jackrabbits. Food arrows point toward the eater.

BUILD THE CONNECTIONS

Draw five feeding arrows. Then use a dashed arrow to connect an animal to the remains it leaves when it dies.

GRASS

JACKRABBIT

INSECTS

RAVEN

JACKRABBIT REMAINS

CONDOR

Trace one linked route through the community.

EVIDENCE OR OVERREACH

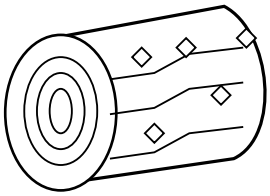
“Every animal population must change by the same amount.” Does this web prove that? Circle YES or NO. Name one other influence.

COMPARE THE CLUES AGES 10+

Two pictures two kinds of evidence

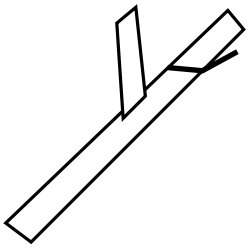
Look at both scenes. Use what each picture and caption actually shows before deciding what the evidence can prove.

A FOSSIL LOG



Quartz preserves old wood structure. Natural breaks cross the log.

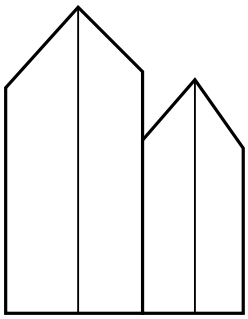
B FRESH BRANCH



Recent wood still has plant material. It is not ancient-life evidence.

CIRCLE A OR B

1. Which is evidence of ancient life? A / B
2. Which is recent plant material? A / B
3. Does a neat break alone prove a person used a saw? YES / NO



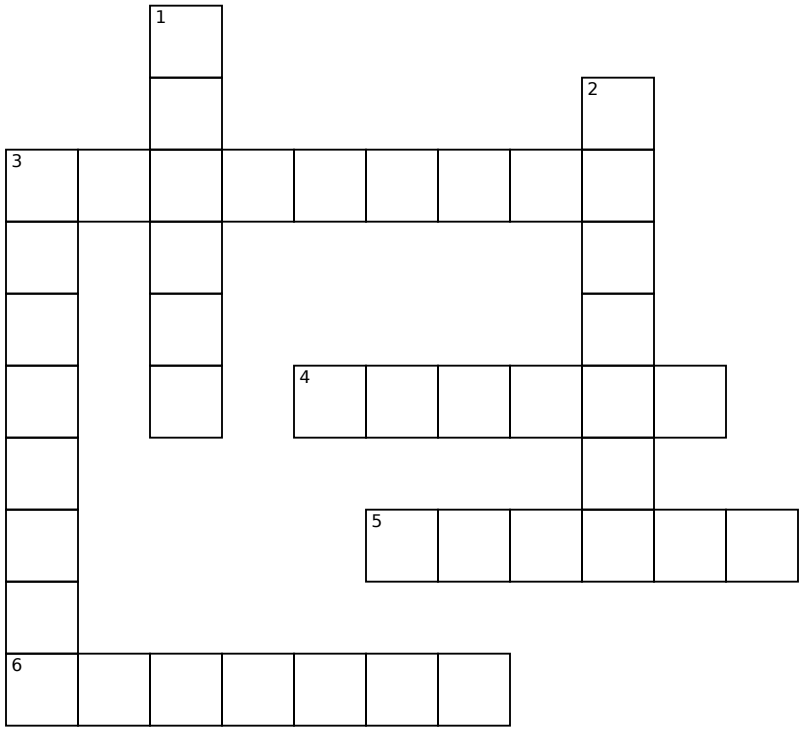
ONE MORE MATERIAL CLUE

Quartz is a mineral. A mineral specimen is not always a fossil. Optional: explain why a fossil log can be both mineral and ancient-life evidence.

CROSSWORD | USE EVIDENCE FIRST **AGES 10+**

Words hidden in the rocks

Use the clues and discoveries from this packet. Put one letter in each square. Check the crossing letters.



ACROSS

3. An animal that eats animals already dead. (9)

4. Preserved evidence of ancient life. (6)

5. Formation exposed in much of the Painted Desert. (6)

6. An updraft of warm air used by soaring birds. (7)

DOWN

1. Mineral making up most petrified wood here. (6)

2. Removal and transport of rock or soil material. (7)

3. Loose material carried or deposited by water. (8)

Optional: Explain how two of your answers connect in a single landscape.

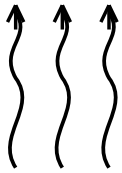
MULTI STEP CHANGING MODEL AGES 10+

A condor gains and loses height

A system’s state changes as something is added and something is used. Complete one round at a time before starting the next.

FLIGHT MODEL RULES

Start at 100 height units. Each round, a thermal adds 50 units, then a glide uses 35. Record the height after each step. After round 4, the next thermal adds only 20; the glide still uses 35.



THERMAL → GLIDE

Round	Before lift	After thermal	After glide
Start	100	-	-
1			
2			
3			
4			
5			

1. How much height does each of rounds 1-4 add overall? ____

2. What is the height after round 5? ____

3. Why does round 5 reverse the earlier pattern?

Follow a connected route

Trace two ways that material moves through this region. Then solve a message independently.

TWO CONNECTED ROUTES

Route A: rain on canyon slopes → small channels → Colorado River.
Route B: water sinks into cracks → groundwater → a spring.

1. Which route moves water underground? ____

2. Which part of the route connects the starting and ending places?

DECODE A DISCOVERY

Each coded letter is 3 places AFTER its real letter. Move back 3 to read it. Wrap around the alphabet. Spaces stay in place.

URFNV EHIRUH ULYHU

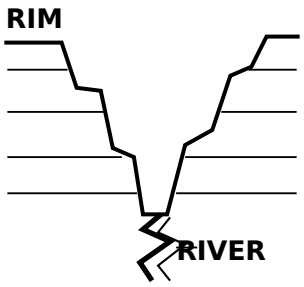
Explain how the message connects to one route or discovery.

MATCH EXHIBITS AND LABELS **AGES 10+**

The exhibit labels got mixed

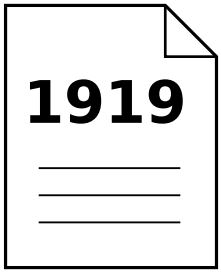
Read the three exhibits. Match each to its best label, then choose a headline that fits the whole story.

A



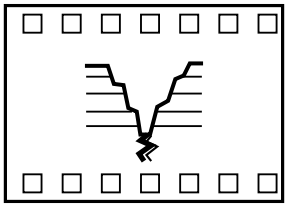
People knew canyon country before the park existed.

B



In 1919, Grand Canyon became a national park.

C



Tribal collaborators helped shape the film We Are Grand Canyon.

LABELS

1 Continuing relationships and care
2 Human connections before park designation
3 A new national park

Exhibit A → label ____ B → label ____ C → label ____

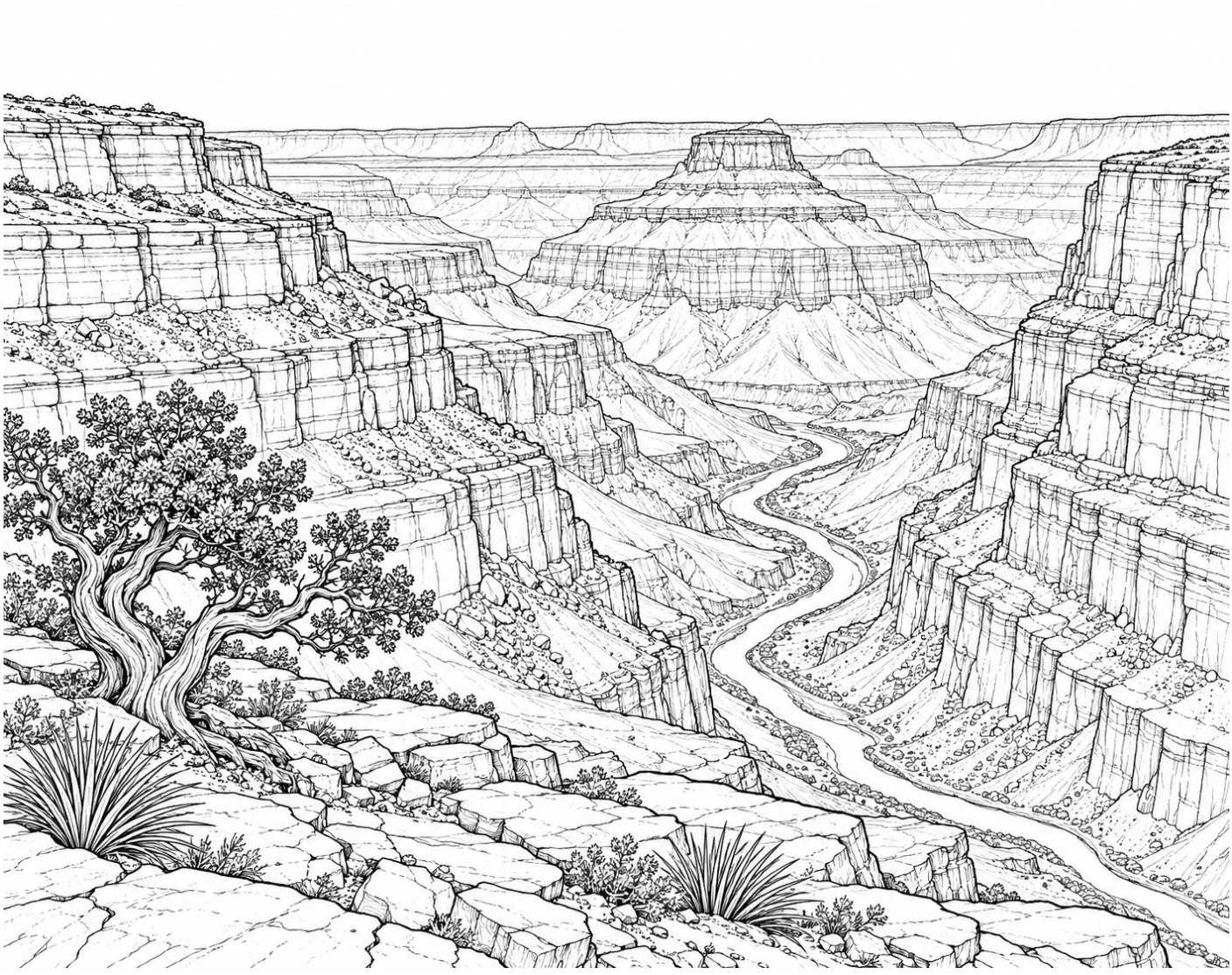
CHOOSE THE HEADLINE

Circle the best fit: HUMAN HISTORY BEGINS WITH THE PARK / A LONG PAST AND CONTINUING CONNECTIONS

LANDSCAPE OBSERVATION **AGES 10+**

Read the view before coloring

Color the full landscape study. Use visible structure to explain a natural process.



STRUCTURE AND PROCESS

Label a cliff, slope and river channel. Add a small arrow for moving water and a sentence about how it can carry rock or soil away.

FAMILIAR ROAD BREAK AGES 10+

A canyon number rest stop

Place 1-9 in every row, column and bold 3 by 3 box. Each number appears once in each. This is a quiet independent break.

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

A WAY IN

Find a row, column or box with few gaps. List its missing numbers. Use the crossing row and column to rule numbers out. Use pencil.

Afterward, teach someone one deduction you made without guessing.

SYNTHESIZE AND REMEMBER AGES 10+

Explain a discovery worth keeping

Choose a question about Grand Canyon, Petrified Forest or the Painted Desert. Give an explanation supported by two details from the packet or your observations.

My question

My explanation and two supporting details

A DIAGRAM OR DETAIL THAT HELPS EXPLAIN MY IDEA

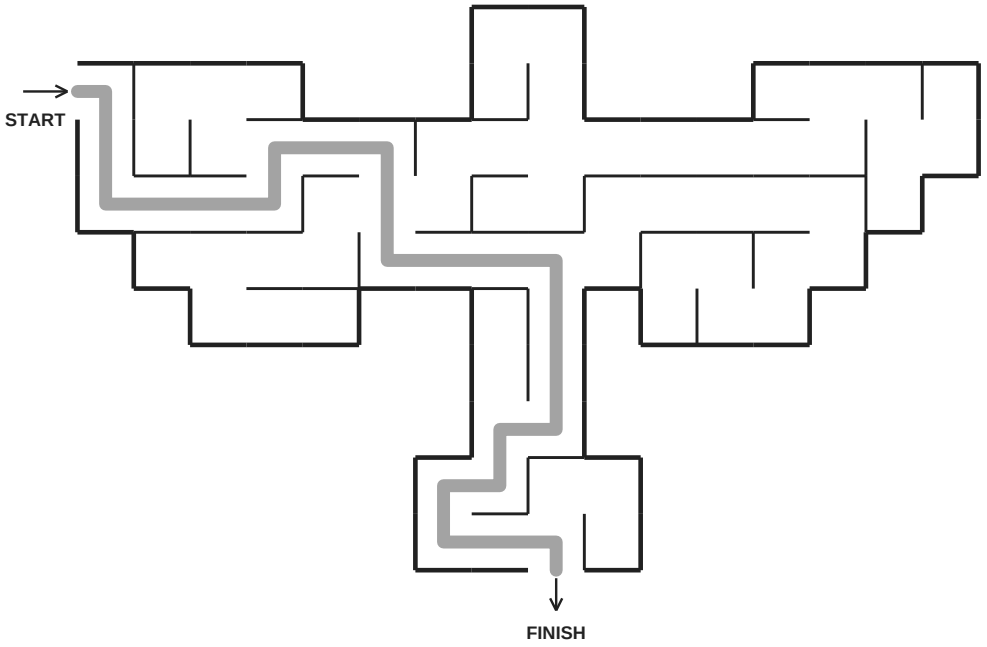
Something I want my family to remember

ANSWER KEY 1 OF 3 **AGES 4-6**

Routes and first discoveries

Try a hint first. Point to evidence in the activity before reading its answer.

Page 4 Wings wide for a maze



Page 3 Hello canyon country

Grand Canyon is the western/northern park dot; Petrified Forest is farther east and south. The Colorado River flows below the Grand Canyon rim. Part of the Painted Desert lies within Petrified Forest.

Page 5 Meet a long eared neighbor

Color choices vary. Point to the ears, nose and feet. The jackrabbit is a plant eater.

Page 6 A tree becomes a fossil

Order B-D-A-C. Numbers: A=3, B=1, C=4, D=2. The tree falls, is buried, becomes mineral-preserved and is later uncovered.

ANSWER KEY 2 OF 3 AGES 4-6

Words models and evidence

Check every crossing, calculation and clue. Several thoughtful explanations may fit the evidence.

Page 7 Water and land clues

Valley B; fossil C; plant A; stones D. The water arrow points from the higher left end toward the lower right end.

Page 8 What is for lunch

Three food pictures. Grass and leaves → jackrabbit; insect → raven. Circle grass and leaves.

Page 9 Rock picture patterns

Dotted rock; dotted rock. Two pairs have 4 rocks.

Page 10 A place with a long story

LONG AGO is earliest. Circle TODAY. Care drawings vary: stay on designated paths, leave natural objects or listen respectfully to community educators. Park designation did not begin the human story.

ANSWER KEY 3 OF 3 AGES 4-6

People pictures and reflection

Use the activity page numbers shown below. Open drawings and family conversations have many good answers.

Page 11 Build a riverbank

4 + 3 = 7. 5 + 2 = 7. 8 - 3 = 5. Drawings should show the requested objects in two groups.

Page 12 Your canyon postcard

The raven, nearby tree or foreground rock are near; canyon walls are farther away. A postcard could explain that the river flows below the rim or helped carve older rock.

Page 13 I spy canyon shapes

Possible answers: jackrabbit; canyon; fossil log. A useful clue describes a visible feature without naming it. Shared stories vary.

Page 14 My Arizona discoveries

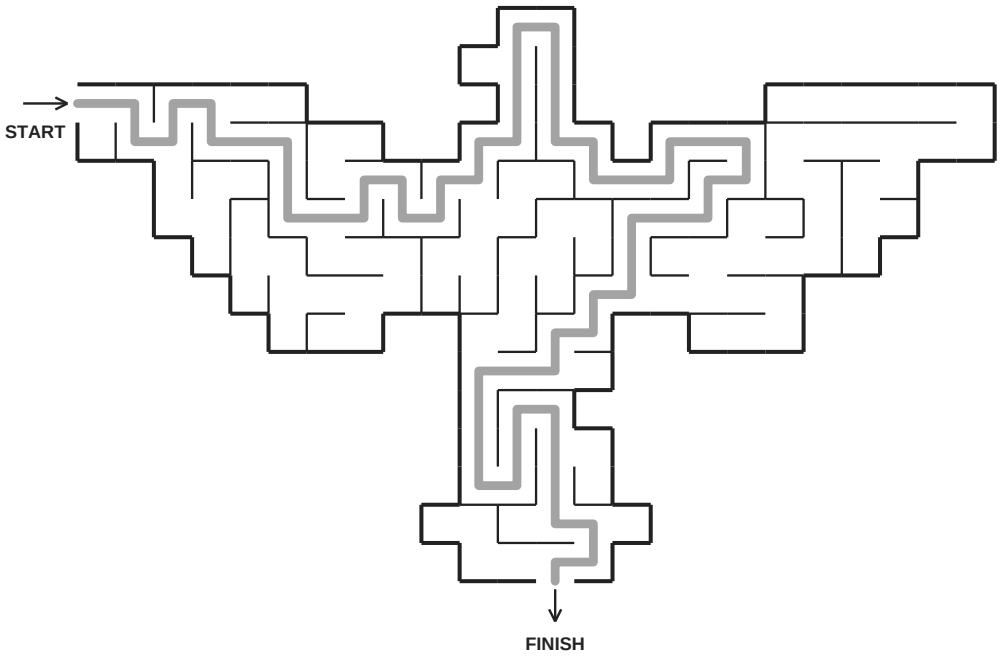
Drawings and words vary. Look for a recognizable place or clue and an explanation connected to something in the packet.

ANSWER KEY 1 OF 3 AGES 7-9

Routes and first discoveries

Try a hint first. Point to evidence in the activity before reading its answer.

Page 16 The condor route challenge



Page 15 Three stories in one region

Grand Canyon is the western/northern park dot; Petrified Forest is farther east and south. The Colorado River flows below the Grand Canyon rim. Part of the Painted Desert lies within Petrified Forest.

Page 17 From tree to stone

B-E-D-A-C. Erosion exposes the fossil. Burial slows decay and mineral-rich water can preserve the wood structure.

Page 18 Energy across canyon country

Sun to grass; grass to jackrabbit and insects; insects to raven; jackrabbit remains to raven and condor. A dashed jackrabbit-to-remains link means death, not a condor hunting. Jackrabbit and insects share grass; raven and condor share remains.

ANSWER KEY 2 OF 3 AGES 7-9

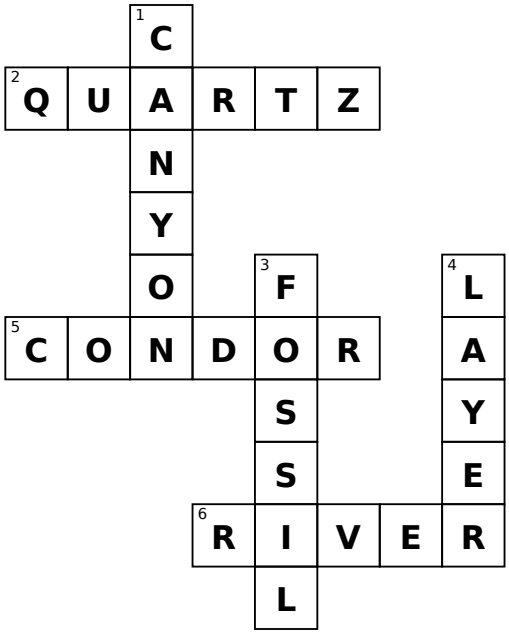
Words models and evidence

Check every crossing, calculation and clue. Several thoughtful explanations may fit the evidence.

Page 20 Find words then connect them

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

Page 21 Canyon connections crossword



Page 19 Compare places and numbers

30 - 16 = 14 pebbles. 17 + 14 = 31 minutes. 75 - 31 = 44 minutes. Erosion transports material; mineral preservation retains wood structure.

Page 22 The missing feature labels

A sediment; B thermal; C fossil log; D canyon. Clues 2 and 3 identify B and D. C has ancient wood structure, leaving sediment for A.

Page 20 Find words then connect them

Land and water: CANYON, RIVER, HILL. Rock and earth: QUARTZ, LAYER, SOIL. Life clues: FOSSIL, CONDOR.

ANSWER KEY 3 OF 3 AGES 7-9

People pictures and reflection

Use the activity page numbers shown below. Open drawings and family conversations have many good answers.

Page 23 More than dates on a timeline

1893, 1908, 1919. 1919 - 1893 = 26 years. People lived here long before these dates, and continuing Tribal relationships are not captured by a park-designation timeline.

Page 24 Wide wings close looking

Wing-tip feathers are long and help form a broad wing for soaring; feathers closer to the body are shorter. Compare details actually visible in the drawing.

Page 25 Dots and boxes on the road

There are 5 × 6 = 30 boxes. The final scores total 30. Completing a box gives another turn. Winners and memory stories depend on play.

Page 26 My evidence and memories

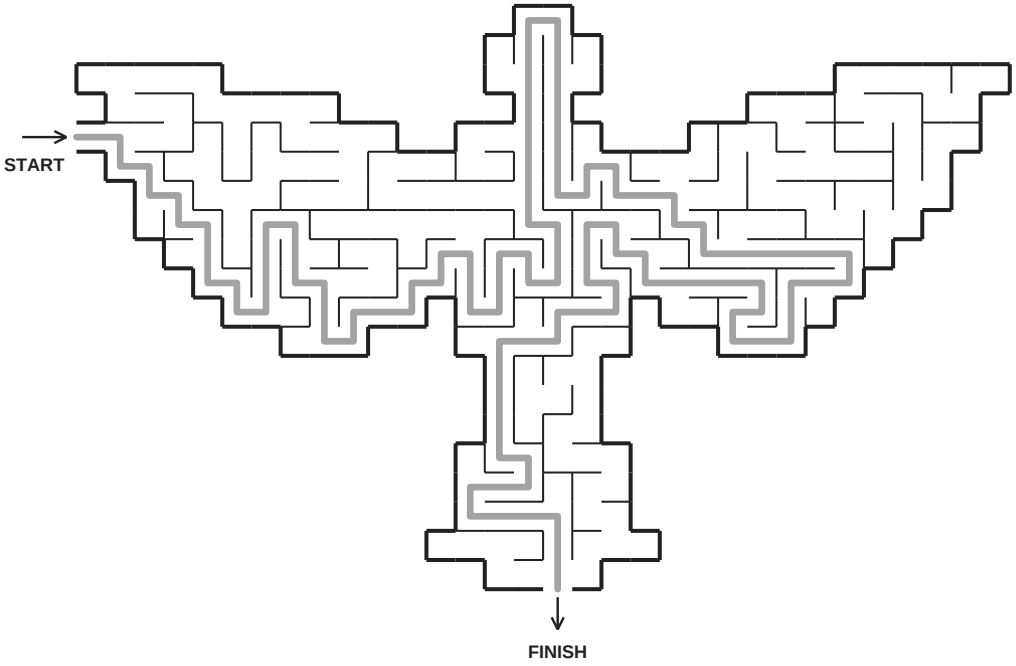
Example: “A fossil log retains grain, but is mostly quartz. The pattern tells about a tree; the mineral tells about preservation.” Other well-supported ideas work.

ANSWER KEY 1 OF 3 **AGES 10+**

Routes and first discoveries

Try a hint first. Point to evidence in the activity before reading its answer.

Page 28 The long condor passage



Page 27 Read a landscape in layers

Grand Canyon is the western/northern park dot; Petrified Forest is farther east and south. The Colorado River flows below the Grand Canyon rim. Part of the Painted Desert lies within Petrified Forest.

Page 29 Catch the rock story mix up

A → scene 3; B → scene 1; D → scene 2. Cross out C. In undisturbed sedimentary layers, the lower layer was deposited first. A feature cutting another is younger than what it cuts.

Page 30 Energy across canyon country

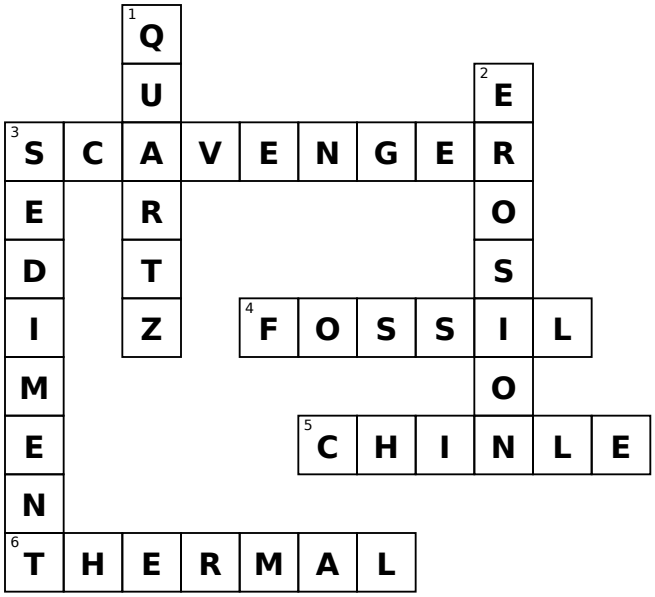
grass to jackrabbit and insects; insects to raven; jackrabbit remains to raven and condor. A dashed jackrabbit-to-remains link means death, not a condor hunting. No. A web shows feeding links, not exact population changes. Weather, water and other foods can matter.

ANSWER KEY 2 OF 3 AGES 10+

Words models and evidence

Check every crossing, calculation and clue. Several thoughtful explanations may fit the evidence.

Page 32 Words hidden in the rocks



Page 31 Two pictures two kinds of evidence

1 A; 2 B; 3 NO. A fracture alone does not prove sawing. The fossil log is mostly quartz and preserves ancient wood structure; a quartz crystal without life structure is not itself a fossil.

Page 33 A condor gains and loses height

Round 1: 100,150,115. Round 2:115,165,130. Round 3:130,180,145. Round 4:145,195,160. Round 5:160,180,145. Rounds 1-4 add 15 each; final 145. Round 5 gains only 20 but loses 35, so its net change is -15.

Page 34 Follow a connected route

Route B moves water underground. Cracks and groundwater connect the surface to a spring. The code reads ROCKS BEFORE RIVER. Shift every coded letter back 3.

ANSWER KEY 3 OF 3 AGES 10+

People pictures and reflection

Use the activity page numbers shown below. Open drawings and family conversations have many good answers.

Page 37 A canyon number rest stop

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

Page 35 The exhibit labels got mixed

A → 2; B → 3; C → 1. Best headline: A LONG PAST AND CONTINUING CONNECTIONS. Park designation is one event within a much longer human story.

Page 36 Read the view before coloring

Cliff: steep wall; slope: inclined surface; channel: river course. Erosion transports loosened material. Labels should touch visible features.

Page 37 A canyon number rest stop

The completed grid is shown. Each row, column and bold box contains 1-9 exactly once. This puzzle has one solution, verified by exhaustive search.

Page 38 Explain a discovery worth keeping

Look for a question, two supporting details and an explanation linking them. A diagram should clarify the idea; it need not be elaborate.

FOR THE GROWN-UPS FAMILY GUIDE

Before you head outside

The activities work during the drive, at a safe stop or after a visit. Choose a place where your child can sit and focus without overlooking nearby hazards.

CANYON AND DESERT

Follow designated routes, railings and staff directions. Keep children with an adult. Carry drinking water and plan for weather and heat; rim and inner-canyon conditions can differ.

LEAVE THE CLUES IN PLACE

Leave petrified wood, rocks, plants and cultural objects where they are. Look without touching or marking cultural features. Observe animals from a distance and keep snacks to yourselves.

PLAN WITH CURRENT INFORMATION

Use official park maps, conditions and access guidance before traveling. Respect Tribal rules and learn from the communities themselves. Give everyone space at viewpoints.

Grand Canyon planning and safety

https://www.nps.gov/grca/planyourvisit/safety.htm

Petrified Forest planning

https://www.nps.gov/pefo/planyourvisit/index.htm

Separate packets: activities 1-12, answers 13-15 and shared guidance/sources 16-18. Print at actual size on US Letter.

Sources for curious families

Primary park, wildlife and community sources support these discoveries. All activities can be completed using the printed packet.

Grand Canyon rock formation and later incision

https://www.nps.gov/grca/learn/nature/geologicformations.htm

Petrified wood, quartz and natural fractures

https://www.nps.gov/pefo/learn/nature/petrified-wood.htm

Mineral preservation and permineralization

https://www.nps.gov/articles/000/permineralization-and-replacement.htm

Painted Desert and Chinle Formation

https://www.nps.gov/pefo/learn/nature/geologicformations.htm

California condors, scavenging and thermals

https://www.nps.gov/grca/learn/nature/california-condors.htm

Associated Tribes and We Are Grand Canyon

https://www.nps.gov/grca/learn/historyculture/associated-tribes.htm

Grand Canyon maps

https://www.nps.gov/grca/planyourvisit/maps.htm

Original artwork retained; the older landscape has a detailed naturalistic variant. New diagrams are editable vectors. Reviewed October 2026.

Sources for curious families

Primary park, wildlife and community sources support these discoveries. All activities can be completed using the printed packet.

Petrified Forest maps

https://www.nps.gov/pefo/planyourvisit/maps.htm

Wildlife food links

https://www.nps.gov/mnrr/learn/nature/jackrabbits.htm

Raven foods

https://www.nps.gov/articles/000/common-raven.htm

Grass eating insects

https://mdc.mo.gov/discover-nature/field-guide/red-legged-grasshopper

Groundwater and springs

https://www.nps.gov/grca/learn/nature/springs.htm

Grand Canyon designation timeline

https://www.nps.gov/grca/learn/management/index.htm

Original artwork retained; the older landscape has a detailed naturalistic variant. New diagrams are editable vectors. Reviewed October 2026.