

# Junior Paleontologist

National Park Service  
U.S. Department of the Interior



Geologic Resources Division

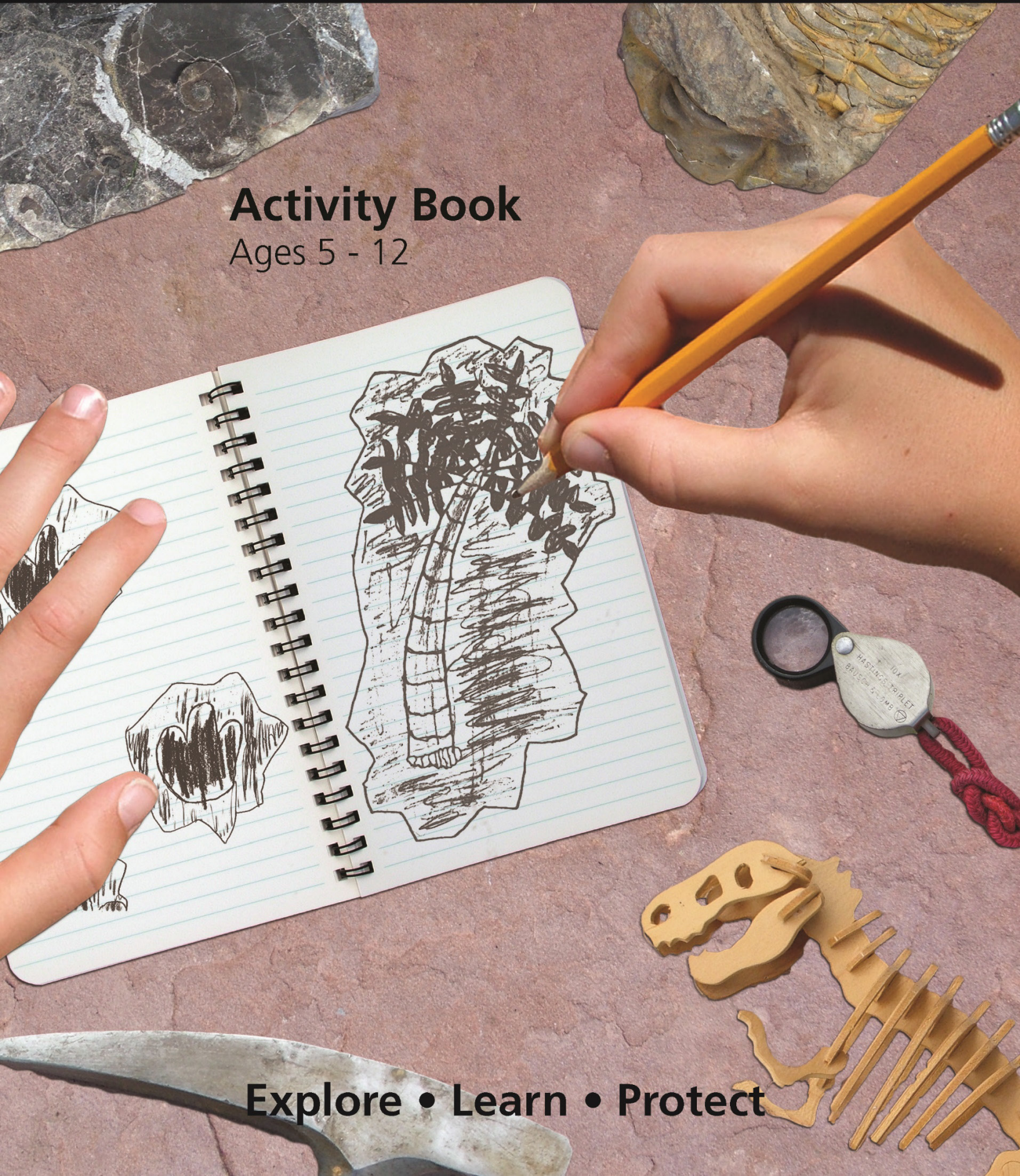
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## Activity Book

Ages 5 - 12



Explore • Learn • Protect



Badlands  
Nat. Park, SD

Chaco Culture  
Nat. Hist. Park, NM

Bering Land Bridge  
Nat. Pres., AK

Delaware Water Gap  
Nat. Rec. Area, NJ  
& PA

Petrified Forest  
Nat. Park, AZ

Agate Fossil Beds  
Nat. Mon., NE



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# Become a Junior Paleontologist

The National Park Service protects natural places and historic sites all across the United States. Today, at least 270 national parks are known to preserve fossils!

There are many places to see and discover these fossils in person.

In this book you can learn about ancient life, complete fun activities, and explore just some of the national parks that offer you a look into the past.



As a Junior Paleontologist you will:



**EXPLORE** the ways that paleontologists work, and the methods and tools they use to understand ancient life.

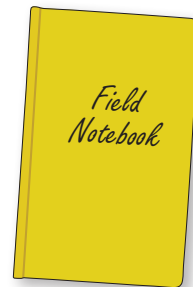
**LEARN** about Earth's history, ancient plants and animals, and changes to past climate and environments.

**PROTECT** our national parks, including fossils and the rocks in which they are found.

Activities in this book are marked with an age indicator. Look for the symbols below:



Rock hammer  
Ages 5 and up.



Notebook  
Ages 8 and up.



Shovel  
Ages 10 and up.

How old are you? \_\_\_\_ That is the number of activities you must complete to become a Junior Paleontologist. Feel free to complete more activities if you have the time.

After completing the activities, there are two ways to receive your Junior Paleontologist badge.

- 1) Return the completed book to a ranger at a participating park.
- 2) Visit <http://go.nps.gov/jrpaleo> for information on how to have a badge mailed to you.

My name is \_\_\_\_\_ I received this book from \_\_\_\_\_

My address is \_\_\_\_\_

# Paleo-Park Passport

More than 270 national park areas preserve fossils. Some of these parks were created specifically because of the fossils. Use this page to collect cancellation stamps from fossil parks you visit.


- |  |   |  |
|--|---|--|
| Agate Fossil Beds National Monument, NE          | Death Valley National Park, CA & NV           | John Day Fossil Beds National Monument, OR     |
| Badlands National Park, SD                       | Dinosaur National Monument, UT & CO           | Joshua Tree National Park, CA                  |
| Bering Land Bridge National Preserve, AK         | Florissant Fossil Beds National Monument, CO  | Mammoth Cave National Park, KY                 |
| Big Bend National Park, TX                       | Fossil Butte National Monument, WY            | Petrified Forest National Park, AZ             |
| Biscayne National Park, FL                       | Glacier National Park, MT                     | Tule Springs Fossil Beds National Monument, NV |
| Channel Islands National Park, CA                | Glen Canyon National Recreation Area, AZ & UT | Waco Mammoth National Monument, TX             |
| Chesapeake & Ohio Canal NHP, DC, MD, & WV        | Grand Canyon National Park, AZ                | Yukon-Charley Rivers National Preserve, AK     |
| Delaware Water Gap Nat. Recreation Area, NJ & PA | Hagerman Fossil Beds National Monument, ID    | Zion National Park, UT                         |

# Road to Fossilization (#1)

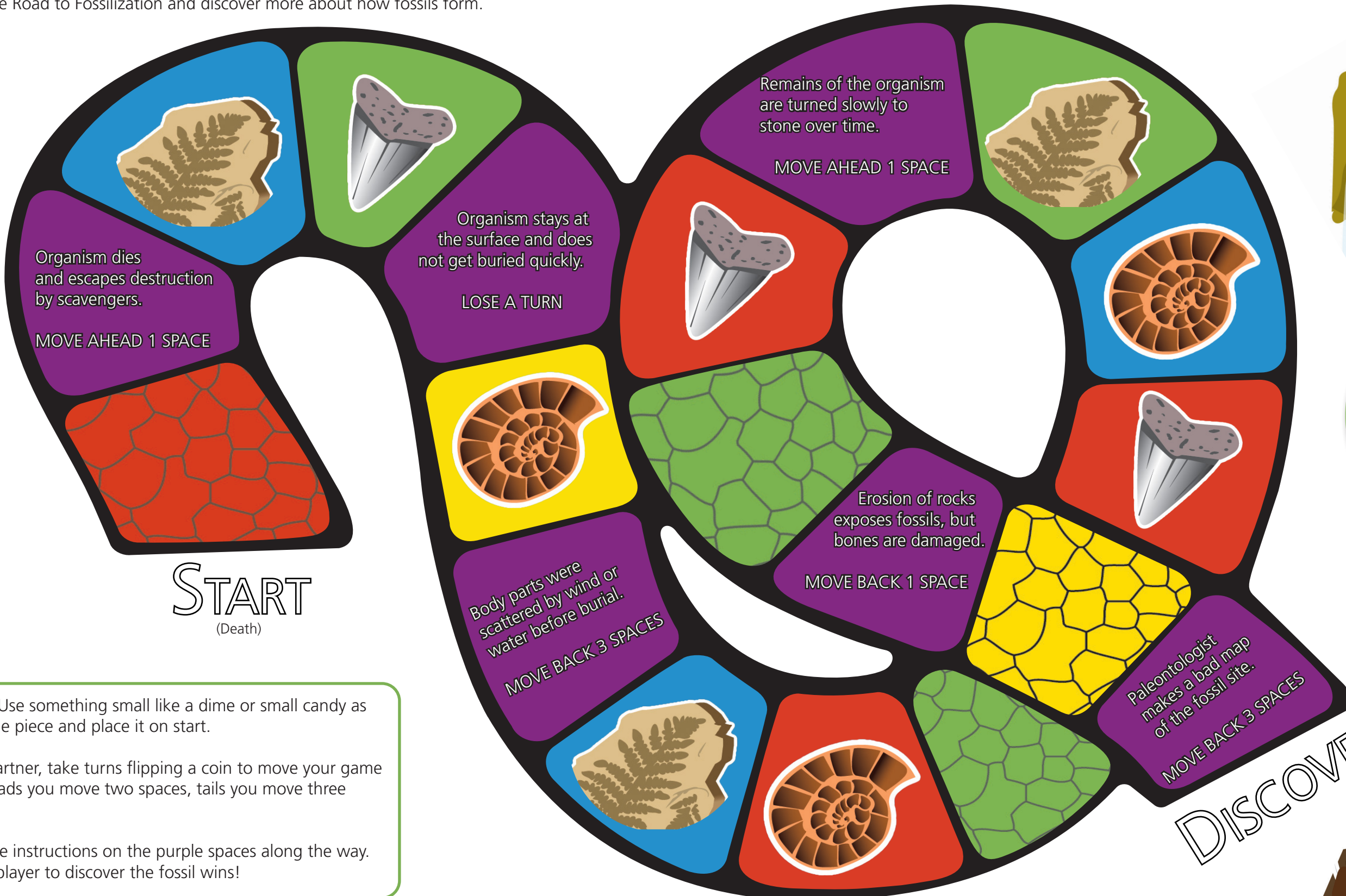
It takes a lot of luck and good timing to become a fossil. Big creatures with hard parts (bones and shells) that die where sediment is collecting have the best chance at preservation. Fragile or small things are rarer fossils.

**Follow** the Road to Fossilization and discover more about how fossils form.

**Follow**

Fossils are rare and cannot be replaced. It is exciting to find one, but important to protect it and keep it in place.

If you find a fossil in a national park, leave the fossil where it is and share your discovery with a park ranger. Learn more about fossil stewardship in Activity 20.



Paleontologists are very important in national parks. They help the National Park Service protect fossils by finding them and teaching visitors to protect them.

**To Play:** Use something small like a dime or small candy as your game piece and place it on start.

With a partner, take turns flipping a coin to move your game piece: heads you move two spaces, tails you move three spaces.

Follow the instructions on the purple spaces along the way. The first player to discover the fossil wins!



# Fossil Hunters (#2)



A paleontologist uses fossils to understand the story of Earth's history. This story includes the plants and animals that once lived on Earth. Evidence of this past life is found by paleontologists within sedimentary rocks. These rocks are made of the broken pieces of other rocks called sediment that have become compacted or cemented together over time.

Sediment can be clay, sand, or gravel. Rocks can form on land or in water. An ancient beach might leave behind sand which forms into sandstone. Ocean sediments could develop into marine shale made of clay, or limestone from broken down shells. If the remains of an animal or plant, like bones or leaves, are covered by sediments, a fossil may become preserved in the rock formed from these sediments.

Now it is your turn to hunt for fossil-bearing rocks and the stories they hold!

**Find the underlined words** in the text above in the word search. Words may go up, down, or diagonally.

When you finish, **write down the unused letters** in order in the spaces below to reveal a hidden message!

b	p	i	g	o	b	o	n	e	s
s	a	n	d	s	t	o	n	e	r
s	l	m	a	e	l	c	l	a	j
u	e	n	i	d	o	r	l	m	p
f	o	s	s	i	l	s	i	a	a
l	n	e	o	m	n	t	m	r	y
a	t	i	m	e	s	o	e	i	l
n	o	s	o	n	h	g	s	n	i
c	l	s	h	t	e	r	t	e	t
i	o	w	i	a	l	l	o	l	f
e	g	i	n	r	l	d	n	c	t
n	i	h	e	y	s	e	e	m	k
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l	t	l	p	l	a	n	t	s	!

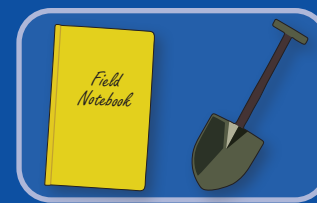
“ \_\_\_\_\_ , \_\_\_\_\_ ”

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

# Fossil Types (#3)



Did you know that footprints made by an ancient animal or the imprint of a leaf are considered fossils? Fossils are evidence of life preserved within a geologic context. Paleontologists study both the fossil and the rocks that they are preserved in to understand past life forms and the environment in which they lived.

**Write** the letter of each picture in the box of the fossil type it represents.

## Vertebrate Fossils

Animals with backbones (vertebrae) are known as vertebrates. Mammal, fish, and dinosaur bones or teeth are all examples of vertebrate fossils.

**Fossils:** \_\_\_\_\_

## Invertebrate Fossils

Animals without backbones are known as invertebrates. Shells and exoskeletons help organisms like clams and corals to be preserved.

**Fossils:** \_\_\_\_\_

## Plant Fossils

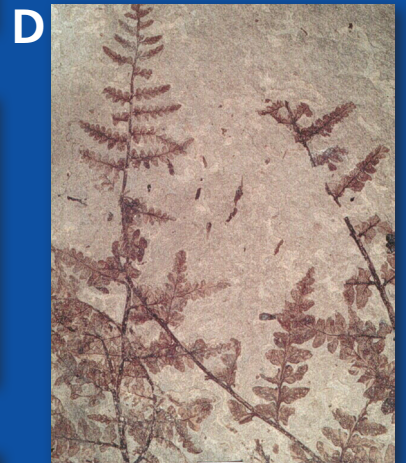
Fossil plant remains include petrified wood, leaves, cones, seeds, pollen, and sometimes even flowers. Amber is tree sap and can preserve other organisms.

**Fossils:** \_\_\_\_\_

## Trace Fossils

Trace fossils—tracks, burrows, and coprolites (ancient poop!)—are evidence of organisms interacting with their environment.

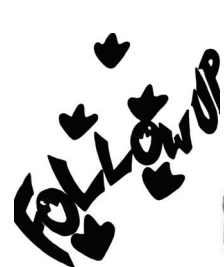
**Fossils:** \_\_\_\_\_



## Paleontology vs. Archeology

PALEONTOLOGISTS and ARCHEOLOGISTS are scientists who dig and study old things from the ground. They both use the same tools and techniques to look for things in sedimentary rocks, but there are some big differences too.

ARCHEOLOGISTS study the remains of human history, culture and civilizations. PALEONTOLOGISTS study the remains of past animals and plants and how they have changed.



Fossil shark tooth



Ancient arrowhead

# Paleontologist's Scrapbook (#4)



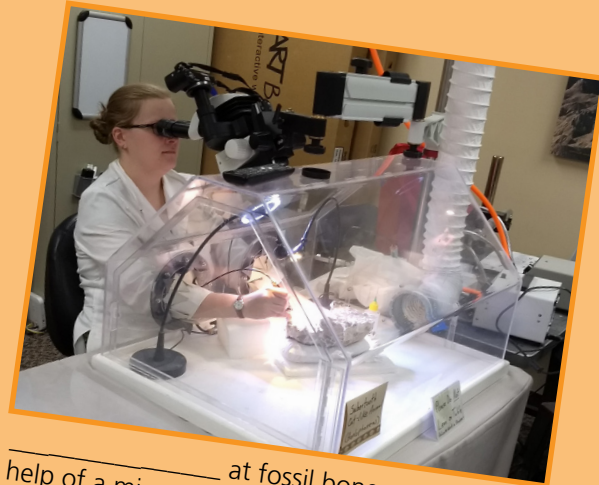
Paleontologists are scientists who study what life was like on Earth a very long time ago. They do this by "reading" fossils and rocks for clues about past environments and life. Look at the pictures below and **fill in the missing word** to find out some of what paleontologists do.

### WORD BANK

- Applying
- Digging
- Sealing
- Looking
- Brushing



\_\_\_\_\_ fossil bones in plaster jacket for transport.



\_\_\_\_\_ at fossil bones with the help of a microscope.



\_\_\_\_\_ a bone out of the rock with a rock hammer.

For every hour they spend in the field, paleontologists spend at least three hours in the lab. Imagine that for every hour you spent playing outside you then had three hours of homework!



\_\_\_\_\_ silicone material to make a mold of fossilized spider tracks.



\_\_\_\_\_ away sediment from bones inside an opened plaster cast.

**Imagine** yourself as a paleontologist. **Draw** a picture of yourself at work and **write** a caption to describe it.

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# The Right Stuff (#5)

Paleontologists use many tools to find and clean fossils. Draw lines to **match** the images to what they are used for.



- Wipe away sediment from fossils
- Move large amounts of sediment
- Take notes on fossil collection site
- Pick grains of sediment out of cracks
- Wrap fossil material before applying plaster
- Break open fossil-bearing rocks



# Find the Fossil (#6)

It is not always easy to see fossils in rocks.

**Search** the pictures below carefully and **circle** your 9 fossil finds.



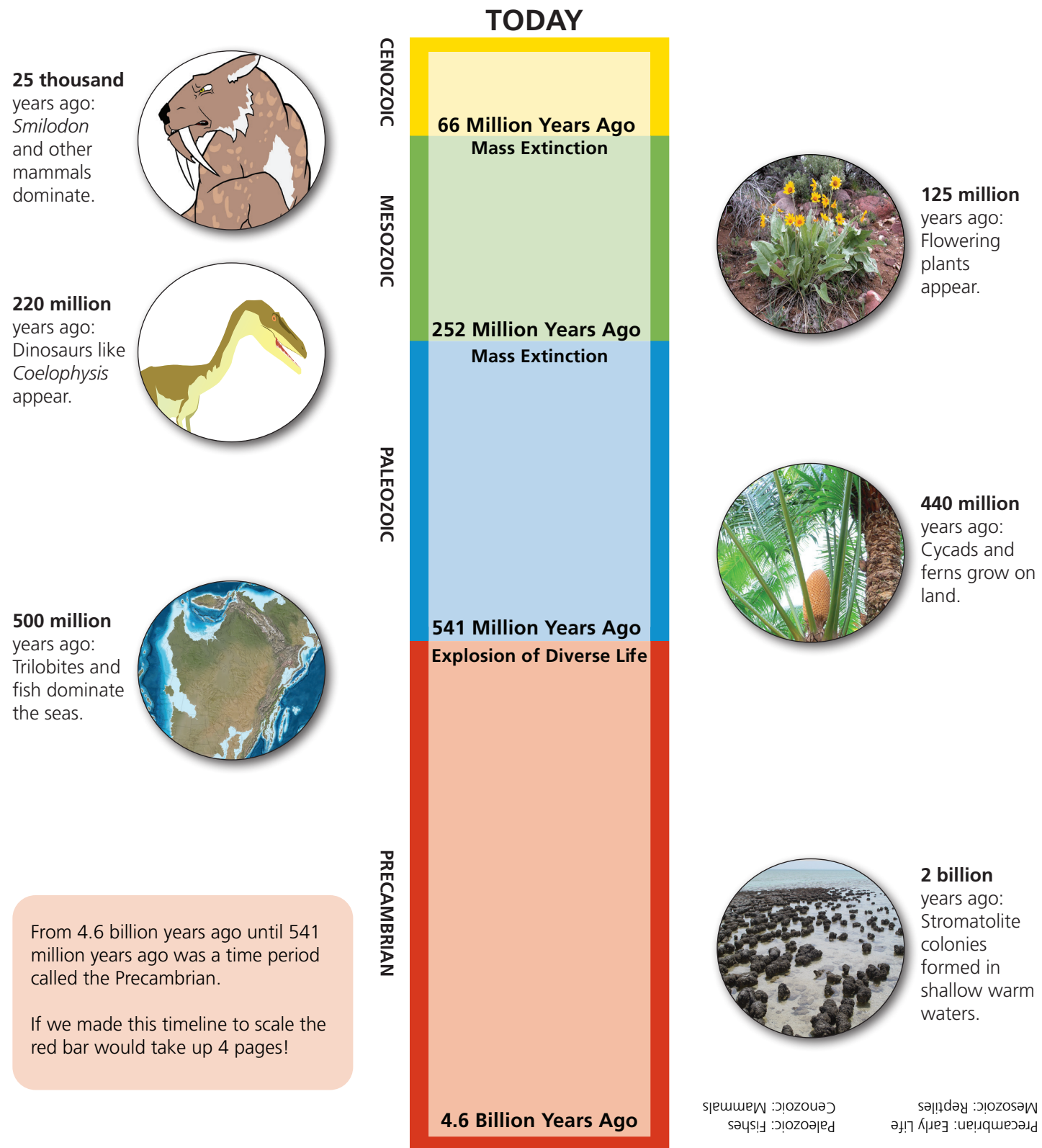
The fossils in these pictures are very different from each other. Each lived at a different time and formed in different ways. More information about fossil types can be found on page 6 of this book.

# Geologic Time (#7)

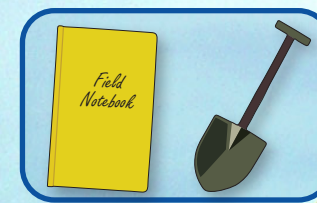


Earth formed 4.6 billion years ago. We can divide that time into smaller sections called eons, eras, and periods. Paleontologists are interested in these different times because each had unique plants and animals.

The colors below represent 4 major divisions of geologic time—the Precambrian, Paleozoic Era, Mesozoic Era, and Cenozoic Era. First, **draw** a line from each picture of a major event to where it would fall on the time line. Then, using the pictures and events as clues, **label** each colored section as one of the following Ages: **Mammals, Fishes, Early Life, or Reptiles.**



# It's All Relative (#8)



At Grand Canyon National Park, Arizona, the rocks form neat layers. You can see their different colors in this picture. These layers can help paleontologists find out the age of a fossil by using relative age dating.

Relative age dating is a way to compare the age of different fossils in a section of rock based upon their position. This gives a general idea of what is older or younger.

To get exact ages, paleontologists use absolute age dating techniques like testing the minerals of volcanic rocks.

## RULES OF RELATIVE AGE DATING

1. Sediments were originally laid down flat.
2. The oldest rocks are found on the bottom.
3. Fossils in the same layer are the same age.

Using the rock column to the right and the rules found above, **compare** the ages of the fossils and **answer** some questions.

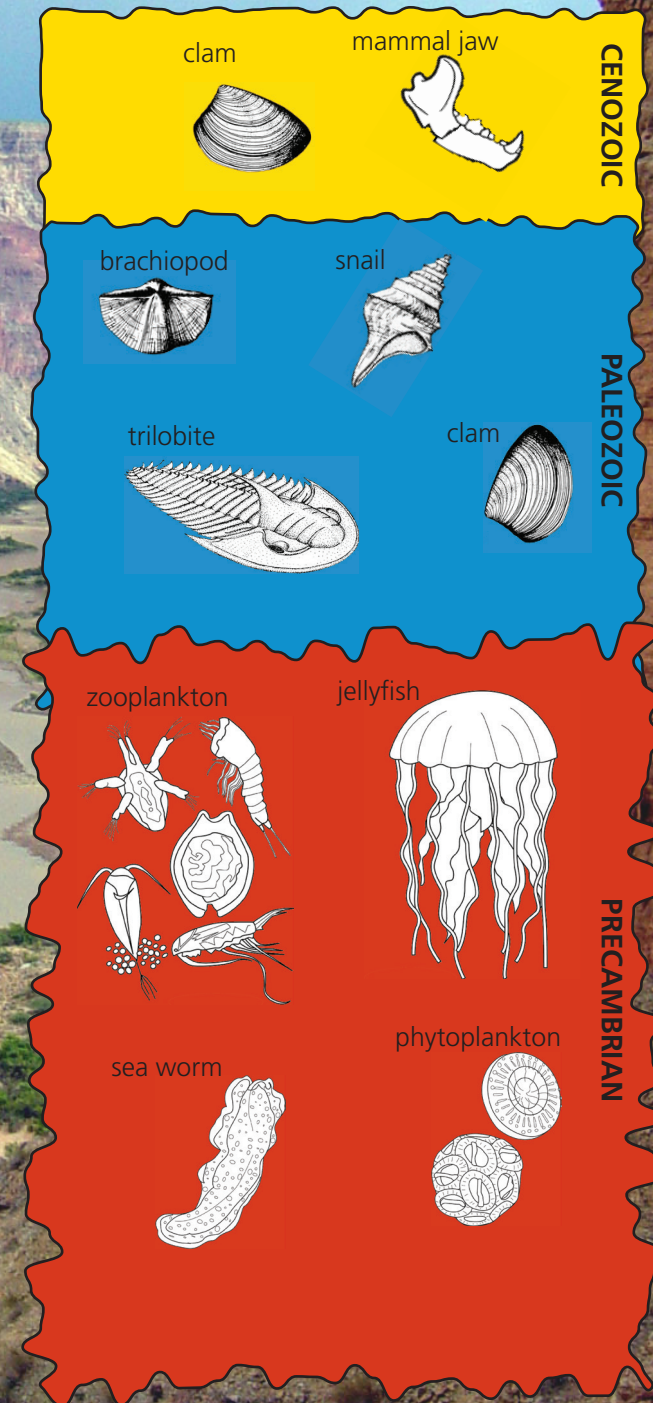
(HINT: Use the timeline on page 9 to help you!)

Which is older: the mammal jaw or the sea worm?

Which is older: the trilobite or the jellyfish?

What time period is not shown?

Which organism was around for the most time periods?



# Climate Change (#9)

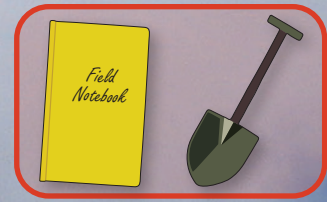
The story of life on Earth began in a time known as the Precambrian. During this time soft-bodied creatures like worms and jellyfish lived in the world's oceans while the land remained barren. Looking at the world today, we can see that things have changed a lot.

In Glacier National Park, Montana, we can learn about climate change from some of the first life forms: ancient plant-like organisms called algae (**al-gee**). Precambrian algae formed large colonies called stromatolites in warm, tropical waters. Over time these colonies were buried under sea sediment and turned to stone.

The landscape also tells us about climate change. When the Rocky Mountains formed, rocks that had been at the bottom of the ocean were folded and pushed up high into the sky while the North American continent moved north. Glaciers carved the landscape creating rugged mountains that we see today and paleontologists find ancient tropical algae under ice and snow!



Modern stromatolites forming near Shark Bay, Australia.



# Buried Treasures (#10)

You can trace the transition from Precambrian life to more complex creatures in Yukon-Charley Rivers National Preserve in Alaska. This park protects one of the best continuous records of ancient life in the world — from 800 million to 40 million years ago.

Fossils found there include Precambrian sea creatures like jellyfish and worms to Pleistocene pollen from land plants that lived in the area tens of thousands of years ago.



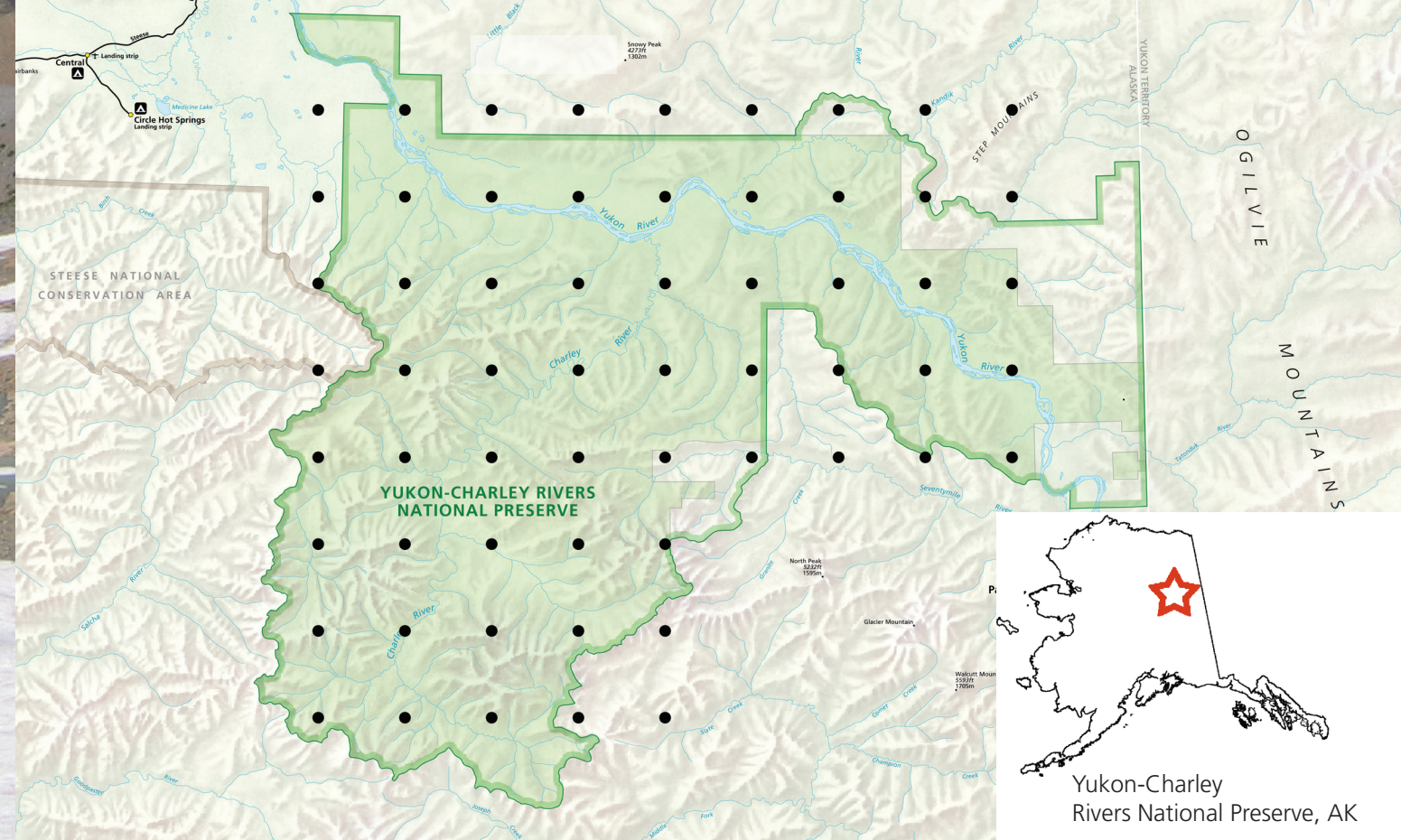
Fossils found within the preserve are not the only treasures. Gold mines were active through the 1930s, with the last mine closing 1977. Creating this national preserve has saved these fossils for study and discovery.



Citizens concerned with protecting a natural or historic area may work to get it designated as a national park. What else can you do to protect important areas around you?

You can practice stewardship (protecting natural areas) by helping to preserve Yukon-Charley Rivers in this game. **Follow the directions** to save squares of land one at a time.

**To Play:** Take turns connecting 2 dots with a solid line. When a player's line makes a square, that player puts initials in the square and takes another turn. The player with the most squares wins!



## Ranger Talk

Climate has changed many times in the Earth's history. Many scientists are studying how climate is changing today. **Ask** a Ranger: What park are you visiting?

Does this park have any evidence of climate change?

How have plants and animals changed here over time?

Climate change is not a thing of the past. Today, scientists are studying how quickly temperatures and weather patterns are changing on Earth. With over 7 billion people on the planet, humans are affecting the climate.



Fossilized stromatolites in Glacier National Park, Montana.



# Wet and Wild (#11)

The Paleozoic began with a huge change in life called the Cambrian Explosion. Many never-before-seen creatures with shells and new body designs are found in rocks from this time period. The late Paleozoic Era is known as the Age of the Fishes because the first fish appeared and rapidly evolved during this time period.

**Read** the bubbles of information to find out more about the Paleozoic Era and **answer the questions**.



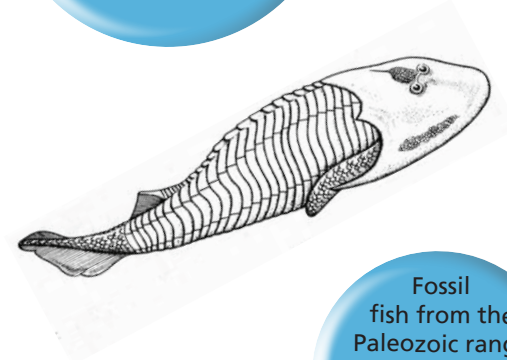
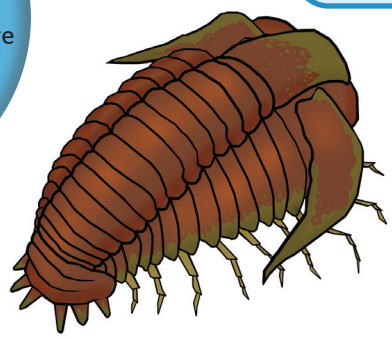
North America looked very different during this time. It was near the equator with water covering much of today's dry land.

Would your hometown have been dry during this time?

North America during the late Paleozoic Era, 400 million years ago.

Mammoth Cave National Park, Kentucky, formed in Paleozoic limestone. This limestone eroded as water flowed through and created magnificent caves.

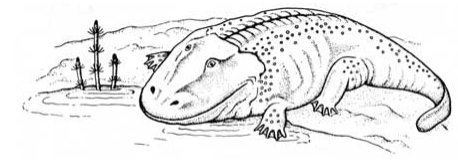
Other sea life, like the trilobites, also thrived in the Paleozoic waters. Trilobites were marine arthropods, meaning they are distantly related to shrimp, lobsters, and crabs!



Fossil fish from the Paleozoic range in size from less than 1 foot up to 33 feet long.

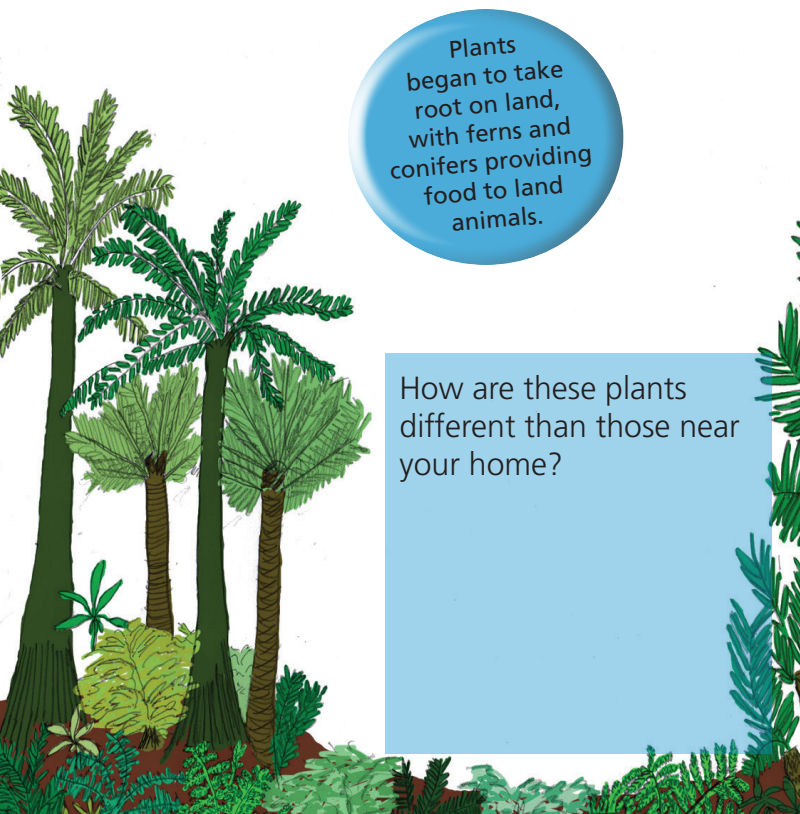
Fish-like creatures moved onto land, using strong fins to move about the shores.

What do you think a trilobite felt like?



Some fish, called placoderms, had hard armor and sharp jaws making them fierce predators of the Paleozoic seas.

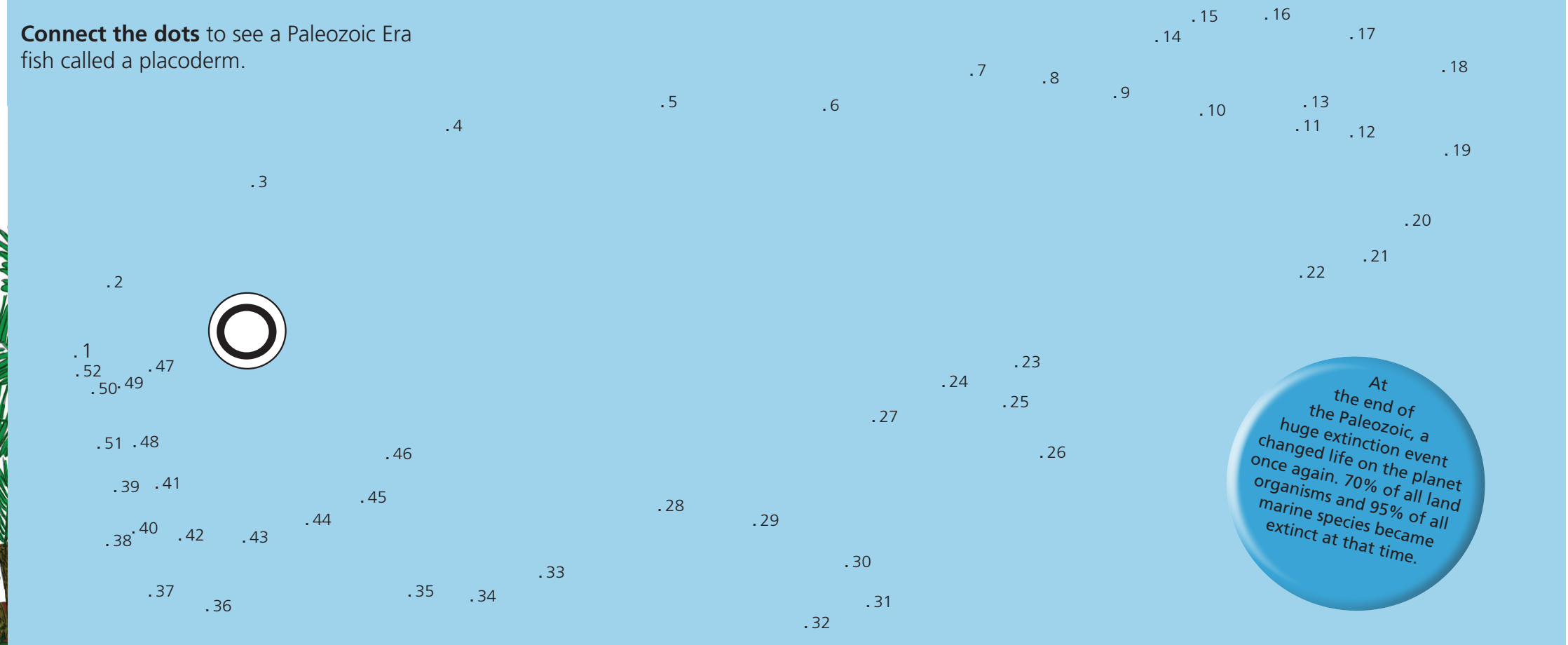
What animals today live part of their lives in the water and part on land?



Plants began to take root on land, with ferns and conifers providing food to land animals.

How are these plants different than those near your home?

Connect the dots to see a Paleozoic Era fish called a placoderm.



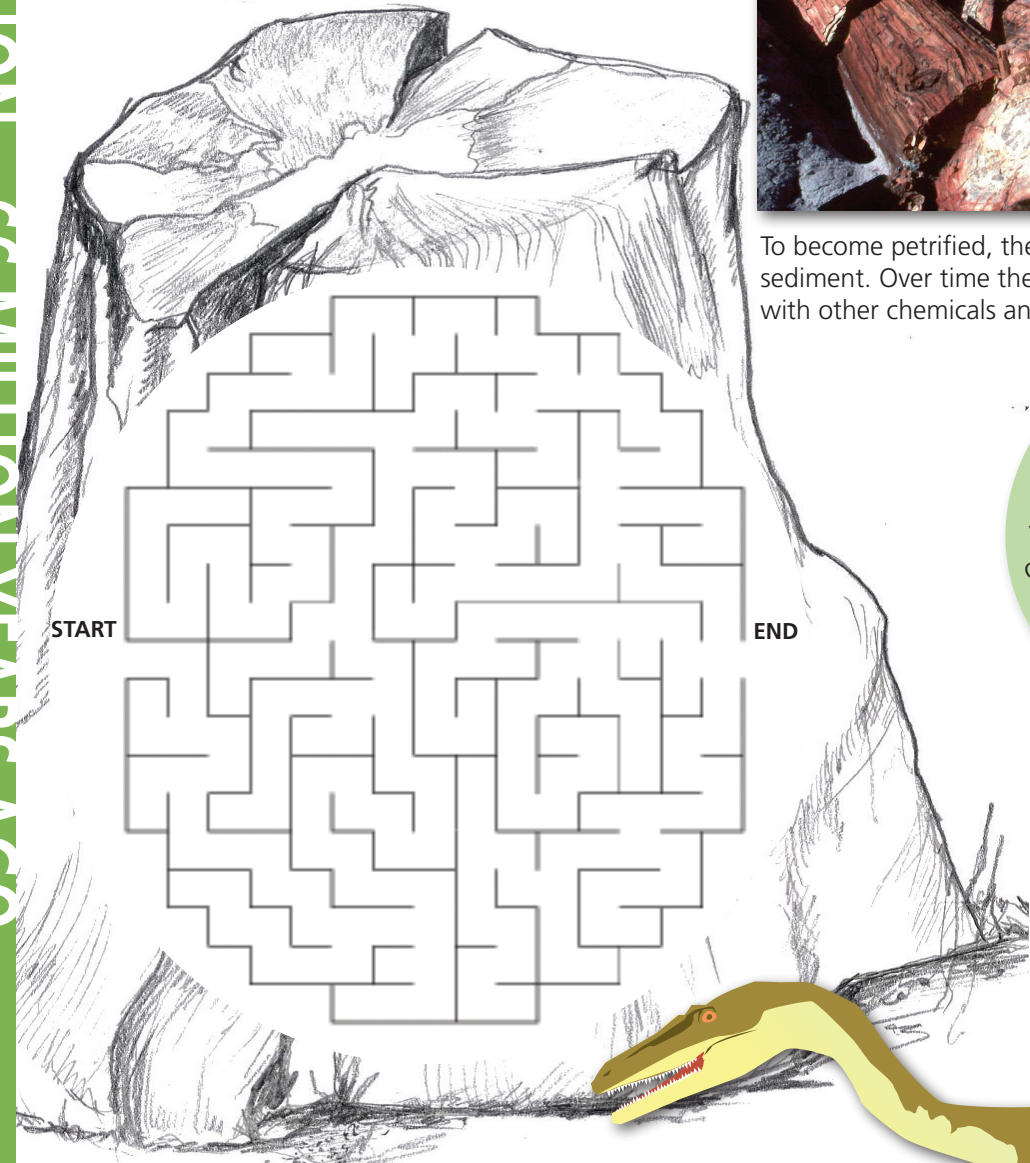
At the end of the Paleozoic, a huge extinction event changed life on the planet once again. 70% of all land organisms and 95% of all marine species became extinct at that time.

## A-maze-ing Finds (#12)

The Mesozoic Era began with recovery from the Permian Extinction. During the Triassic Period, reptiles started taking over many environments including the hot, forested environments of North America.

Today, you can imagine the 250 foot tall trees that lived here by visiting the fossilized trees of Petrified Forest National Park, Arizona.

**Complete the maze** to find your way through the petrified tree stump.



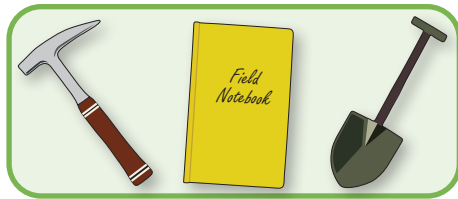
To become petrified, the trees above were covered in wet sediment. Over time the chemicals in the trees were replaced with other chemicals and the wood turned to stone.

Grass and flowering plants did not appear until the end of the Mesozoic Era, about 120 million years ago. Until then ferns, cycads, and conifers dominated.

Cycads have tough, scaly bark on their trunks and bright cones. Can you find one on the next page?

The Triassic marks the first appearance of dinosaurs. One of the earliest dinosaurs, the 4 foot tall *Coelophysis* (**see-low-fi-sus**), lived among the giant trees in Petrified Forest.

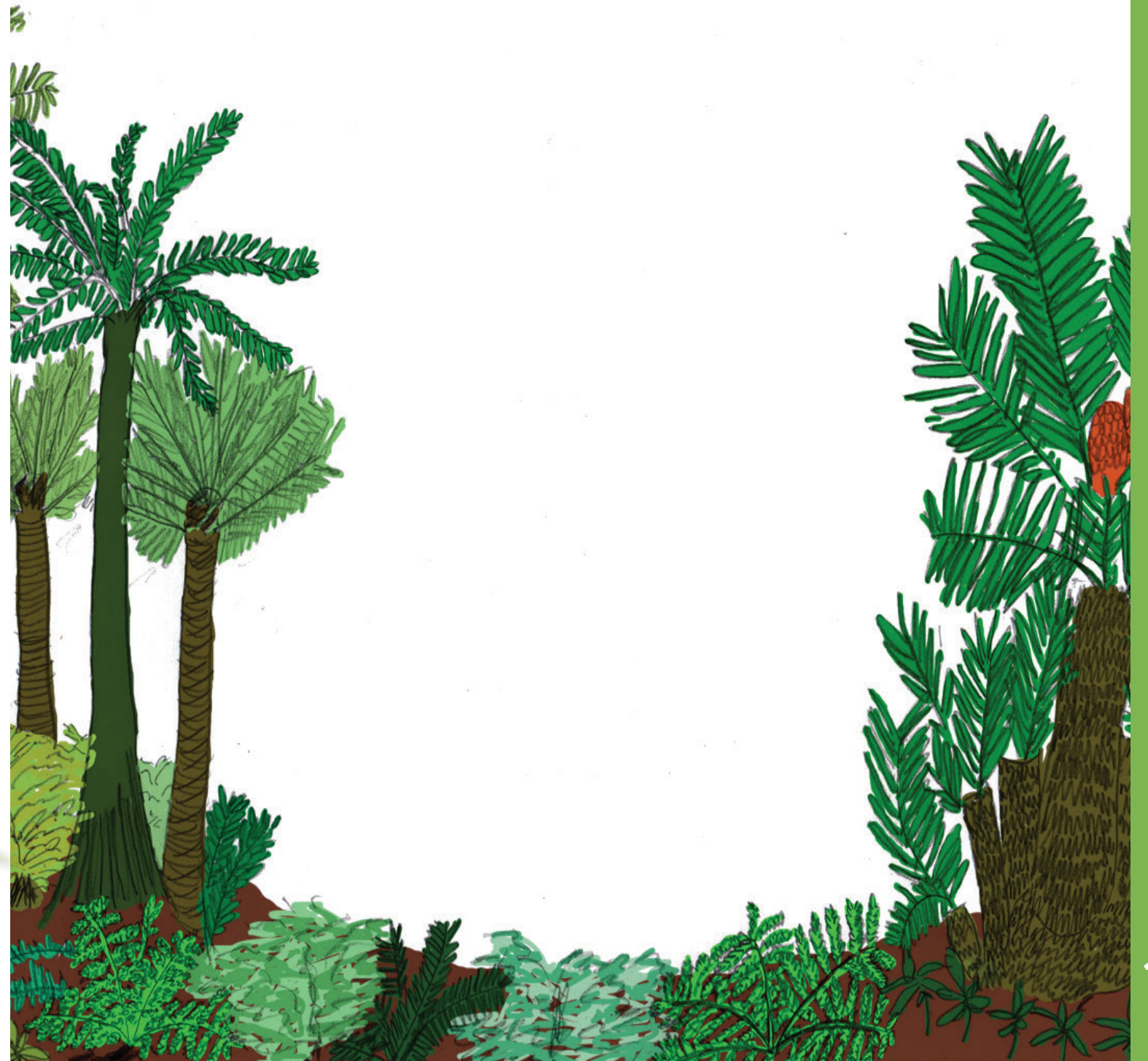
Early dinosaurs were often smaller than the giants of later times like *Tyrannosaurus rex* or *Stegosaurus*.



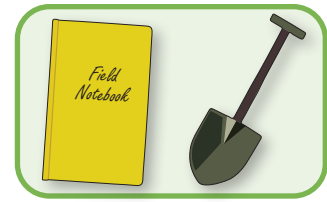
## The Real Jurassic Park (#13)

Dinosaur National Monument, Utah and Colorado preserves an amazing record of Jurassic fossils including dinosaur bones and fossilized clams. Dinosaurs, just like living things today, were specially suited for their environments. Plant-eating *Diplodocus* and meat-eating *Allosaurus* both had to find food and shelter in the environments of the time.

**Imagine** what the Jurassic forest of conifers, ferns, and cycads would offer to a dinosaur that lived there. **Draw** your Jurassic creature below.



# Everything is Bigger in Texas (#14)



Giants ruled the late Mesozoic Era. Paleontologists have found the remains of dinosaurs, flying reptiles called pterosaurs, and others in the Cretaceous rocks of Big Bend National Park, Texas. These enormous creatures (some bigger than blue whales!) dominated the land for millions of years before they became extinct at the end of the Cretaceous Period, about 120 million years ago.

**Compare** yourself to these giant creatures and find out how big they really were! **Fill in** your height and **answer the questions**.

Could you have fit inside the mouth of a hungry *Deinosuchus*? Could your parents?

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How many people your height could lay down for a ride on the wings of *Quetzalcoatlus*?

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How many feet longer is the *Alamosaurus* than you are tall?

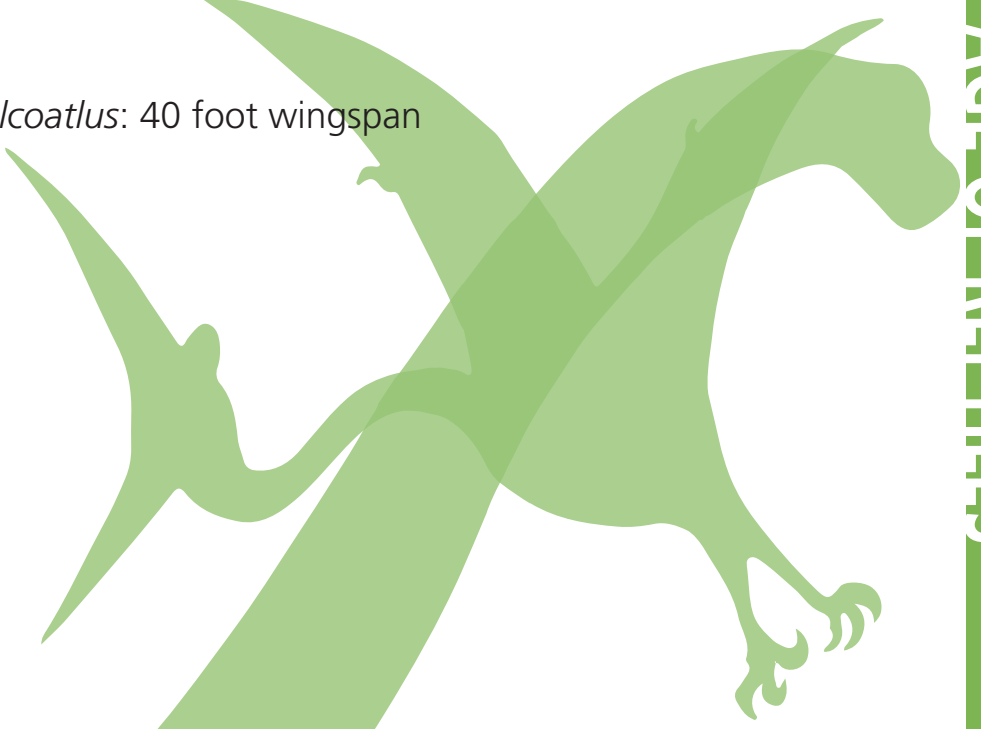
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Make up your own question to ask a parent or friend: \_\_\_\_\_

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Big Bend National Park also preserves evidence of the Cretaceous-Tertiary (K-T) boundary. This is the layer which separates the Mesozoic Era from the Cenozoic Era and contains evidence of a large impact thought to be one of the causes of dinosaur extinction.

*Quetzalcoatlus*: 40 foot wingspan



*Alamosaurus*: 100 feet long

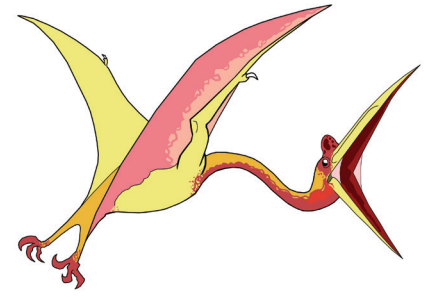
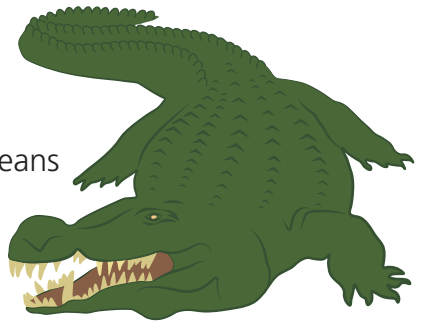


You: \_\_\_\_\_ feet tall



### What's in a name?

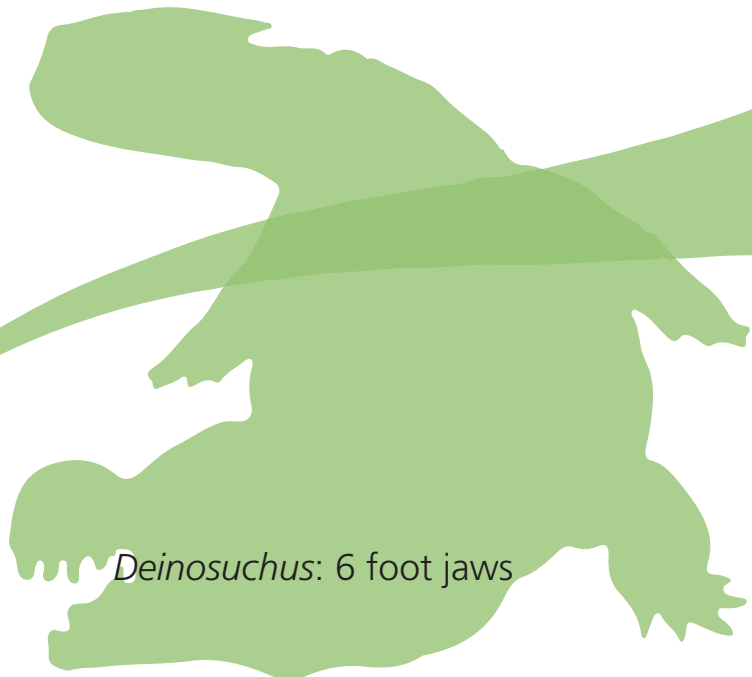
*Deinosuchus* (**di-no-soo-kuss**) means terrible crocodile.



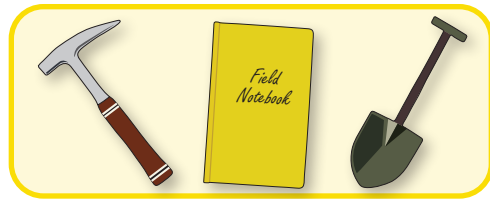
*Quetzalcoatlus* (**ket-zal-co-ot-lus**) was named for the Aztec feathered serpent god Quetzalcoatl.

*Alamosaurus* (**al-uh-mo-sore-us**) was not named for the famous Texas landmark, but for the rock formation in which the bones were first found (Ojo Alamo formation, New Mexico).

*Deinosuchus*: 6 foot jaws



# Cenozoic Round-Up (#15)



With the extinction of dinosaurs and giant reptiles 66 million years ago, mammals were able to diversify and grow in numbers. Evidence of these recent wild creatures is well represented in the fossil record. Some look like animals alive today.

**Guess** the **modern relatives** of each animal and write them on the cards. Then **answer the questions** below.

**CARNIVORE**

**SCIENTIFIC NAME:** *Smilodon*  
**AGE:** 1.8 Million - 10,000 Years  
**HEIGHT:** 4 feet **LENGTH:** 7 feet  
**DIET:** Bison, deer, horses, ground sloths  
**FUN FACT:** This giant predator's teeth could grow to almost 1 foot in length!  
**PARK:** Valley Forge NHP, Pennsylvania  
**MODERN RELATIVES:**

**SCAVENGER**

**SCIENTIFIC NAME:** *Archaeotherium*  
**AGE:** 40 - 30 Million Years  
**HEIGHT:** 4 feet **LENGTH:** 5 feet  
**DIET:** Remains of dead animals, plants  
**FUN FACT:** His nickname is "Big Pig."  
**PARK:** Badlands NP, South Dakota  
**MODERN RELATIVES:**

**CARNIVORE**

**SCIENTIFIC NAME:** *Miacis*  
**AGE:** 60 - 55 Million Years  
**HEIGHT:** 6 inches **LENGTH:** 1 foot  
**DIET:** Small birds, reptiles, and mammals  
**FUN FACT:** This carnivore lived in trees.  
**PARK:** Fossil Butte NM, Wyoming  
**MODERN RELATIVES:**

**HERBIVORE**

**SCIENTIFIC NAME:** *Glyptodon*  
**AGE:** 2 Million - 10,000 Years  
**HEIGHT:** 4 feet **LENGTH:** 6 feet  
**DIET:** Grasses and plants near rivers  
**FUN FACT:** This animal was the size of a small car.  
**PARK:** Not found in a national park yet.  
**MODERN RELATIVES:**

**HERBIVORE**

**SCIENTIFIC NAME:** *Meshippus*  
**AGE:** 40 - 30 Million Years  
**HEIGHT:** 2 feet **LENGTH:** 4 feet  
**DIET:** Grasses, leaves, shrubs  
**FUN FACT:** This animal had three toes instead of hooves.  
**PARK:** Death Valley NP, California  
**MODERN RELATIVES:**

**HERBIVORE**

**SCIENTIFIC NAME:** *Mammuthus*  
**AGE:** 4.8 Million - 5,000 Years  
**HEIGHT:** 16 feet **LENGTH:** 8 feet  
**DIET:** Grasses and small shrubs  
**FUN FACT:** Human ancestors lived alongside the Mammoth.  
**PARK:** Bering Land Bridge N PRES, Alaska  
**MODERN RELATIVES:**

If you could choose one of the animals above to be a pet, which would you choose? Why?

Paleontologists name plants and animals based on characteristics such as: what they look like, what they eat, and where they were found. What would you name your new pet?

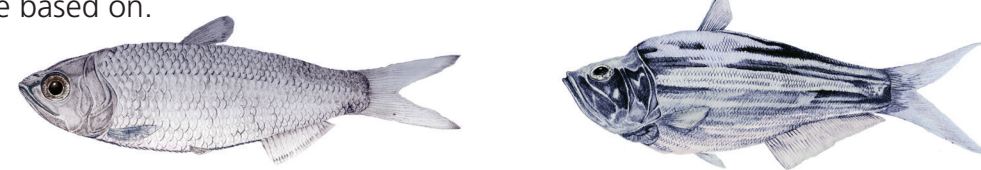
What could you buy at the grocery store to feed your new pet?

# Eye of the Beholder (#16)



Paleontologists find and study fossils, but they often rely on artists to bring ancient creatures to life. By studying fossils and comparing them to living plants or animals artists can create a picture of what the organism might have looked like when it was alive.

Examples of an artist's reconstructions of 52 million year old fish from Fossil Butte National Monument, Wyoming are shown below. **Match** the 2 illustrations to the fossils (yellow box) they were based on.



*Diplomystus dentatus*      *Knightia alta*

*Phareodus encaustus*      *Knightia eocaena*

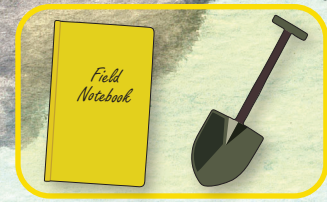
It is unusual for soft-bodied animals to be well preserved. Fish with tough bones and scales have a better chance. Burial in calm lake waters preserved amazing complete fish skeletons.

Now it is your turn! **Draw** what you think the Cenozoic fish below would have looked like during its life. **Imagine** what colors or patterns its scales might have had.

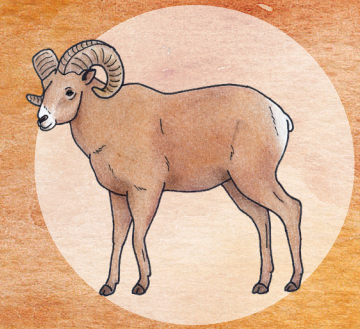


*Crossopholis magnicaudatus*

# The Ice Ages (#17)



Scientists refer to the geologic time period for the Ice Ages as the Pleistocene Epoch. During this time, huge sheets of ice called glaciers covered large portions of the continents. Many species that exist in the Holocene Epoch, from 11,700 years ago until today, also lived during the Pleistocene. However, some Pleistocene animals did not survive the changes at the end of the Ice Age. Evidence of these Ice Age animals preserved in the fossil record can be explored at national parks such as Tule Springs Fossil Beds, Waco Mammoth, and White Sands national monuments.



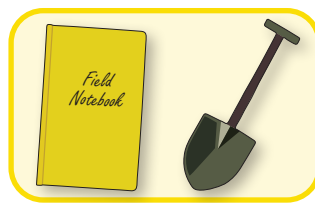
What did you notice about the animals that DID NOT survive the end of the Ice Age?

Why do you think some animals like this went extinct?

Scientists continue to study the cause of the extinction of these animals. Some suggest that extinctions were the result of changes in climate, while others suggest that over-hunting by humans was the cause. Both of these factors—and others—likely contributed to this extinction event.

Did you notice that horses are Pleistocene animals that are still alive today? Horses are interesting because they DID become extinct in North America, but were reintroduced to the continent by Europeans more recently.

# Humans and the Fossil Record (#18)



In activity 3, you investigated trace fossils, plant fossils, invertebrate, and vertebrate fossils. Fossils tell stories of life during other times.

What sorts of fossils do you think modern humans will leave behind for future paleontologists to discover and study? What will be the most common fossils representing life today? **Look** at pictures below for ideas.

Body Fossils (invertebrate, plant, or animal):

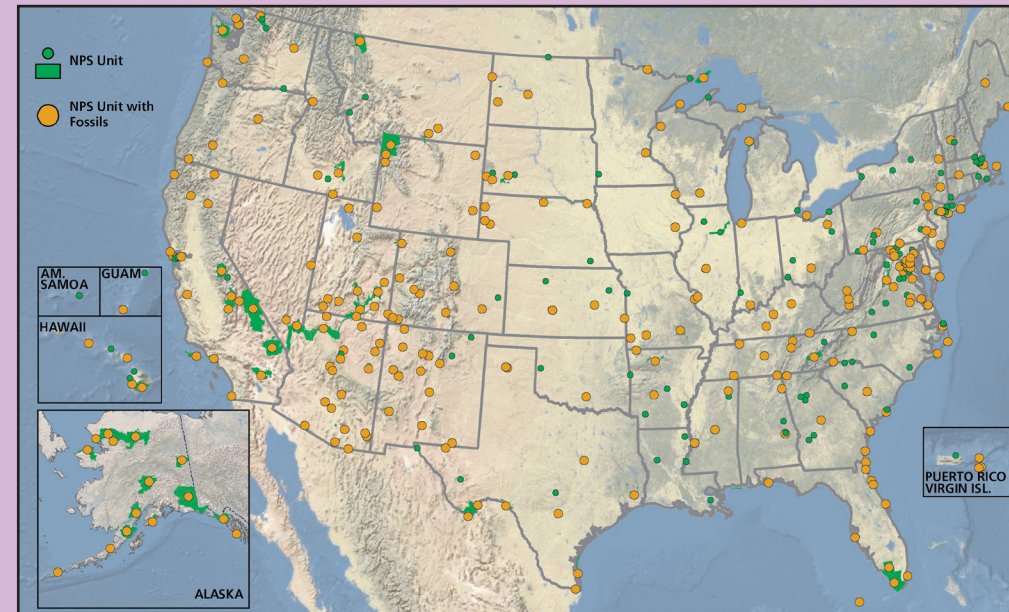
Trace Fossils (tracks, structures, coprolites, etc.):

Anything else that might be found in the fossil record:

Some scientists have proposed a new geologic epoch, the Anthropocene, ("anthro" refers to "man" or "humans") defined by significant human changes to the planet.



# Fossil Nation (#19)



Fossils are so popular that many states have chosen a "State Fossil." Typically, the State Fossil represents a fossil which is well known or common in that state.

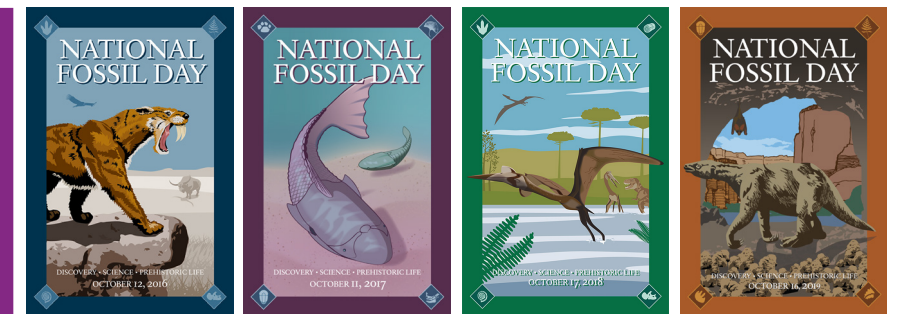
What is your home state fossil?

Where was it found?

How does it represent your state?

What kind of fossils might you find where you live? Here is a map of parks that preserve fossils across the United States. **Circle** your home state. How many fossil parks are in your state? You can find out more about fossil parks near you at <http://go.nps.gov/fossilparks>.

## NATIONAL FOSSIL DAY



Tule Springs Fossil Beds Nat. Mon., NV

Death Valley Nat. Park, CA

Big Bend Nat. Park, TX

Grand Canyon Nat. Park, AZ

National Fossil Day is a celebration organized by the National Park Service to promote public awareness and stewardship of fossils, as well as to foster a greater appreciation of their scientific and educational values. Each year, artwork depicts ancient scenes from different fossil sites. Many are national parks, a few of which are shown above and on the back cover.

In the space provided on the left, **draw** a scene from a fossil site you have visited or would like to visit. You can also draw your state fossil.

To find out more about National Fossil Day, visit <http://go.nps.gov/nfd>.

Your Site:

# Explore, Learn, and Protect (#20)

Do you know what to do if you find a fossil in a national park?



Junior Rangers help set an example for all park visitors. Here are some tips for taking good care of fossils you might discover. Remember that the true story about a fossil plant or animal can only be told if it is studied in the same place it was discovered. When possible, bring a ranger to see the fossil, rather than removing the fossil to take to the ranger.

**Write** the numbers 1-4 to put the following steps in the correct order.



If you can, take a photo of the fossil. Include something recognizable for scale—like a water bottle, your backpack, or even your Jr. Paleontologist badge! Also take a photo of the area you found the fossil. This will help park rangers locate the site.



Tell a park ranger about your discovery and share your notes and photos.



Stop! Do not touch or pick up the fossil!



Note the location of your discovery. Which trail? How far along the trail? Other landmarks? Is it still buried or loose on the surface? What do you think it might be?



Tule Springs Fossil Beds  
Nat. Mon., NV



Have you heard of Fossil Cycad National Monument in South Dakota? It used to contain spectacular Cretaceous cycad fossils (palm-like tree), but they are nearly all gone now. Where did they go?

Learn more about Fossil Cycad at <http://go.nps.gov/focy>

## Jr. Paleontologist in Action



Jr. Rangers have made awesome fossil discoveries in national parks! In 2010, seven-year-old Kylie found a fossil at Badlands National Park, South Dakota. She did the right thing by leaving the fossil where she found it and reporting her discovery to rangers. It turned out to be an exceptionally rare and well-preserved saber tooth cat fossil! Paleontologists found more fossils nearby and the area is now called "The Saber Site" Learn more about Kylie's discovery at: <https://go.nps.gov/kyliesfossilfind>



# Take the Junior Paleontologist Pledge



As a **JUNIOR PALEONTOLOGIST** I promise to:

**EXPLORE** the ways that paleontologists work;

**LEARN** about Earth's history, ancient life, and changes through time; and

**PROTECT** our public lands, including fossils and rocks, for others to experience and enjoy.

**I also promise to have fun and share what I learn with my family and friends.**

\_\_\_\_\_  
Sign or print your name



## Junior Paleontologist Certificate of Achievement

\_\_\_\_\_  
has successfully completed the requirements to be an official National Park Service Junior Paleontologist



\_\_\_\_\_  
Educator or Ranger

\_\_\_\_\_  
Date

