



TUCKER'S DINOSAUR CLUB

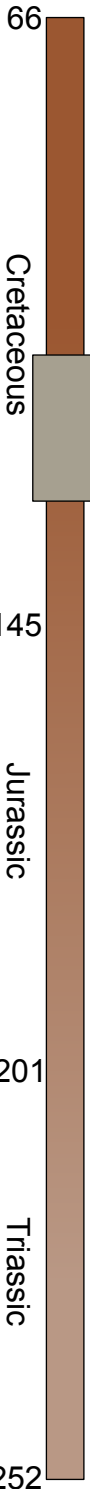


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PSITTACOSAURUS

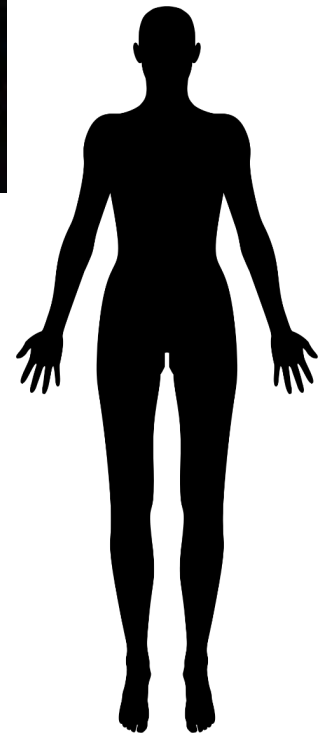
means parrot lizard



Where did it live?



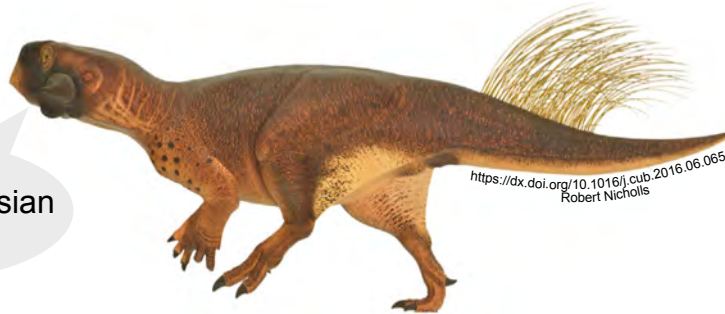
Fossils found here:



Psittacosaurus had self-sharpening teeth for slicing and cutting plant material.

Some species had bristles on their tails.

I am a ceratopsian dinosaur

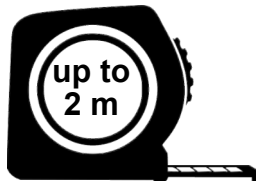


Baby *psittacosaurus* were quadrupedal, but became bipedal between 4 and 6 years old.

Psittacosaurus swallowed stones, called 'gastroliths,' to wear down food.

Psittacosaurus is one of the most completely known dinosaur genera. Hundreds of fossils have been collected, including many complete skeletons, like Tucker.

How long was it?



How heavy was it?



What did it eat?





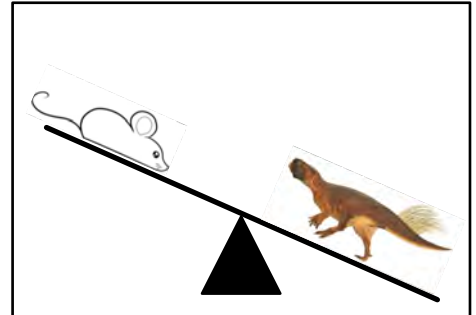
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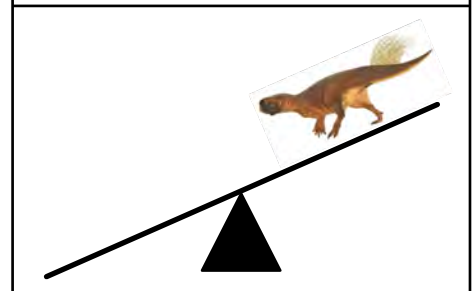
A psittacosaurus could weigh up to 20 kg (that's about 44 lbs.). Do you know how that compares to how heavy other things are?

Complete the sentences below with your own examples of heavy and light things. Then draw the correct picture in the boxes on the right. The first sentence and picture are completed for you, as an example.

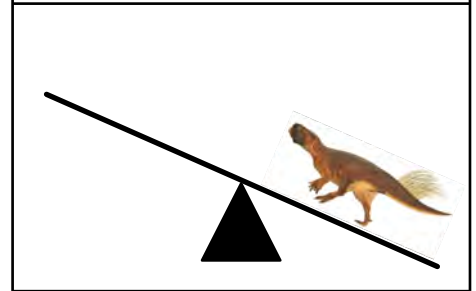
A *psittacosaurus* is heavier than a mouse ,
but lighter than a car .



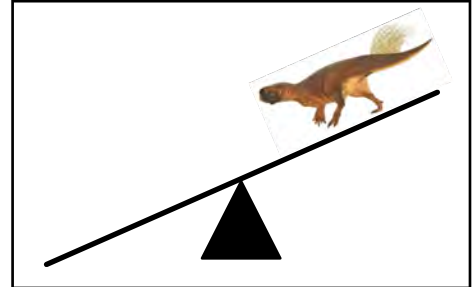
A *psittacosaurus* is heavier than a _____ ,
but lighter than a _____ .



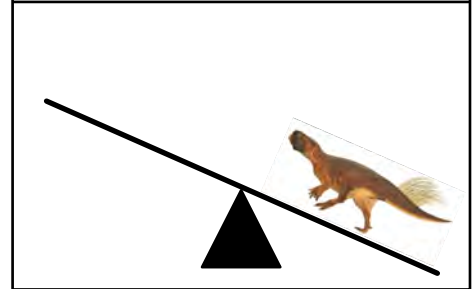
A *psittacosaurus* is heavier than a _____ ,
but lighter than a _____ .



A *psittacosaurus* is heavier than a _____ ,
but lighter than a _____ .



A *psittacosaurus* is heavier than a _____ ,
but lighter than a _____ .



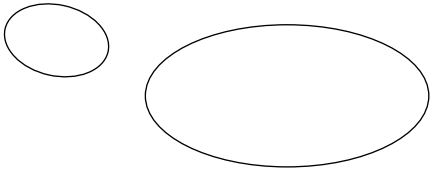


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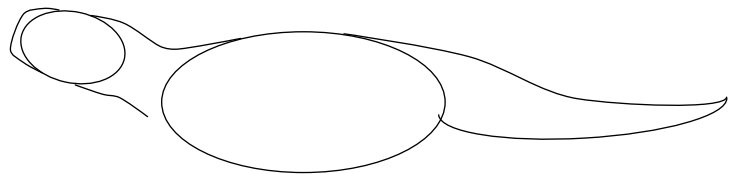


How to draw a psittacosaurus
- follow the steps

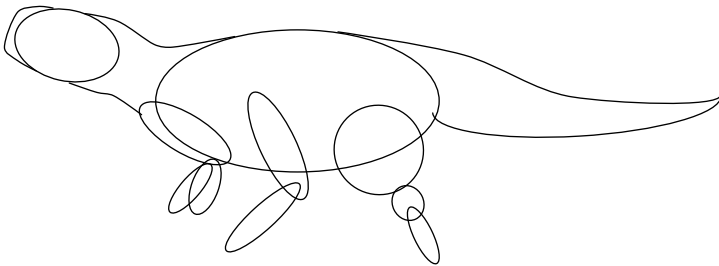
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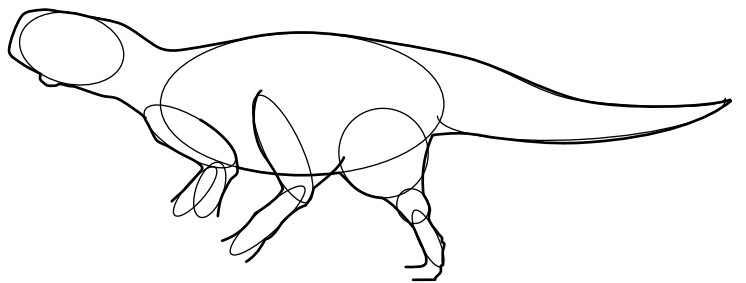
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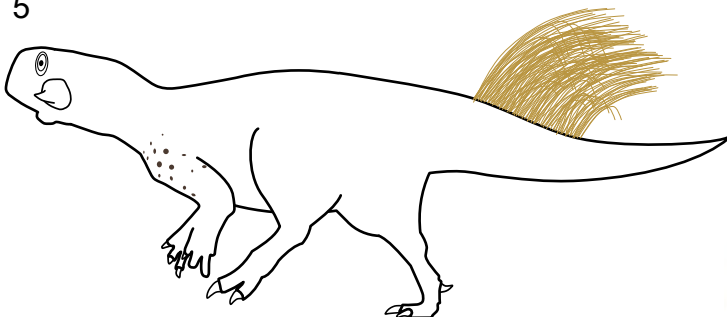
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4



5



6





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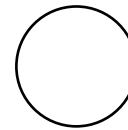
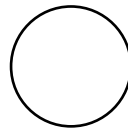
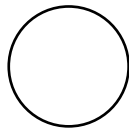
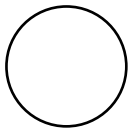
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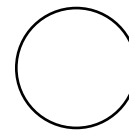
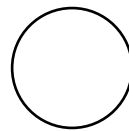
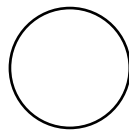
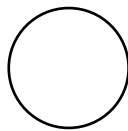
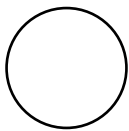
What do you call a fossil that just lies around?

Solve the riddle by adding the numbers and using the code below!

63 +12	26 +72	76 +10	13 +34



31 +33	53 +46	44 +34	23 +10	12 +11



23 S	64 B	86 Z
33 E	75 L	98 A
47 Y	78 N	99 O



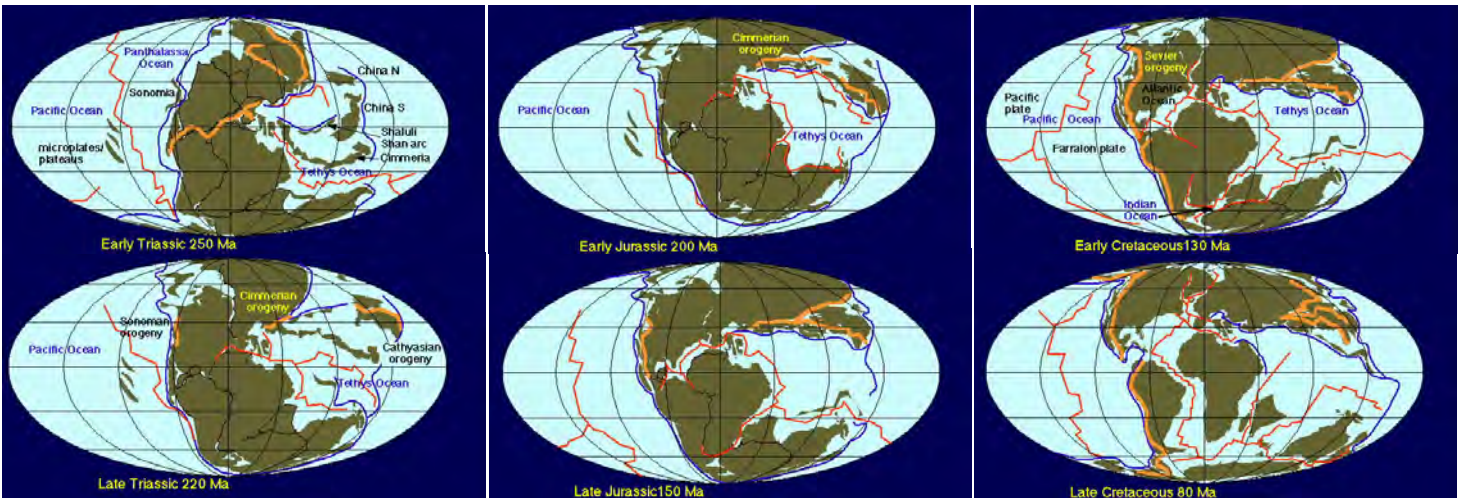


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When did dinosaurs live?

Dinosaurs lived during the Mesozoic Era, between 245 and 66 million years ago. The Mesozoic is split into three periods: Triassic, Jurassic, and Cretaceous. During the Triassic all the Earth's land was connected, and made up a supercontinent called Pangea. Later, during the Jurassic and Cretaceous, Pangea gradually split apart.

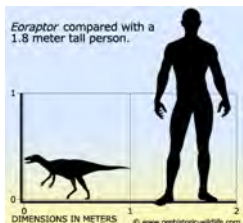


<http://astro.wsu.edu/worthey/earth/html/md-tectonics.html>

Triassic

252 to 201 million years ago

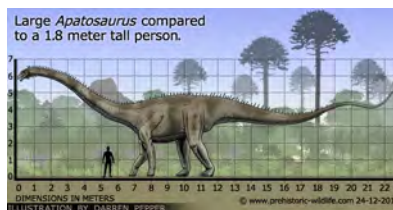
- Hot and dry climate
- Large deserts
- No polar ice caps
- Earthquakes and volcanoes caused Pangea to slowly break up.
- Dinos included *Coelophysis* and *Eoraptor*



Jurassic

201 to 145 million years ago

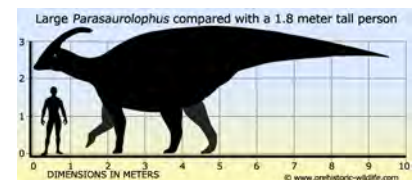
- Cooler than Triassic but warmer than today
- Rainfall increased
- First plants with vascular systems (pipes) grew, ferns and horsetails.
- Forests of conifer trees, sequoias and monkey puzzles
- Dinos included huge plant-eating sauropods *Apatosaurus*, *Diplodocus*, and *Brachiosaurus*



Cretaceous

145 to 66 million years ago

- Land separated into continents, similar to today.
- Dinosaurs diversified.
- First flowering plants grew.
- New insects appeared, including bees, helping to spread flowering plants.
- Mammals diversified, and some even preyed on small dinosaurs.
- Dinos included *Hadrosaurus*, *Parasaurolophus*, *Oviraptor*, and *Gorgosaurus*.



Tropidogyne pentaptera preserved in amber



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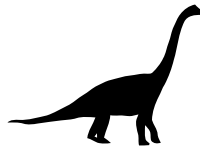
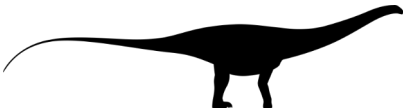


Dino layers

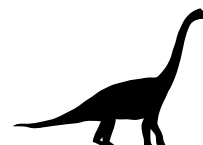
Using your knowledge of which dinosaurs lived during the three periods of the Mesozoic era, arrange the sedimentary layers in the right order. The oldest rock is at the bottom, and the youngest rock is at the top. Use arrows to put the correct dinosaur in the correct layer. *Hint: look at page 5.*

First, name the dinosaurs:





Youngest (Cretaceous)



Oldest (Triassic)



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Tucker's story

Before 2015, we used to think that Tucker was a victim of the 'Chinese Pompeii.' The famous fossil site at Lujiatun, in Liaoning Province, northeast China, was called the 'Chinese Pompeii' because it was assumed the animals had been killed by volcanic gases and buried at the same time under clouds of ash from erupting volcanoes.

Now, the story has changed, thanks to some fascinating work done by geologists. The geologists matched museum specimens to the rocks in the field. In China many of the museum specimens have been collected by local farmers, who often did not record exactly where they found the fossils. Once the fossils were matched to the correct sedimentary layers, the geologists studied the rocks and determined that Tucker and all the other animals met their end in a flood carrying lots of volcanic debris.



A Psittacosaurus specimen from the Senckenberg Museum in Frankfurt has been studied to reveal some amazing findings. The complete skeleton comes from one of the world's best preserved fossil deposits in China. The Senckenberg Psittacosaurus is an exceptional fossil and has been used to reveal the most accurate depiction of a dinosaur, including reconstructing its color patterns. Scientists also used it to study its preserved cloaca (a fancy butthole!) – the multi-purpose opening for excretion (pooping), urination (peeing), and reproduction (mating and laying eggs)!

1. Why is the famous fossil site at Lujiatun called Chinese Pompeii? _____

2. How did Tucker actually die? _____

3. What have scientists studied using the Senckenberg Psittacosaurus? _____



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Make your own fossils

Explanation:

We can imitate (copy) and speed up how nature makes fossils with some simple supplies at home.

Remember *a fossil is evidence of life preserved in the rock record.*

We can capture evidence of life at home by making our own mold or cast fossils. A mold fossil captures an imprint of life. A cast fossil is an imprint filled with a replacement mineral copying the shape of the original life.

What you'll need (Materials):

2 cups flour
1 cup salt
up to 1 cup water
food color (optional)
Seashell/bone/leaf
White glue

Method 1:

1. Mix the flour and salt together in a bowl.
2. While stirring, add the water gradually, until you have a thick dough. The dough should be neither too wet nor too crumbly. Add food color if desired.
3. Roll out the clay over a flat surface.
4. Gently press the shell/bone into the clay.
5. Remove the shell/bone carefully to reveal an impression.



Result 1:

You have made a fossil mold.

Discussion 1:

In nature the shell lands on soft sediments (sand, clay), like at the bottom of the ocean. The dough represents these soft sediments. The shell leaves an impression on the sediments/dough. More sediments bury the shell and eventually it decomposes and disintegrates. As the sediment hardens the imprint is preserved into hardened rock.

Method 2:

1. Mix the flour and salt together in a bowl.
2. While stirring, add the water gradually, until you have a thick dough. The dough should be neither too wet nor too crumbly.
3. Roll out the clay over a flat surface.
4. Gently press the shell/bone into the clay.
5. Remove the shell/bone carefully to reveal an impression.
6. Pour white glue into the impression, filling it entirely.
7. Wait 24 hours before removing the glue, which should now be dry.



Result 2:

You have made a fossil cast.

Discussion 2:

Once you have made the mold fossil, adding glue represents more sediments landing over the shell and burying it. As the original shell decomposes, these sediments harden and create a cast of the shell.