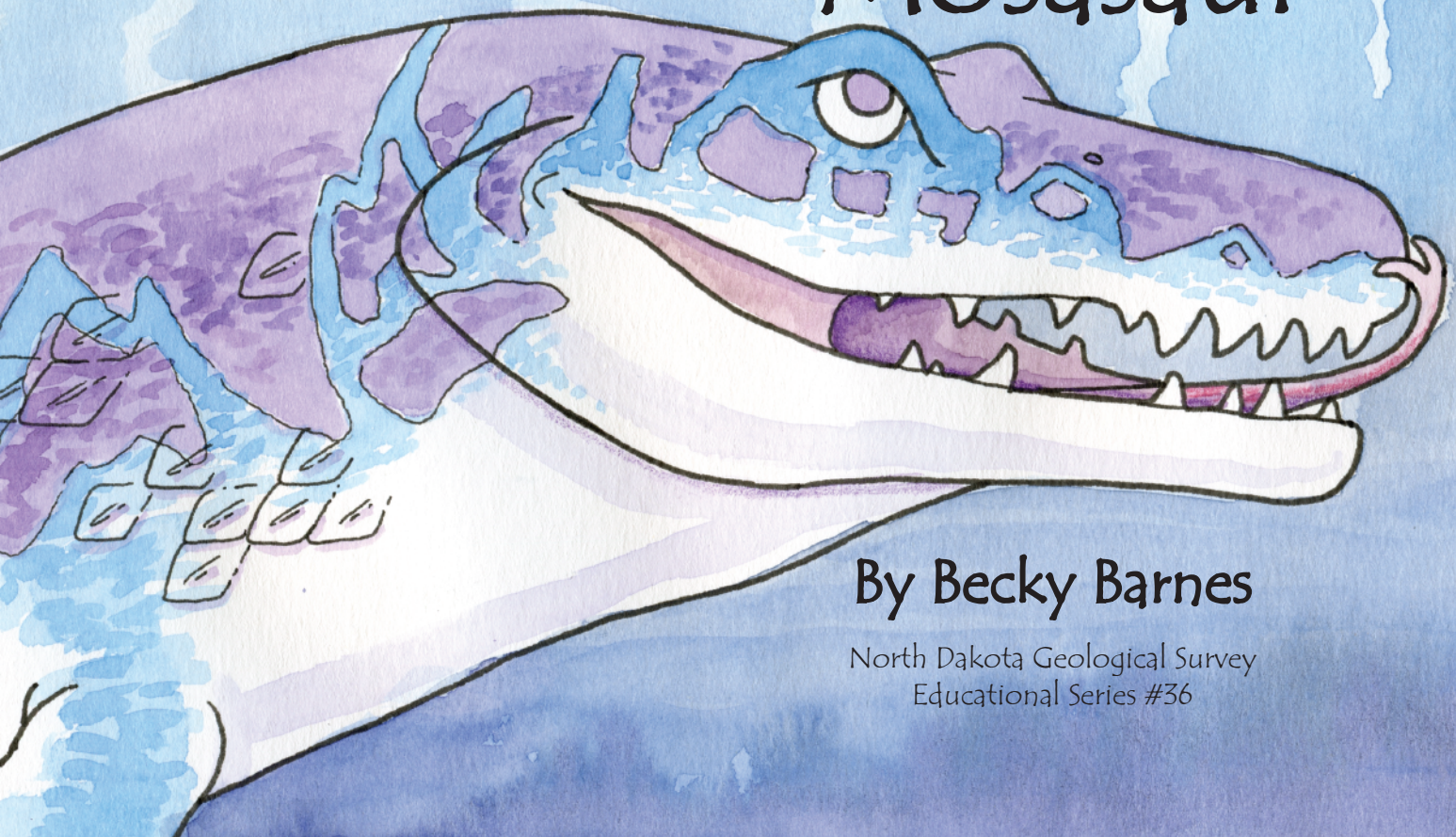
PrehiStories: Mosasaur



By Becky Barnes

North Dakota Geological Survey
Educational Series #36

North Dakota Geological Survey
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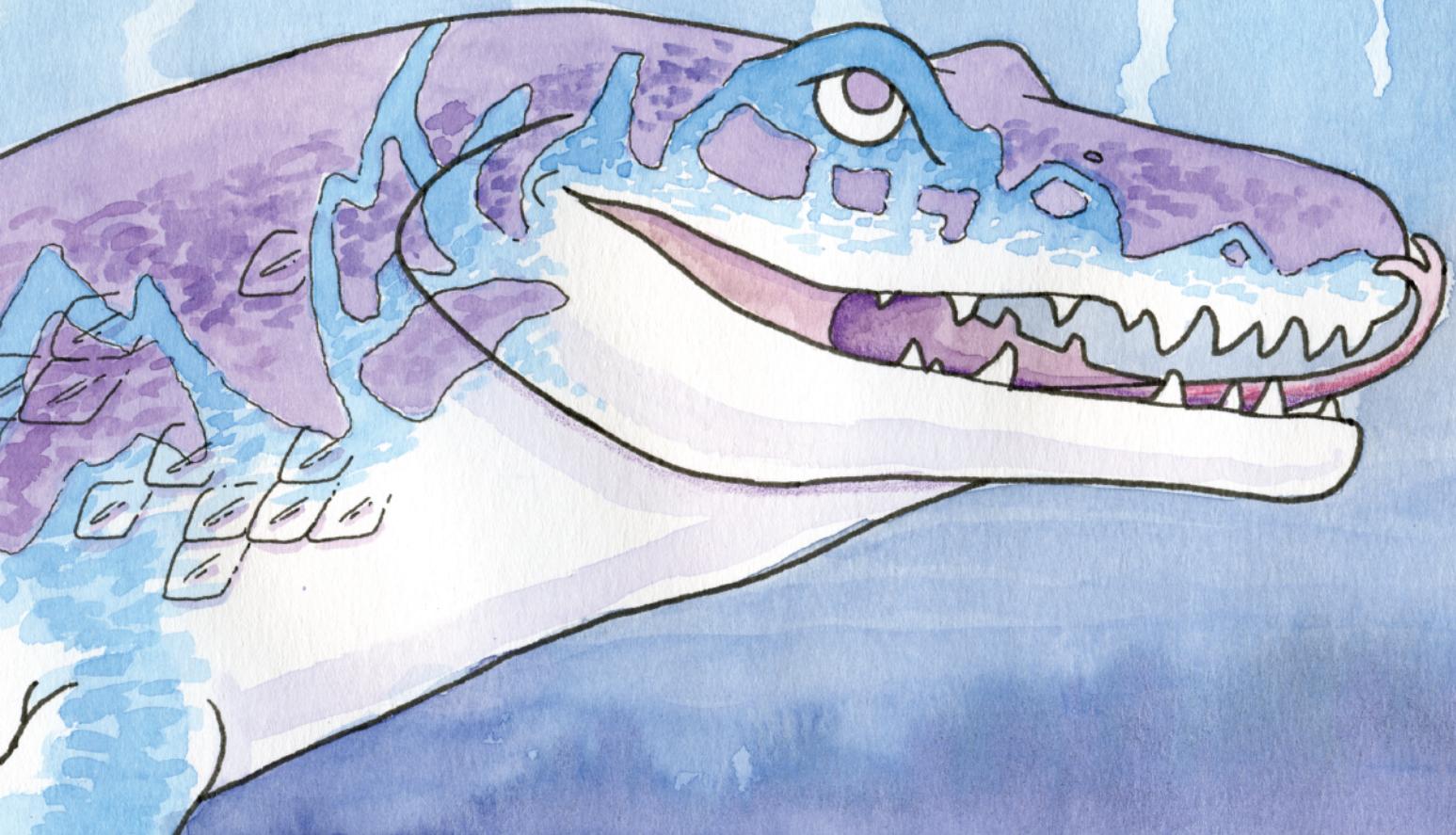
https://www.dmr.nd.gov/ndfossil/

Educational Series #36

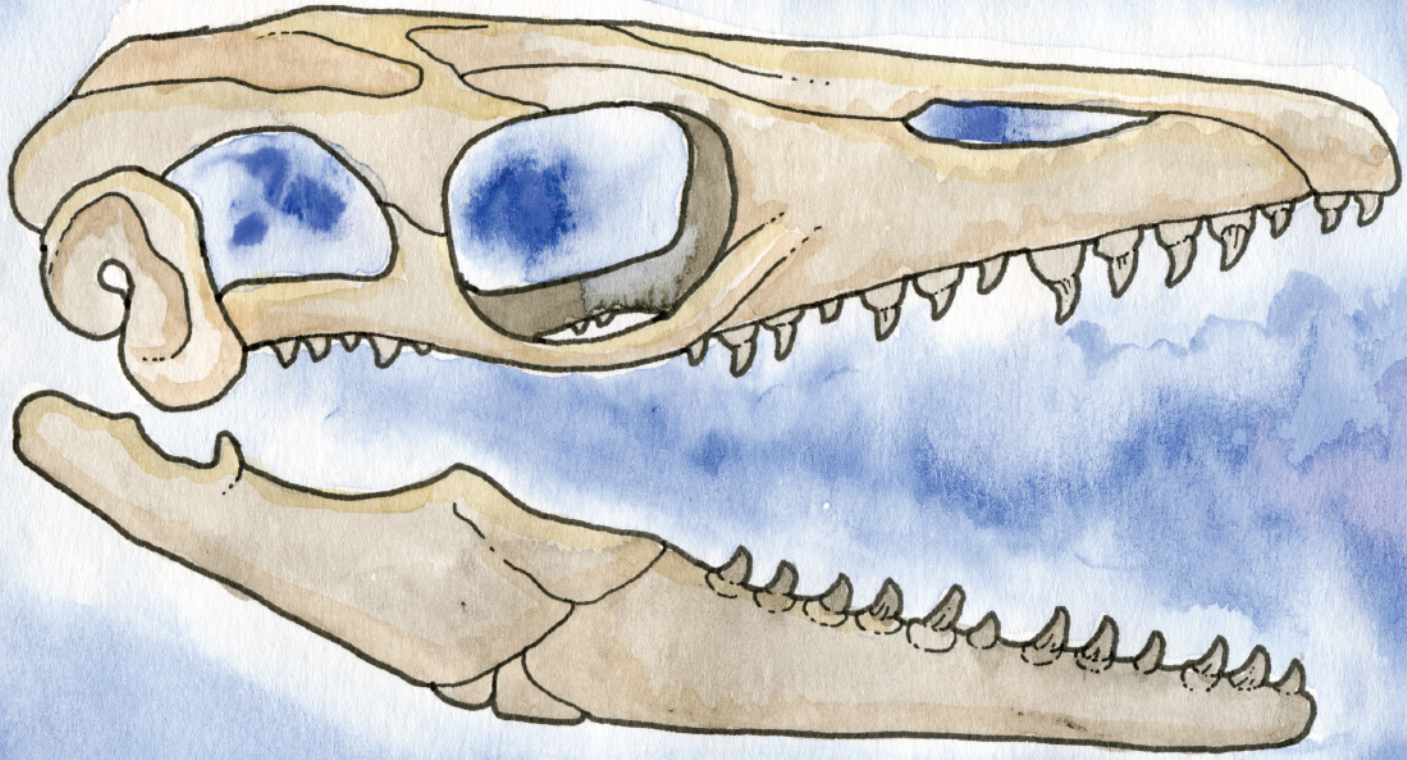
Text and illustrations by Becky Barnes

Sit, all around, and I'll tell you a tale:

Meet our friend mosasaur, big as a whale!



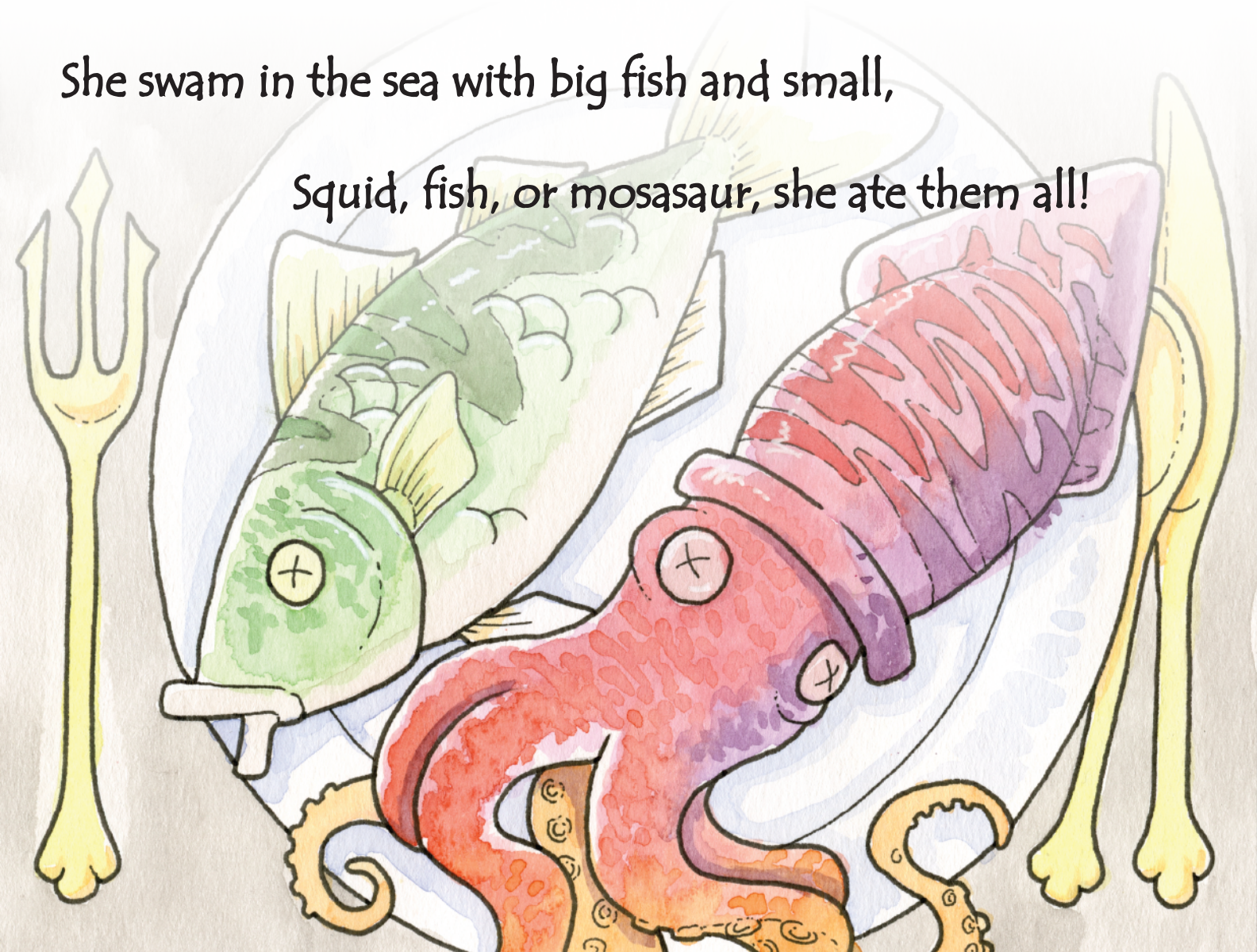
Don't call her "dinosaur" - yes, a reptile!

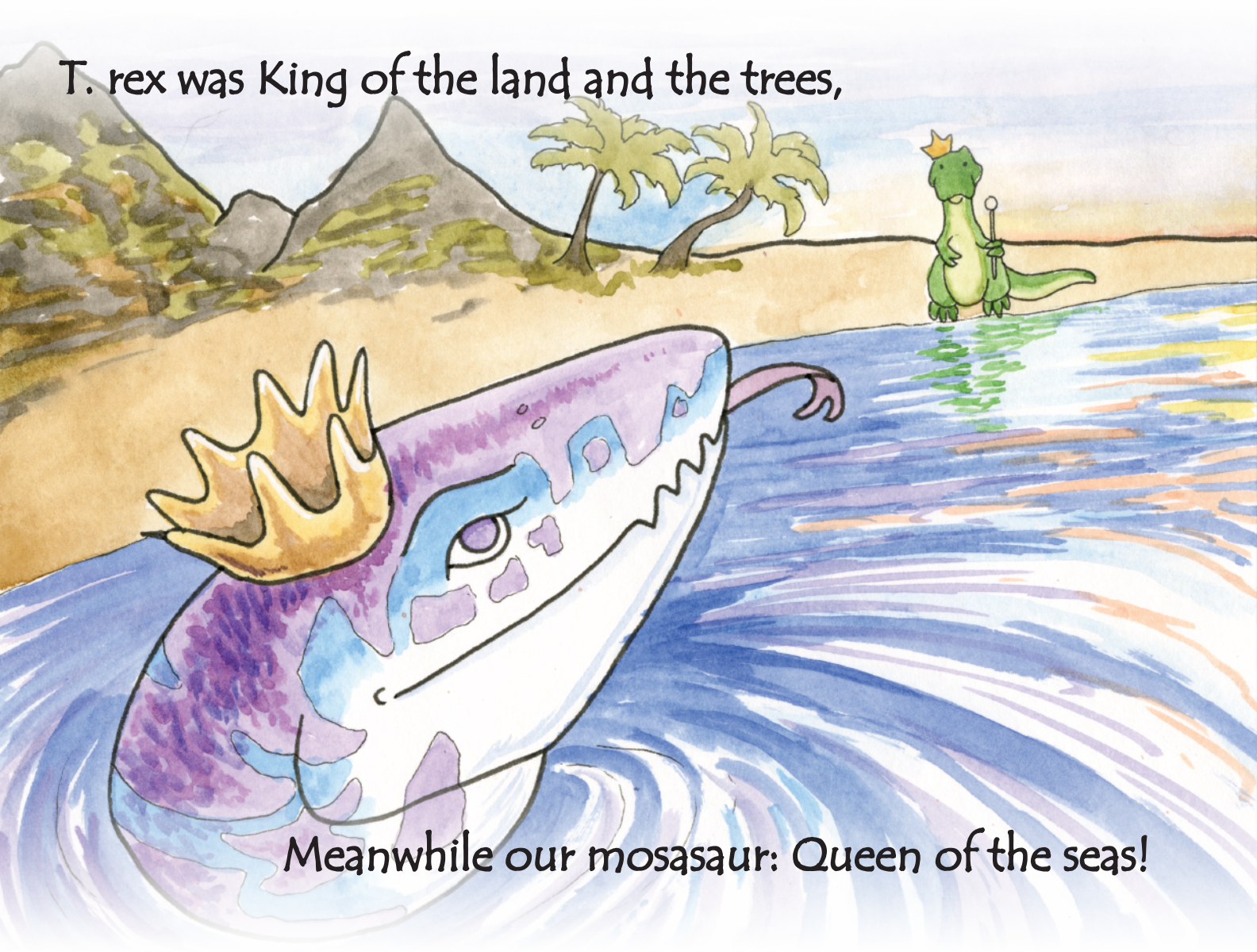


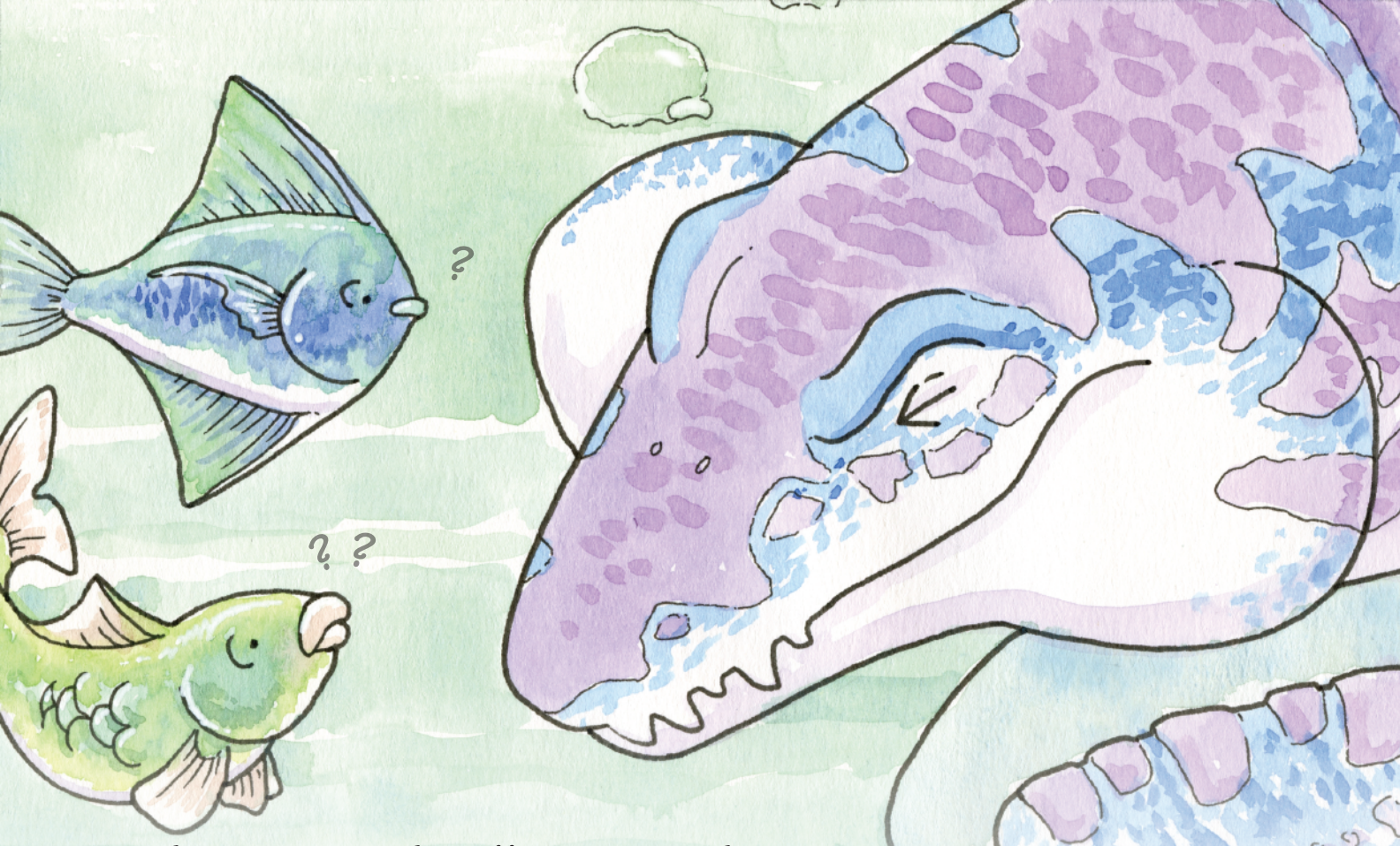
Cousins at best, don't be fooled by her smile.

She swam in the sea with big fish and small,

Squid, fish, or mosasaur, she ate them all!




T. rex was King of the land and the trees,
Meanwhile our mosasaur: Queen of the seas!



Fish come with gills to breath underwater,

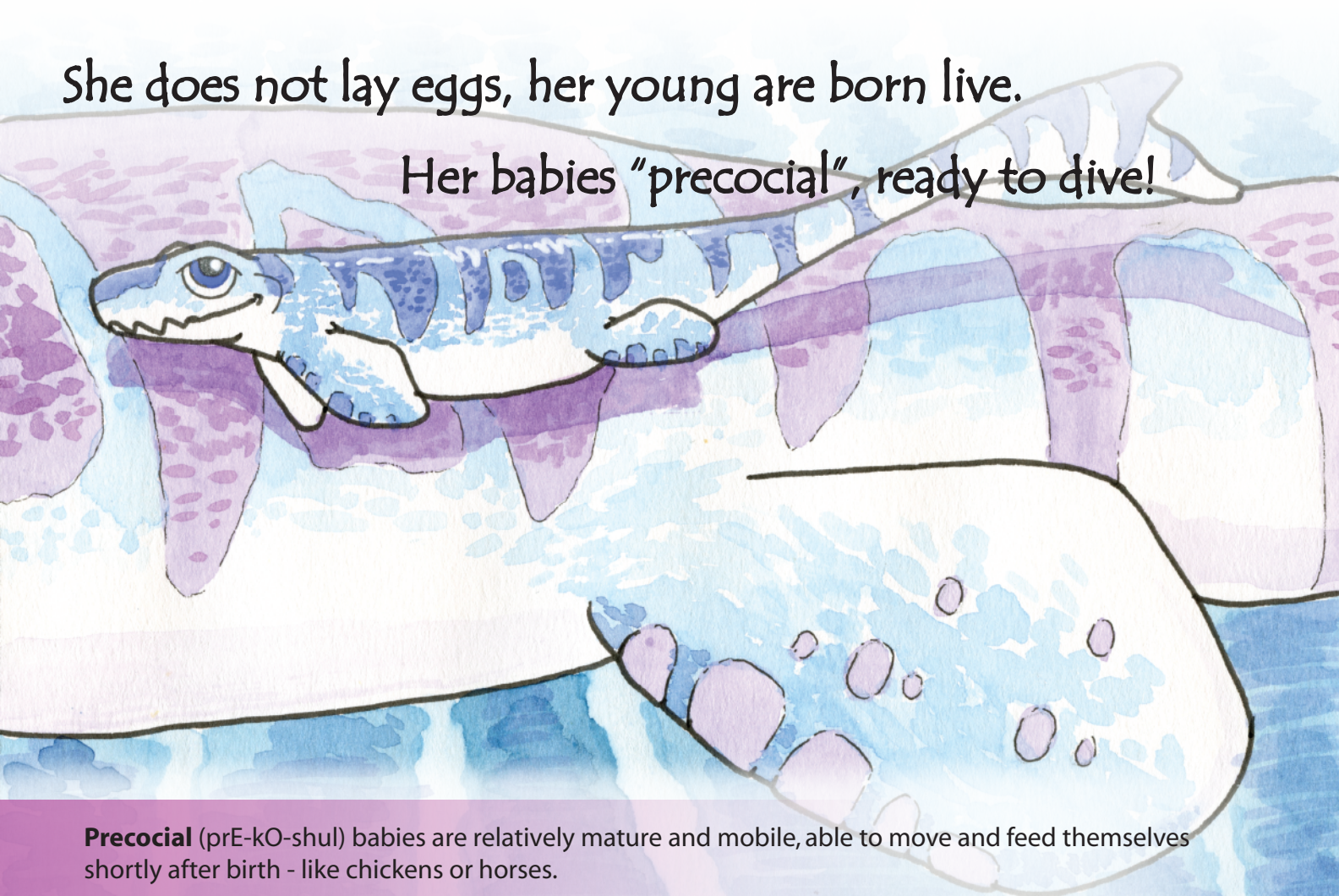
A mosasaur lung breathes air like an otter.

Hold your breath now – and count to six hundred!

That's ten minutes long,
for those that wondered...

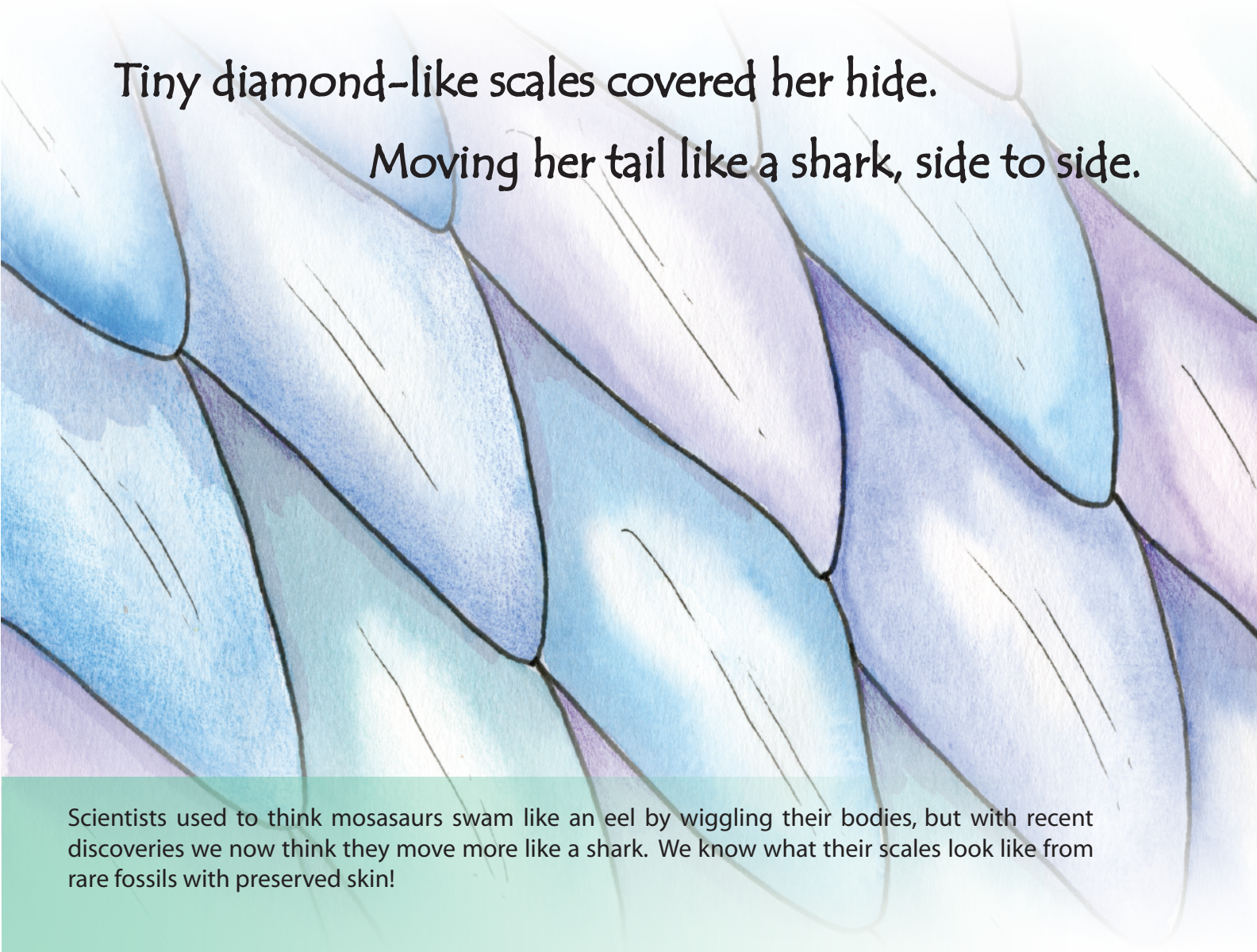
Mosasaurs were good at holding their breath, but had to return to the surface to breathe air, like dolphins, whales, seals, and otters.


Unlike her cousins the dinos and crocs,
Whose nests filled with eggs
were watched 'round the clock,



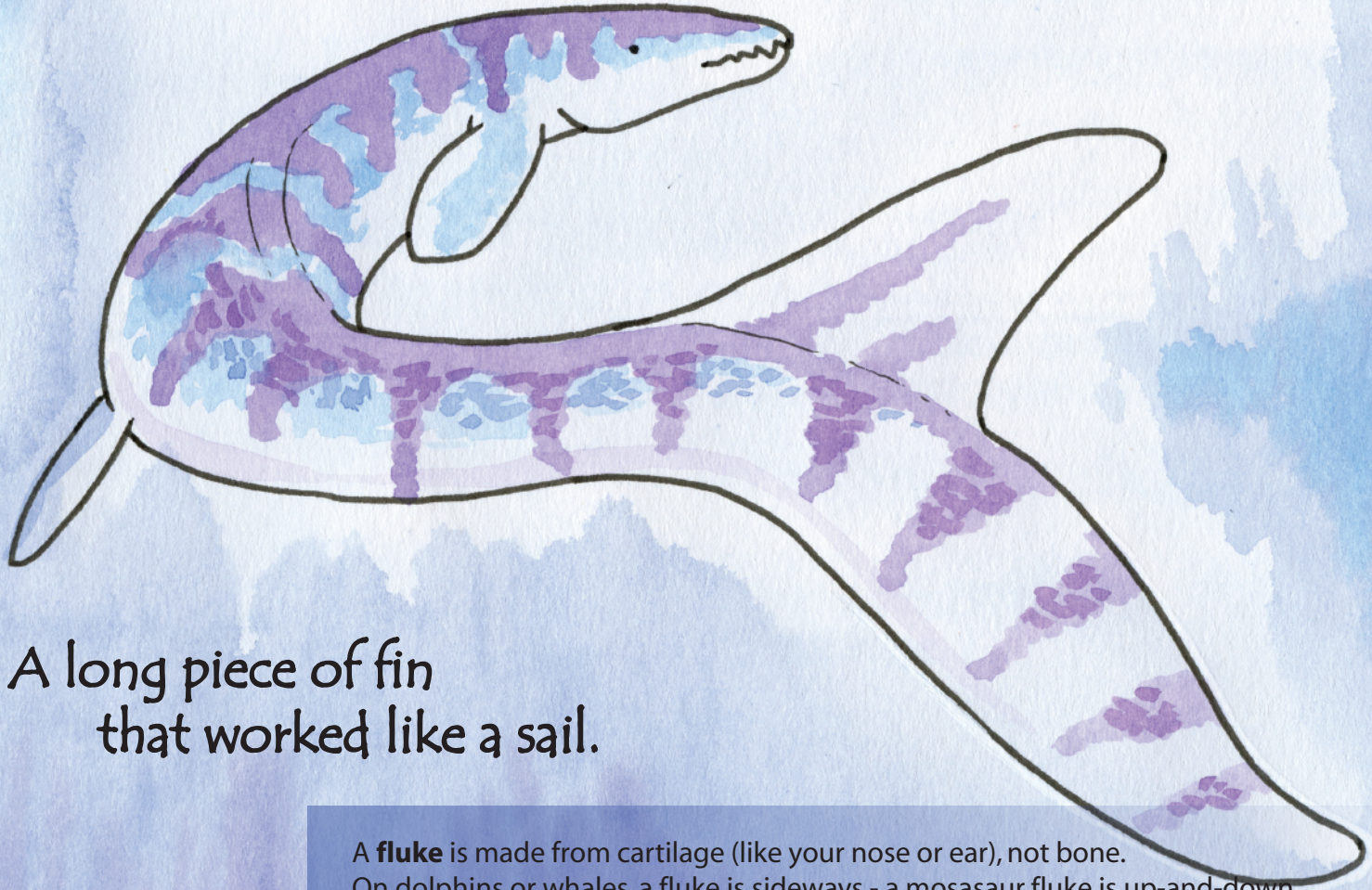
Precocial (prE-kO-shul) babies are relatively mature and mobile, able to move and feed themselves shortly after birth - like chickens or horses.

Altricial (al-trih-shul) babies are more fragile, and need help from their parents - like robins or kittens.



Scientists used to think mosasaurs swam like an eel by wiggling their bodies, but with recent discoveries we now think they move more like a shark. We know what their scales look like from rare fossils with preserved skin!

To help her swim, there's a fluke on her tail,



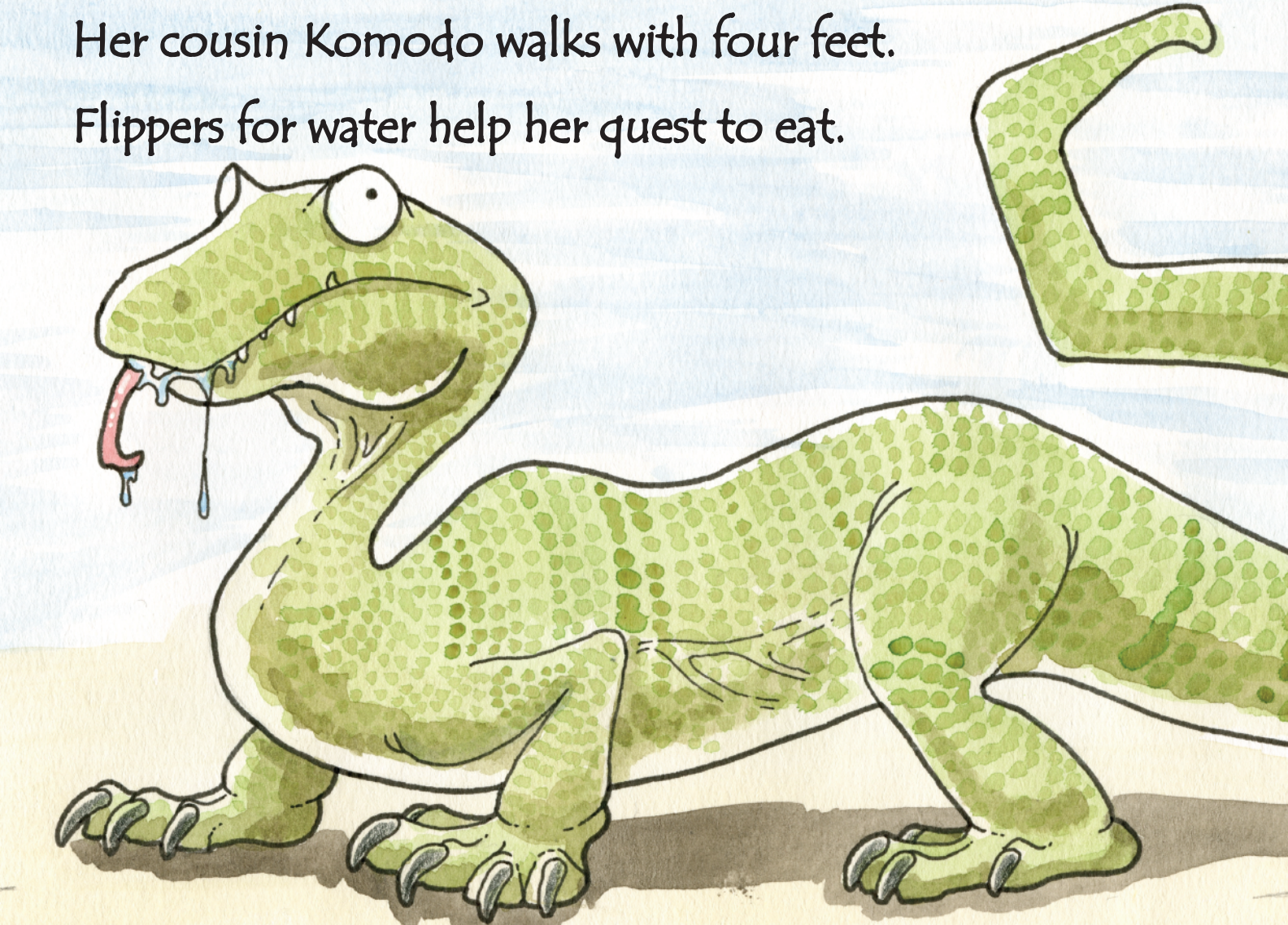
A long piece of fin
that worked like a sail.

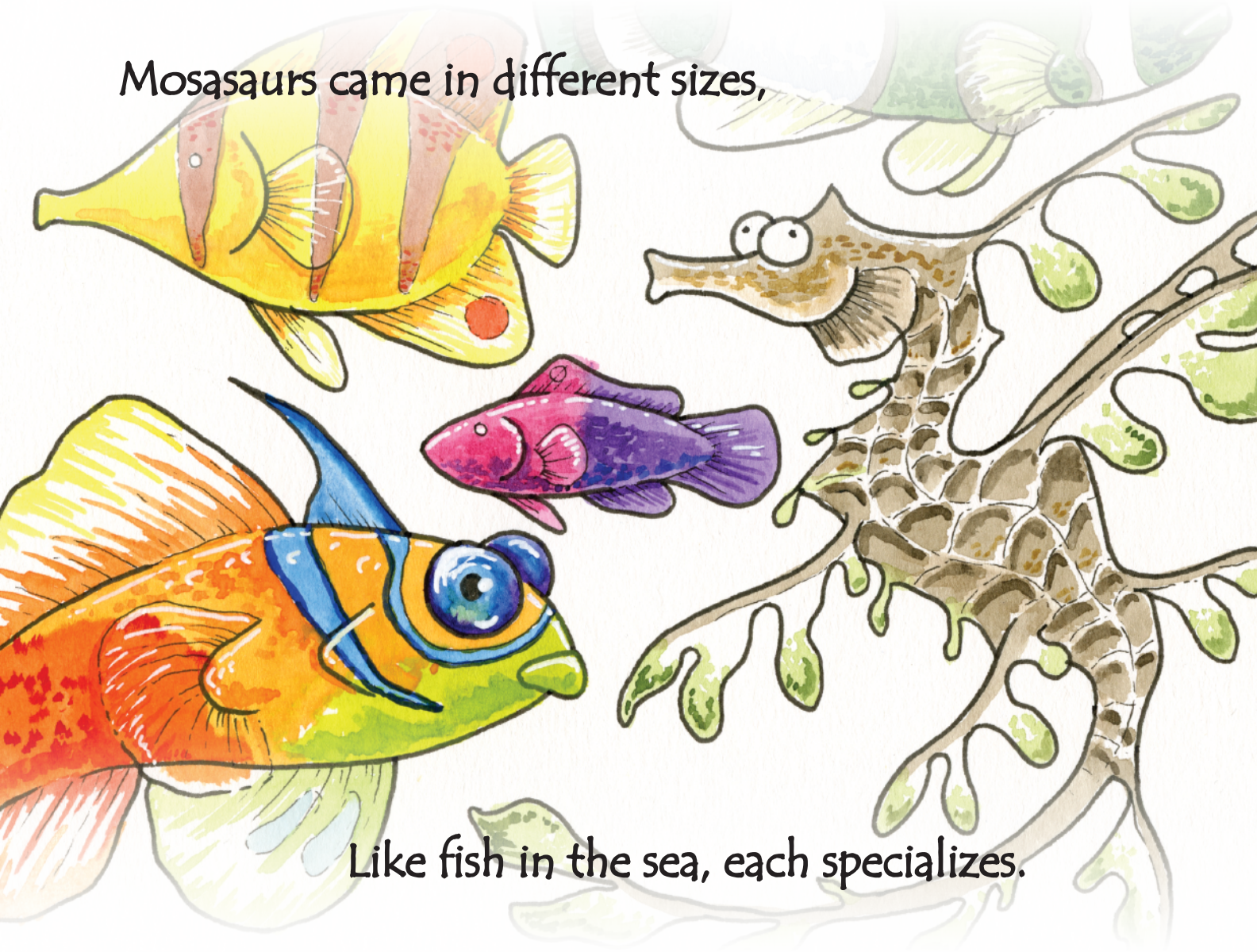
A **fluke** is made from cartilage (like your nose or ear), not bone.
On dolphins or whales, a fluke is sideways - a mosasaur fluke is up-and-down.


If she lost a tooth – fear not! She's like you!
But her sets kept growing, far more than two.

Her cousin Komodo walks with four feet.

Flippers for water help her quest to eat.

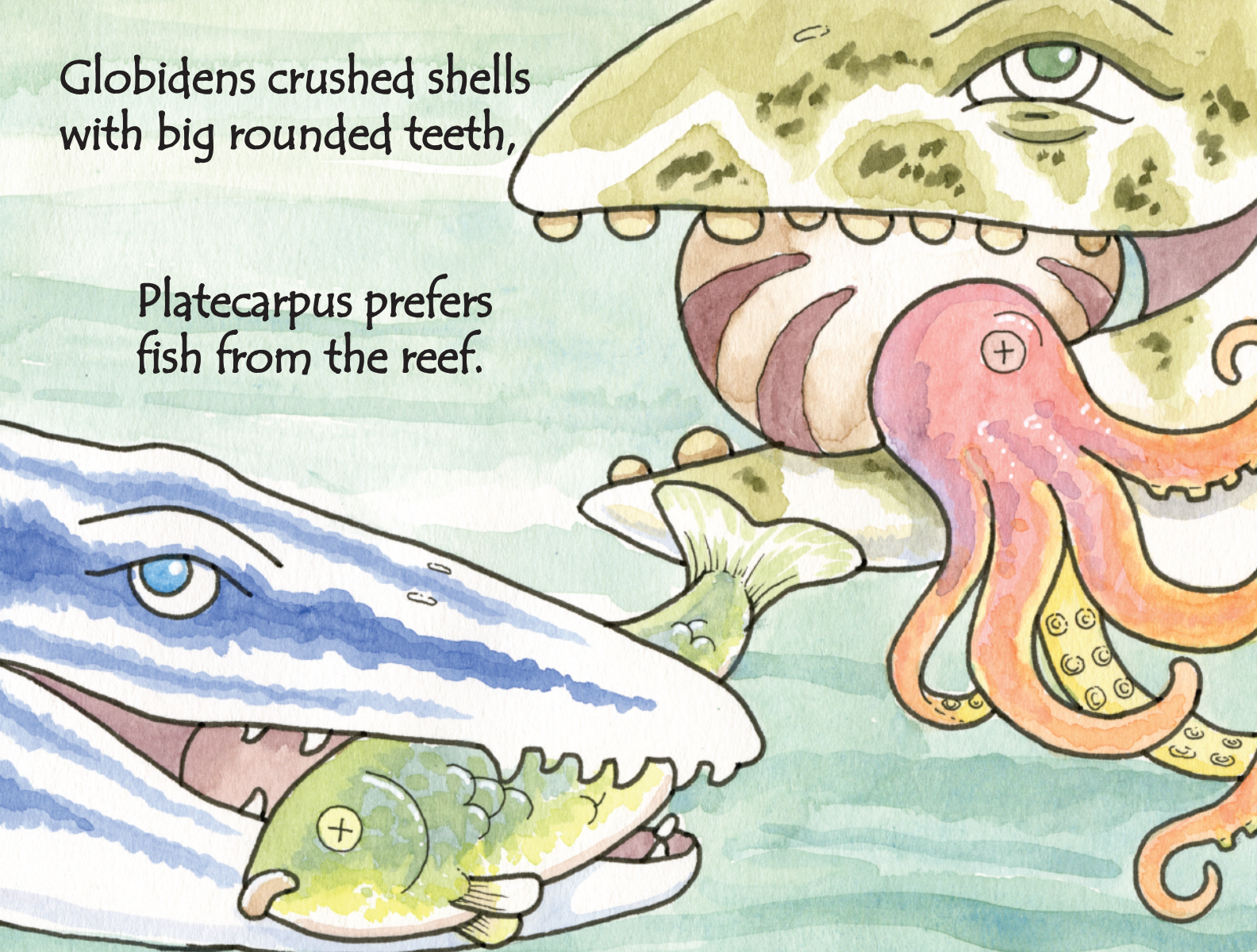



Mosasaurs came in different sizes,
Like fish in the sea, each specializes.

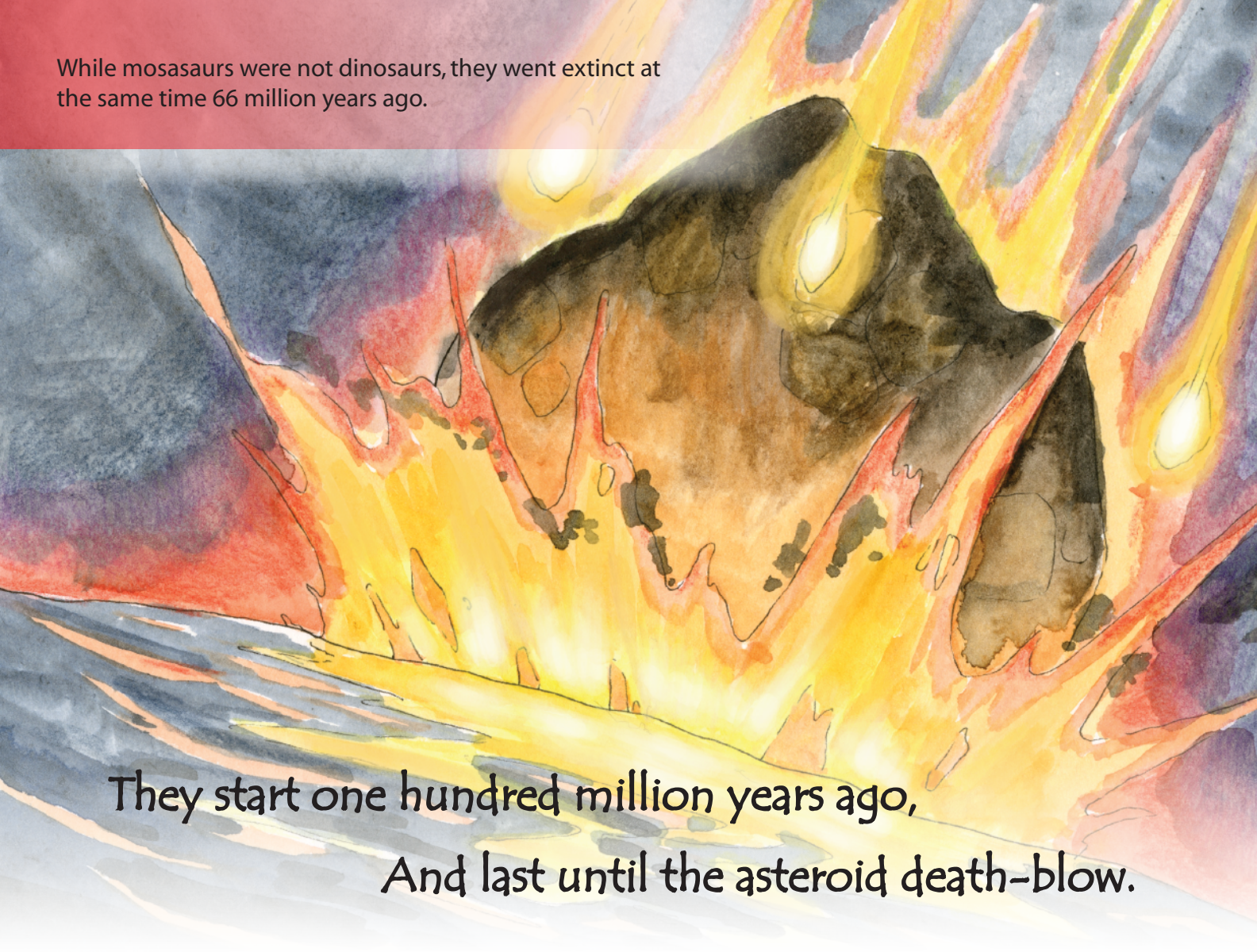
Clidastes was small, two to four meter,

Bus-long Tylosaur, fearsome meat-eater.

An average school bus is 30 feet long - *Tylosaurus* could reach 40 feet long!


Globidens crushed shells
with big rounded teeth,
Platecarpus prefers
fish from the reef.

While mosasaurs were not dinosaurs, they went extinct at the same time 66 million years ago.



They start one hundred million years ago,

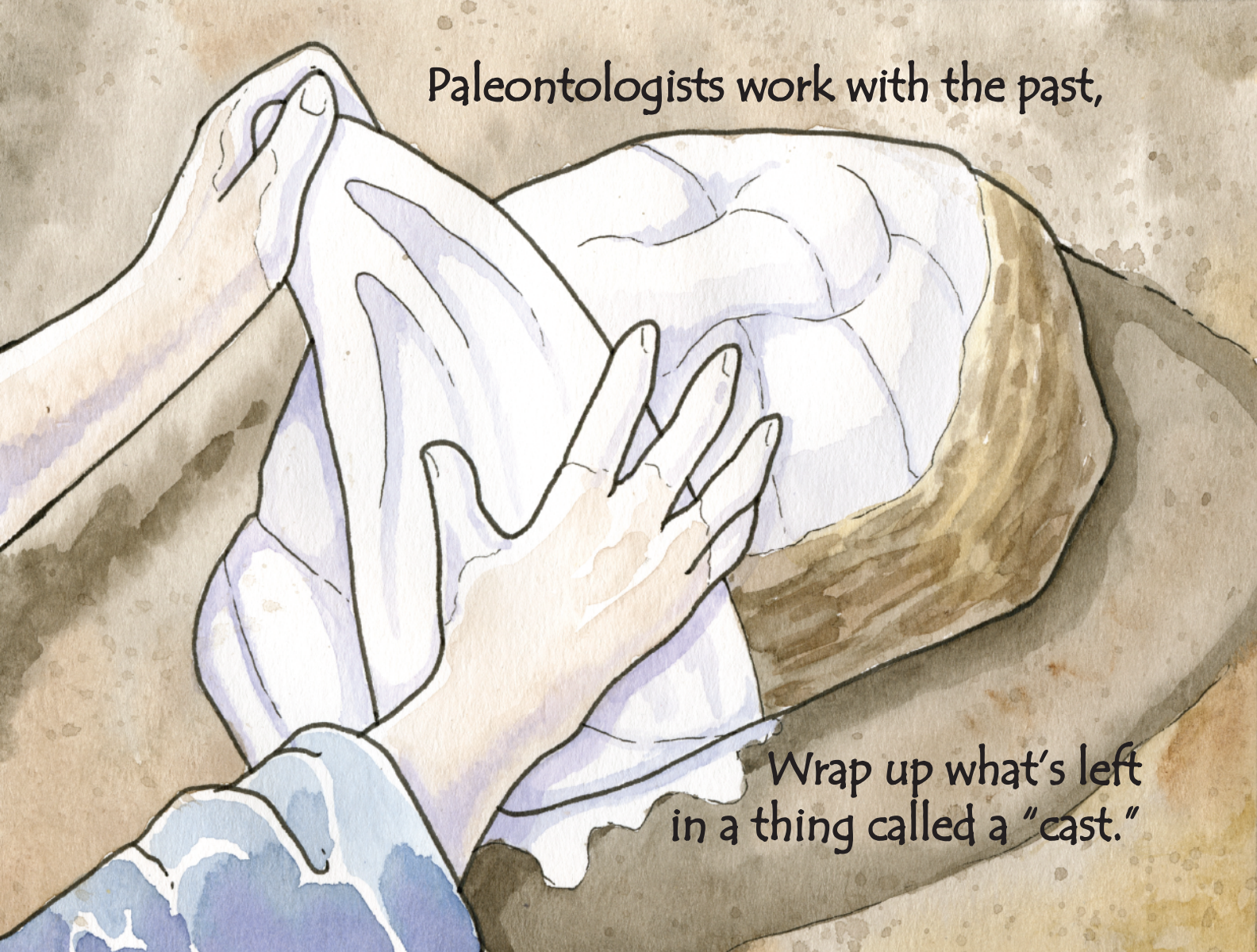
And last until the asteroid death-blow.

Today they're all gone, what's left in the ground,

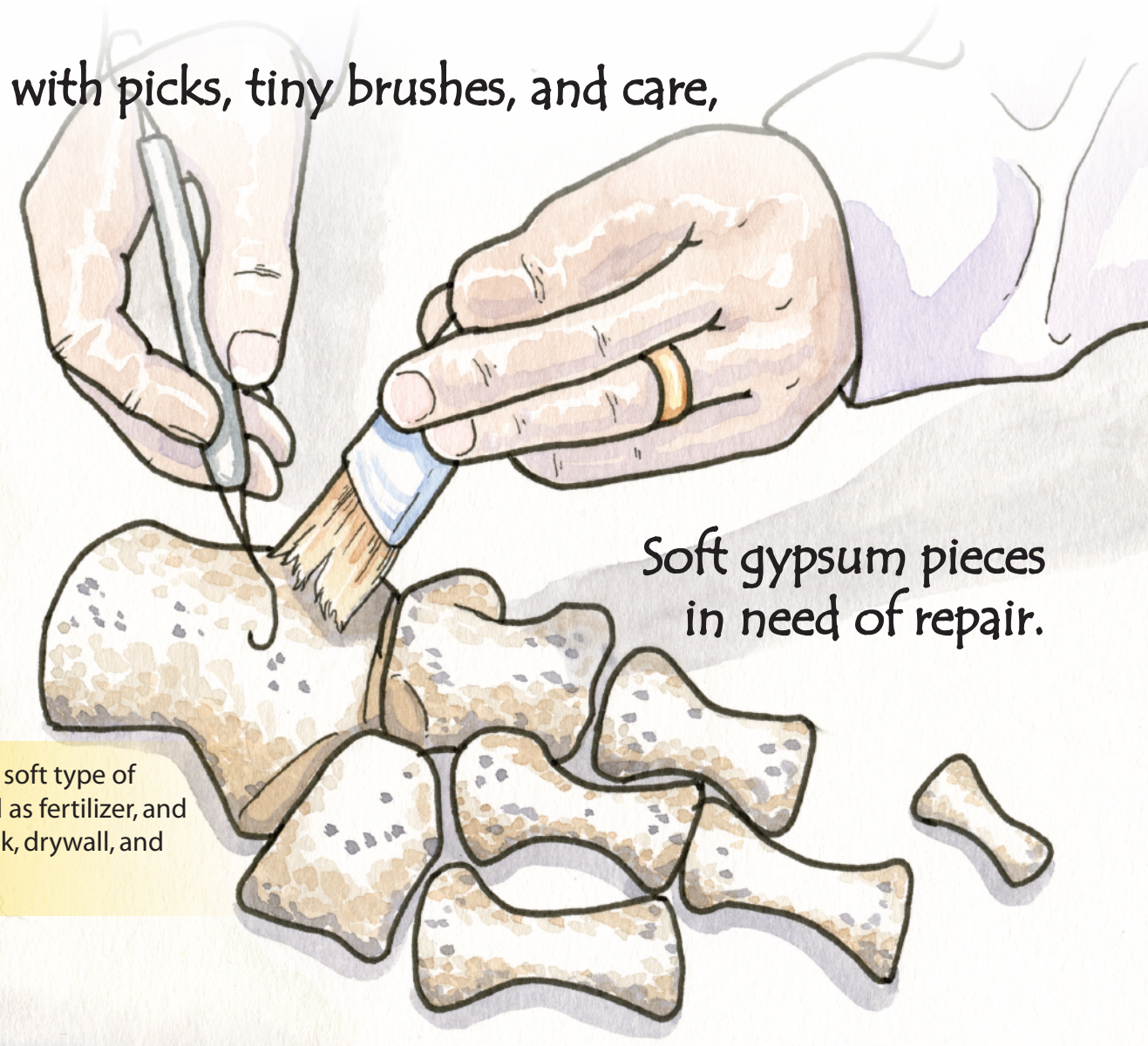
Her bones are now rock – a fossil renowned!

Their bones were discovered,
like dinosaur,

Sea monsters invaded
stories of folklore.


Paleontologists work with the past,
Wrap up what's left
in a thing called a "cast."

Digging with picks, tiny brushes, and care,

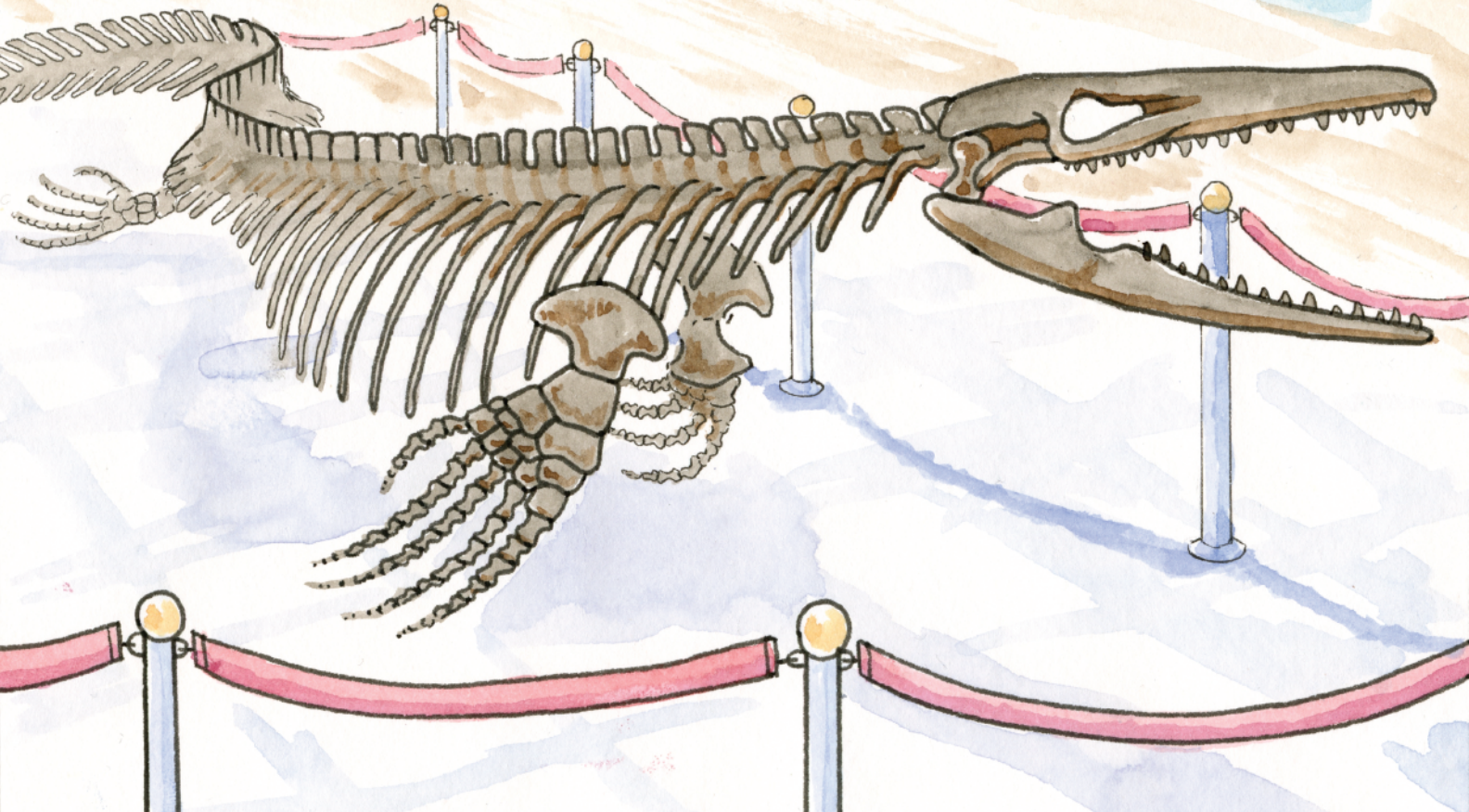


Soft gypsum pieces
in need of repair.

Gypsum is a soft type of mineral used as fertilizer, and to make chalk, drywall, and plaster.

It's sad they're all gone, but don't you dismay –

Put back together, they're now on display!



This book is dedicated to one of the adventures of Dr. John Hoganson, paleontologist emeritus of the North Dakota Geological Survey. Dr. Hoganson began his work with the Survey in 1981 as a surface geologist. With the creation of a ND State Fossil Collection in 1989 the paleontology program was established and Dr. Hoganson continued his career working with fossils until his retirement in 2014.

October 6, 1996, he and colleagues traveled up to the Pembina State Museum in Pembina, ND, to do a geology presentation. While there, locals convinced him to come check out a fossil producing site near Walhalla, ND. Upon surveying the area, they found dozens of mosasaur bones! Everyone was excited, and agreed to return the following summer to work on this new site. It would be a treasure-trove of information for locals, and ND prehistory.

Tragedy struck twenty days later, when the road near the site was widened – the bones were scraped away, and dumped down the hillside. The bones, preserved with soft gypsum, did not survive the destruction of the site. Roadwork continued in 1997 and 1998, and a few small fossils from fish and sharks were removed, but no mosasaur.

Then, on September 10, 1999 while inspecting the area – more mosasaur bones were found slowly weathering out of the hill! The bones were collected in a plaster jacket (or cast), and temporarily taken back to the Johnsrud Paleontology Laboratory in Bismarck, ND where they were cleaned and repaired. The bones came from the tail of a large mosasaur, and are now on display at the Walhalla Public Library, in Walhalla, ND.

For more books about North Dakota's prehistory and paleontology, please visit: https://www.dmr.nd.gov/ndfossil/

The Paleo Primer Educational Series (#33 and #35) are available free online!