

Crater Coloring Book

CHRONOLOGICAL SEQUENCE OF IMPACT EVENTS

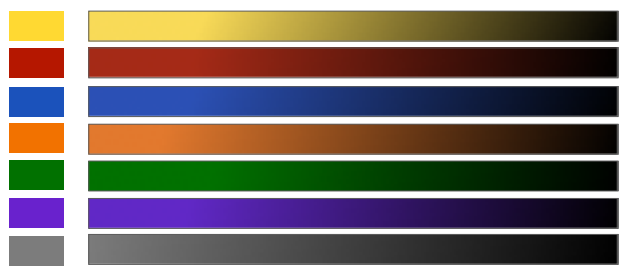
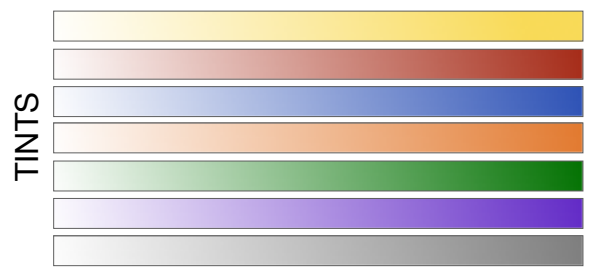
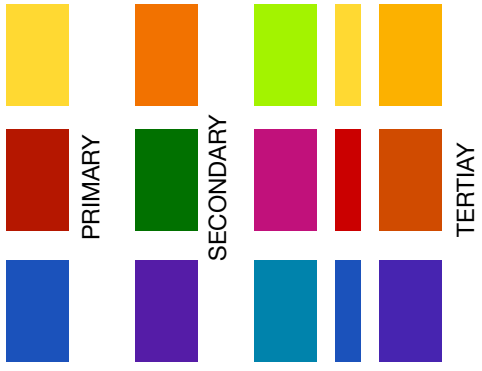
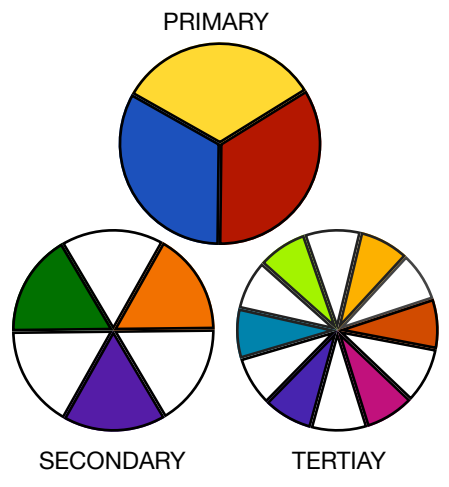
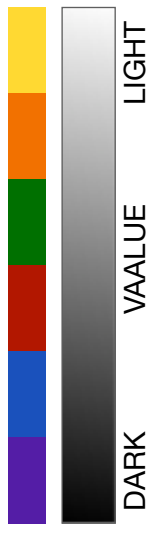
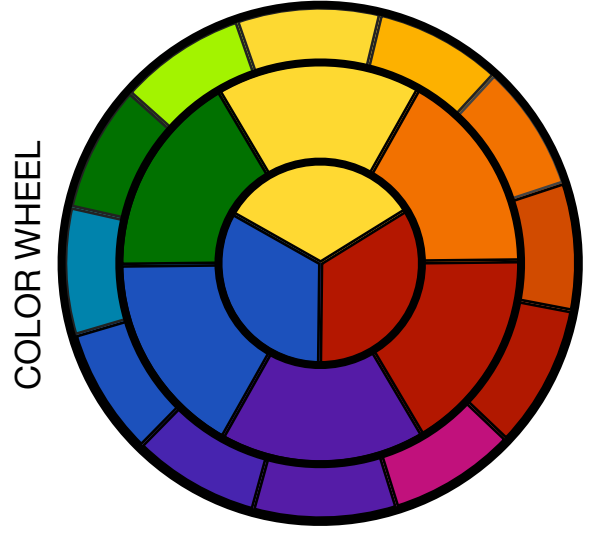
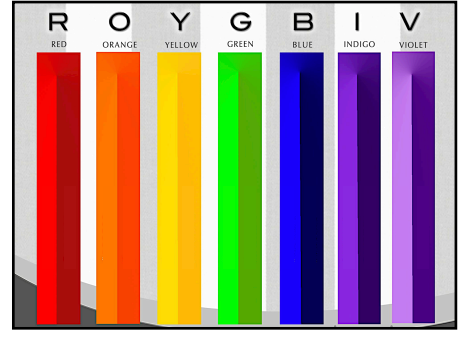
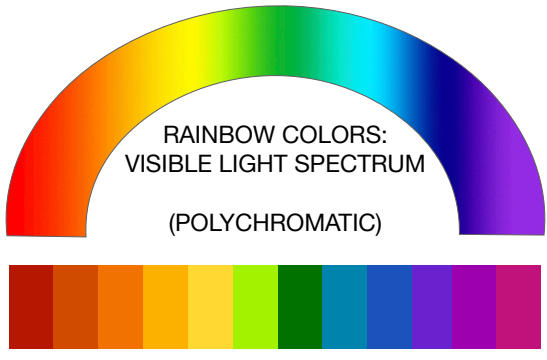


DOWNTOWN
WETUMPKA IN
THE ALLEYWAY

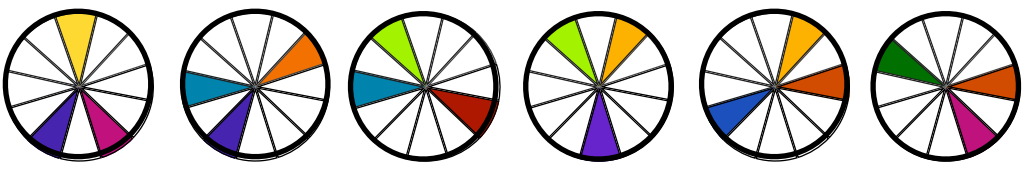


113 COMPANY
STREET,
WETUMPKA, AL
36092

LEARNING ABOUT COLOR



SPLIT COMPLIMENTRY



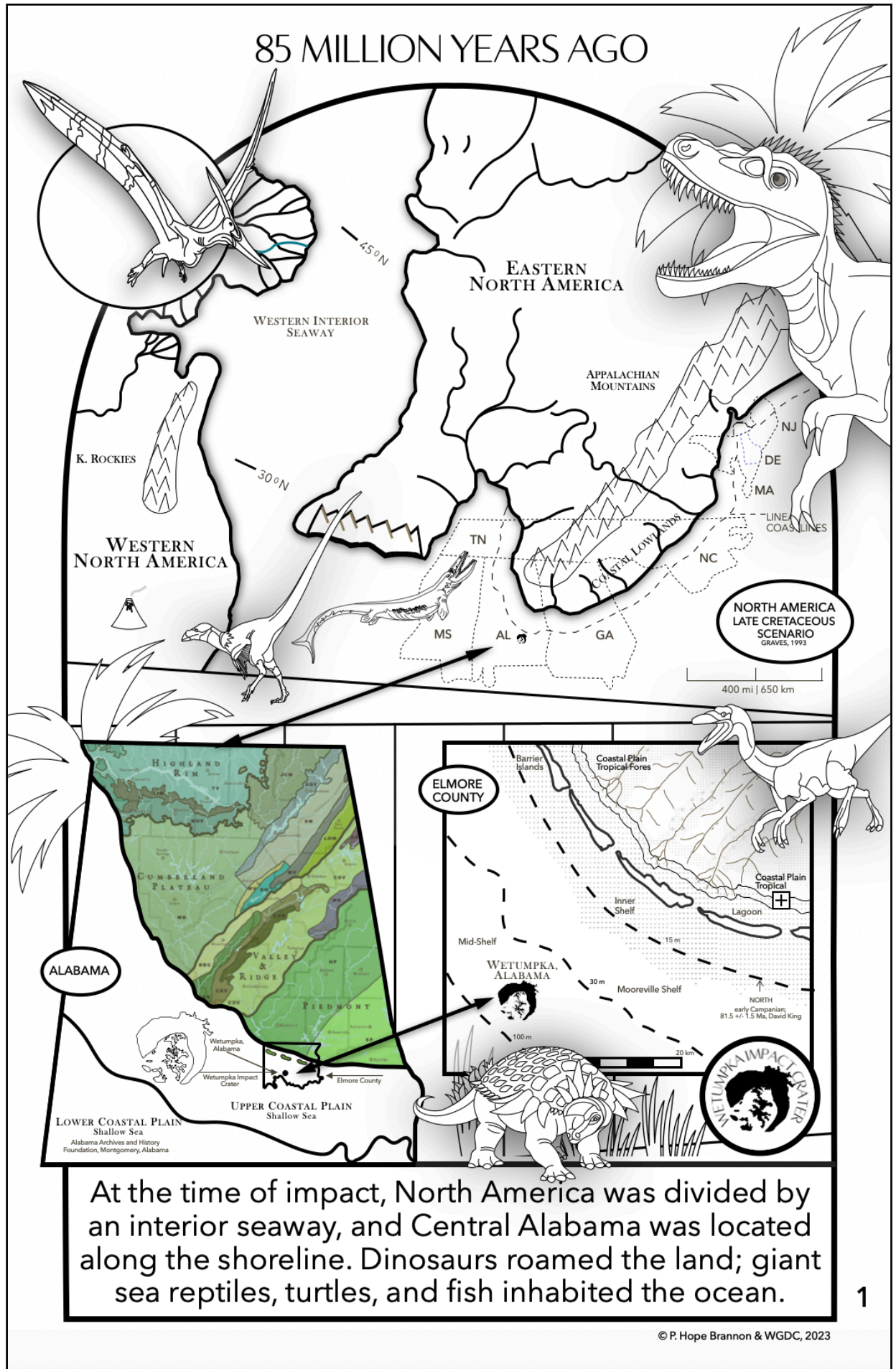


A shallow offshore area of the ancient Gulf of Mexico eventually became the land upon which downtown Wetumpka was built and through which today's Coosa River flows. Our area also was the site of Alabama's greatest natural disaster and the or "bull's eye" of a great explosion caused by the impact of a huge object from outer space.

During the "age of dinosaurs in Alabama," (Late Cretaceous or about 85 million years ago) a meteor the size of a large college football stadium blasted 2,000 feet deep into local bedrock and exploded under the shallow sea. At the time of impact, marine reptiles, fish, and turtles inhabited the sea, and dinosaurs lived on nearby lands. The meteor impact created a 2.6 billion-ton TNT explosion thousands of times larger than the largest atomic weapon ever developed, thus causing heavy damage and death, affecting both land and sea.

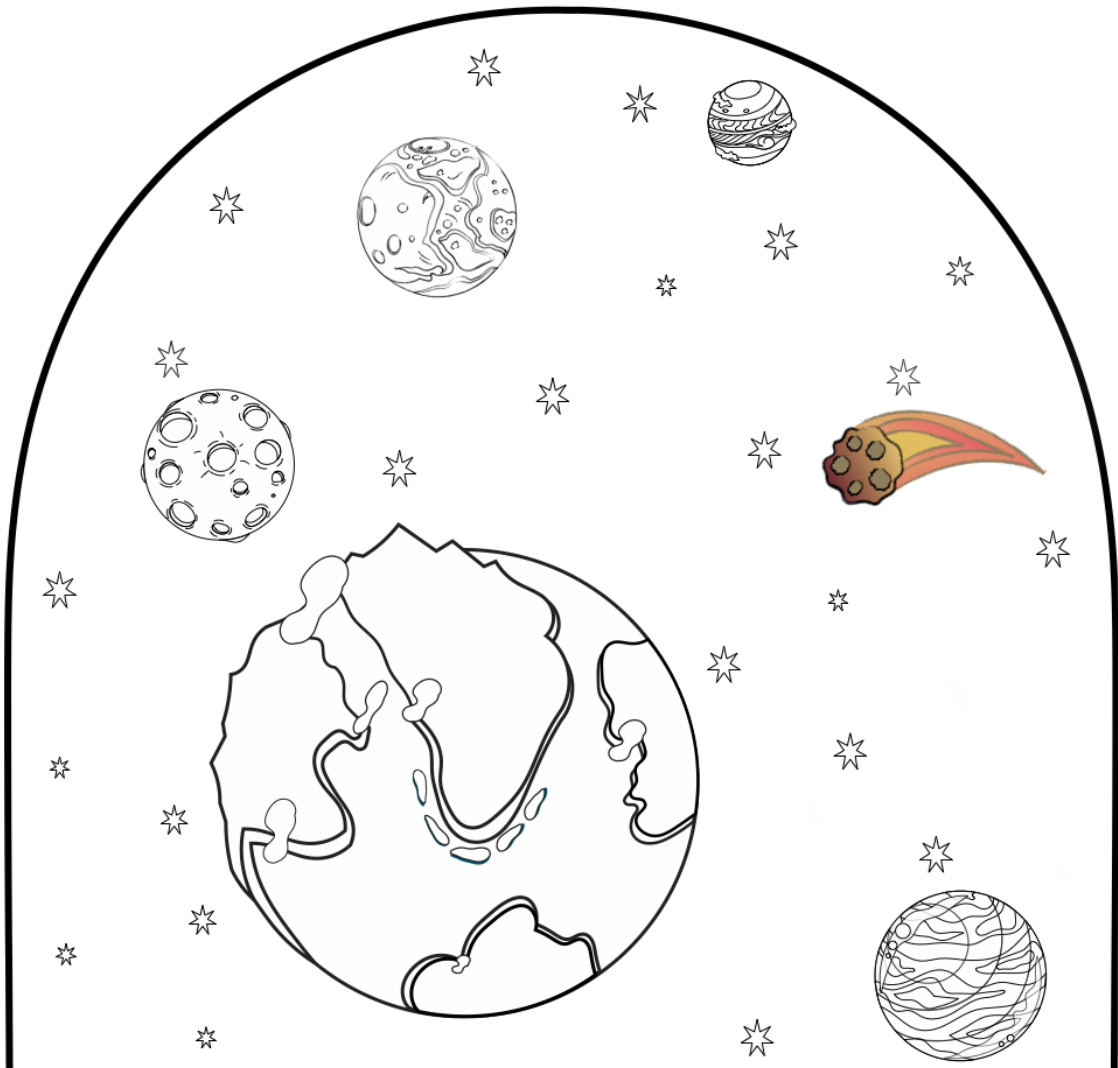
The Wetumpka Impact Crater (4.7 miles in diameter) is the only confirmed impact crater in Alabama and one of only about 200 other recognized craters. Its age is based on fossils found in the youngest disturbed deposits in the crater and atomic age-dating of impact-affected crystals. The arc of hills east of the Coosa River and downtown Wetumpka are the eroded remains of the Wetumpka Impact Crater's rim.

85 MILLION YEARS AGO



At the time of impact, North America was divided by an interior seaway, and Central Alabama was located along the shoreline. Dinosaurs roamed the land; giant sea reptiles, turtles, and fish inhabited the ocean.

WHEN A METEOR HITS THE EARTH



There are three stages of impact crater formation that occur in the first few minutes: *

1 Contact and Compression—Energy forces rocks down; some melt or are shocked by intense pressure. *

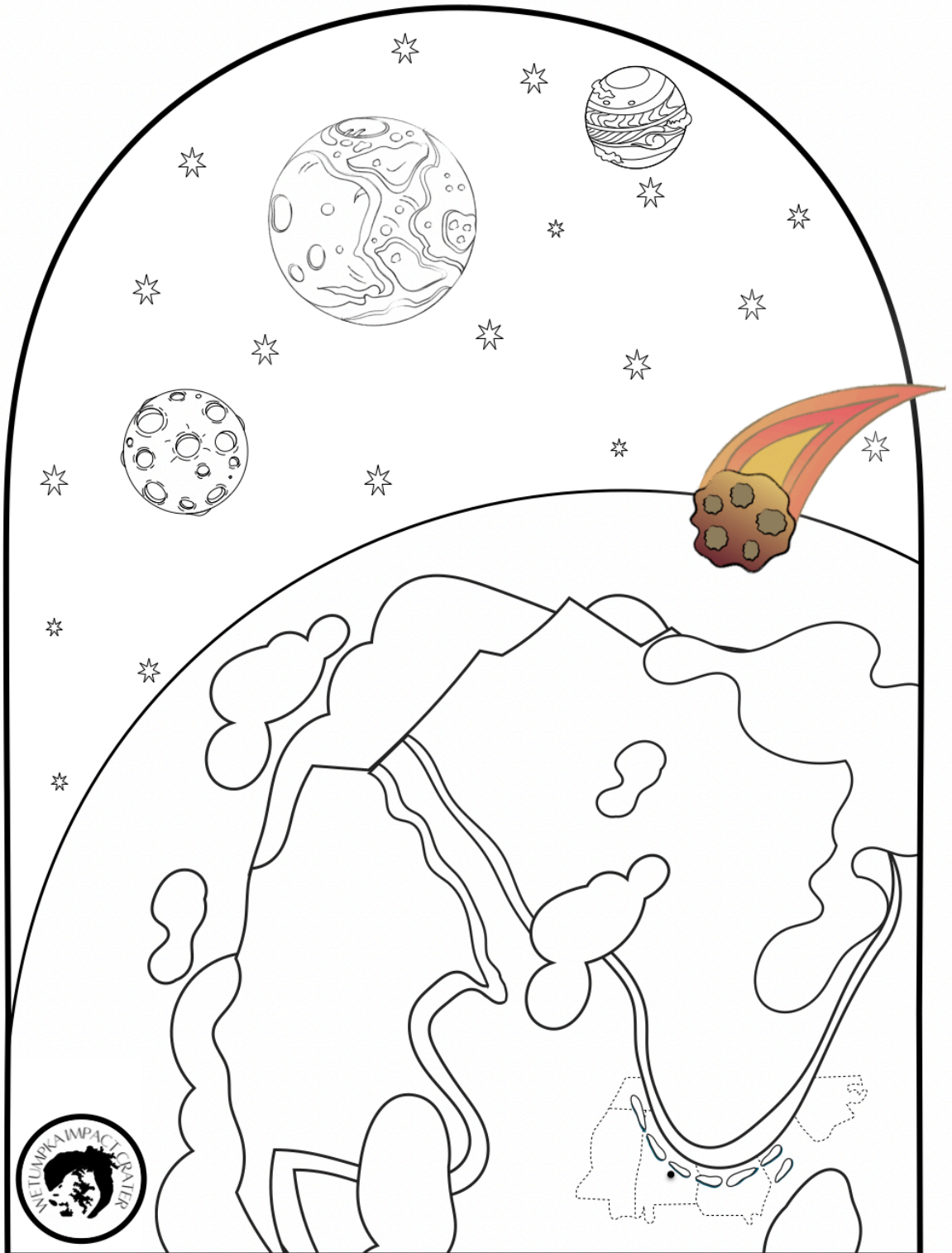
2 Excavation—Material is thrown out (ejected) as crater gets larger. *

3 Modification—Crater is created and center rebounds (rises several hundred feet). *



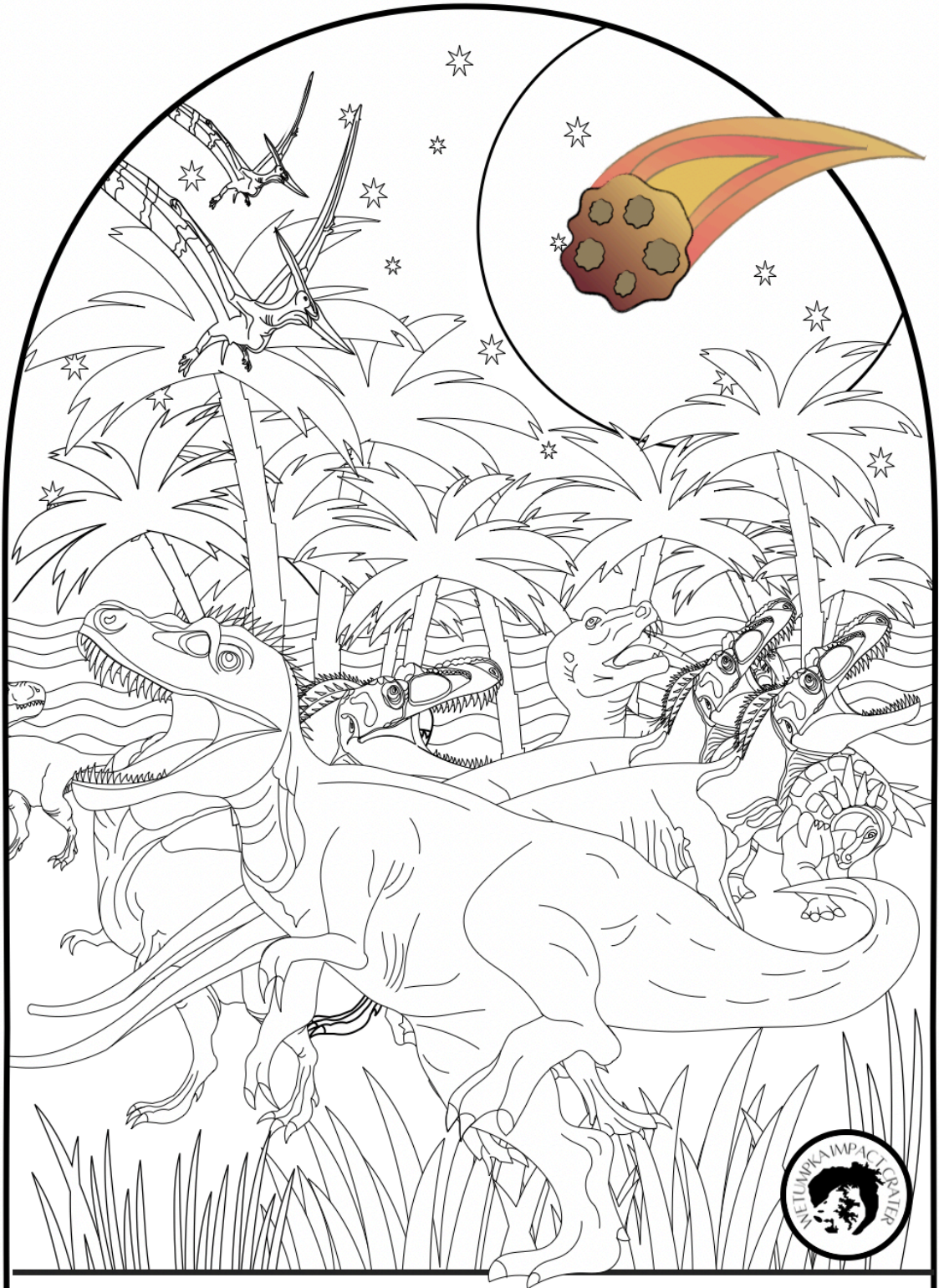
Use these murals to understand how the Wetumpka Impact Crater formed. *

METEOR APPROACHES EARTH



A very large stony meteor (1,200 feet in diameter) approaches Earth from outer space.

METEOR ENTERS ATMOSPHERE



The meteor enters Earth's atmosphere, traveling approximately 43,000 miles per hour. It heats up, creating a blinding light, a tail of fire, and a sonic boom.



CONTACT AND COMPRESSION



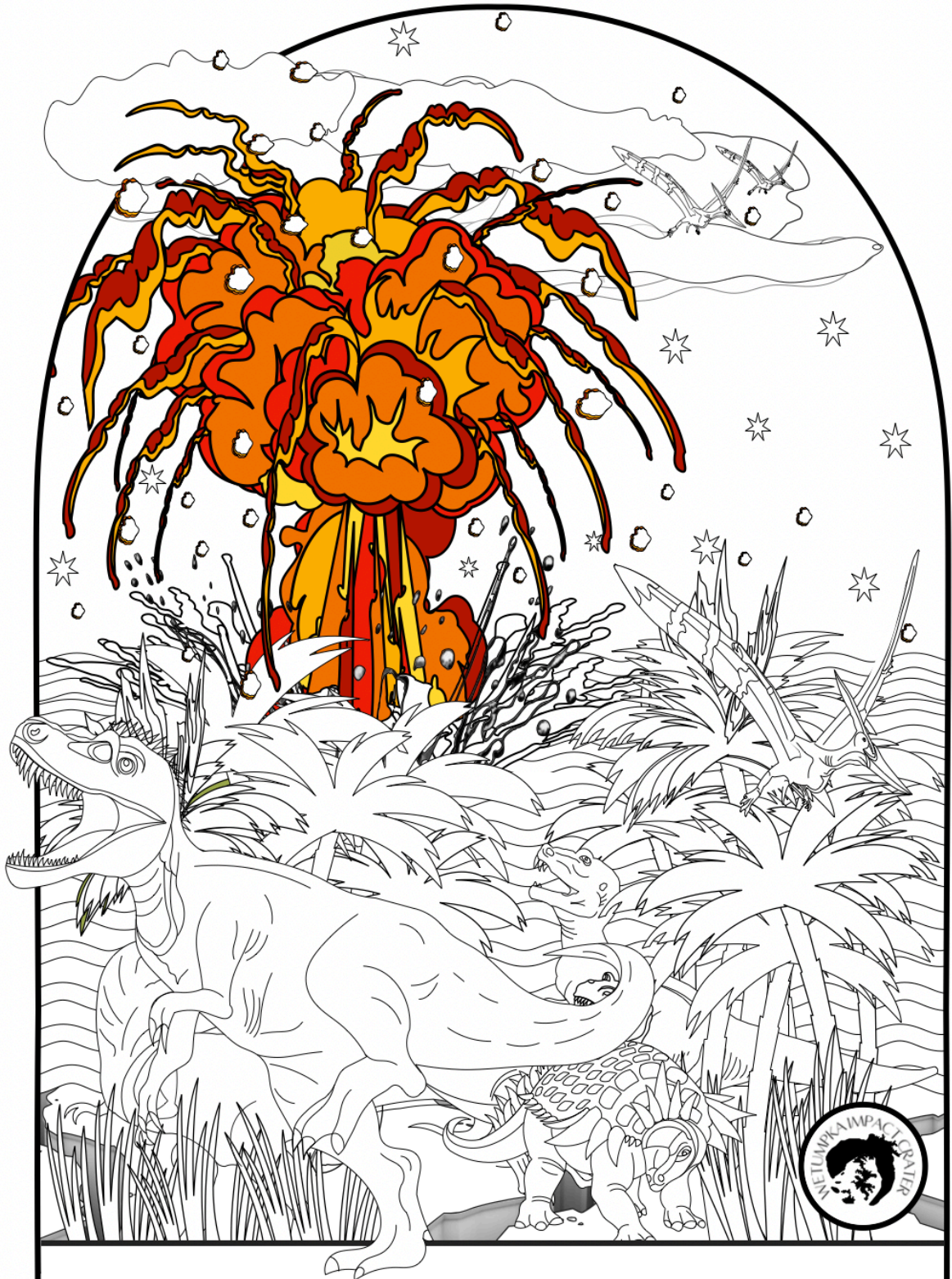
After burning through the atmosphere, the meteor makes contact (impact) in a shallow sea (100 feet deep). The blast travels about 2,000 feet deep, compressing bedrock and sending shock waves into the Earth. Crater begins forming.

EXCAVATION AND EJECTION OF ROCK DEBRIS



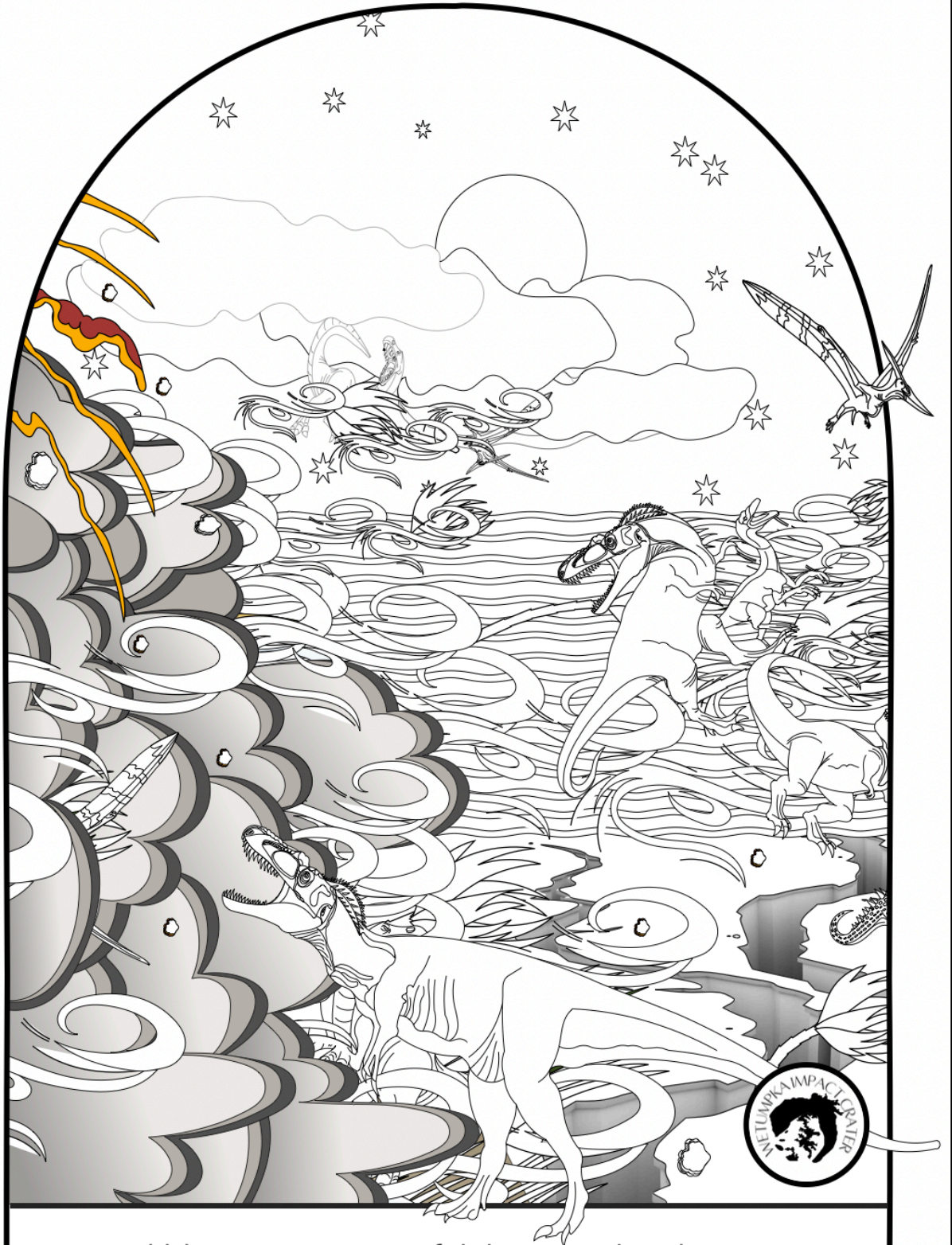
The explosion which occurs upon impact causes a blast of rock debris to fly from the shallow sea into the atmosphere. Some of the debris reaches low Earth orbit.

EXCAVATION AND EARTHQUAKE



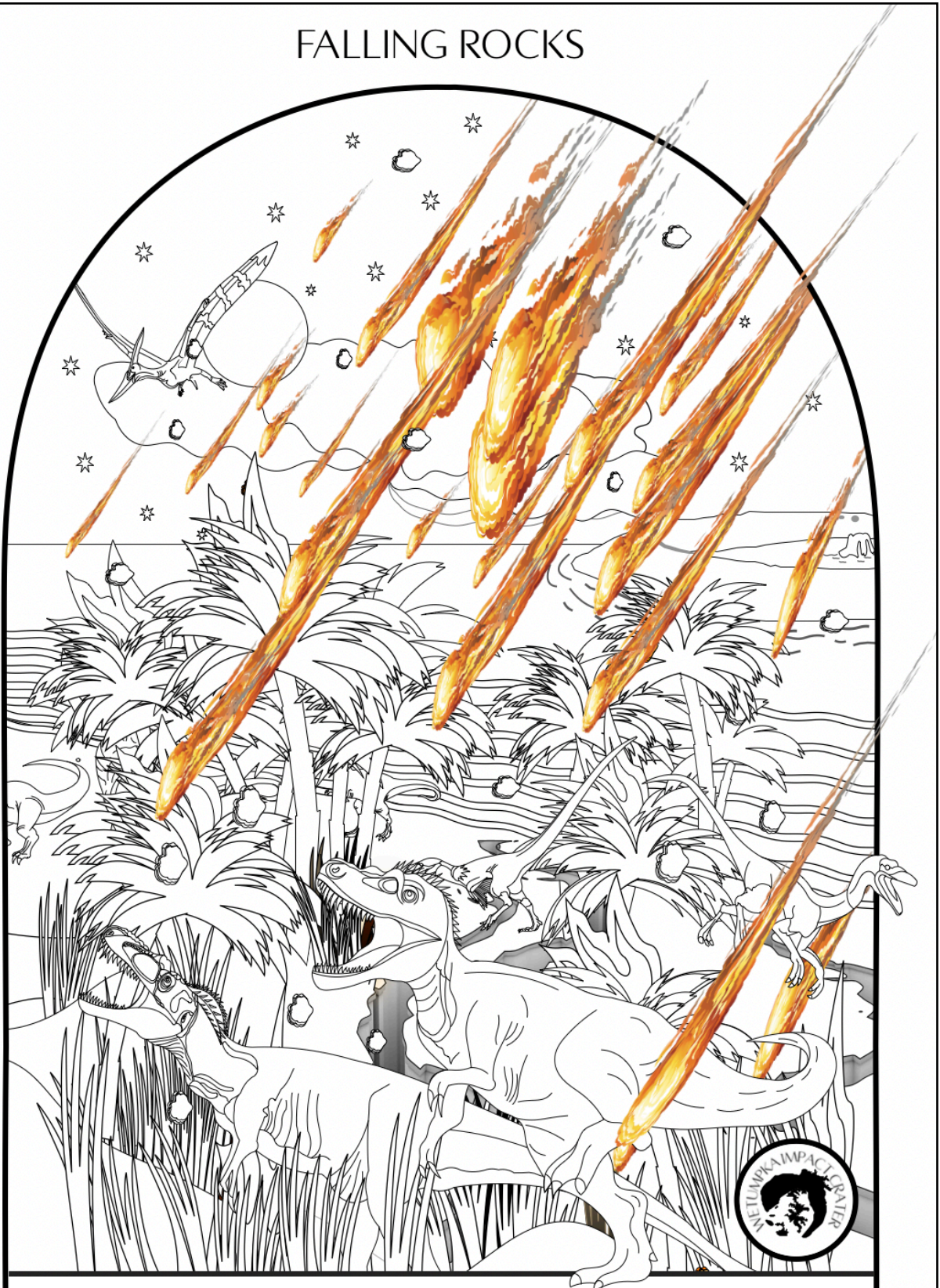
Excavation results in a 9.0 (Richter scale) earthquake. Flash fires occur along the nearby shore, and rocks begin to fall on land and into the sea.

HURRICANE FORCE WINDS



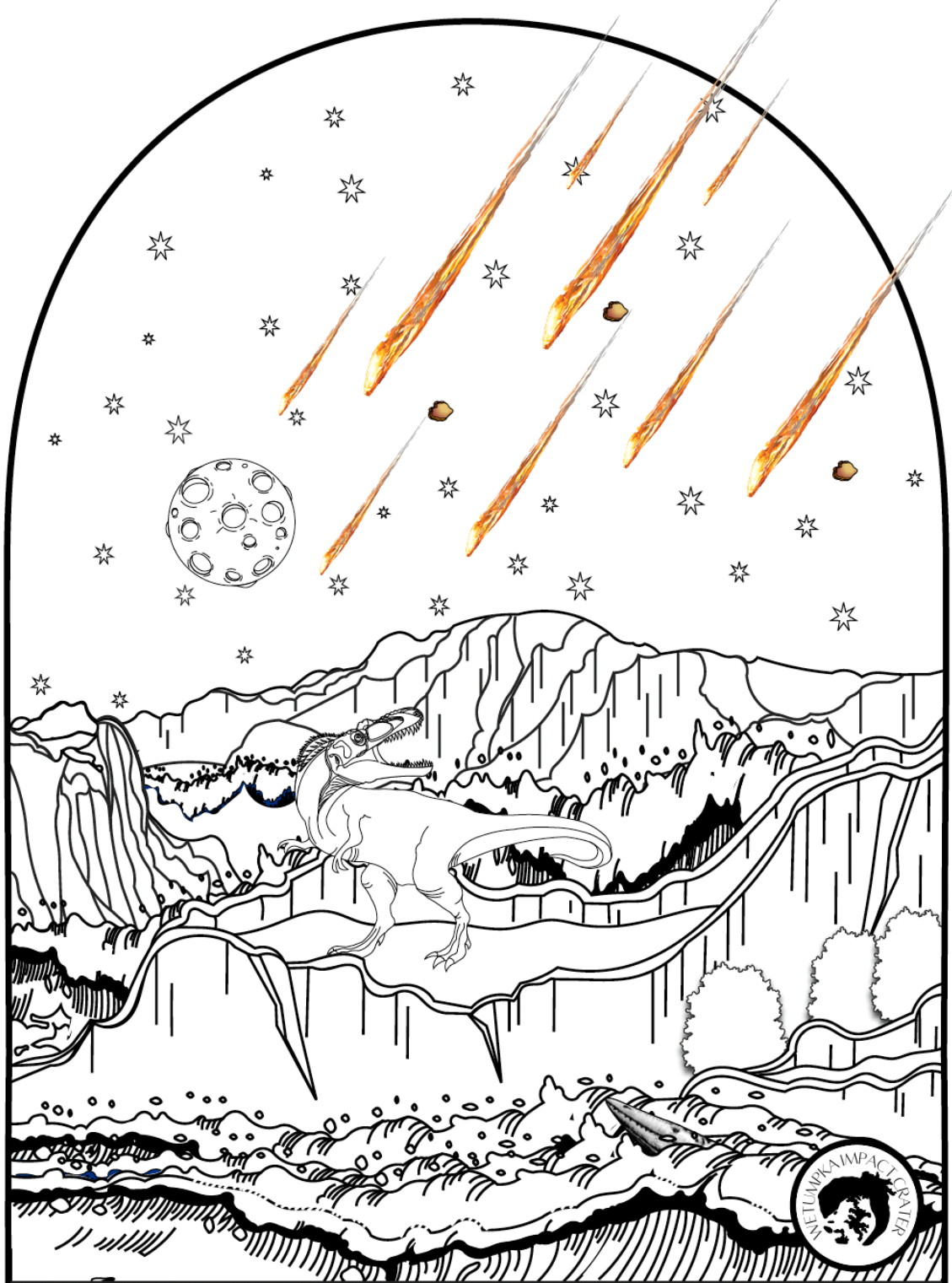
Wind blasts more powerful than a violent hurricane extend out in excess of a 15 mile radius and affect the nearby shore.

FALLING ROCKS



During the first three minutes after the explosion began, ejected rocks fall within a thirteen mile radius causing injury and destruction of life.

MODIFICATION AND TRANS-CRATER SLIDE



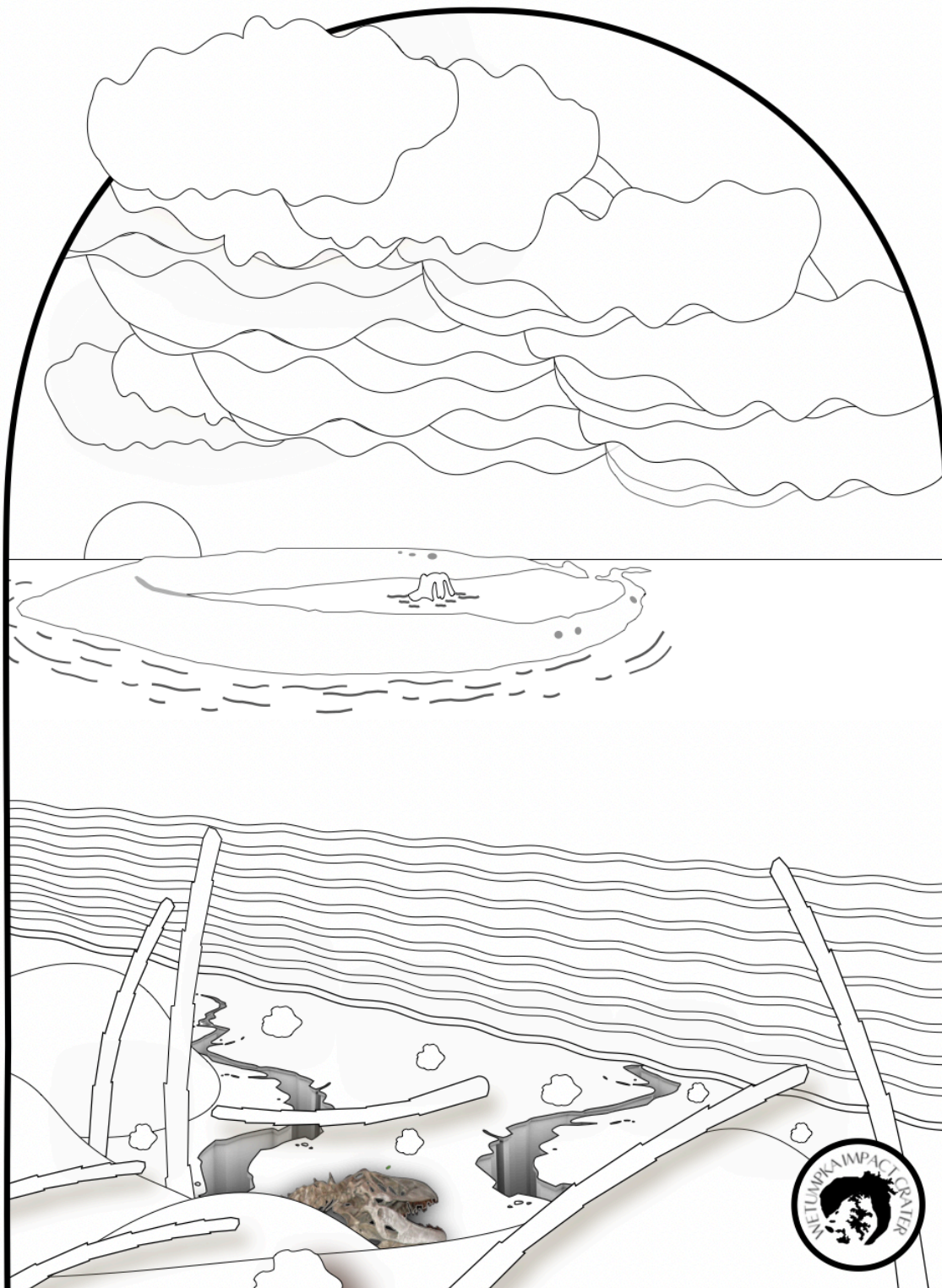
Located within the crater formed by the meteor impact, "The Cliffs" area is composed of layers of rock that slide across the crater floor and collide with the rim during the modification stage. Disturbed and folded layers can be seen in the walls of "The Cliffs" today.

MODIFICATION AND TSUNAMI



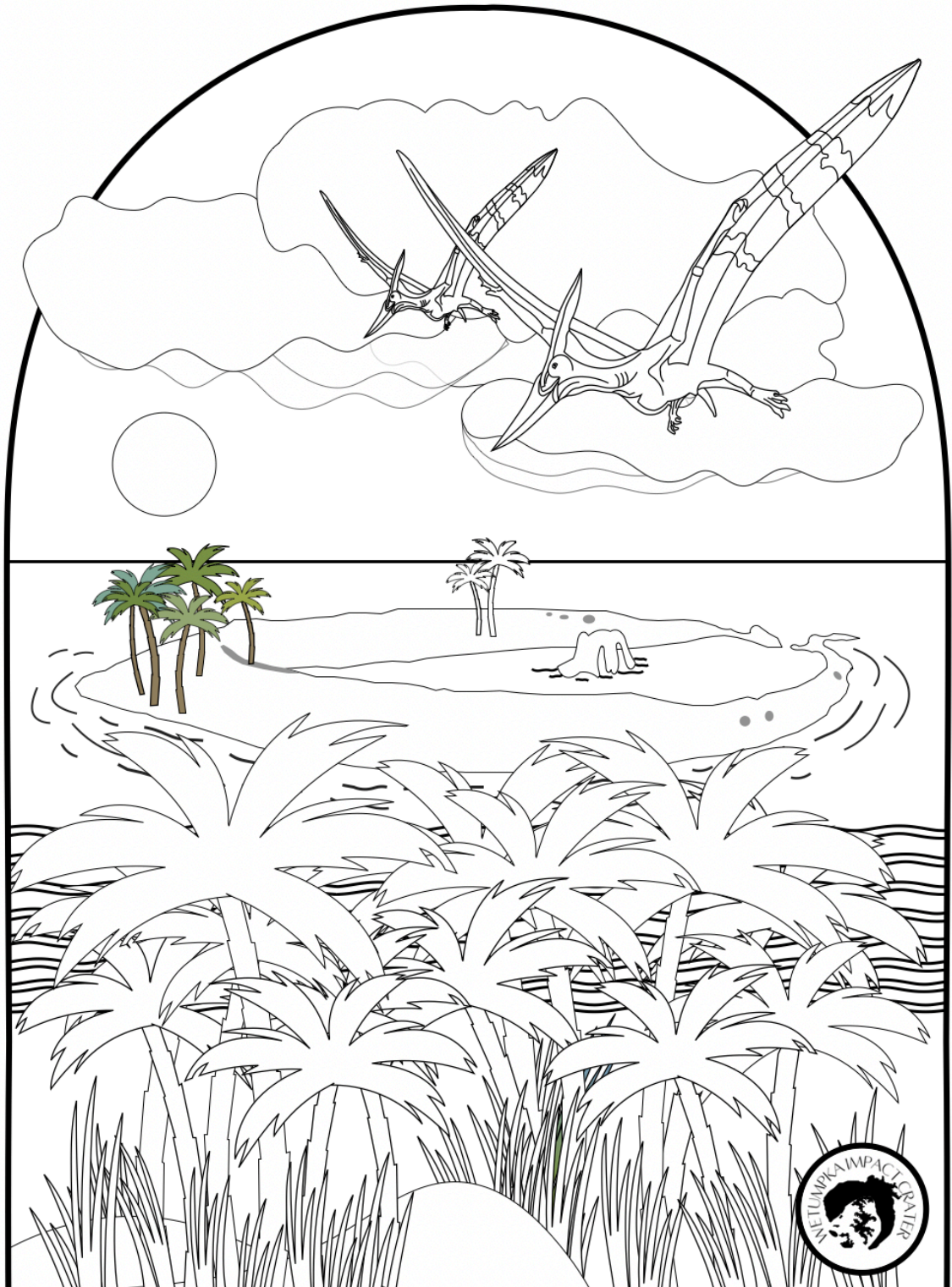
At this point, the crater has sides up to 1,000 feet high except where the south side collapses. A tsunami wave from the impact moves outward and then comes back, bringing sea-floor sediment (chalk) from the south.

FINAL CRATER HAS FORMED



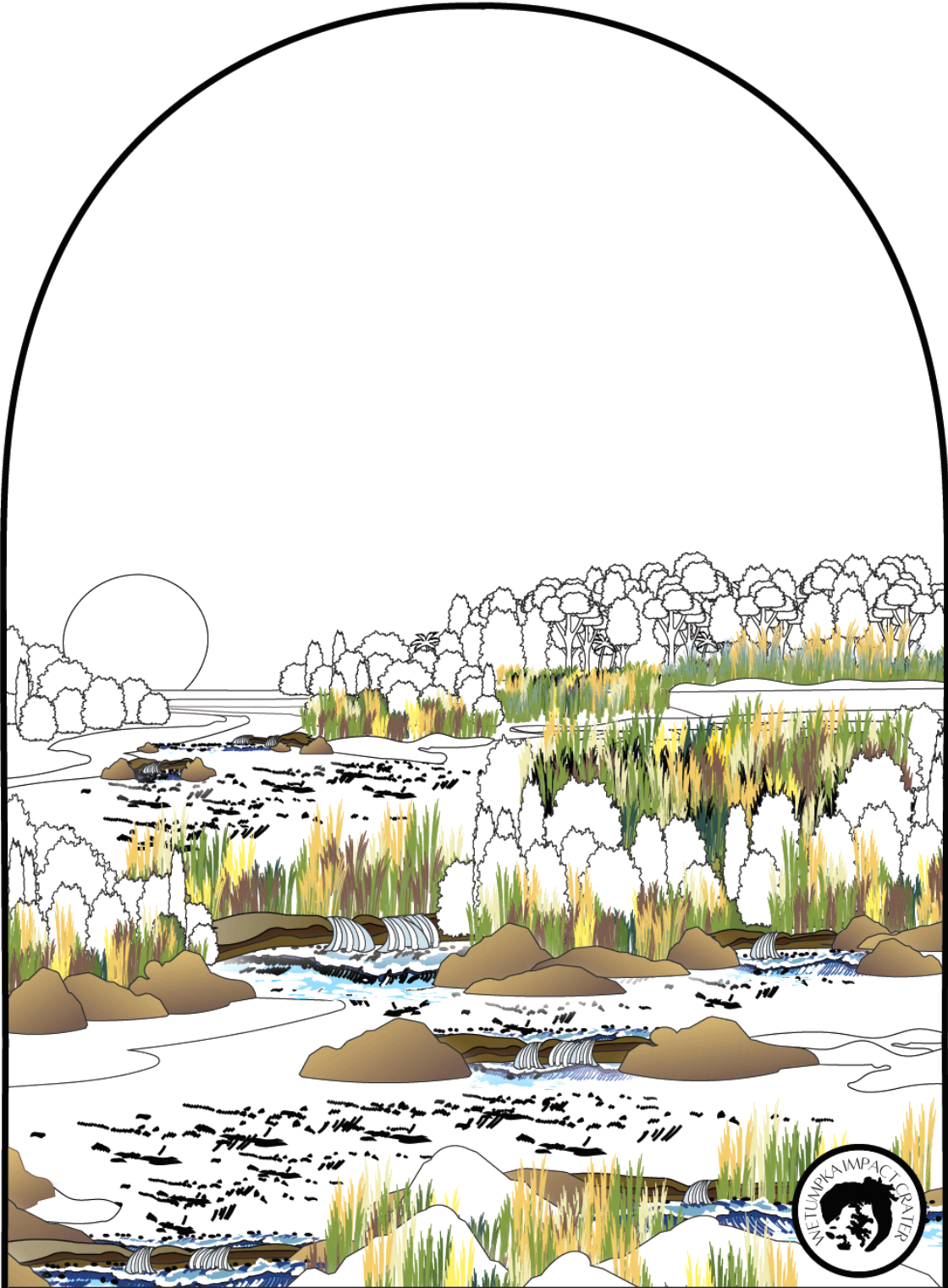
In just 11.5 seconds, after impact, the crater is created and the central rebound area reaches its maximum height of 200 feet in only 26 seconds. In less than 30 seconds the rim is raised to its final height and position; then the southern part collapses and debris washes back into the crater.

LATER THE CRATER BECOMES A TERRESTRIAL ISLAND



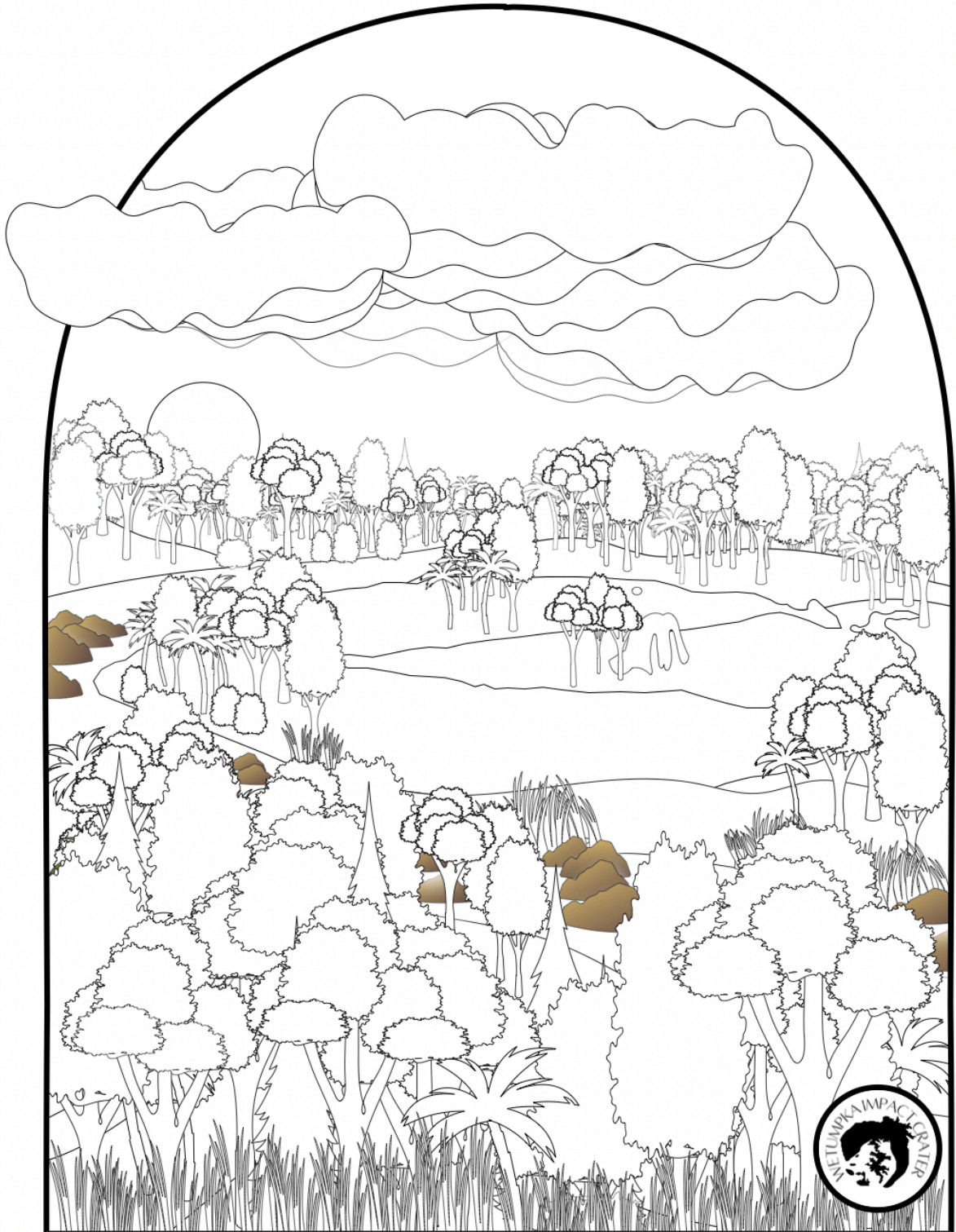
As life begins to return, an ecosystem develops on the crater island. The crater remains in the sea (Gulf of Mexico) for millions of years until the sea level recedes.

CRATER BURIED IN SEDIMENT



As the sea recedes, the crater, which was eroded and buried in sediment, becomes dry land. When the Coosa River develops, it flows over the buried crater.

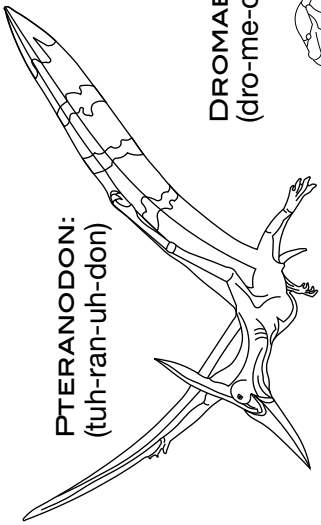
WETUMPKA IMPACT CRATER REVEALED



Over time, the sediment that buries the crater is eroded away. The Coosa River ceases to flow across the crater and changes its course to bend around the crater rim, as seen today. The rocks in the Coosa River are part of the crater rim.

ALABAMA CRETACEOUS CRITTERS

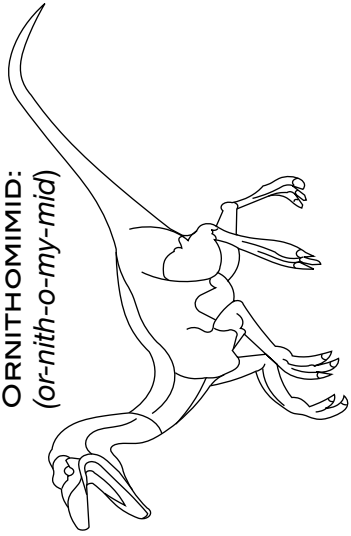
WETUMPKA IMPACT CRATER



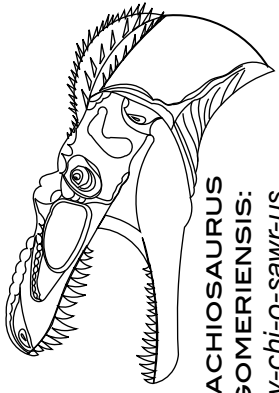
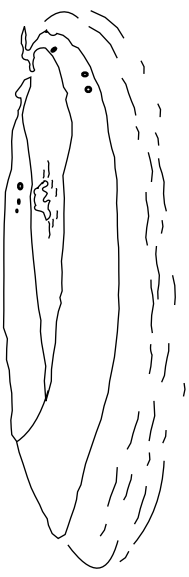
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(tuh-ran-uh-don)



DROMAEOSAURS:
(dro-me-oh-sawrs)



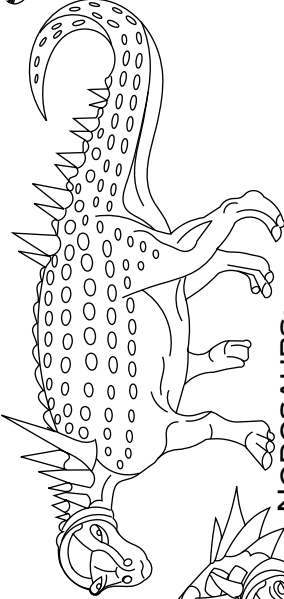
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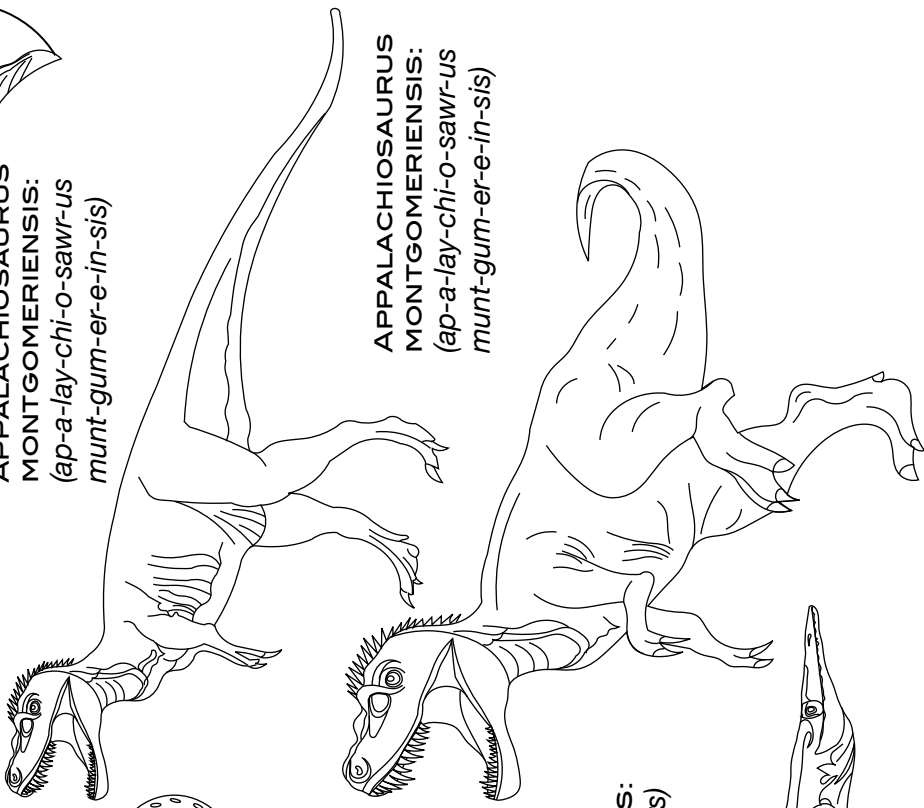
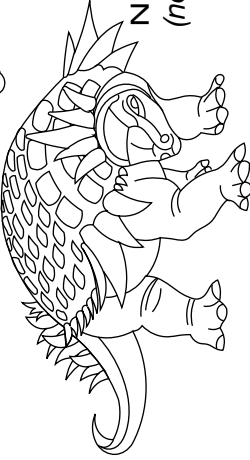
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MONTGOMERIENSIS:**
(ap-a-lay-chi-o-sawr-us
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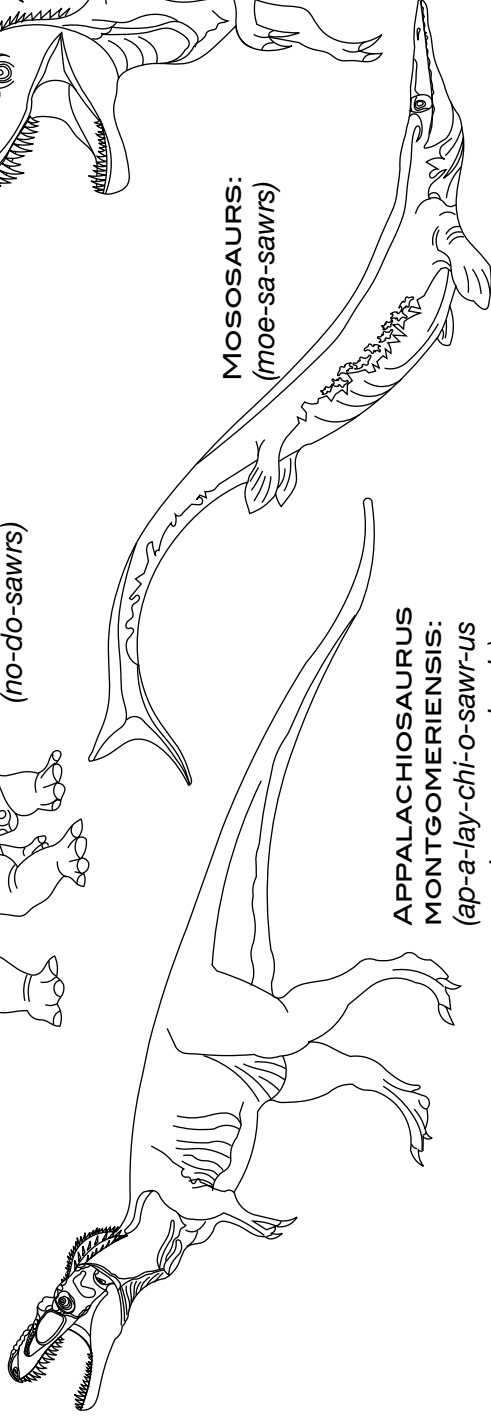
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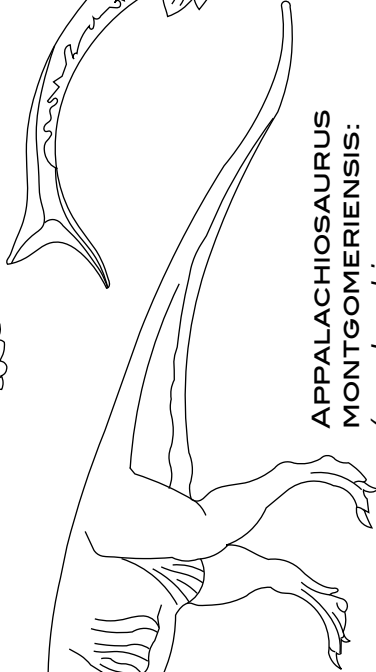
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**APPALACHIOSAURUS
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(ap-a-lay-chi-o-sawr-us
munt-gum-er-e-in-sis)



MOSAURS:
(moe-sa-sawrs)



**APPALACHIOSAURUS
MONTGOMERIENSIS:**
(ap-a-lay-chi-o-sawr-us
munt-gum-er-e-in-sis)

