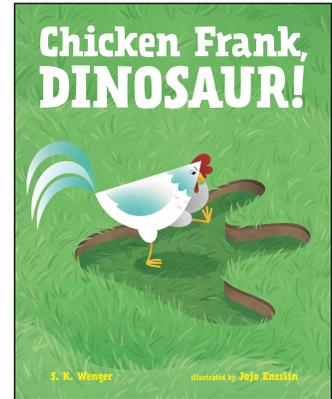

EDUCATOR GUIDE



Chicken Frank, Dinosaur!

S. K. Wenger and Jojo Ensslin, published by Albert Whitman & Co.

Background understandings for the educator

Evolution = change over time

Traits = physical structures and some behaviors of an organism

DNA = molecule of inheritance that holds “instructions” for building traits in an individual

Mutation = random change in DNA that can modify instructions and produce variation in a trait

Natural selection = environmental process by which change/evolution happens in a population, where surviving individuals hold the traits needed to survive and reproduce. Reproduction passes those genes/traits on to the next generation

Pre-Reading Questions and Activities

Set up the foundations for a KWL (Know, Wonder, Learn) activity

> Discover what students **KNOW**

Ask students to describe

- 1) a chicken
- 2) a dinosaur

Ask them to name traits that make chickens and dinosaurs the same, and traits that make them different.

Ask students to think of all the different kinds of feathers they have seen on birds. Why do they think feathers on a peacock might be different than feathers on a robin? What about feathers on a penguin? (they have 100 feathers/square inch!)

Are different feathers used for different things? The type of feather a bird has is a unique trait for that particular species. It is one of many traits that helps the bird survive and reproduce in its environment.

Ask students what extinct means. Why would an animal go extinct?

> As part of the **KNOW** and **WONDER** discovery, **ask students to think “like scientists”**

1) Scientists make observations. As a class, make a list of what the students observe (see) on the cover and in the interior illustrations.

2) Scientists ask questions. What do students **wonder** about the illustrations? What are they curious to discover in the story?

3) Scientists make predictions. Have students think and predict what Chicken Frank will do in the story.

> For the **LEARNING** segment

4) Scientists gather evidence. Ask students to watch for evidence that is presented in the story.

5) Scientists continue to learn. After the class has read and discussed the story, ask students what else they are curious about. What do they want to learn next? Have they ever been to a museum or seen fossils of extinct animals?

Reading Activities

BINGO for older readers (Grade 1+) (see bingo page further down in document)

> **Give each student a blank BINGO card. Direct students to randomly fill in each blank square with a word or phrase from the word bank as you say them. The students should vary where they put the words, so that everyone has a different card. Each word or phrase should be used once. Then direct students to watch and listen like scientists to observe when these words appear in the story and collect their data by marking an X over the box. When a student has five squares marked in an order that makes a straight line, they can shout “Bingo!” Continue reading the story until the end.**

After reading the back matter in the book, ask students to observe the two different types of tracks on the Bingo worksheet. Which is a bird track? Which is a dinosaur track? How are they different?

Word Bank for Bingo Squares: Fish. Extinct. Nope. Eat. Kings. Tail. Reptile. Feet. Common ancestor. Time. Unicorn. Horn. DNA. Egg. T rex. Scales. Evolution. Roar. Tree. Related. Love. Fur. Aquarium. Sharks.

Post-Reading Questions (with answers)

Text-Dependent Questions

> What 3 pieces of evidence did Chicken Frank have to support his claim of being a dinosaur? (similar feet, evolution of feathers from scales, presence of a tail during embryo stage of development inside the egg)

> Why did the other farm animals think they could be dinosaurs? What trait do they have? Is having the same trait (one piece of evidence) enough to support a claim? (They have tails and teeth. No, multiple pieces of evidence are needed.)

> What makes mammals different from reptiles and birds? (fur, mammary glands, embryo development inside a placenta, etc.)

> Who was the dinosaur, Chicken Frank or Alligator Ike? Does this surprise you? Why? (Chicken Frank is a dinosaur, even though Ike looks like many artistic interpretations of them. Both Frank and Ike are archosaurs. Crocodylians evolved traits that make them different from dinosaurs. One difference is that crocodylians walk with limbs sprawled out to the sides of their bodies, while dinosaurs and birds walk with limbs positioned underneath their bodies.)

> How are feathers and scales related? (Feathers and scales develop from the same structures in the skin. Think of feathers as scales that became thinner and divided into multiple strands over evolutionary time. One function of feathers is that they are good at holding heat. Some dinosaurs had both scales and feathers.)

> What was the animal group that both Chicken Frank and Alligator Ike belong to? Why could it be considered King of the Dinosaurs? (Archosaurs. It is an older evolutionary group—the common ancestor—from which both dinosaurs and crocodiles evolved.)

> Compare how Addie and Frank viewed evolution. In what ways was each character correct? (Frank used a lens to look backward through time and claim he was a dinosaur. Addie used a forward-looking lens to claim Frank was a bird.)

> What questions would you ask the author, if you could?

> Which character (Frank, Ike, Addie, Horse, Pig, Sheep) are you the most like? Why?

Extension Questions

> What information can be found in the book's back matter? How are bird feet different from Theropod feet, like a T-Rex? What is an egg tooth? Why are feathers like scales?

> Can animals choose to evolve traits in themselves? Could Horse, Sheep, and Pig become unicorns?

(No. Evolution is a process that happens to a population as a whole over time due to pressures from the environment which select traits that allow individuals to survive and reproduce. This is called **natural selection**. In order for evolution to occur, traits must be inheritable and passed down through offspring.)

> An asteroid impact ended the "Age of the Dinosaurs." The asteroid sent dust into the atmosphere and blocked warming rays from the sun. This created a cooler environment and caused the demise of many plants and other animals, as well. How might feathers have helped a dinosaur survive? Which size of animal would be most beneficial for survival, if not much food was around?

> If animal predators were on the ground, how might the evolution of a foot that gripped branches help survival of a small dinosaur? (nest up in trees)

Further Learning Supports

The Rock Pocket Mouse: A living example of Darwin's process of Natural Selection 10 min video: <https://vimeo.com/47181679>

Also look for: Evolution of the peppered moth; Coevolution of snakes/newts/salamanders

Post-Reading Activities

Spot and Dot (PreK–Grade 1)

(See worksheet below) For each row, direct students to "Spot and Dot" the first letter of the word for each image. Then ask them to write the letters in order on the line at the bottom of the page to reveal a mystery word!

Favorite Part and Character (K–Grade 3)

(See worksheet below) Ask students to draw and write about their favorite scene or character. Explain how artistic style is individual, and that their own interpretation or artistic expression can be different from Jojo Ensslin's style and choice of color.

I Spy . . . Scientific Debate! (Grades 1–4+)

Ask students to recall parts in the story where the characters interpreted Frank's evidence in a way that differed from his ideas. What is right or wrong about these interpretations? Discuss how sharing alternative interpretations of evidence/data is part of the scientific method. They are viewing the story like scientists!

Reader's Theatre (PreK–Grade 4+)

Break students into groups to read and act out scenes from the book. To combine more ARTS curriculum into this learning segment, give students time to make props, masks, and backdrops. Videography can be assigned to capture and share the performance.

Extinction Explore (Grades 1–4+)

Giant ground sloths! Woolly mammoths! Griffinflies! Explore the wide world of animals that have gone extinct. Do modern versions exist today? Compare and contrast these species.

Explore more recent animal extinctions (great auk, passenger pigeon, dodo), as well as current species that are under threat of extinction (black rhino, hawksbill turtle, orangutan). What is being done to prevent these extinctions from happening?

Design a (Modern) Dinosaur (Grades 1–4+)

(See worksheet below) Students are guided step-by-step through selecting traits to design their own dinosaur that is uniquely adapted for survival in an environment that they choose.

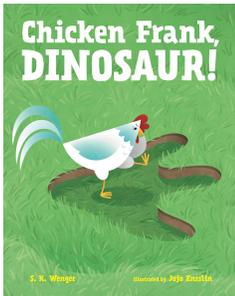
Family Tree and Animal Sort (Grades 1–3)

(See worksheet below) Students place animals on an evolutionary, phylogenetic tree.

KNOW, WONDER, LEARN

FROM CHICKEN FRANK, DINOSAUR!

Name _____



Think like a scientist as you explore what you . . .
know, wonder about, and **learn**
while reading *Chicken Frank, Dinosaur!*

What do I **Know**
and **Observe**?

What do I **Wonder**
and **Predict**?

What did I **Learn**?
What **Evidence** did I
Observe?

SPOT AND DOT

FROM CHICKEN FRANK, DINOSAUR!

Mystery Word Quest

Name:

CHICKEN FRANK, DINOSAUR! SPOT AND DOT

For each row, put an X on the first letter of the word for the image. Then write the letters in order at the bottom of the page to discover the mystery word!



I P Q D O B



C Z M F I T



N A E X R G



J L O P K W



Y S A T V B



D E C A P X



K H Y N G U



A M Z R V I

Mystery Word

Good Job!

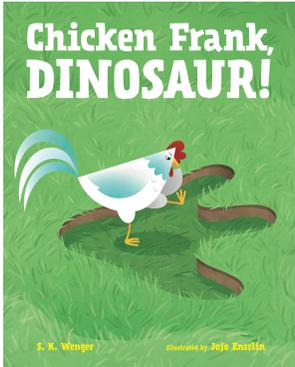


FAVORITE PART AND CHARACTER

FROM CHICKEN FRANK, DINOSAUR!

Draw it, Write it

Name _____



Instructions:

What is your favorite part in the story?

What happens? Why do you like this part?

Who is present? Frank Addie Ike Horse Pig Sheep

Momma Ike Cow

**Use your own artistic style. Celebrate how you like to create!

WATCH AND LISTEN BINGO!

FROM CHICKEN FRANK, DINOSAUR!

Instructions: Direct students to randomly fill in each square with a word or phrase from the word bank as you say them. Each word is used once. Direct students to watch and listen like scientists to observe when these words appear in the story and collect their data by marking an X over the box. When a student has five squares marked by X's that make a straight line, they can shout "Bingo!" Continue reading until the end.

> After reading the back matter, ask students to observe the two types of tracks on the card. Which is a bird track? Which is a dinosaur track? How do they differ?

Word Bank for Squares: Fish. Extinct. Nope. Eat. Kings. Tail. Reptile. Feet. Common ancestor. Time. Unicorn. Horn. DNA. Egg. T rex. Scales. Evolution. Roar. Tree. Related. Love. Fur. Aquarium. Sharks.

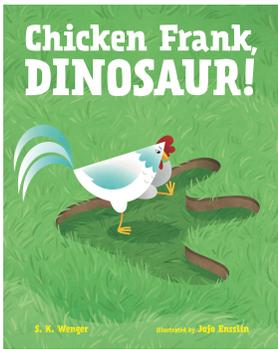
BINGO

**CHICKEN FRANK,
DINOSAUR!**

Find more activities
at www.skwenger.com

made in @canva

DESIGN A (MODERN) DINOSAUR (PART 1)



FROM CHICKEN FRANK, DINOSAUR!

Choose it, Design it, and Draw it

Name _____

Animals are adapted to their environment with traits that help them survive and reproduce. In the space below, design and draw a dinosaur based on your choices from the list.

Circle one for each:

Type of nest = found on ground **OR** in tree?

Type of climate = Warm, humid **OR** Cool, dry?

Need to migrate? Yes **OR** No

If YES = by walking **OR** flying?

Type of feet = Back toe that grips **OR**

Back toe higher on ankle

Talons on toes = long **OR** short

Size of wings = Big for flying **OR** not so big

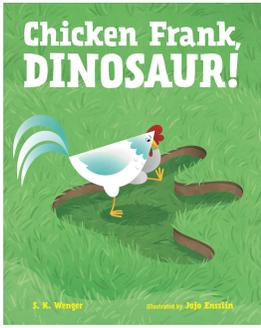
Talons on wings = Yes **OR** No

Skin covering = Feathers **OR** Scales **OR** Both

Type of tail = Long **OR** Short

DESIGN A (MODERN) DINOSAUR (PART 2)

FROM CHICKEN FRANK, DINOSAUR!



Choose it, Design it, and Draw it

Name _____

Draw your dinosaur in their habitat. Explain how they are adapted to survive there.

**Use your own artistic style. Celebrate how you like to create!

FAMILY TREE AND ANIMAL SORT (PART 1)

FROM CHICKEN FRANK, DINOSAUR!

Cut and Paste

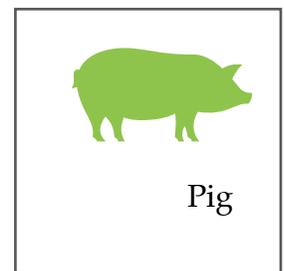
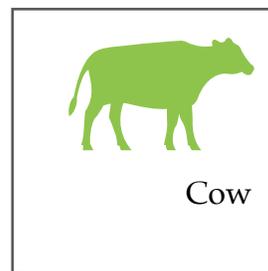
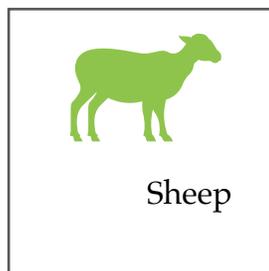
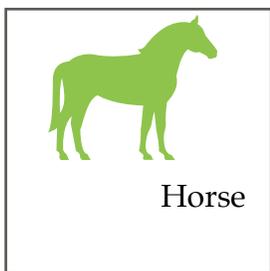
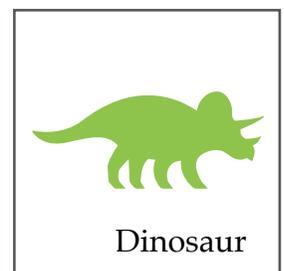
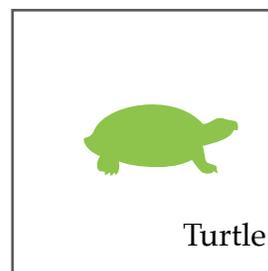
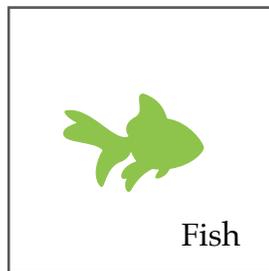
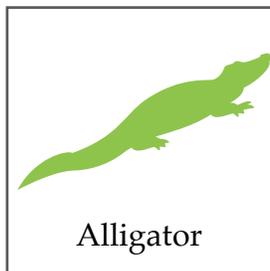
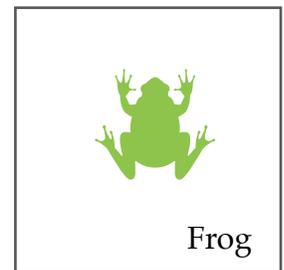
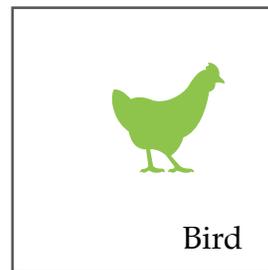
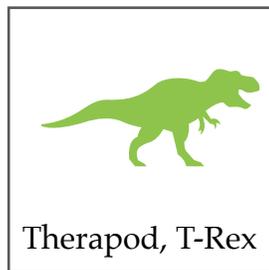
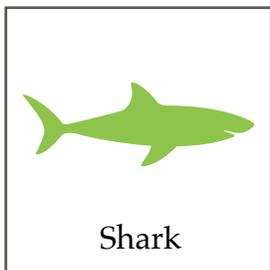
Name _____

Instructions:

Cut the boxes of animals from this page for Part 1.

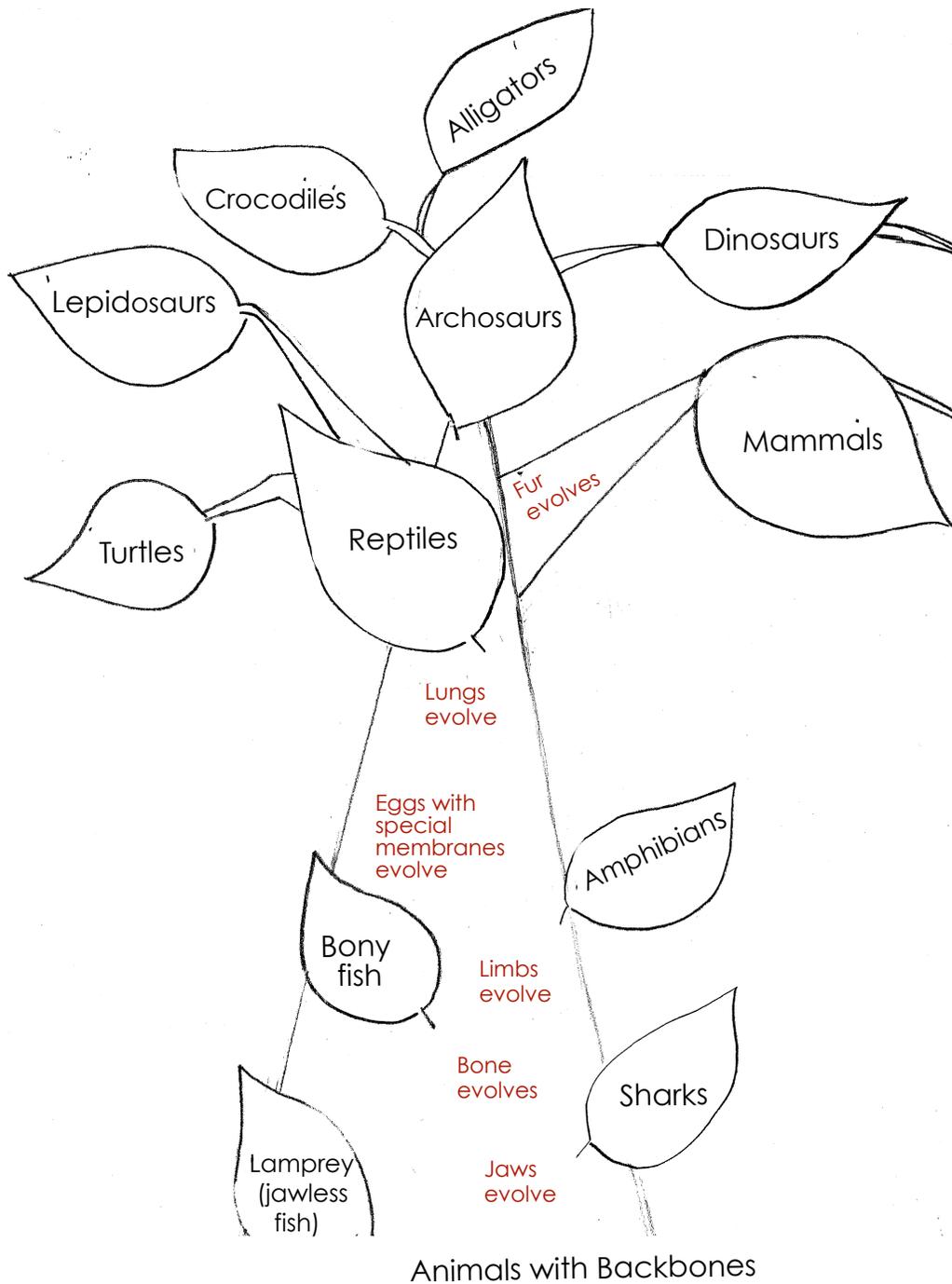
Glue or tape them into the tree on the next 2 pages for Part 2.

Then tape those pages for Part 2 together, joining the lines for mammals & dinosaurs.



FAMILY TREE ANIMAL SORT (PART 2)

FROM CHICKEN FRANK, DINOSAUR!



FAMILY TREE ANIMAL SORT (PART 2)

FROM CHICKEN FRANK, DINOSAUR!

