

Crazy Classifications:

Arizona Animals Self Guided Tour

Thank you!

Thank you for using this Phoenix Zoo field trip resource! We hope it helps make your visit engaging, meaningful and memorable for your students. After your field trip, you'll receive a follow-up email from our team with a short feedback survey. Your suggestions help us improve these resources and create even better experiences for future students and teachers.

Topic: Animal Classification

Audience: K – 2 (ages 5 –7)

Goals:

- Increase understanding of how scientists identify and categorize animals.
- Increase knowledge about animal classification.
- Improve observation skills.

Participants will improve their observation skills through the exploration and categorization of animals along the Arizona Trail.

Objectives:

At the end of the program, participants will be able to:

- Identify two characteristics that define an organism as a bird.
- Identify two characteristics that define an organism as a mammal.
- Identify two characteristics that define an organism as an amphibian.
- Identify two characteristics that define an organism as a reptile.
- Identify two characteristics that define an organism as a fish.
- Compare characteristics of two major categories of animals.

After completing the program, we want the participants to:

- Know how scientists classify animals to better understand them.
- Use their observation skills when encountering other animals.

Theme: Observation is an important scientific tool for scientists to study and break animals into groupings.

Sub-themes: Animals are broken into groups by shared characteristics. Within each group there is a lot of variety (diversity).

Curriculum Standards and Concept Focus

Kindergarten

- **K.L1U1.6** Obtain, evaluate, and communicate information about how organisms use different body parts for survival.
- **K.L2U1.8** Observe, ask questions, and explain the differences between the characteristics of living and non-living things.

First Grade

- **1.L4U1.10** Develop a model to describe how animals and plants are classified into groups and subgroups according to their similarities.

Second Grade

- **2.L2U1.9** Obtain, analyze, and communicate evidence that organisms need a source of energy, air, water, and certain temperature conditions to survive.

Description

Mammal, amphibian, bird, fish or reptile? How do you know what kind of animal you're looking at? Through the Crazy Classification Self-Guided Tour, students will discover the five major traits that scientists use to categorize animals. Teachers and chaperones will lead students on a tour of the Zoo's Arizona Trail, classifying vertebrate species. Try challenging students through interactions and inquiry to improve their observation and critical thinking skills.

Materials List

- Writing utensils.
- Crazy Classifications Field Guide Booklets.
- Curiosity and a sense of awe and wonder.

Framework/Script

Suggested Vocabulary

Vertebrate/backbone	Birds	Hair/fur
Categorize	Fish	Ectothermic (cold-blooded)
Observation	Amphibian	Endothermic (warm-blooded)
Scales	Mammal	Exoskeleton
Diversity	Lungs	
Feathers	Gills	
Reptile	Invertebrate	

At Each Area:

1. Challenge students to find every animal in each habitat.
2. Have students share observations of the animals. What features do they see?
3. Discuss the five traits of animal categorization.
4. Discuss how the animal is similar or different to other animals they've seen on the tour.

Suggested Stopping Points:

1. Burrowing owl/roadrunner
2. Prairie dog
3. Golden eagle
4. Coyote
5. Mountain lion
6. Diversity in the Desert
7. Bird aviary
8. Arizona Reptiles hallway
9. Deserts of the World
10. Desert pupfish

Implementation Ideas

Use one or a combination of these ideas or your own to implement this activity with your class. You do not need to complete every page of the student field guide. Choose the approach that works best for your group.

Individual Mode

1. Provide teachers and chaperones with the tour script.
2. Print the student field guide booklet for each student.
3. While on the tour, students observe animals. Emphasize focused observation at each stop. Have students choose one animal to observe. Have a "Moment of Science" (silence) and challenge students to quietly observe their chosen animal for one to two minutes.
4. After focused observations, the teachers and chaperones read the script and use the questions to prompt students to share observations.
5. Fill out the field guide after focusing on observations and discussion.
6. Complete the "What did you learn?" page after the tour at the zoo, or after returning to school.

Group Mode

1. Provide teachers and chaperones with the tour script.
2. Organize students into teams and roles. Assign or have students choose or rotate through the roles at each stop on the trail.
 - a. **Observer** – Makes focused observations of animal. All team members can do this.
 - b. **Recorder** – Records observations described by team members.
 - c. **Illustrator** – Draws the animal observed.
 - d. **Speaker** – Summarizes the observations made by the group.
3. While on the tour, the students observe animals. Emphasize focused observation at each stop. Have students choose one animal to observe. Have a “Moment of Science” and challenge students to quietly observe their chosen animal for one to two minutes.
4. After focused observations, the teachers and chaperones read the script and use the questions to prompt students to share observations.
5. Fill out the field guide after focusing on observations and discussion.
6. Complete the “What did you learn?” page after the tour at the Zoo, or after returning to school.

Choice-Based Exploration

Give students ownership by letting students or groups choose which animal pages to complete. Or assign each student group to a different animal group. For example, Group One focuses on birds, Group Two focuses on mammals and so on. Emphasize observation. Spend time observing and discussing each animal group in the Zoo, then have each group share at the end of the tour or back in the classroom.

Post-Visit Classroom Use

1. Compare and contrast all five animal groups using the “What did you learn?” page. Have students share their favorite animals and explain why.
2. Ask each student to name the two animals they liked best during their visit to the Zoo. How were the two animals the same? How were they different?
3. Ask students to name an animal with a beak, with webbed feet, with sharp teeth, with large eyes, or with another interesting body part. How did this body part help the animal survive? Have students draw posters showing animals with different kinds of feet, beaks, ears, eyes, or other body parts. Animals live in places that have the things they need, so ask students to complete their drawings with a surrounding environment.
4. Students learned that animals live in different habitats. In their habitats, the animals find the food, water, and shelter they need to live. Ask students what they think might happen if an animal’s habitat is changed or destroyed.
5. Have students create their own classification chart using other animals. Provide students with animal cards, books with pictures or toy animals as visual aids and chart paper, worksheets or space for sorting and categorizing. Use eight to ten animals with representatives from each group observed at the Zoo. Allow students to sort animals any way they want or provide the classification groups from the field guide as a scaffold. Remind students that scientists group animals based on specific traits. Have students explain their thinking and compare with how other groups sorted their animals.

Teachers and chaperones: Use this script to aid in guiding students through the Arizona Trail.

2 minutes

Preparation

We are going to tour the Arizona Trail. On this tour we're going to see many different animals that live in the Sonoran and other deserts. We'll talk about how they are different and similar.

Go over some of the things that will help make their trip to the Phoenix Zoo even better. Have students offer ideas of behaviors they think will make their special tour successful. Guide students toward the great things they CAN do: walk, raise hands, put on their thinking caps, use quiet voices to potentially help animals be more visible, use ALL their senses to help them think like scientists, etc.

5 minutes

Focus/Introduction

Ask students to organize themselves into two categories. Suggestions: People with sandals or tennis shoes, people with red or white on, etc. Note how the people in one group (sandal group) are like each other and how each group (sandals vs. tennis shoes) is different from one another. Connect how this is like scientists classifying animals. Explain how this helps us better understand the natural world.

Scientists study all different types of animals all over the world. How do you think they tell them apart? To make things easier, they put animals into groups just like your school divides you into classes like kindergarten, first and second grade, or how you just divided yourselves into groups.

Scientists look for characteristics or things about animals that make them similar and then place the animals into groups like birds and mammals. Can you think of other groups of animals?

Let's go practice being good scientists!

Categories to ask questions about throughout the tour:

Animal Body Characteristics

- **Backbone:** Everyone bend over and reach around your back and feel those big bones. What is that? That is right; it's your backbone. Having a backbone makes us a vertebrate. What do you use your backbone for? Today, we will discover several groups of vertebrates, or animals with backbones.
- **Body Coverings:** What sort of body covering is on the animal? Feathers? Skin? Fur?
- **Lungs:** How does this animal breathe? Through lungs? Gills? Skin?
- **Eggs:** How does this animal reproduce? Does it lay eggs or does it have a live birth?
- **Warm/Cold-blooded:** Some animals must depend on the sun to keep them warm when they get cold, and some animals keep the same internal body temperature most of the time.

Arizona Trail: Reptiles

Reptile hallway and Deserts of the World

- **Observe:** Let's have a "Moment of Science" and look closely at this animal silently for one to two minutes. What do you see? What did you notice that you didn't see at first?
- **Backbone:** Do you think that reptiles have backbones? Frequently, students will say that snakes don't have a backbone. Explain that snakes have a lot of vertebrae that let them bend easily!
- **Body Covering:** What covers a reptile's body? Scales! Scales protect them from things that might bite them or plants that might poke them.
- **Lungs:** How does this animal breathe? Does it use lungs or gills? Lungs.
- **Eggs:** Do reptiles lay eggs or give birth to live babies? They lay eggs.
- **Warm/Cold-blooded:** Do reptiles need to seek out shade when it is hot and sun when it is cold? Yes, that means they are cold-blooded. Their internal temperature is the same as the temperature outside.
- **Conclusion:** So, this animal has a backbone, has scales, is cold-blooded, lays eggs and breathes with lungs. That's what makes a reptile a reptile! How are reptiles similar and different from amphibians? What is something that is the same between a reptile and a mammal?

Arizona Trail: Amphibians

Diversity in the Desert: Tell the students that their challenge is to find the amphibians in this exhibit. How are we going to know if it's an amphibian? It's going to have wet and slimy skin.

- **Observe:** Go through the exhibit, allowing the students to discover the animals at their own pace. Meet on the other side of the building to discuss characteristics. What animals did you see that were amphibians?
- **Backbone:** Do you think amphibians have a backbone? Yes, they do!
- **Body Covering:** Amphibians have wet, slimy skin that is very sensitive. This helps keep them moist when it is hot and dry outside, and allows them to breathe through their skin when they are swimming! They do not have to be in water all the time, but must stay wet to survive. They can be on land, unlike fish. When they are young, however, they always must be in the water until they grow. Baby toads and frogs are called tadpoles.
- **Lungs:** How does this animal breathe? Does it use lungs, or does it have gills to help it breath underwater? Even though it can breathe through its skin when in water, it does have lungs! (Tadpoles and larvae do have gills).
- **Eggs:** Do you think this animal has live babies? No, it lays eggs (think about the frog life cycle).
- **Warm/Cold-blooded:** Some animals must depend on the sun to keep them warm when they get cold, and some animals can keep themselves warm. Does this animal have fur or feathers to keep it warm? No. Their internal temperature is the same as the temperature outside. That means they have to seek out shade when it is hot and sun when it is cold; therefore, we can call it cold-blooded.
- **Conclusion:** So, this animal has a backbone, has wet, slimy skin, is cold-blooded, lays eggs and breathes with lungs. That's what makes an amphibian an amphibian! Can you tell me something that is the same between an amphibian and the mammal? What about something different between the amphibian and the owl? Point out the word "Diversity" on the sign and discuss what that means. Have we seen a lot of diversity today?

Arizona Trail: Mammals

White nosed coati, bobcat, Mexican gray wolf, mountain lion, peninsular pronghorn, collared peccary, coyote, black tailed prairie dog

- **Observe:** Let's have a "Moment of Science" and look closely at this animal silently for one to two minutes. What do you see? What did you notice that you didn't see at first?
- **Backbone:** Do you think this animal has a backbone? Yes, it does, which means it's a vertebrate.
- **Body Covering:** What covers their body? Yes, fur or hair. Fur keeps it warm during the cold hours of the day and protects it from the heat during the hot parts of the year.
- **Lungs:** How does this animal breathe? Does it use lungs or gills? Lungs.
- **Eggs:** Does this animal lay eggs or give birth to live babies? It gives birth to live babies.
- **Warm/Cold-blooded:** Does this animal have anything on their body to keep them warm? Yes, they have fur to keep them warm. They are warm-blooded. Their body is about the same temperature all the time. When your mom or dad takes your temperature, it is pretty much the same all the time.
- **Conclusion:** So, this animal has a backbone, has fur or hair, is warm-blooded, gives birth to live babies and breathes with lungs. That's what makes a mammal a mammal! Note that not all mammals have the same type of fur. Some is soft and some is rough.

Arizona Trail: Birds

Challenge the students to find all the animals in the habitat. Then choose one to focus on.

- **Observe:** Let's have a "Moment of Science" and look closely at this animal silently for one to two minutes. What do you see? What did you notice that you didn't see at first? Allow several students to share observations about the animal and then summarize.
- **Backbone:** Do birds have backbones? Does that make them a vertebrate or an invertebrate?
- **Body Covering:** Does anyone know what those things that cover their body are called? Feathers! Does anyone know what we call this group of animals that has feathers and a beak? Birds! Why do you think feathers are important for birds? Those are great reasons to have feathers. Feathers help keep a bird warm and they help them fly (along with their wings, of course).
- **Lungs:** Where are your lungs? Show me on your body. What do you use your lungs for? Birds breathe air with lungs
- **Eggs:** Do you think this animal has live babies or lays eggs? It lays eggs.
- **Warm/Cold-blooded:** Since this animal has feathers to keep it warm, we can call it warm-blooded. That means its internal temperature remains about the same all the time. Can compare it to taking your own temperature and how it is usually the same unless you are ill.
- **Conclusion:** So, this animal has a backbone, has feathers, is warm-blooded, lays eggs and breathes with lungs. That's what makes a bird a bird! Birds are the only group of animals that have feathers.

Arizona Trail: Fish

Desert pupfish: Continue to either the desert pupfish pond or pupfish window in the aviary.

- **Observe:** Let's have a "Moment of Science" and look closely at this animal silently for one to two minutes. What do you see? What did you notice that you didn't see at first?
- **Backbone:** Does the pupfish have a backbone? Yes, remember all the animals we see today are vertebrates!
- **Body Covering:** Does this animal have fur? No? What does cover its body? That's right, scales! Scales protect them from things that might bite them and help them swim.
- **Lungs:** How does this animal breathe? It breathes in the water with the use of gills.
- **Eggs:** Does this animal have live babies? No, it lays eggs.
- **Warm/Cold-blooded:** Remember, some animals depend on the sun to keep them warm when they get cold, and some animals can keep themselves warm. Does this animal have fur or feathers to keep it warm? No. Their internal temperature is the same as the temperature outside. That means they must seek out shade when it is hot and sun when it is cold; therefore, we can call it cold-blooded. These guys are very special in their ability to handle great temperature extremes and don't mind the desert or hot water.
- **Conclusion:** How is the desert pupfish like the mammal? How is it different? How are they similar and different from the reptiles? This animal has wet, scaly skin and lives in water. Do you think scientists put them in the same category as mammals like prairie dog? No, this animal is a fish! So, this animal has a backbone, has scales, is cold-blooded, lays eggs and breathes with gills. That's what makes a fish a fish!

Conclusion/Closure/Assessment:

Just like a good scientist, we used our senses to observe many different types of animal groups. We could see an example of all five of the animal groups. Let's remember what we have seen. What mammal did we see? And how did we know they were mammals? They are covered with fur and warm-blooded. Good, now what reptile did we see? Great and what covered their bodies? Dry scales! Did we see an amphibian? Yep, in the amphibian habitat! They are covered with wet, slimy skin. And what animal group have we missed? Birds, of course. Birds are covered with feathers. What birds did we see? Did I forget an animal group? Of course, fish! Fish are covered with what? Scales! And they live in the water and breathe with gills

Do you think it is helpful for scientists to study animals in groups? Yes! And some scientists are specialists on just one group of animals. Now, when you are out walking around or in school, try and classify an animal you see. Remember these five animal families. I hope you had a great time on our tour and have fun the rest of your day at the Zoo!

Crazy Classifications

Arizona Trail

Name: _____

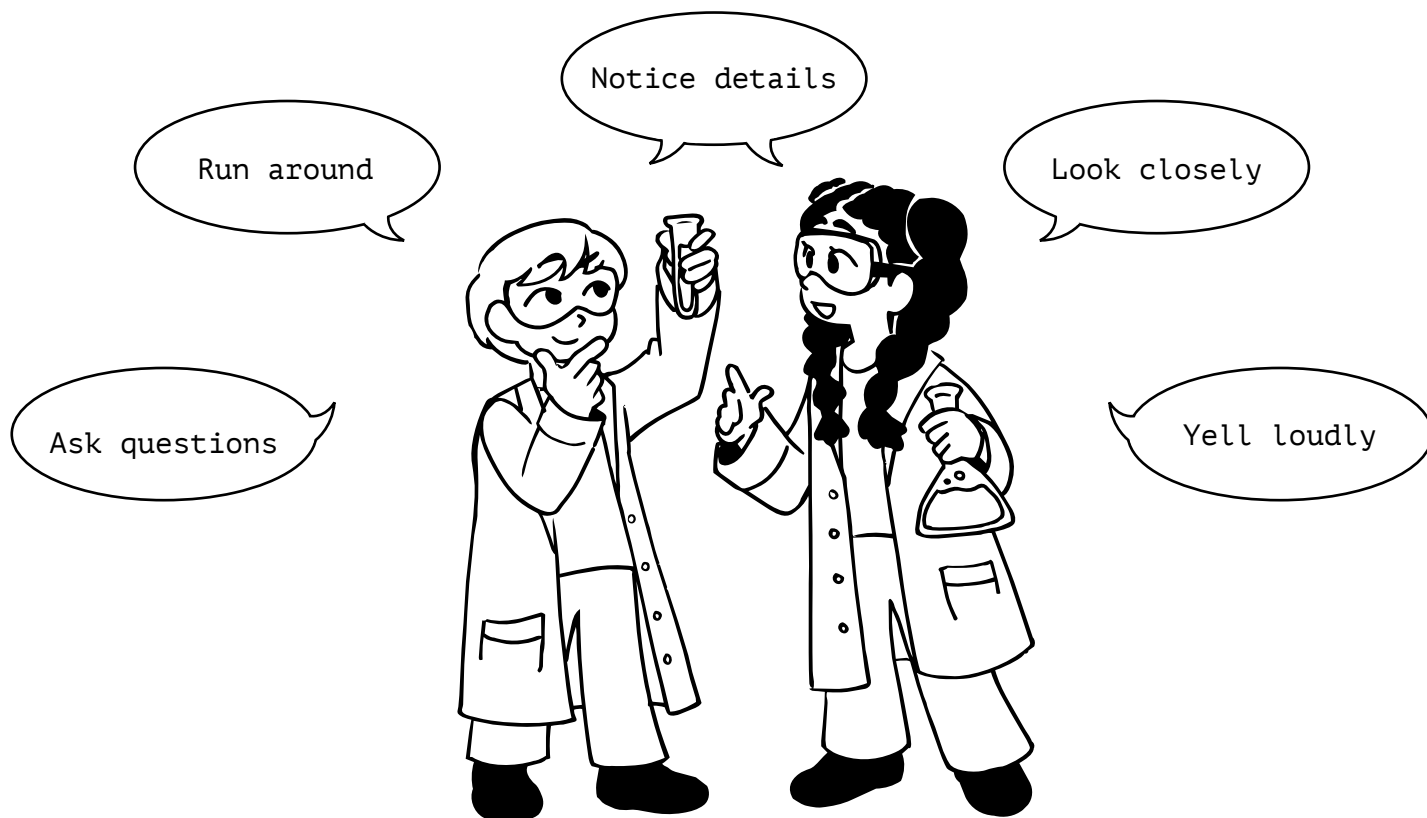
Today, you are a
ZOO SCIENTIST!

Scientists:

Look Closely
Notice Details
Ask Questions

WHAT DOES A SCIENTIST DO?

Circle what scientists do:



Practice! Look at your friend. Draw your friend:

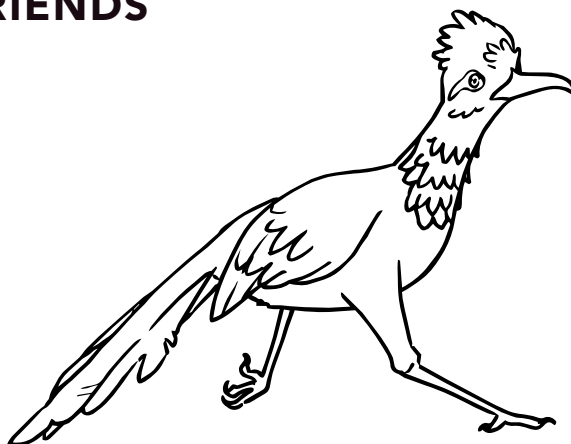
FEATHERED FRIENDS

What do you see?

- ☐ Feathers
- ☐ Fur
- ☐ Scales
- ☐ Wet, slimy skin
- ☐ Beak
- ☐ Backbone
- ☐ Gills

How does it move?

- ☐ Flies
- ☐ Walks
- ☐ Climbs
- ☐ Swims



What do you think? Circle one for each row.

Breathes	Has lungs	Does NOT have lungs (has gills)
Babies	Lays eggs	Does NOT lay eggs (has live babies)
Warm or Cold-blooded	Is warm-blooded	Is cold-blooded

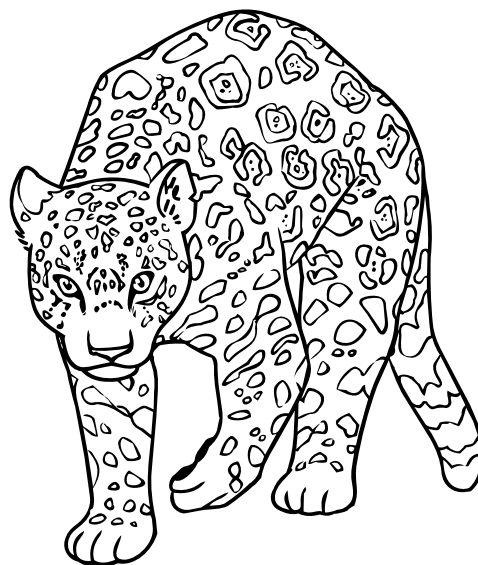
What is this animal?

- ☐ Bird
 ☐ Mammal
 ☐ Reptile
 ☐ Amphibian
 ☐ Fish

Draw the animal:

Say it: "I think this is a _____ because I see _____."

FURRY FRIENDS



What do you see?

- ☐ Feathers
- ☐ Fur
- ☐ Scales
- ☐ Wet, slimy skin
- ☐ Beak
- ☐ Backbone
- ☐ Gills

How does it move?

- ☐ Flies
- ☐ Walks
- ☐ Climbs
- ☐ Swims

What do you think? Circle one for each row.

Breathes	Has lungs	Does NOT have lungs (has gills)
Babies	Lays eggs	Does NOT lay eggs (has live babies)
Warm or Cold-blooded	Is warm-blooded	Is cold-blooded

What is this animal?

- ☐ Bird
 ☐ Mammal
 ☐ Reptile
 ☐ Amphibian
 ☐ Fish

Draw the animal:

Say it: "I think this is a _____ because I see _____."

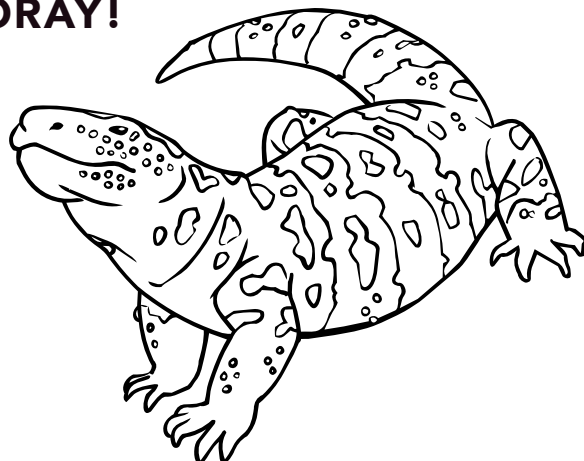
HERP, HERP, HOORAY!

What do you see?

- ☐ Feathers
- ☐ Fur
- ☐ Scales
- ☐ Wet, slimy skin
- ☐ Beak
- ☐ Backbone
- ☐ Gills

How does it move?

- ☐ Flies
- ☐ Walks
- ☐ Climbs
- ☐ Swims



What do you think? Circle one for each row.

Breathes	Has lungs	Does NOT have lungs (has gills)
Babies	Lays eggs	Does NOT lay eggs (has live babies)
Warm or Cold-blooded	Is warm-blooded	Is cold-blooded

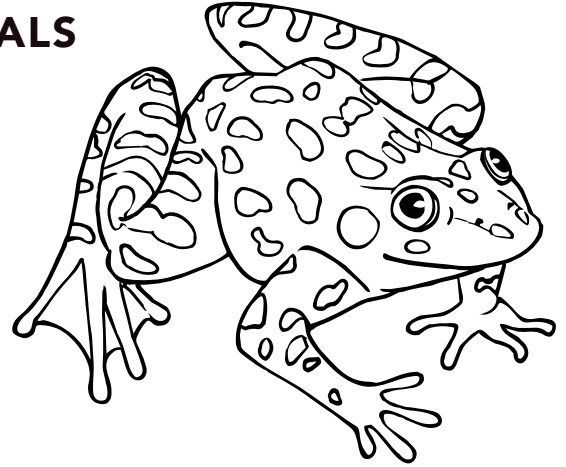
What is this animal?

- ☐ Bird
 ☐ Mammal
 ☐ Reptile
 ☐ Amphibian
 ☐ Fish

Draw the animal:

Say it: "I think this is a _____ because I see _____."

TOAD-ALLY AWESOME ANIMALS



What do you see?

- ☐ Feathers
- ☐ Fur
- ☐ Scales
- ☐ Wet, slimy skin
- ☐ Beak
- ☐ Backbone
- ☐ Gills

How does it move?

- ☐ Flies
- ☐ Walks
- ☐ Climbs
- ☐ Swims

What do you think? Circle one for each row.

Breathes	Has lungs	Does NOT have lungs (has gills)
Babies	Lays eggs	Does NOT lay eggs (has live babies)
Warm or Cold-blooded	Is warm-blooded	Is cold-blooded

What is this animal?

- ☐ Bird
 ☐ Mammal
 ☐ Reptile
 ☐ Amphibian
 ☐ Fish

Draw the animal:

Say it: "I think this is a _____ because I see _____."

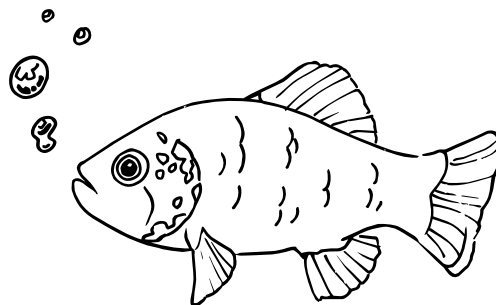
WONDERS OF THE WATER

What do you see?

- ☐ Feathers
- ☐ Fur
- ☐ Scales
- ☐ Wet, slimy skin
- ☐ Beak
- ☐ Backbone
- ☐ Gills

How does it move?

- ☐ Flies
- ☐ Walks
- ☐ Climbs
- ☐ Swims



What do you think? Circle one for each row.

Breathes	Has lungs	Does NOT have lungs (has gills)
Babies	Lays eggs	Does NOT lay eggs (has live babies)
Warm or Cold-blooded	Is warm-blooded	Is cold-blooded

What is this animal?

- ☐ Bird
 ☐ Mammal
 ☐ Reptile
 ☐ Amphibian
 ☐ Fish

Draw the animal:

Say it: "I think this is a _____ because I see _____."

WHAT DID YOU LEARN?

Circle the words that describe each group of animals with their color.

Birds: Red Mammals: Orange Reptiles: Green Amphibians: Blue Fish: Purple

Feathers	Backbone	Has lungs	Is cold-blooded
Walks	Climbs	Does NOT lay eggs (has live babies)	Scales
Beak	Swims	Is warm-blooded	Does NOT have lungs (has gills)
Flies	Wet, slimy skin	Fur	Lays eggs

Circle what is true:

Animals can be grouped	Animals are all the same
Animals have different features	Some animal groups have the same things
Scientists look closely	

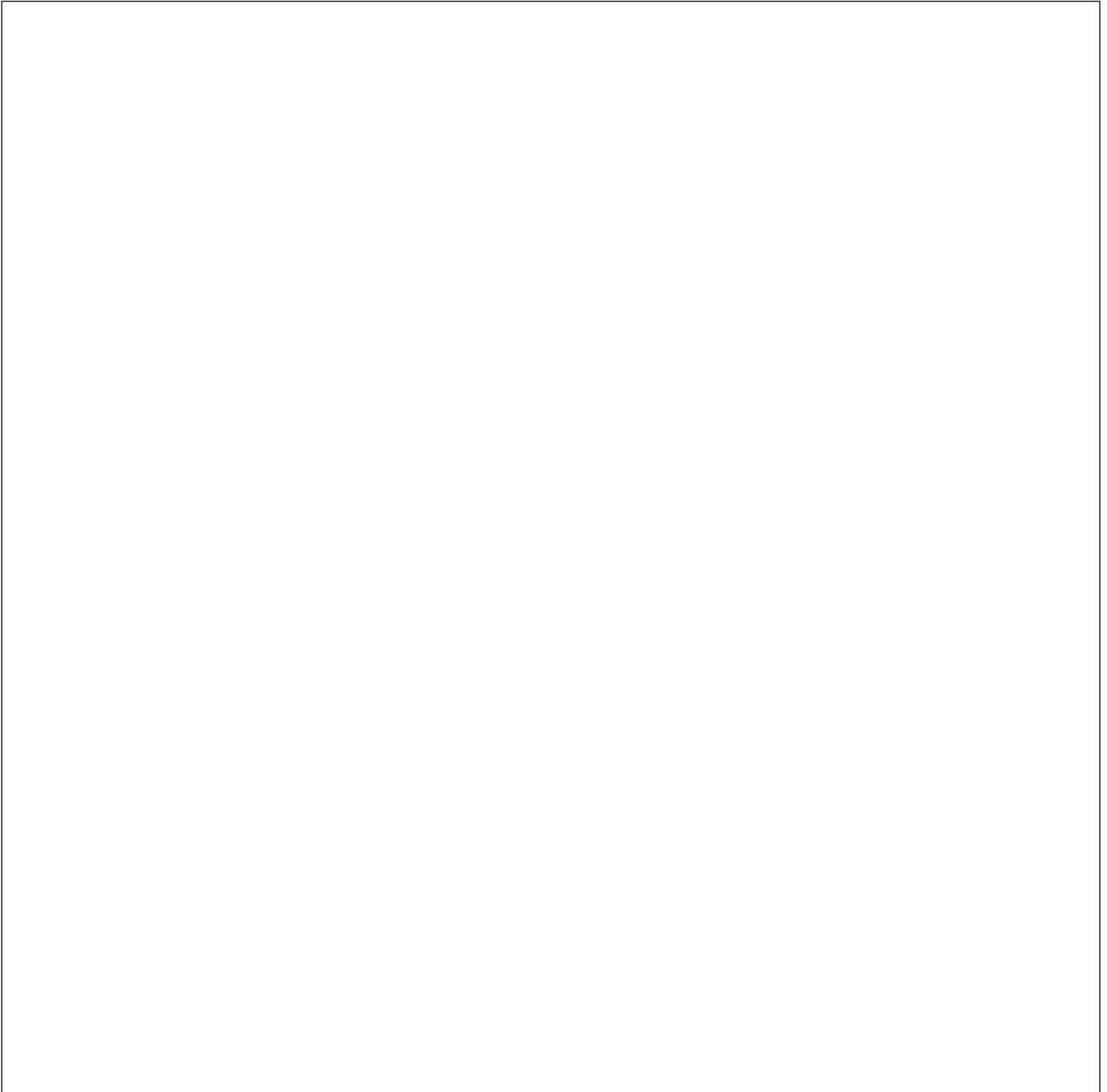
How are reptiles and birds alike?

What is one thing all five groups of animals have?

How are mammals different from the other groups?

What animal can you think of that does not have a backbone?

Draw your favorite animal:



Say it: "My favorite animal was _____ because _____."