

Third Grade STEAM Tour: Animals

Introduction

Students will explore artists' representations of animals in Mia's galleries in order to learn some of the skills and behaviors artists and scientists alike put to work. Both need to make careful observations of their subjects and ask questions that lead them to better understanding. Like scientists and artists, students will keep a record of their observations and thoughts. They will discuss the difference between an observation and an opinion (one's own ideas), and compare and contrast images that depict animals realistically and those that draw more on the artists' imaginations. Hands-on activities throughout the tour reinforce the idea that art, math, and science are very closely related.

Supplies (in orange tour bag)

Pictures of animals
Pictures for math activity
Plastic animals for drawing inspiration
Tape measure and rulers
Examples of artists' tools: paint brushes and palette with "paint"
Student notebooks
Clipboards
Pencils

Artworks (realistic and imaginative)

Select artworks that show realistic (maybe even scientific!) and more imaginative animals. Explain that many artists use their imaginations when creating a work of art. Do you think the artist saw this animal in real life? What do you see that makes you say that? What did the artist make up in their mind? Why do you suppose they wanted to do this? What do you see that makes you say that?

Begin each discussion by having students make observations about the artwork. With each response challenge students to distinguish between observations and opinions. For example, if a student says "that looks weird," ask them if their statement is an observation or an opinion. Both are valid, but it is important to learn to distinguish between the two.

Spot the animal!

Encourage students to look for certain animals throughout the tour. Each student will have a prepared "Spot the Animal" sheet to mark when they spot each. When you find a particular animal in a gallery that is also on their sheet, discuss what is similar and what is different between the photograph of the animal (in your bag) and the artwork. Ask students if they have seen the animal in real life (or in videos) as well. If so, ask them how the artistic animal compares to the way the animals look in the real world.

Math

Use the students' scientific notebooks to talk about the real sizes of some of the animals they will see today. Ask them to close their eyes and imagine how large a sculpture or painting would have to be to

hold such an animal. How far out would that animal extend into the gallery? Use the tape measure (or rulers on the floor side by side) to see the actual size.

Horse: 6 feet tall
Tiger: 9 feet long
Baboon: 3 feet tall
Elephant: 12 feet tall
Lobster: 1 foot long
Camel: 9 feet tall

Using one or two of the examples below (or one you or they invent), invite the students to use their imaginations and pretend that they are curators or works-of-art crew at the museum. Using the measurements and images provided, have the students problem solve the following situations:

Too many people want to touch Pablo Picasso's *Baboon and Young*, so it needs a new case. What size would the hood need to be to safely fit over the sculpture? Consider how much space you might want to leave around the sculpture.

Baboon and Young
Pablo Picasso
55.45
21 x 13 x 24 in.

The museum has decided to separate the two camels from the T'ang Dynasty. What size case would be needed to safely store one camel from Pair of Camels and Driver? Consider how much space you might want to leave around the sculpture.

Pair of Camels and Driver
T'ang Dynasty, China
2004.205.1.1
41 x 28 x 12 in.

A new platform needs to be made for Sowah Kwei's *Fantasy Coffin*. What size would the platform need to be to hold the work of art? Consider how much space you might need to include to help prevent people from getting too close.

Fantasy Coffin
Sowah Kwei
2010.72
46 x 50 x 120 in.

Support visual arts standards

At every work of art on the tour be sure to discuss one or two important visual elements. Texture is very important in artworks that show animals since it helps us understand what the animal might feel like. How do artists show the fur of a particular animal? How do they show hard vs. soft parts of the animals?

Name where the artwork comes from and provide a relative time frame (e.g. long long ago or brand new). Tell what it is made of and when possible show an artist's tool (e.g. paintbrush). Looking at the way artists depict animal fur is a good way to introduce texture.

Art making

Using plastic molded animals (or the photographs used earlier on the tour) as their models, students will create scientific animal drawings that incorporate realistic details. Explain that to make a scientific drawing of an animal they should observe the proportions of their animal (how long is the leg in comparison to its body, for example). They could also label the different parts of the animal much as a scientist would.

Encourage discussion about what their animal needs to survive: what does their animal eat? Where does it live? Ask them to include some of these details that tell about the kind of habitat the animal lives in. What other details might they want to include?

Science Standard 3.1.1.2.3 Scientific inquiry is a set of interrelated processes incorporating multiple approaches that are used to pose questions about the natural world and investigate phenomena.

Benchmark: Maintain a record of observations, procedures and explanations, being careful to distinguish between actual observations and ideas about what was observed. For example: Make a chart comparing observations about the structures of plants and animals.

Math – Geometry & Measurements Understand perimeter as a measurable attribute of real-world and mathematical objects. Use various tools to measure distances. 3.3.2.1 Benchmark: Use half units when measuring distances. 3.3.2.2 Benchmark: Find the perimeter of a polygon by adding the lengths of the sides. 3.3.2.3 Benchmark: Measure distances around objects.

Visual Arts 0.1.1.5.1 Identify the elements of visual art including color, line, shape, texture and space.

Visual Arts 0.1.2.5.1 Identify the tools, materials, and techniques from a variety of two- and three-dimensional media such as drawing, printmaking, ceramics or sculpture

Visual Arts 0.2.1.5.1 Create original two- and three- dimensional artworks to express ideas, experiences or stories.

Visual Arts 0.4.1.5.1 – Compare and contrast the characteristics of a variety of works of visual art.