

First Grade STEAM Tour: Birds and Their Adaptations

Introduction

On this interactive STEAM tour first grade students will view artworks in Mia's collection that depict birds, realistic and imaginative. Students will compare pictures of real birds with artworks to examine the different adaptations of birds including beak shapes, feather color, and feet, and how artists around the world have represented these. Through discussions of artworks students will learn what different adaptations would be useful for birds living in different habitats (where it lives and what it eats). Hands-on activities throughout the tour reinforce the idea that art, math, and science are very closely related.

Supplies (in red tour bag)

2-D shapes for making composite designs
Reproductions of Audubon images
Photographs of birds
Illustrations of drawing birds with shapes
Laminated paper hummingbirds for measuring
Examples of artists' tools: paint brushes and palette with "paint"
Student notebooks
Clipboards
Pencils

Artworks

Pick at least four artworks to spend time with on the tour. At each artwork invite students to compare and contrast photographs (or reproductions of Audubon images in Mia's collection) of the bird represented to see how the artist has made artistic decisions about what features to show. Explain the difference between imaginative art and scientific drawing. Ask students to decide if they think each artist was using close observation like a scientist or using his/her imagination more. Be sure to ask them what they see that makes them say so.

Movement

At each bird invite students to make beaks with their hands, flap their wings, or even imagine how it might feel to walk like the bird (how would webbed feet move compared to taloned feet?) You could also have students use their fingers as a "paintbrush" to paint the outlines of an artwork. As students observe the different features of the bird, be sure to have them thinking about what the features tell them about that bird and its habitat. For example, what might a bird with this type of beak eat?

Composite shapes

Invite students to play with 2-D shapes in order to combine them in different ways to make new images, also known as composite shapes. Encourage them to make as many things as they can with the shapes they have. Then use an example or two (provided) of bird images that clearly illustrate how different shapes can be used to create bird shapes. Introduce idea of breaking down a complex composition into shapes. Then, throughout tour, ask students to look for big and small shapes in artworks using the "I Spy" page in their notebooks.

How many hummingbirds?

When you need to focus attention ask students to measure things in the museum (not artworks!) or on their own bodies with cut-out life-size hummingbirds to determine how many hummingbirds high or long they are.

Support visual arts standards

At every work of art on the tour be sure to discuss one or two important visual elements. Invite students to find and name the shapes and colors and even the types of lines they see. 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).

Art making

Ask students to use what they have learned about composite shapes to create and draw a new bird (scientific or imaginary) in its habitat—where it lives and what it eats. The drawing should include adaptations the bird would need to live and eat. These birds could eat candy, spaghetti, or any fun food.

Science 1.4.2.1.2 Natural systems have many components that interact to maintain the system.
Benchmark: Describe ways in which an animal's habitat provides for its basic needs.

Science 1.1.1.1.1 Scientists work as individuals and in groups to investigate the natural world, emphasizing evidence and communicating with others

Math – Geometry & Measurement Describe characteristics of basic shapes. Use basic shapes to compose and decompose other objects in various contexts. 1.3.1.2 Benchmark: Compose (combine) and decompose (take apart) two- and three-dimensional figures such as triangles, squares, rectangles, circles, rectangular prisms and cylinders.

Use basic concepts of measurement in real-world and mathematical situations involving length, time, and money. 1.3.2.1 Benchmark: Measure the length of an object in terms of multiple copies of another object. For example: Measure a table by placing paper clips end-to-end and counting.

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.