



Jungle Scale

Introduction

Objective:

Students will conduct research to find plants and animals that live in a rainforest. Students will create a list of attributes for these organisms, including physical measurements. Students will draw the organisms to scale to depict a two-dimensional visual representation of a rainforest biome.

Academic Content Standards:

- ❖ National Council of Teachers of Mathematics: Measurement
 - *Understand measurable attributes of objects and the units, systems, and processes of measurement*
 - *Apply appropriate techniques, tools, and formulas to determine measurements*
- ❖ National Council of Teachers of Mathematics: Geometry
 - *Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.*
 - *Use visualization, spatial reasoning, and geometric modeling to solve problems.*
- ❖ Ohio Academic Content Standards for Mathematics: Measurement
 - *Students estimate and measure to a required degree of accuracy and precision by selecting and using appropriate units, tools and technologies.*
 - *Benchmarks: A, B and D (4th Grade)*
 - *Benchmarks: A, B, C, E and F (5th Grade)*
 - *Benchmarks: A, C, E and F (5th Grade)*
- ❖ Ohio Academic Content Standards for Mathematics: Geometry and Spatial Sense
 - *Students identify, classify, compare and analyze characteristics, properties and relationships of one, two, and three dimensional geometric figures and shapes.*
 - *Students use spatial reasoning, properties of geometric objects and transformations to analyze mathematical situations and solve problems.*
 - *Benchmark: E (4th Grade)*
 - *Benchmarks: F, J (5th Grade)*
 - *Benchmarks: E, F, H, I, and J (6th Grade)*
- ❖ Ohio Academic Content Standards for Social Studies #6 Mathematical Processes Standard
 - *Embedded within the grade level indicators.*

Getting Started

Materials:

- Ruler
- Reference materials to research the rainforest
- Drawing paper
- Pencils
- Colored pencils

Vocabulary:

- Scale
- Attributes
- Measurement
- Ruler

- Inch / Centimeter
- Foot / Meter

Technology:

Internet access or research.

Lesson

Orientation Activity:

Teacher will decide what method(s) students will use to research the rainforest (books, Internet, encyclopedias, etc.)

Learning Activity:

Students will research two plants and two animals that live in the rainforest. Students will create from the information found, a list of attributes about the organisms including height, width, length, weight, mass, circumference, diameter, etc. Students will also find pictures of their organisms. Students will then draw the organisms to scale on paper. (The scale to be decided by teacher and /or students together.) Have students label their drawings with the following information:

- Original measurements
- Scale measurements
- Scale (ratio)
- Any conversions (e.g., m to cm)
- Names of organisms
- Uses for organisms
- Any other relevant information

To extend this lesson, try the following activities...

- Draw a three-dimensional picture instead of two-dimensional.
- Make three-dimensional scale models of organisms using clay, wood or another sculpting medium.
- Draw pictures of the same organisms from different perspectives and include labels for measurements.

Evaluation and Follow-Up

Assessment Tools and Methods:

- Teacher anecdotal notes from observation of student work in progress.
- Scoring rubric for final product. (Share the rubric with the students prior to starting the project so they will know exactly what is expected of them.)

Interdisciplinary Connections:

Science: Research and study of a rainforest biome and its living organisms.

Social Studies: Research and study of geographic locations of global rainforests.