

Dragonfly Anatomy: Dragonfly Magnet or Pin

Objective: Students will build an anatomically correct dragonfly of polymer clay while using vocabulary for body parts learned while studying dragonfly anatomy. Older students will also define the function of the body parts as adaptations for survival.

Grade Levels: Grade K-6

Time Required: One class period

Materials:

images of dragonflies from ISM web site and other sites or sources

Sculpey® polymer clay (it is softer than Fimo brand) in various colors, including transparent (Fimo Brand Transparent #00) for wings

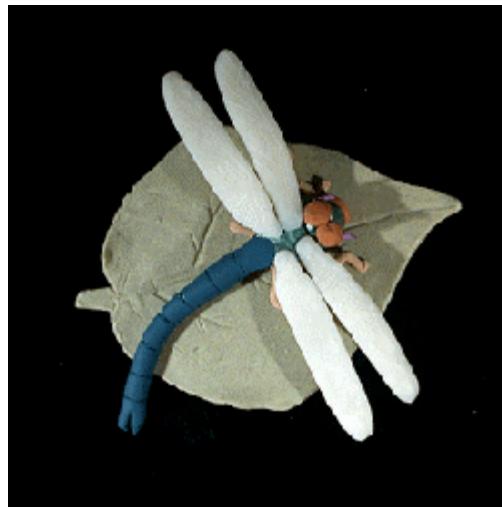
paper to use on the tabletop ((protection and rolling surface)

plastic knife or age-appropriate blade to cut clay

trays on which to bake finished sculpture

E6500 glue

Magnet pieces or pin backs



polymer clay dragonfly magnet

Vocabulary:

Head

Thorax

Abdomen

Jointed legs

Wings

Compound eyes

Jaws

Segments

Terminal appendages

Motivation: Dragonfly body parts have specific names and shapes. Each part helps the dragonfly to survive in its environment. What are these body parts? How do they look? Where are they located? How do they relate to each other in size and function?

What are these body parts used for? Could the dragonfly live without any of them? How do these parts help the dragonfly survive?

Procedure:

Open the packages of various colors of Sculpey polymer clay. Cut the blocks into 4-8 pieces each.

Arrange the colored pieces on the table for students to choose. They will need varying amounts of each color. They can choose realistic colors that look like some for the species studied, or they can choose their own colors (being aware they are not found in nature.) Some colors are adaptations that help the dragonfly survive.

Briefly condition the clay by rolling the little blocks in the hands to soften and form into a ball.

Pinch off amounts of clay and start forming body parts of your dragonfly. You may want to form the segmented abdomen somewhat thicker than in nature to avoid breakage. Or the dragonfly can be sitting on a separately modeled background leaf to solve this problem.

Combine the body parts by firmly pressing the parts together without smashing or deforming them. If clay gets too soft with handling, laying it aside for ten minutes will let it firm up.

Bake clay in 250-degree oven for about $\frac{1}{2}$ hour. (Oven will need to be cleaned with baking soda solution after baking, or use an oven not used for food preparation.) Toaster ovens are okay if they will not burn with their upper coils – This will cause **toxic fumes**.

Glue pin backs or magnets to the backs of the dragonflies after they have cooled. E6500 needs to cure overnight.

Assessment: Students will identify and define all body parts they created on their dragonflies. Older students will state how the body parts are adapted for survival in the dragonfly habitat.

Illinois State Board of Education Goals Addressed:

Science: Early Elementary:

12.A.1a Identify and describe the component parts of living things (e.g., birds have feathers; people have bones, blood, hair, skin) and their major functions.

12.A.1b Categorize living organisms using a variety of observable features (e.g., size, color, shape, backbone).