Dauphin Island Sea Lab
DISCOVERY HALL PROGRAMS

MR. POTATO FISH

Form follows function: an investigation of functional morphology

Teachers Notes:

This activity is best used after an exploration of the diversity of fishes, whether it is a taxonomy-focused investigation or simply a visual survey of fish diversity.

With written documentation or an oral explanation, this activity can serve as a summative assessment.

Materials needed:

1) Suitably shaped vegetables – carrot, russet or sweet potato, zucchini, and more - use your creativity ☺.
2) Bits and bobs for decorations – paper clips, foam shapes, pipe cleaners, beads, toothpicks, construction paper, small twigs, lichens, scissors, feathers, etc. - again use your creativity ☺.

Introduction:

In your recent lab activity, you have observed that fish come in a variety of forms. Remember that morphology is the study of form. Body shape, fin placement and arrangement, mouth style and other morphological characteristics are different among different species or groups of fishes. In most cases, these differences in form reflect adaptations to a fish's lifestyle due to natural selection. Thus, if we look a fish's morphology, we can infer some characteristics of its life. For example, if we observe a fish that is streamlined with a forked tail and fins that fold into the body, we can *infer* that this species is a fast-swimming fish adapted to constant swimming as these adaptations minimize drag and increase swimming efficiency.

Instructions:

Design and create your own unique fish species. When creating your fish, you should consider the following:

1) Where and how does it live? (Body shape and fin arrangement reflect swimming speed and style.)
2) What does it eat? How does it find prey? (Mouth morphology and orientation and prey attracting features reflect how and where it feeds and can indicate what it feeds on.)
3) How does it protect itself from being eaten? (Body form and external features reflect anti-predatory adaptations.)

Come up with a name for your new fish and a short descriptive story about its existence.

Fish Name:

Description of lifestyle: