



How to Use and Create A Dichotomous Key

5Es Lesson by Rachel Teller

National Science Standards

Content Standards: Level 5-8

Unifying Concepts and Processes

- > Systems, order, and organization
- > Evidence, models, and explanation
- > Change, constancy, and measurement

Background

A [dichotomous key](#) is a tool that can be used to identify objects in a group through a process of answering yes/no-type questions about the objects. The term dichotomous means ‘divided into two parts.’ Remind the students that they have already used a dichotomous key if they have ever played the game ‘20 Questions.’ In this activity, the students will have the opportunity to examine an interactive graphic key on sea turtles and then create their own dichotomous key on a new group of creatures.

Activity

ENGAGEMENT Allow the students to familiarize themselves with the dichotomous key on sea turtle identification that can be found at www.euroturtle.org. In using the online sea turtle key, students will also become familiar with anatomical parts of a sea turtle.

EXPLORATION Ask the students to identify the three turtles on the turtle identification worksheet (Turtle_ID.pdf), which includes directions for finding the graphic identification key on the website.

EXPLICATION Ask the students to form groups and discuss their identification results. The groups should have access to the site so they can check the accuracy of their decisions.

ELABORATION Tell the students a new population of butterflies have been discovered, living over the Sargasso Sea, and that the expedition leader has called on them to create a dichotomous key to differentiate between the species, which share many traits. Provide each student with the Butterflies_to_Key.pdf and ask them to cut out the six species and create a key using the worksheet and flow chart provided (Dichotomous_Key_wkst.pdf and Dichotomous_Key_FlowChart.pdf).

EVALUATION Ask pairs of students to trade keys and creatures and try to follow each other's keys to identify the species. Discrepancies should be discussed and resolved so each student has a working key when they are finished.