

Course: Access Databases

Overview

After studying bioluminescence creatures of the ocean via several websites, participants will create a database that will be useful for organizing and reporting the findings of their study.

Terms

- Database – A file composed of records, each containing fields together with a set of operations for searching, sorting, recombining, and other functions.
- Form – the user friendly interface in Access.
- Macro –In applications, a set of keystrokes and instructions recorded and saved under a short key code or macro name. When the key code is typed or the macro name is used, the program carries out the instructions of the macro. Users can create a macro to save time by replacing an often-used, sometimes lengthy, series of strokes with a shorter version.
- Module – In programming, a collection of routines and data structures that performs a particular task or implements a particular abstract data type.
- Record – A data structure that is a collection of fields (elements), each with its own name and type. Unlike an array, whose elements all represent the same type of information and are accessed using an index, the elements of a record represent different types of information and are accessed by name. A record can be accessed as a collective unit of elements, or the elements can be accessed individually.
- Query – The process of extracting data from a database and presenting it for use. A specific set of instructions for extracting particular data repetitively.
- Report – An organized way of presenting data from a database. A report can be created from a table or query.
- Sort – To organize data, typically a set of records, in a particular order. Programs and programming algorithms for sorting vary in performance and application.

Instructor Materials:

- Internet
- MS Access
- Ocean Creatures Database

Participant Handouts:

- Bioluminescent Ocean Creatures
- Ocean Creatures Directions
- Ocean Creatures Rubric

Instructor's Notes:

1. For motivation and to create an interest, pull up the web site Mare's Build-A-Fish <http://sv.berkeley.edu/showcase/flash/fish.html>. Read the overview and instructions on how to build a fish. Allow participants time to build a fish. Suggest to participants that this activity could be done with one computer with Internet access as a whole group activity if computers were not available for all students.
2. Go to the following site to learn more about bioluminescent creatures in the ocean. <http://www.biolum.org/>. Discuss this site as a group. Make sure to give enough time for participants to read about bioluminescent creatures in the ocean.
3. Give out handout – Bioluminescent Ocean Creatures and tell participants to visit the sites listed on the handout (these are also on the TIP Lite website). Each participant needs to choose a bioluminescent ocean creature and answer the questions about their chosen creature on the handout. To assure that everyone does not choose the same creature, have participants write their creature on the board as soon as they have made a decision. No duplicates allowed.
4. Have participants save a picture of their fish to their desktop. You may have to show them how to do this.
5. Brainstorm some different kinds of databases that people encounter everyday; banking, address books, movie rental companies, phonebooks, etc.
6. Explain that today we will be creating a simple database to record the information they gathered on bioluminescent creatures.
7. Explain the different objects of a database; table, query, form, report, page, macros, and modules.
8. Follow the directions on the handout – Ocean Creatures Directions.
9. After creating the database, have participants enter their information into other participants' databases.
10. Create a report from information input into the database. (Participants will not be able to put their picture in other databases unless saved to a server.)

TIP: When adding their image, they will need to click on the image box and then go up to Insert Object on the menu. Choose Microsoft Photo Editor and then existing file. Participant will need to browse for his/her fish image.