CANADIAN LEARNING COMPANY'S

Discussion Guide for

CLASSIFICATION: BRINGING ORDER TO DIVERSITY

Objectives

After viewing this program, students will be able to:

- List and briefly describe the five major kingdoms.
- Give an example of an organism from each of the five kingdoms.
- Contrast prokaryotes and eukaryotes.
- Discuss positive and negative ways bacteria can impact humans.
- Describe some of the methods of locomotion found in the Kingdom Protista.
- Explain how fungi may be helpful and/or harmful to humans and the environment.
- Describe the symbiotic relationship found in lichens.
- Differentiate between vascular and nonvascular plants.

About This Program

This program is part of the AIMS Interactive Science Essentials Series. This twenty-four part series covers four subject areas- Earth Science, Biology, Physics, and Chemistry. There are six programs in each subject area. The individual programs are divided into randomly accessible sections. A glossary provides written definitions of terms used in the program, and in most cases will run a section of the video where the word is used in context. A script of the narration is accessible, as well as a bulletin board containing a general introduction to the subject. A quiz allows the student to test their knowledge and the results are recorded for you. In the teacher's section you can view each students test responses and edit or create your own quiz and test questions.

Overview

Classification: Bringing Order to Diversity is part six of the Biology Essentials series which examines modern day biology. The program explains how biologists try to organize the 4-1/2 million species of life and how they document the process of evolution. Scientists have developed a system of classification that groups all living things into five kingdoms. These kingdoms group organisms based on major differences -in structure. The kingdoms Monera, Protista, Fungi, Plantae, and Animalia are each unique in structure, function and organization at the cellular level. Monerans are unique because they have no internal cell membranes. Protists have internal cell membranes and function as one-celled organisms. Fungi also have internal cell membranes and often function as decomposers. Animals have internal cell membranes, are multi-cellular and depend on ocher organisms to produce their food molecules. Plants have internal cell membranes, are multi-cellular and are able to produce their own food molecules.

This program will investigate the unique characteristics of living organisms and describe some of the major divisions within these five major kingdoms. Although the science of classification is still being discussed and modified, the system works well to help provide order to a world with an incredible diversity of life.

Teacher's Preparation

Before the student uses the program set up the computer so that they can easily reach the mouse and the keyboard.

Load the CD-ROM into the computer so that it is ready for the student to begin using.

While students are able to work at their own pace, some students may benefit from using the program more than once.

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Suggested Discussion Questions

1. List and briefly describe each of the five major kingdoms. Include an example of an organism from each kingdom.

2. Contrast prokaryotes and eukaryotes.

3. Discuss positive and negative ways bacteria can impact humans.

4. Describe some of the methods of locomotion found in the Kingdom Protista.

5. Explain how fungi may be helpful and/or harmful to humans and to the environment.

6. Examine the symbiotic relationship found in lichens and describe how each organism benefits.

7. What structures do vascular plants have that nonvascular plants do not have?

8. Make a mind map of the reproductive differences between gymnosperms and angiosperms.

9. Develop a comparison chart for monocots and dicots.

10. Give three characteristics used to distinguish vertebrates from invertebrates.

11. Draw an evolutionary time line from amphibians through mammals and discuss the major structural adaptations that identify each class of vertebrates presented.

12. Analyze the adaptations found in humans that have allowed us to (theoretically) dominate the Earth. 13. Make an argument against the idea that we are the dominant life form on Earth.

Vocabulary

algae
angiosperms
Animalia
bacteria
class
dicots
fungi
gymnosperms
kingdom
lichen
Monera
monocot
mushroom
order
organisms
phylum
Protista
species
stamen
symbiotic relationship
vascular

Additional Benefits

Students will be able to-

Compare gymnosperms and angiosperms.

Develop a comparison chart for monocots and dicors.

Distinguish invertebrates from vertebrates.

Follow the evolutionary line from amphibians through mammals discussing major structural adaptations.

Analyze the adaptations found in humans that have allowed us to (theoretically) dominate the Earth.

Programs Details

Length:
minutes

Subject Areas:

Audience Levels:

Order Number:
1-9080SG

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