SCIENTIST IN RESIDENCE PROGRAM™

Science Unit: **Exploring Biodiversity**

Lesson #2: **Asking and Answering Questions**

Lesson Summary:
In this lesson, students will practice asking questions. They will discuss the definition of a "good question" and then explore ways to give descriptive answers. The lesson will start by reviewing the role of questions for scientists. Students then to ask and answer questions to each other about an imaginary animals they draw.

Grade level:	Grade K-2
Duration of lesson:	45 minutes – 1 hour (revise as needed)
School Year:	2015/2016
Developed for:	Collingwood Neighborhood School, Vancouver School District
Developed by:	Carla Crossman (scientist); Mily Phan and Nadine Kinna (teachers)

Learning Objectives

1. Learn good questions words: who, what, where, when, why and how.
2. Practice using those words to ask science questions.
3. Gain experience describing objects by answering questions from peers.

Materials

- Pieces of paper to draw pictures (can be replaced by worksheets for older students).
- A bag with a book inside (book with a big title and pictures on the front)
- Somewhere to write big words (chalkboard, whiteboard, flipchart).

Background Information

Asking open-ended questions and describing objects is an important skill for scientists as they develop hypotheses and begin to make observations. For students, overcoming any fear of asking questions can be difficult, but innately the do this all the time, even without knowing. This goes the same for making observations and/or providing descriptions. After this lesson, encourage students to ask more questions and remind them they are answering questions or giving descriptions all the time (i.e., What did you do at recess/on the weekend? etc.)

Lesson Detail

Introduction

Scientists ask and answer questions. In this lesson, we want to encourage students to ask questions. Offer prompts to them as needed, but try to elicit responses to questions from the students themselves.

Why is it important to ask questions? Why is it important to describe things? We do both of these all of the time – often without even knowing. This is how we learn. This is how we learn each other's names, how we tell someone when our birthday is or what our favorite food is. We ask and answer questions all of the time.

Activity 1: Question Words in Science

Purpose of Activity: To identify words that start science questions.

Methods and Instructions:

1. Ask the students to ask the scientist some questions about his/her weekend.
2. As the students ask questions, write the beginning of each one on the board.
3. Make a list of question words: who, what, where, when, why, how.
4. Brainstorm questions scientists might ask about *animals* using these words:
    - What does the animal eat?
    - Where does the animal live?
    - How does the animal protect itself from predators?
    - How does the animal breathe?
    - What does the animal need to survive?
    - Why does the animal have sharp teeth?
    - When does the animal rest?

Activity 2: What's in the Box/Bag?

Purpose of Activity: Practice asking questions to solve a "puzzle".

Methods and Instructions:

1. Hide a book (or any interesting object) in a bag.
2. Ask students to raise their hands to ask questions to figure out what is inside.
3. Have the students try to guess what is in the bag.
4. Optional for older students: When the book is revealed, ask the students to describe it even more. What do you see on the cover? What does the cover make you think the story is about? Why do you think that?

Activity 3: Imaginary Animals

Purpose of Activity: Practice asking questions and describing objects by answering questions.

Methods and Instructions:

1. Each student draws an imaginary animal. Ask students to think about 2 or 3 of the questions they brainstormed in activity #1 while they design their animal.
2. Students ask each other questions about their new animals.

Closure Discussion

1. Did anyone get a really *interesting* answer to a question about our imaginary animals?
2. Let's think about a scientist who discovers a new animal that no one has *ever* seen before. (We are still discovering new species all the time!) How could the scientist find out what that animal eats?
3. Discuss how scientists *love* to ask questions and solve puzzles. Sometimes they can look in a book or ask someone to find out an answer to their questions. But, they get *most* excited when they find an interesting question and NO ONE knows the answer. That's when the fun begins!