Brittney Ries

Ed Psych Lesson Plans

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11/11/11

These lesson plans are for 4th grade science in a small town public school. The class period for this science class will be 50 minutes with a class size of 20 students.

Day 1 Narrative: How are living things grouped?

Today's lesson will be on how living things are grouped. At the end of science class today students will be able to distinguish characteristics scientists use to classify living things. The first thing I will do today is have students sort objects found in their desks or around the classroom. Depending on the amount of objects found in individual students' desks, students may need to split into table partner teams. Individually or in pair's students will sort the objects they have which will include buttons, pencils, erasers, crayons, etc. on their desks or if needed on the floor. After it is seen they are done with this task ask for discussion about different ways each individual or team sorted their objects so the whole class can see others ways of classification. This activity should be planned for 10-15 minutes.

Direct students back to their desks and make sure they have cleaned up their objects and are now ready to listen. Transition by tying together the ways they sorted their objects to the ways scientists use classification systems to study, compare, and identify living things. Have students look over pages 10-13 in the textbook for some prerequisite knowledge. I will now start to teach the information on these pages, focusing on some key concepts. These key concepts will include: an organism may be classified according to the number of cells and cell parts it has, where it lives, and how it obtains food; scientists organize living things into six major categories called kingdoms; organisms are classified into six kingdoms, which are further subdivided into smaller groups; an organism's scientific name is based on its genus and species, the smallest classification groups; the first part of an organism's scientific name is its genus; the second part of an organism's scientific name is its species; a species is a group of organisms that belong to the same genus and are able to mate and produce fertile offspring. I will have information highlighted in the text for key information students need to know. I will also have students look at the table on page 13 with me as I explain how similar characteristics decrease as a living thing is organized from kingdom to genus. The main lesson should take about 30-35 minutes.

The students will also be asked scaffolded questions that they will respond to in their science journals. The students will be allowed to use their textbook to help answer the questions if needed. The questions will include: What is the largest classification group? What do all the organisms shown in the table on page 13 have in common? If two organisms share a genus name, what can you infer about those organisms? Depending on time left in class, students may work on the questions until class time is over or they may copy down the questions to be answered for homework. Science journals will be turned in and graded at the end of each chapter. Be sure to remind students that tomorrow we will be learning about how to classify plants.

Ed Psych Lesson Plan Template (Long Form)

Student Teacher's Name: Brittney Ries Grade Level: 4

Subject: Science

Name of Lesson: How are living things grouped? Period/Time: 50 mins

I. Goal: To teach that living things are different, but share similar structures.

II. Objective: Given classification systems, students will be able to distinguish the characteristics scientists use to classify living things.

III. Materials: Classroom objects (including buttons, pencils, erasers, crayons), textbook, science journals.

IV. Procedure:

A. Set / Hook

-Individually have students sort classroom objects into groups and give reasons for their classifications

B. Transition

-Explain to students that just as they can find similarities and differences to sort objects into groups, scientists use a classification system to study, compare, and identify living things.

C. Main lesson

-Students look over reading and pictures on pages 10-13. Teach key concepts on pages 10-13. Give examples of classifications of similar plants and animals. Go over the different levels of classification table on page 13 to show the decrease of similar traits from kingdom to species.

D. Transition

-Ask scaffolded questions which students will write answers to in their science journals.

E. Conclusion

-Wrap up class by explaining that scientists look at the number of cells, types of cell parts, where the organism lives, and how it gets food to classify living things into groups and subgroups. Tell students tomorrow we will be learning about how to classify plants.

V. Assessment: Object sorting and answering questions.

VI. Assignment: Answers to questions asked at the end of class time will be answered in each student's science journal to be turned in at the end of the chapter.

Day 2 Narrative: How are plants classified?

Today's lesson will be on plant classification. At the end of class today students should be able to compare and contrast the structures of plants, focusing on how these plant structures are used to classify plants. Students will also be able to explain how certain plant characteristics allow members within a species to survive and reproduce. The first thing I will do today is have students raise their hands to work together in brainstorming a list of living things. While they give out replies, I will be writing them on the board. Once everyone has shared one or two examples of living things I will ask students to think of similarities and differences between the living things. I will ask them to share these similarities and differences to separate the list into smaller groups. This will help students see how scientists use classification systems to separate living things into smaller and smaller subgroups. At this time to kick off plant classification I will have a clear jar of colored water that I will put a piece of celery in. I will ask students what they think will happen and set the jar aside to look at when the lesson is over. This should all take 10-15 minutes.

Now I will begin to teach key concepts on pages 14-17. I will suggest that students open their textbook and follow along. Some of the key concepts I will teach include: vascular plants have tube like structures that transport water and nutrients within the plant; nonvascular plants, such as mosses, grow low to the ground and can pass water and nutrients only from one cell to the next; flowering plants and cone-bearing plants reproduce by producing seeds; ferns and mosses reproduce by producing spores. Make sure students look at the pictures on pages 14-17 for examples of different plants. I will have information highlighted in the text for key information students need to know. I will also have a variety of plants and plant parts such as stems, leaves, roots or seeds to pass around. Students should be able to describe the main structures of these plants. They should also be able to describe how plants may differ in size and shape but have many similar parts. The main lesson should take about 30 minutes.

I will now show the students what has happened to the celery. You should be able to see that the color has moved up through the tube like structures in the celery plant. The students will lastly be asked scaffolded questions to be answered in their science journals. The questions will include: Is celery vascular or nonvascular and why? How can vascular plants grow to be so tall? Why do nonvascular plants grow low to the ground? What is a flowering plant? Why do you think a plant produces many seeds? Depending on time left in class, students may work on the questions until class time is over or they may copy down the questions to be answered for homework. If there is time left in class students may work together on the questions. Science journals will be turned in and graded at the end of each chapter. Be sure to remind students that tomorrow we will be learning about how to classify animals. There should be at least 5 minutes left in class to work on questions.

Ed Psych Lesson Plan Template (Long Form)

Student Teacher's Name: Brittney Ries Grade Level: 4

Subject: Science

Name of Lesson: How are plants classified? Period/Time: 50 mins

I. Goal: To teach that plants are different, but share similar structures and characteristics.

II. Objectives: Given different plant characteristics, students will be able to compare and contrast the structures of plants and how plant structures are used to classify plants.

After analyzing different characteristics of plants, students will be able to explain how certain characteristics allow members within a species to survive and reproduce.

III. Materials: Celery, clear jar, colored water, textbook, science journals, different plants

IV. Procedure:

A. Set / Hook

-Work as a class with teacher guidance to brainstorm a list of living things including plants and animals. When a good sized list is acquired and written on the board use the list to have students think of similarities and differences between the living things. Use these similarities and differences to find ways to organize the list.

B. Transition

-Remind students of yesterday's lesson about classification. Tie the beginning activity to today's lesson about plant classification. Show students a clear jar of colored water with a piece of celery in it. Ask students what they think will happen and set the jar aside to look at when the lesson is over.

C. Main lesson

-Teach key concepts on pages 14-17. Show examples of plants, pass them around, and have students identify plant structures with help from you if needed.

D. Transition

-Ask scaffolded questions which students will answer in their science journals. Have students write or openly discuss what happened to the celery in the jar and why.

E. Conclusion

-Wrap up class by explaining again what conifers are and that to classify plants we look at how they transport water and nutrients and also how new plants are made. Tell students that tomorrow's lesson will be on classification of animals.

V. **Assessment:** Listing living things, sharing similarities and differences of living things, and answering questions.

VI. **Assignment:** Answers to questions asked at the end of class time will be answered in each student's science journal to be turned in at the end of the chapter.

Day 3 Narrative: How are animals classified?

Today's lesson will be on animal classification. At the end of class today students should know the life cycles of various animals and be able to identify examples, characteristics, and nonexamples of vertebrates and invertebrates. At the beginning of class I will have students get out their scissors. I will pass around bird feathers and magnifying glasses to each student. Students will examine the bird feathers at first with their naked eye and magnifying glass to make observations. They may share their observations with the class. Students will then be encouraged the cut the feather to examine the shaft. They should observe that it is hollow. This will take you into an explanation of why birds have hollow shafts in their feathers. First ask the students opinion to see if they can come to the right conclusion. You may then explain that the hollow shafts help the feather to weigh less so the bird has less weight to carry thus being able to fly easier. Also be sure to explain that birds are only one type of group that scientists use to classify animals. Take about 10-15 minutes for this activity. Make sure students wash their hands after working with the feathers and throwing them away.

Direct students back to their desks and have them open their textbooks to page 18. I will now teach key concepts on pages 18-25. These concepts will include: animals that have a backbone are called vertebrates; the vertebrate animals are fish, amphibians, reptiles, birds, and mammals; the members of each group share a specific set of traits; most reptiles lay eggs to reproduce; animals that do not have a backbone are called invertebrates; most of the animals in the world are invertebrates; some major invertebrate groups are arthropods, sponges, sea stars, worms, and mollusks; a snail is a type of mollusk and it reproduces by laying eggs. I will also have information highlighted in the text for other key items I need to include in my lesson. Have students pay attention to the life cycle of the Burmese python on pages 18 and 19 and the life cycle of the brown garden snail on pages 24 and 25. Try to move quickly through the pages, but since it is a lot of information for one lesson some information may be saved to review tomorrow. Make sure to go over vertebrates and invertebrates. This should take 35-40 minutes.

At the end of class students will be given two words webs for homework, one on vertebrates and one on invertebrates, to keep in their science journals that will be turned in at the end of the chapter. The word webs will include the definition, examples, characteristics, and nonexamples. Besides the definition, the three other sections must have at least three things included. Remind students that tomorrow we will be learning about how animals adapt.

Ed Psych Lesson Plan Template (Long Form)

Student Teacher's Name: Brittney Ries Grade Level: 4

Subject: Science

Name of Lesson: How are animals classified? Period/Time: 50 mins

I. Goal: To teach that animals are different, but share similar structures and characteristics.

II. Objectives: After learning about animal classification, students will know the life cycles of various animals.

Given the definitions of vertebrates and invertebrates, students will be able to identify 3 or more examples, characteristics, and nonexamples of both vertebrates and invertebrates.

III. Materials: Bird feathers, scissors, magnifying glasses, textbook, science journals.

IV. Procedure:

A. Set / Hook

-Students will individually examine a bird feather by naked eye and magnifying glass. They are then encouraged to cut the shaft and examine it.

B. Transition

-Explain to students that birds are one type of group that scientists use to classify animals. Ask what they found while looking at the bird feathers, making sure to emphasize the hollow shafts of birds and how those hollow shafts benefit birds.

C. Main lesson

-Teach key concepts, 5 groups of vertebrates, and emphasize how most animals are invertebrates.

D. Transition

-Students will be handed 2 word webs (vertebrates and invertebrates) to fill out and keep in their science journals.

E. Conclusion

-Wrap up class by reminding students of the 5 groups of vertebrates, what happens after the egg of a reptile hatches, and that arthropods are the largest group of invertebrates including spiders, crabs, insects, and shrimp. Tell students that tomorrow they will be learning about how animals adapt.

V. **Assessment:** Answering questions and taking part in bird feather activity.

VI. **Assignment:** Word webs on vertebrates and invertebrates that will be kept in their science journals and turned in at the end of the chapter.