

Bison Science Lesson

Date: 9/25/19

Grade: 4th	Subject: Science
Materials: Animal pictures, pictures of various parts of bison up close, inference writing prompt, pencils, white board, marker	Technology Needed: none
Instructional Strategies: € Direct instruction € <u>Peer teaching/collaboration/</u> € Guided practice € <u>operative learning</u> € Socratic Seminar € Visuals/Graphic organizers € Learning Centers € PBL € Lecture € <u>Discussion/Debate</u> € Technology integration € <u>Modeling</u> € Other (list)	Guided Practices and Concrete Application: € <u>Large group activity</u> € Hands-on € Independent activity € Technology integration € <u>Pairing/collaboration</u> € Imitation/Repeat/Mimic € Simulations/Scenarios € Other (list) Explain:
Standard(s) 4.LS1.1 Construct an argument that plants, and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.	Differentiation Low Proficiency: Students will be able to make observations, but will not be able to make inferences based on what they see in connection with prior knowledge. High Proficiency: Students will be able to give reasoning behind their inferences Approaching/Emerging Proficiency: Students will be able to make observations, ask questions, and make inferences about the function of various structures of animals. Modalities/Learning Preferences: <ul style="list-style-type: none"> ● Visual: All parts of the activity will be accompanied by pictures of the animals being discussed. ● Auditory: The activities will be discussion based. ● Kinesthetic: ● Tactile : Students will be able to pass around the pictures.
Objective(s) By the end of the lesson, students will make observations and inferences regarding the function of various structures of animals through large group sharing and a collaborative writing assignment. Bloom’s Taxonomy Cognitive Level: Synthesis	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> ● Students will pass the pictures around, making one observation, asking one question, or making one inference before passing it along ● Students will be respectful of each other when one person is talking ● Students will work quietly with their partner, making observations, etc. about the shared picture at a 1 or 2 voice level, but writing on their own paper ● Students will write legibly, but without excessive concern with regards to spelling ● Students will do their jobs when working with their partner, not chatting about unrelated topics or goofing off (Fab 5)
Classroom Management- (grouping(s), movement/transitions, etc.) <ul style="list-style-type: none"> ● Discussion will take place in a circle. ● Students will be strategically paired based on behavior ● In the large group discussion, whoever is holding the animal picture gets to talk ● One or two students will be in charge of passing out and collecting papers 	Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.) <ul style="list-style-type: none"> ● Students will pass the pictures around, making one observation, asking one question, or making one inference before passing it along ● Students will be respectful of each other when one person is talking ● Students will work quietly with their partner, making observations, etc. about the shared picture at a 1 or 2 voice level, but writing on their own paper ● Students will write legibly, but without excessive concern with regards to spelling ● Students will do their jobs when working with their partner, not chatting about unrelated topics or goofing off (Fab 5)
Minutes	Procedures
	Set-up/Prep: <ul style="list-style-type: none"> ● Print writing prompt and animal pictures
5	Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.) <ul style="list-style-type: none"> ● Gain students' attention ● Show picture of bison ● Call on individual students to answer questions such as, “do you know what animal this is?” “have you seen one before?” “do they have them at the zoo?” “can you tell me something about them?”

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10	<p>Explain: (concepts, procedures, vocabulary, etc.)</p> <ul style="list-style-type: none"> ● “Today, I want to make some discoveries about bison and other animals too. We can tell a lot just by looking at the different parts or structures of animals. We are going to look at pictures of bison up close to get a better understanding of why they are the way they are” ● “I am going to pass around an up close picture of a bison. When you are holding the picture, you get to tell the rest of the class one thing you see, one thing you wonder, or one thing you think might be true about bison based on what you see. I will write some ways you could start when you get the picture. ● Write “I see...” “I wonder....” and “I think... because...” on the white board ● “When it is not your turn to hold the picture and make an observation, I need you to pay attention to the things your classmates say. We are all going to see and wonder about different things. We might be able to help answer each other’s questions, too” ● “I will start” ● Pick up the first picture of the bison skull. ● “I see small, flat teeth” ● Pass the picture to the next student. Encourage them to use one of the prompts on the board. ● Have that student pass the picture to the next student. ● Once the picture has been passed to four or five students, share a summary of what the students said. Add a few facts about the bison skull, such as the fact that they are herbivores since they have flat teeth for chewing up grasses, and that they use their big heads to sweep away snow to uncover food in the winter. ● Repeat this process with the pictures of other parts of the bison. ● Facts to share (from National Geographic and Smithsonian websites): <ul style="list-style-type: none"> ○ horns: they use their horns for fighting each other of win mates more than to defend against predators ○ hooves: bison, despite their large size, can run quite fast ○ coat: bison’s longer coat in front allows them to stay warm even when facing into a blizzard ○ bones: bison are around 6 ft. tall and weigh around a ton
15	<p>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</p> <ul style="list-style-type: none"> ● Once all the pictures have been passed around, begin to explain the paired writing prompt ● “Now that we have made observations, asked questions, and made inferences together, we get to try it with partners. I am going to pair you up and give each pair an animal picture different from the ones we have been looking at. You will both get to look at the picture together and discuss what you see, wonder, and think. You will each get one of these sheets that have some spaces to write down what you talk about. You can talk to each other, but I want you to write on your own sheet what you and your partner saw. I expect you to use voice level 1 or 2 when having your discussion. Remember how to be respectful when working with a partner. When you write, I don’t need perfect spelling. Just do your best. I just need it legible so I can read it when you are done. I want to know what you see, wonder, and think!” ● Have the students get into pairs and sit down at desk spots. Have a student pass out writing prompt sheets. Go around and randomly hand out the animal pictures.
5	<p>Review (wrap up and transition to next activity):</p> <ul style="list-style-type: none"> ● When students finish, encourage them to write one more sentence or take their book boxes to their desk spot to read if there is time. ● When the time is up for the activity, have one student collect the writing prompts and another student collect the animal pictures ● “4th graders, we have about a minute left, so I need you to finish up your work. I will have someone come around and collect your work and your animal pictures when you are done. We talked a lot about bison today, and I want you to keep in mind some of the things we talked about because we will be looking at bison again on Friday. I will be teaching social studies on Friday, and we are talking about the ways Native Americans used bison.

Formative Assessment: (linked to objectives, during learning)

- Progress monitoring throughout lesson (how can you document your student’s learning?)
 - Listen to the statements and questions of the students as they pass around the pictures in the large group activity. Do they make inferences? Are they able to explain their thinking? Are they paying attention to detail?

Summative Assessment (linked back to objectives, END of learning)

- Look at the writing prompts from the students. do they show good observation skills? Are they making inferences about the animal based on what they see? Do they incorporate prior knowledge? Do they give reasons for what they think?

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Reflection (What went well? What did the students learn? How do you know? What changes would you make?):

My first lesson with my practicum students went quite smoothly. We started on the carpet to do the large group activity, making observations, asking questions, and making inferences. I had them stand instead of sit because they had been doing testing that morning, and I did not want them to have to sit any more. I would have liked to get more of the students' attention before I began, however. It worked pretty well to have whichever student was holding the paper to do the talking. That way when other students tried to talk out of turn, it was easy to remind them that they did not have the paper right then, and so they must pay attention to who ever was holding the paper. I had not planned for if students did not want to say anything when their turn came, which happened a couple times. What I ended up doing was allowing them to pass, but letting them know that they would have to say at least one thing at some point. If I was going to do it again, I would let them raise their hands when they figured out something to say instead of just going back to them at the end. I think it could have helped this situation if I had had the pictures projected for all the students to see, as well as having a picture to pass around.

My transition to the partner activity was OK, but if I did it again, I would make sure to communicate my expectations a little clearer. I would have told them what I expected from them in terms of what their work quality should be, what their voice level should be, what to do when they are done, etc. Another note about the partner work time is that I did not have the names of the animals on the pictures originally, which caused some confusion for the students.

There are a few things that I think I could change about his lesson if I did it again. One is to add a little more differentiation. If I had a high flyer student, I could challenge them to either do a worksheet on another animal or require them to attempt to answer their own questions that they generated on their worksheet. Another idea I had came from the fact that when students are working in pairs, they often end up with the same answers. I thought I could potentially turn this activity into a "write the room" activity where students go up to animal pictures posted around the room and leave observations, questions, and inferences on a paper by the picture, each student using his or her own colored pen. This would give me a good idea of what each individual student was thinking and seeing as well as give the students more time for movement. Lastly, I noticed that during this activity, the students came up with a lot of questions. This activity, could be the springboard for an animal research project.