

Josh Karch
Lesson plan overview
Middle school Life science 6th grade
Animal adaptation and habitats

Inquiry: What makes an animal well suited to its environment?

Concept: The diversity of organisms on Earth is staggering. However, all organisms have an important characteristic, the ability to survive in a particular environment. In order to survive, each must have certain adaptations in terms of anatomy and behavior that are suited to the environment.

Standards: Biological Evolution, Interdependence of organisms, Behavior of organisms

Previous Knowledge: Basic ecology, evolution understanding, classification and animal diversity.

General Goal: The students should gain understanding of how individual organisms adapt and relate to an environment. We will use the Bemidji area biome to create an animal. This will allow students to use observation of animals around them and deduce necessary tools that an animal will need to survive.

Specific objectives:

1. DESIGN a hypothetical animal that could live in a particular environment and CONSTRUCT a model of it.
2. CLASSIFY your animal into a phylum of animals.
3. INFER which anatomical structures and features would help the animal to survive in the environment.

Materials:

Colored paper, string, colored clay, pins, straw, buttons, or ect. Be creative in assembling your animal but DO NOT use materials that will spoil or bring ants.

Set up: What is the strangest looking animal you have ever seen? How do you think it got that way? Using the information you know about ecology and evolutionary adaptations you are to create the strangest looking animal that ever "could" be on earth. Be creative, let your imagination flow and have fun.

Procedures:

1. Review information on biomes (land & water), classification of animals, and adaptations needed to survive in each environment.
2. Look at local wildlife and note specific tools each one uses.
3. Decide what the animal would look like and sketch a picture of the animal.
4. Name the animal using proper Genus and species format and classify it in a REAL (appropriate) phylum.
5. Describe the animal's behavior, including the way it obtains food, the kind of dwelling it lives in, reproduction, its defensive behavior, and how it moves and gets oxygen. Record all this information.
6. Use any materials to create a model of your animal. This is where you need to be creative!! The stranger the animal the better as long as it lives in a real biome and has adaptations suited to that area.
7. Answer the analysis questions and write a conclusion. The model of the animal as well as the report is due in ___ weeks.
8. On the day you bring your animal to class be prepared to write about another student's model and where it might live.

Analysis Questions and Conclusion (Written questions)

1. DESCRIBE the specific physical conditions that exist in your animal's environment including climate and landforms. (Temp, wind, rain, soil & sunshine)
2. For each of the conditions mentioned above, describe a characteristic of your animal that makes it well suited to the environment.
3. State the characteristics that enable you to CLASSIFY the animal in the phylum you selected.
4. On the basis of what you saw when you looked at another student's animal model, formulate a HYPOTHESIS about the environment to which the animal is adapted. EXPLAIN your answer.

Assessment Based on Objectives: Along with each student's written questions they will briefly share with the class their animal. They can describe the different tools and modifications they made and why they chose those modifications. Student will be graded on creativeness, understanding, and overall quality of work. A rubric will be used for project grade and questions will be scored separately.

<http://www.lessonplanspage.com/ScienceAnimalsAdaptToEnvironment-BuildAnimal10.htm>

Direct Instruction Model *animal adaption and habitats project*

Teacher: *Kanch*

Day *1*

School: *middle school 6th grade*

Subject: *Life Science*

Date: *11/4/07*

Block: 1 2 3 4

Semester: S1 S2

Students will engage in:

- independent activities
- cooperative learning
- peer tutoring
- visuals
- simulations
- Other:
- pairing
- hands-on
- whole group instruction
- technology integration
- a project
- centers
- lecture

Standards/Objective Met:

- Take a look at wildlife from region and how they adapt to their habitat
- Brainstorm ideas with class

Standards

- Biological evolution.
- Interdependence of organisms
- Behavior of organisms

Time	Procedures Followed:	Materials/Text References
<u>3-5</u> minutes	Class Starter: <i>Settle class, attendance</i>	
<u>5</u> Minutes	Review of Previously Learned Material/ Lesson Connections: <i>Introduce project, relate it to species diversity and classification.</i>	
<u>5</u> Minutes	Statement of Objectives: <i>- Introduce grading criteria - set out days plans</i>	
<u>10</u> Minutes	Presentation of new material: <i>- Inquiry Question set up (from lesson plan overview) - small group discussion (3-4 students) 5-10 min - prepare for Internet research and go to library</i>	
<u>20-25</u> Minutes	Guided Practice with Corrective Feedback: <i>Internet research</i>	
NA Minutes	Assign Independent Practice with Corrective Feedback:	
<u>Final time</u> Minutes	Lesson Review/Reteach: <i>Give assignment</i>	<i>Questions 3-5 on lesson plan overview anything printed from library research</i>

Present Closure

Homework Given: *Questions 3-5 on lesson plan overview*

Teacher Notes:

Direct Instruction Model

Teacher: Karch

Day 2

School: Middle School 6th Grade

Subject: Life Science

Date: 11/5/07

Block: 1 2 3 4

Semester: S1 S2

Students will engage in:

- | | | |
|--|--|----------------------------------|
| <input checked="" type="checkbox"/> independent activities | <input type="checkbox"/> pairing | <input type="checkbox"/> centers |
| <input type="checkbox"/> cooperative learning | <input checked="" type="checkbox"/> hands-on | <input type="checkbox"/> lecture |
| <input type="checkbox"/> peer tutoring | <input type="checkbox"/> whole group instruction | |
| <input type="checkbox"/> visuals | <input type="checkbox"/> technology integration | |
| <input type="checkbox"/> simulations | <input checked="" type="checkbox"/> a project | |
| <input type="checkbox"/> Other: | | |

Standards/Objective Met:

- Design a hypothetical animal that could live in a particular environment and construct a model of it. **C**lassify an animal using genus and species.

Standards
same as previous day

Time	Procedures Followed:	Materials/ Text References
3-5 minutes	Class Starter: <u>attendance, organize class</u>	
<u>N/A</u> Minutes	Review of Previously Learned Material/ Lesson Connections: _____	
<u>5-10</u> Minutes	Statement of Objectives: - Talk about goals of the day - _____ Have each student get animal outline <u>OK</u>	
<u>Rest of class period</u> Minutes	Presentation of new material: - organize material and how students collect material - students will begin to creating their organism.	on lesson plan overview under materials
<u>N/A</u> Minutes	Guided Practice with Corrective Feedback: _____	
<u>N/A</u> Minutes	Assign Independent Practice with Corrective Feedback: _____	
<u>N/A</u> Minutes	Lesson Review/Reteach: _____	

Present Closure

Homework Given: whatever is not finished & be ready to present,

Teacher Notes: IF ^{majority of} students do not finish give them more time

Direct Instruction Model

Teacher: Karch

Day 3

School: middle school

Subject: life science

Date: 11/6/07

Block: 1 2 3 4

Semester: S1 S2

Students will engage in:

independent activities

cooperative learning

peer tutoring

visuals

simulations

Other:

pairing

hands-on

whole group instruction

technology integration

a project

centers

lecture

Standards/Objective Met:

- Present students organisms
1-2 min presentations discussing
tools and adaptations of their organism.

Standards

same

Time	Procedures Followed:	Materials/ Text References
3-5 minutes	Class Starter: <u>attendance</u>	
<u>N/A</u> Minutes	Review of Previously Learned Material/ Lesson Connections: <hr/>	
<u>2-3 min</u> Minutes	Statement of Objectives: - restate <u>presentation goals</u> - present goals	
<u>Rest of class</u> Minutes	Presentation of new materials. - student presentations	
<u>N/A</u> Minutes	Guided Practice with Corrective Feedback: <hr/>	
<u>N/A</u> Minutes	Assign Independent Practice with Corrective Feedback: <hr/>	
<u>last few min</u> Minutes	Lesson Review/Reteach: <u>assign analysis questions 1-4 on lesson plan overview.</u>	

Present Closure

Homework Given:

Teacher Notes: ~~more~~ more time may be needed for presentation ~~practice~~

Students Name _____

Project Grade _____

Final Grade _____

Objective present 1	Beginning 2	Developing 3	Accomplished 4	Exemplary 5	Score
creativity	The student did not put much time or effort into their project.	The student put lots of efforts into their project but was unable to come up with creative ideas.	The student's organism had one or two creative adaptations.	Student was able to create a very original organism with many creative adaptations.	
presentations	Student does not describe the tools and modifications of their organism.	Student are able to describe their organism but are not very good and explaining it to the class.	Student talked about the tools and modifications of their organism.	Student did a good job of presenting their organism. They talked about the tools and modifications of their organism.	
Quality	Attempted project but put little effort into project. Did not meet the criteria of the project.	Met criteria but did not put much time or effort into project.	Met all the criteria with a quality project.	Went above and beyond expectations.	

Analysis Questions
Date _____

Name _____

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