



ADAPTATION

Overview

Book: *Peeps* by Scott Westerfield

Grades 8-12

The various species discussed in the book all had adaptations that allowed them to survive. In this PBL, students will research endangered animals and determine an adaptation that would increase the chances of survival.

Standards

MS-LS4-4	Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individual’s probability of surviving and reproducing in a specific environment.
HS-LS4-4	Construct an explanation based on evidence for how natural selection leads to adaptation of populations.
RI.8-12.1	Cite the textual evidence that most strongly supports an analysis of what the text says explicitly, as well as inferences drawn from text.
W.8-12.1	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.
WHST.8-12.7	Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Objectives

Students will research how animals adapt to their environment.

Students will research an endangered animal.

Students will list the sources used for research.

Students will create an adaptation that would increase the animal's ability to survive.

Students will develop a visual image of the adaptation

Students will write an argument to support their choice of adaptations.

Materials Required

Access to internet or library

Paper and pencil

Drawing paper

Colored pencils or gel pens

Software to create an animation (optional)

Procedure

1. Read passages in the book that told about the various adaptations species had made to survive.
2. Discuss how these adaptations helped the species.
3. Tell students to research various ways that animals have adapted in order to survive in their specific environment. Students should read at least 5 resources about adaptation. Hint: look for animals that have adapted to various habitats, such as deserts, tundra, grasslands, swamps, etc.
4. Have students keep a list of the sources used during the entire project.
5. Tell students to research endangered animals. Students will then pick one animal for the project. Students should use at least 5 different sources to research this animal.
6. Have students develop an adaptation that could help this animal survive.
7. Ask students to draw an illustration of this adaptation or create a short animation about the adaptation.
8. Have students write an explanation of the adaptation. This should include:

- Factors that necessitate the adaptation
- Description of adaptation
- Explanation of how this changes the prospects of survival

Extensions

1. Have students find ways that they can actually help an endangered species.
2. Have students create a fun adaptation for human beings.
3. Create awareness posters about endangered animals.
4. Contact various wildlife conservation groups to find out about conservation efforts in your region.
5. Encourage students to research one of the parasites discussed in the book and create a visual presentation to present the information.

Rubric

RUBRIC	Exceeds (3)	Meets (2)	Partially Meets (1)	Does Not Meet (0)
Research adaptations	Student can cite 6 or more resources	Student can cite 5 resources	Student can cite 3-4 resources	Student cites 2 or fewer resources
Research endangered animal	Student can cite 6 or more resources	Student can cite 5 resources	Student can cite 3-4 resources	Student cites 2 or fewer resources
Adaptation	Adaptation is very well conceived with clear supportive reasoning	Adaptation is well conceived with clear supportive reasoning	Adaptation is not well conceived with very little supportive reasoning	Adaptation is shown with no supportive reasoning
Writing	All requirements are included, all conventions are present and	All requirements are included, most conventions are present and correct	Some requirements are included, some	Few requirements are included, few conventions are

	correct		conventions are present and correct	present
Total N/12				

STEM Read and SmartSpace@NIU are part of Northern Illinois University's STEAM Works Initiative.

