



CURRICULUM CONNECTIONS

Penguins

<http://www.penguinsthefilm.com/>

IMAX film in 3D, with Educator Guide (see below).

FILM - After viewing *Penguins* and with some guidance from teachers, students should be able to:

Next Generation Science Standards

Kindergarten

K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.

Grade 1

1-LS1-2. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

1-LS3-1. Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.

Grade 3

3-LS2-1. Construct an argument that some animals form groups that help members survive.

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Grade 4

4-LS1-1. Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

Grades 6-8

MS-LS1-4. Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

MS-LS1-5. Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.

Grades 9-12

HS-LS2-8. Evaluate the evidence for the role of group behavior on individual and species' chances to survive and reproduce.

Common Core State Standards - in English Language Arts

Kindergarten

SL.K.2 Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Grade 1

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Grade 2

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Grade 3

SL.3.2 Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 4

SL.4.2 Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 5

SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 6

SL.6.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text or issue under study.

Grade 7

SL.7.2 Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text or issue under study.

EDUCATOR GUIDE

http://penguins.nwave.com/IMG/pdf/nWave_Penguins_EducatorsGuide.pdf

Next Generation Science Standards

Grade 3

3-LS2-1. Construct an argument that some animals form groups that help members survive.

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Grades 6-8

MS-LS2-2. Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Common Core State Standards - in English Language Arts

Kindergarten

RI.K.7 With prompting and support, describe the relationship between illustrations and the text in which they appear (e.g., what person, place, thing, or idea in the text an illustration depicts).

RI.6.7 Integrate information presented in different media or formats (e.g., visually, quantitatively) as well as in words to develop a coherent understanding of a topic or issue.

W.K.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

SL.K.2 Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

Grade 1

RI.1.7 Use the illustrations and details in a text to describe its key ideas.

W.1.7 Participate in shared research and writing projects.

W.1.8 With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

SL.1.2 Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

Grade 2

RI.2.7 Explain how specific images (e.g., a diagram showing how a machine works) contribute to and clarify a text.

W.2.7 Participate in shared research and writing projects.

W.2.8 Recall information from experiences or gather information from provided sources to answer a question.

SL.2.2 Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

Grade 3

RI.3.7 Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why, and how key events occur).

W.3.4 With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose.

W.3.7 Conduct short research projects that build knowledge about a topic.

SL.3.2 Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 4

RI.4.7 Interpret information presented visually, orally, or quantitatively (e.g., in charts, graphs, diagrams, time lines, animations, or interactive elements on Web pages) and explain how the information contributes to an understanding of the text in which it appears.

W.4.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

W.4.7 Conduct short research projects that build knowledge through investigation of different aspects of a topic.

SL.4.2 Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 5

RI.5.7 Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

W.5.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience.

W.5.7 Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

SL.5.2 Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

Grade 6

W.6.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

W.6.7 Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate.

SL.6.2 Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text or issue under study.

Grade 7

W.7.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

SL.7.2 Analyze the main ideas and supporting details presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how the ideas clarify a topic, text or issue under study.

Grade 8

W.8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Common Core State Standards

- in History/Social Studies and Science/Technical Subjects

Grades 6-8

RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.

Michigan Social Studies Grade Level and High School Content Expectations

Grade 2

G5.0.1 Suggest ways people can responsibly interact with the environment in the local community.

Grade 6

G5.1.1 Describe the environmental effects of human action on the atmosphere (air), biosphere (people, animals, and plants), lithosphere (soil), and hydrosphere (water).

G5.1.3 Identify the ways in which human-induced changes in the physical environment in one place can cause changes in other places.

Grade 7

G5.1.1 Describe the environmental effects of human action on the atmosphere (air), biosphere (people, animals, and plants), lithosphere (soil), and hydrosphere (water).

G5.1.3 Identify the ways in which human-induced changes in the physical environment in one place can cause changes in other places.