



# Flying Monsters Educator Resources

## About the Film

National Geographic Entertainment's *Flying Monsters* sets out to uncover the truth about pterosaurs. How did creatures the size of giraffes defy gravity and soar through prehistoric skies? World-renowned naturalist David Attenborough uses the latest science and leading-edge research from experts in the field to solve one of the greatest mysteries in paleontology, and then tells his story using eye-popping CGI technology to put audiences smack in the middle of the world of the pterosaur. You won't believe your eyes!

## Available Resources

National Geographic Education has developed activities to help K–12 classrooms connect biology and earth science instruction with pterosaur species investigations before and after viewing the film. Both *Flying Monsters* and the activities available at [www.natgeoed.org/flying-monsters](http://www.natgeoed.org/flying-monsters) will spark students' imaginations and engage them in dynamic, inspiring science learning.

**Visit [www.flyingmonsters-movie.com](http://www.flyingmonsters-movie.com) to access the following:**

- **Online Activities**

Eight online activities for use in the classroom and beyond. Standards-based and adapted for grades K–12

- **Multimedia resources**

Image galleries and videos to complement the *Flying Monsters* activities.

- **Interactive games**

Dig for pterosaur fossils and pilot a glider alongside a *Quetzalcoatlus* in a fun *Flying Monsters* interactive.

# Connections to National Standards

| Activity / Grade                                   | Description  | Connection to Standards   |
|--|--|---|
| Pterosaur Glider Experiment<br>Grades 2–5          | Students alter gliders in controlled experiments to simulate how certain characteristics affect pterosaurs' flight.  | <b>National Science Education Standards</b><br>(5–8) Standard A–2: Understandings about scientific inquiry<br>(5–8) Standard B–2: Motions and forces<br>(5–8) Standard C–5: Diversity and adaptations of organisms<br>(K–4) Standard B–2: Position and motion of objects<br>(K–4) Standard C–1: The characteristics of organisms<br>(K–4) Standard A–2: Understanding about scientific inquiry  |
| Build a Pterosaur<br>Grades K–5                    | Students explore the origins of the word pterosaur and a pterosaur's relationship to dinosaurs. They examine pterosaur adaptations as a volunteer is dressed up as a pterosaur.  | <b>IRA/NCTE Standards for the English Language Arts</b><br>Standard 3: Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features.<br><br><b>NCTM Principles and Standards for School Mathematics</b><br>Geometry (3–5) Standard 4: Use visualization, spatial reasoning, and geometric modeling to solve problems.<br>Geometry (pre-K–2) Standard 4: Use visualization, spatial reasoning, and geometric modeling to solve problems.<br>Measurement (3–5) Standard 1: Understand measurable attributes of objects and the units, systems, and processes of measurement.<br>Measurement (pre-K–2) Standard 1: Understand measurable attributes of objects and the units, systems, and processes of measurement.<br><br><b>National Science Education Standards</b><br>(5–8) Standard C–5: Diversity and adaptations of organisms<br>(K–4) Standard C–1: The characteristics of organisms |
| Hunters in the Air<br>Grades 3–5                   | Students examine characteristics of pterosaurs as they evolved over millions of years and consider how these adaptations made pterosaurs effective hunters and survivors.  | <b>National Science Education Standards</b><br>(5–8) Standard C–5: Diversity and adaptations of organisms<br>(K–4) Standard C–1: The characteristics of organisms   |
| Adaptations: Changes Through Time<br>Grades 6–8    | Students watch a video of a gliding lizard to examine characteristics that enable flight. They record in chart form characteristics and abilities of four pterosaurs to see how these animals adapted to survive over millions of years. | <b>National Science Education Standards</b><br>(5–8) Standard C–2: Reproduction and heredity<br>(5–8) Standard C–5: Diversity and adaptations of organisms  |
| Observations and Hypotheses<br>Grades 6–12         | Students differentiate between observations and hypotheses in an article about pterosaurs. They then consider how challenging and further testing hypotheses is part of the nature of science.   | <b>National Science Education Standards</b><br>(5–8) Standard C–5: Diversity and adaptations of organisms<br>(5–8) Standard G–2: Nature of science<br>(9–12) Standard C–3: Biological evolution<br>(9–12) Standard G–2: Nature of scientific knowledge  |
| Exploring Vertebrate Classification<br>Grades 9–12 | Students group vertebrates and share their reasoning in classifying them. They compare their approach to Linnaean and modern systems in order to explore evolutionary relationships and the dynamic nature of classification.            | <b>National Science Education Standards</b><br>(9–12) Standard A–2: Understandings about scientific inquiry<br>(9–12) Standard C–3: Biological evolution  |
| Examining Convergent Evolution<br>Grades 9–12      | Students examine animals that are examples of convergent evolution. They then analyze wings of bats, birds, and pterosaurs to see why these animals are not closely related.   | <b>National Science Education Standards</b><br>(9–12) Standard A–2: Understandings about scientific inquiry<br>(9–12) Standard C–3: Biological evolution  |
| Adaptive Radiation<br>Grades 9–12                  | Students analyze characteristics of six pterosaurs to determine the role of adaptive radiation in their evolution from a common ancestor.  | <b>National Science Education Standards</b><br>(9–12) Standard A–2: Understandings about scientific inquiry<br>(9–12) Standard C–3: Biological evolution  |

Visit [www.flyingmonsters-movie.com](http://www.flyingmonsters-movie.com) for fun games and pterosaur facts, and to find a theater near you!