

Tying the Knot

National Science Education Standards Addressed in This Article

National Science Education Standard	Where and How the Standard Is Addressed
Abilities necessary to do scientific inquiry	Reflection Sections: Thinking critically, summarizing, and evaluating material students have read; Number Crunches: Using mathematics in all aspects of scientific inquiry.
Understandings about scientific inquiry	Methods, Findings, and Discussion: Scientists use models to understand what is happening between the red knots and horseshoe crab populations.
Reproduction and heredity	Introduction and Horseshoe Crab sidebar: Reproduction is a characteristic of all living things.
Regulation and behavior	Thinking about the Environment, Introduction, Methods, Findings, and Discussion: Horseshoe crabs and red knots must be able to obtain and use resources, grow, reproduce, and adapt. Thinking about Environment and Introduction: Migration.
Populations and ecosystems	Entire article: Populations of red knots and horseshoe crabs and how they interact. Introduction: Lack of horseshoe crab eggs as possible source of declining red knot population.
Diversity and adaptations of organisms	Horseshoe crab sidebar: The age of horseshoe crabs and the fact that they are not crabs but instead more closely related to spiders and scorpions.
Populations, resources, and environments	Introduction: Possible reasons for decline in red knot populations.
Natural hazards	Introduction: Possibility of human activities inducing hazards through harvesting of horseshoe crabs, which may accelerate natural changes.
Science and technology in society	Meet the Scientists: Science and technology advance through contributions of many different people; Entire article: How science and technology are used to help solve problems.
Science as a human endeavor	Meet the Scientists: Shows a variety of scientists and what they love about science; Thinking About Science: Land managers and scientists working together to solve problems.
Nature of science	Methods and Findings: Mathematical modeling, observations, explanations, and experiments.

Social Studies Education Standards Addressed in This Article

National Curriculum Standards for Social Studies	Where and How the Standard Is Addressed
Time, continuity, and change	Horseshoe crabs sidebar: Horseshoe crabs are older than the dinosaurs.
People, places, and environments	Introduction: Why people harvest horseshoe crabs and the potential impact of this harvest on red knots.
Production, distribution, and consumption	Introduction: Why people harvest horseshoe crabs and the potential impact of this harvest on red knots.
Science, technology, and society	Method: The use of scientific modeling to solve societal problems, such as the declining red knot population.
Global connections	Thinking About the Environment: The migration route of red knots encompasses the distance from the southern part of South America to Arctic Canada.