

Bears of the World

Curriculum on the Eight Bear Species and Their Ecosystems

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Introduction

Mission: The Great Bear Foundation is dedicated to the conservation of the eight species of bears and their habitat around the world.

Vision: The Great Bear Foundation envisions communities dedicated to the protection and conservation of bears and the reduction of human-bear conflict. Through a variety of education and outreach activities, we strive to increase awareness and knowledge on the topic of bears to empower citizens and increase their understanding of living with bears.

Philosophy: The *Bears of the World* curriculum is based in the educational philosophy of constructivism. Constructivist theory argues that knowledge is constructed by the learner through the interaction between their prior knowledge and experiences and their new learning experiences.¹ Constructivism is a learner-centered approach and allows students more freedom to explore the topics presented in the curriculum. The Five Es Learning Cycle is based in constructivist theory, and the lessons of this curriculum follow this theory as well.² Each lesson begins with an engagement activity to determine student's prior knowledge and to interest them in the topic or theme of the lesson. This is followed by an exploration of the topic through a learning activity. Next, the teacher brings the students together as a group to explain the key concepts and terms presented in the learning activity and to connect the lesson to the engagement activity and students' prior knowledge. This is followed by an elaboration activity, where students apply their new knowledge or skills to a new context and build on their new understanding of the topic. Finally, each lesson provides a discussion on evaluation and assessment of students to assess their new knowledge, skills, or abilities.

This curriculum was primarily designed for elementary and middle school aged children, particularly grades 4 through 8. Lessons are adaptable, however, and can be modified to fit the needs of younger or older learners.

This curriculum is also connected to environmental education, and lessons address the awareness, knowledge, values, and skills that will contribute to positive environmental action and positive environmental behaviors. Since this curriculum particularly focuses on grades 4 through 8, primary emphasis is placed on knowledge and skills. Awareness and values are primarily emphasized in the various engagement activities of the lessons, while the lessons themselves emphasize new knowledge and skills for the learner. Several lessons do have more action-based projects, but for this age group they are more guided by the instructor than created by the students themselves.

¹ Ewald Terhart (2003) Constructivism and teaching: A new paradigm in general didactics?, *Journal of Curriculum Studies*, 35:1, 25-44

² NASA. (n.d.). *5Es Overview*.

<http://www.nasa.gov/audience/foreducators/nasaclips/5eteachingmodels/>

The *Bears of the World* curriculum is organized around the eight bear species of the world. Section One serves as an introduction to the topic, with lessons focusing on habitat, ecosystems, and general bear characteristics. Sections Two through Nine focus on the grizzly bear, American black bear, polar bear, spectacled bear, Asiatic black bear, sun bear, sloth bear, and giant panda bear respectively. Each section has lessons focusing on the ecology, distribution, and behavior of the bears as well as lessons focusing on the threats to the species and conservation topics. Each section also contains a cooking activity and a writing activity for each bear species. Section Ten focuses on wrap-up activities to help solidify the learning from previous sections. This section includes lessons on mapping world bear habitat and conservation projects. The section also includes bears in the media lessons designed to have the students analyze how bears and other animals are portrayed in the media and whether certain portrayals are beneficial or harmful to the animals.

This curriculum is adaptive, and teachers do not have to follow the order of the lessons as presented. While it is more effective to follow the order of lessons and topics as presented in the curriculum because the lessons in each unit build off of each other, the various sections and lessons are also designed to stand on their own. In this way teachers can pick and choose activities that fit more easily into their previously established classroom curriculums. The lessons also follow an inclusion model, and are presented as a separate experience. This curriculum is additional to a teacher's current classroom curriculum and lessons can be included as appropriate. The curriculum aims to be interdisciplinary, with various lessons incorporating combinations of math, science, writing, history, cooking, and art. An interdisciplinary model is used to emphasize the various interconnections that exist between disciplines and to show how the topic of bears is connected to a multitude of disciplines as well.

Lessons are connected to the National Association of Environmental Education *Guidelines for Excellence* in Environmental Education.³ These guidelines are divided into four strands, each representing a broad aspect of environmental education and its goal of environmental literacy. The four strands are Questioning, Analysis, and Interpretation Skills; Knowledge of Environmental Processes and Systems; Skills for Understanding and Addressing Environmental Issues; and Personal and Civic Responsibility. Utilizing these standards shows how environmental education can be used to synthesize various other disciplines and how standards for environmental education align with standards for other disciplines as well.

³ NAAEE. 2004. *Excellence in Environmental Education: Guidelines for Learning (K-12) Executive Summary and Self Assessment Tool*.