

California University Of Pennsylvania: Elementary/Early Childhood Education Department
Private Industry Council of Westmoreland/Fayette County, Inc.
Pittsburgh Association for the Education of Young Children
Ohiopyle State Park/Pennsylvania Parks and Forests Foundation

PNC Grow Up Great With Science Program

Early childhood science learning should:

- originate from children's own explanations and questions.
- center on authentic, experiential learning within the context of family life.
- extend from children's naturalistic play.
- focus on developing age appropriate science process skills such as observing, exploring and explaining.
- use local places such as school grounds, forests, fields, wetlands and human communities as locations for learning science and also as the focus of science learning.
- integrate instruction that blurs the traditional academic boundaries between science, math, literacy, social studies, art and physical wellness.

Goal 1 – Develop the capacity of **early childhood educators** to design, deliver and integrate science instruction throughout the pre-school learning environment. Early childhood educators will be able to:

Objective 1a – describe the characteristics of the **nature of science**. (i.e inquiry-oriented; empirical evidence; repeatability; testable, peer-reviewed, intuitive, diverse methods etc.).

Objective 1b – demonstrate the ability to engage in **scientific inquiry** that arises from their own questions, focuses on detailed observations, explores phenomena and proposes explanations based on their observations.

Objective 1c – demonstrate the ability to search, select and evaluate age-appropriate **science activities** for use in their teaching context.

Objective 1d – demonstrate the ability to create, innovate and acquire easily accessible, low cost **science teaching materials** for use in a classroom science center.

Objective 1e – demonstrate the ability to deliver science instruction **integrated throughout their curriculum**.

Objective 1f – demonstrate research-based science **instructional strategies** such as: phrasing questions, designing investigations and formative verbal assessment.

Objective 1g – evaluate **children's literature** for use in facilitating science learning.

Objective 1h – articulate an increased **confidence** in their ability to design, deliver and integrate science instruction.

Goal 2 – Develop the capacity of **parents** to engage their children in science learning experiences. Parents will be able to:

Objective 2a – describe successful strategies for searching, selecting and participating in age appropriate science learning experiences for their family.

Objective 2b – describe strategies for enhancing the science learning of their children.

Grant Activities to Accomplish These Goals and Objectives

Steering Committee

Teacher Professional Development Cycles

Initial Teacher Workshop

Implement science teaching ideas in classroom

Sharing Teacher Workshop

Support for Teachers

Personal classroom visits, telephone and email support

Website resources

Website discussion groups

Workshop materials

Mini-grant program

Family Field Trips

Cal U Prospective Teachers