



HANDOUT 2

Culture and Attitudes Worksheet



1. Identify an early science experience. What are your feelings regarding this early experience with science?
2. What were the messages around science education you received from adults while growing up?
3. What were the messages girls received regarding science versus the messages boys received?
4. As an English learner, what messages did you receive regarding learning science?
5. How did these early messages influence your interest and curiosity in science as you grew up?
6. How did these early messages influence your interest and curiosity in science today?
7. How do these early messages influence you as a teacher?



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Science is for all students!

“The goal in developing the preschool foundations for science is to describe age-appropriate scientific skills and knowledge that are typically displayed by preschool children under conditions that support healthy development. Children are different from one another and vary in their abilities, family and socioeconomic background, home experiences, and cultural heritage and values. Therefore, they may vary in the way they develop and display the knowledge and skills described in these foundations” (PLF, Vol. 3, p. 51).

Just as it is important to recognize the varying ways in which children may develop and display their knowledge and skills, it is equally important to utilize a variety of techniques when incorporating science into the transitional kindergarten classroom.

“Universal design provides for multiple means of representation, multiple means of engagement, and multiple means of expression. *Multiple means of representation* refers to providing information in a variety of ways so the learning needs of all children are met. For example, it is important to speak clearly to children with auditory disabilities while also presenting information visually such as with objects and pictures. *Multiple means of expression* refers to allowing children to use alternative ways to communicate or demonstrate what they know or what they are feeling. For example, when a teacher seeks a verbal response, a child may respond in any language, including American Sign Language. A child with special needs who cannot speak may also respond by pointing, by gazing, by gesturing, by using a picture system of communication, or by using any other form of alternative or augmented communication system. *Multiple means of engagement* refers to providing choices in the setting or program that facilitate learning by building on children’s interests. The information in this curriculum framework has been worded to incorporate multiple means of representation, expression, and engagement” (PCF, Vol. 1, p. 13).

“Although science is important for all children, it is especially relevant to English learners and many children with special needs, for whom the development of new vocabulary and language skills in authentic learning experiences is most effective” (PLF, Vol. 3, p. 49).

“Research indicates that the language to which children are exposed and culturally shared belief systems may play a role in children’s development of core biological concepts and reasoning (Anggoro, Waxman, and Medin 2005; Waxman and Medin 2006; Hatano and others 1993)” (PLF, Vol. 3, p. 51).

“...[S]ome children with special needs (e.g., children with speech or language delay) may express themselves by using nonverbal means of communication, through gestures, drawings, and actions. Teachers should be aware that when foundations or examples indicate verbal expression, children might use any means of communication (including home language)” (PLF, Vol. 3, p. 52).



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