

Science


Scientific Inquiry
(skills and language related to science)

- 1.0 Observation and Investigation
- 2.0 Documentation and Communication

Physical Sciences

- 1.0 Properties and Characteristics of Nonliving Objects and Materials
- 2.0 Changes in Nonliving Objects and Materials

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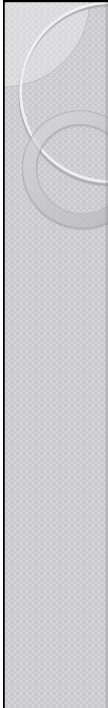
Life Sciences

- 1.0 Properties and Characteristics of Living Things
- 2.0 Changes in Living Things

Earth Sciences

- 1.0 Properties and Characteristics of Earth Materials and Objects
- 2.0 Changes in the Earth

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- What is critical information that teachers should know about the science foundations?
- What are the key vocabulary terms in this domain that teachers should know?

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- What made it easy or difficult to decide which foundation was being portrayed?
- What similar challenges might occur when observing children to determine their progress in learning the skills or knowledge described in the foundations?
- What might teachers need to know or plan to do to address those challenges?

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- What images or words from the role playing are you still thinking about?
- Which foundations did you find it easiest to develop an example for? To identify? Which were the most difficult to develop? To identify?

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- What additional considerations should teachers be aware of when observing children to see how they may be demonstrating the knowledge and skills described in the science foundations?
- What will you take from this learning experience to your work on the science foundations with young children?

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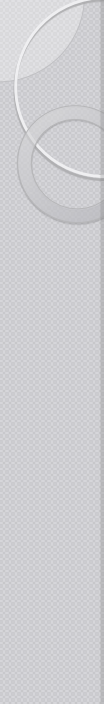
“Science is for all students, regardless of age, sex, cultural ethnic background, disabilities, aspirations, or interest and motivation in science.”

(National Committee on Science Education Standards and Assessment and National Research Council 1996, 20)

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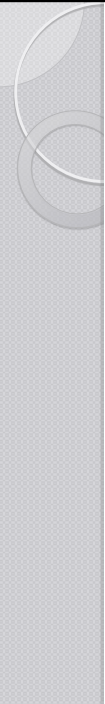
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- Children approach scientific inquiry and explanation having various linguistic, social, and cognitive skills.
- Cultural background may shape the development of some scientific concepts.
- Experiences with the natural world affect children's understanding of science concepts.

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- Many children in California are learning about scientific concepts and skills while acquiring English.
- Some children may communicate their science knowledge and skills using nonverbal means of communication.

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Principles of Universal Design for Learning

1. Multiple means of representation
2. Multiple means of expression
3. Multiple means of engagement



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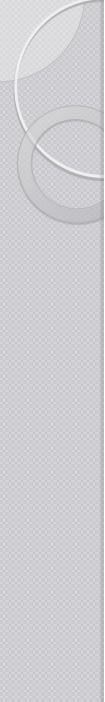
Principles of Universal Design for Learning

1. Multiple means of representation
 - Providing information in a variety of ways so the learning needs of all of the children are met (California Preschool Learning Foundations, Volume 3, pg. xiv).

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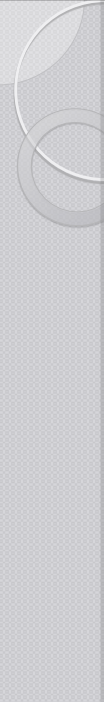
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Principles of Universal Design for Learning

2. Multiple means of expression

- Allowing children to use alternative methods to demonstrate what they know or what they are feeling (California Preschool Learning Foundations, Volume 3, pg. xiv).

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Principles of Universal Design for Learning

3. Multiple means of engagement

- Providing choices for activities in the setting or program that facilitate learning by building on children's interests (California Preschool Learning Foundations, Volume 3, pg. xiv).

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Resources:

- *Adapting Early Childhood Curricula for Children with Special Needs* (Eighth edition) by Ruth E., Cook, M. Diane Klein, and Annette Tessier.
- *Inclusive Early Childhood Education: Development, Resources, and Practice* (Sixth edition) by Penny Low Deiner.