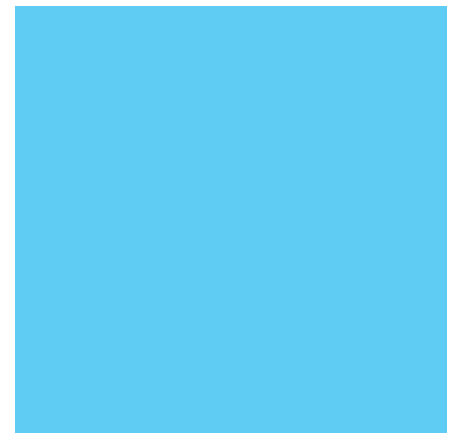
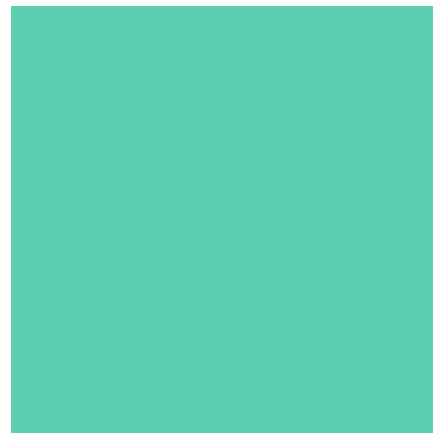
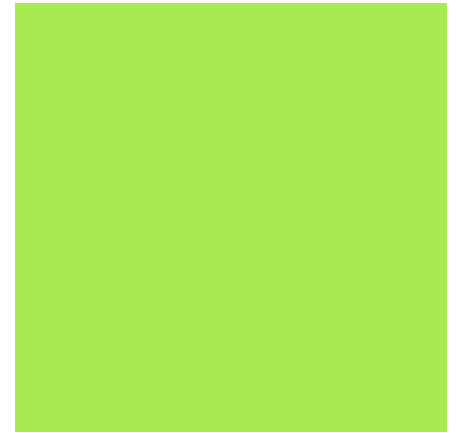




Let's Talk: Early Science Development



Excerpt: Life Science Workshop

+ Early Science Development

“Scientific knowledge is cumulative: To learn new things, you must build on what you already know. So, it’s important that your child starts learning early...”



– U.S. Department of Education

+ Early Science Development: Overview

Key Concepts

- Foundations in Science Development
- Scientific Inquiry
- Science Vocabulary
- Developing a Science Area
- Curriculum Integration

You Will Learn

- ☑ **Ways to build solid *foundations* in:** physical science, **life science**, and earth science
- Ideas to promote *scientific inquiry* in young children
- Activities that build *science vocabulary*
- Ways to develop a preschool *science area*
- How to enhance concepts in science through *curriculum integration*

+ Early Science Development: Provide Opportunities

Early science development involves :

Providing a variety of opportunities for young children to explore concepts in science relating to scientific processes, physical science, life science, and earth science.

Think About:

What type of opportunities promote early science development?





Science for Young Children...

Involves:

- *Playful and free exploration of the natural environment
- *Questions generated from authentic child-centered investigations
- *Rich conversational exchanges about the world around them
- *Guided and supportive activities using science materials and tools

+ Fostering Early Science Development



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Promoting Science Development with Young Children

- Encourage active participation in hands-on science experiences
- Allow ample time for children to explore and make new discoveries
- Use science terminology/vocabulary when answering questions and/or discussing science ideas; help children make connections to their past experiences

+ Early Science Foundations

What we know about young children and science:

- Young children have a basic competence in science *before* they enter kindergarten.
- Children encounter science concepts in their daily interactions with the world and are motivated to discover and explore.
- States, nationwide, have developed preschool science standards/learning expectations.
- Training early childhood educators to teach science has not been a priority in the past.



Life Science

Life science involves
encouraging young children to
investigate the characteristics of
living things



Life Science

Favorite preschool life science topics include:

- ☐ Life cycles
- ☐ Insects
- ☐ Plants/Gardening/Seeds
- ☐ Birds
- ☐ Pets
- ☐ Healthy Foods
- ☐ My Body
- ☐ Homes/Habitats
- ☐ Ocean Animals
- ☐ Wild Animals



+ Importance of Life Science

Young children often enjoy learning about the plants and animals in their natural environment.



What living plants and creatures are from your area? Start exploring with things children are familiar with, then introduce them to living things from areas quite different from their own.



+ ★ Activity – Life Science “Sciencing”

Science-Related Activities for Children

- ❖ Reflect upon your past work with your preschoolers in the life science area. List some of the ways that your children have been involved in life science.
- ❖ Share your list with a partner. Together determine which three categories of “sciencing” your life science classroom experiences fit into and discuss how to bring exploratory & guided play into the life science experiences in your classroom.



+ Life Science: Plants

Opportunities with plants provide ways for children to explore and discuss how plants move differently than animals. What do plants and animals need that are the same? What are the differences between plants and animals?



+ Plants



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Plants are a natural part of the world we live in and children are often curious about the plants around them.

Plant science vocabulary may include: root, stem, bud, branch, flower, seed, soil, leaves, trunk, bark, and photosynthesis. What other science “plant” words would you include?



+ ★ Activity: Plants

Comparing & Contrasting

Brainstorm with a partner ideas for involving young children in comparing/contrasting plants.



+ Life Science: Animals

- ❑ Opportunities with exploring animals are often highly motivating for young children. They often like to hear & imitate their sounds, feel their bodies, and watch their behavior.
- ❑ The study of different types of creatures can be categorized into topics (Insects, Mammals, Fish, Birds, Amphibians, Reptiles...).
- ❑ Generate conversations about the life cycles of different animals.



+ Animals

Animal science vocabulary may include: fur, feathers, skin, cold-blooded, warm-blooded, amphibian, metamorphosis, shed, gallop, slither, beak, scaly, hibernate, nocturnal. What other science “animal” words would you include?



+ Activity:

Animal Investigations

1. Share some ways that your children have investigated living creatures in your preschool setting?
2. Discuss with a partner how you can expand and extend your original ideas to include the following: all aspects of scientific inquiry, science vocabulary, science area materials/activities, and curriculum integration.



+ Early Science Development

- Engaging children in meaningful activities about:
 - Physical Science, Life Science, and Earth Science
 - Scientific Inquiry
 - Science Vocabulary
 - Science Area Exploration
 - Integration of Science Throughout the Day



Science
Success!