

CHAPTER 21

Math and Science Explorations

Study Guide

Directions Fill in the blanks as you read the section in the textbook or listen to lectures and view demonstrations.

Math for Young Children

Career opportunities, from construction to computer programming, require

Helping children develop a positive attitude toward math as a helpful tool begins in

Mathematics: _____

Mathematical vocabulary: _____

True understanding of math occurs between ages _____, when children are in the _____ part of Piaget's preoperational stage of intellectual development.

Math Curriculum Goals

Math program objectives include the following:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

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Math Activities

Children use math as a way of _____.

Child care professionals highlight _____

Child care professionals can also observe children as they play to _____

Early childhood teachers use the following types of activities to encourage children to use math skills with confidence:

- Recognizing shapes:

- Sorting:

- Seriation:

- Patterning:

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- Rote counting:

- Rational counting:

- Recognizing numerals:

- Ordering numerals:

- Making charts and graphs:

Math Materials

The following are materials early childhood teachers should have on hand for children's creative use:

- _____
- _____
- _____

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- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Science for Young Children

Science: _____

The basics of science for children are _____

Teachers need to guard against _____

However, it is necessary to _____

Guiding Science Learning

Teachers might ask the following questions as children explore:

- _____
- _____
- _____
- _____

Child care professionals make the most of _____ to spark children's interest in science.

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Science Curriculum Goals

The science curriculum:

- _____
- _____
- _____

Goals for a science curriculum include:

- _____
- _____
- _____
- _____
- _____

Science Activities

Before you can develop science activities for children, you need to _____

Relate science principles to _____

Early childhood educators organize learning opportunities _____

Science activities need not be _____

Science Materials

Materials in a science learning center should include

Name _____ Date _____ Class _____

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Sensory table: _____

Light table: _____

Cooking with Children

Cooking is a highly sensory experience, with many opportunities to _____

Cooking activities lend themselves easily to _____

Rebus recipe: _____

For a successful cooking experience, remember these guidelines:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

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Exploring Natural Wonders

Nature education: _____

Some ways to help children get the most out of nature education include:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

Tools for Nature Exploration

Tools for nature exploration may include:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____

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Classroom Pets

Typical classroom pets include _____

Pets offer many lessons in science:

- _____
- _____
- _____
- _____

As they care for pets during feeding or cleaning, children practice _____

When using pets with children, consider the following factors:

- _____
- _____
- _____
- _____

Bird Watching

As well as being entertaining, bird watching _____

To attract birds, offer _____

Children can observe the following bird traits as they learn to identify birds:

Chapter 21 Math and Science Explorations (continued)

Gardening Adventures

Gardening introduces children to _____

Gardening also illustrates _____

Gardening shows how plants and insects _____

Gardening also provides _____

Indoor gardening activities for children can include:

- _____
- _____
- _____
- _____
- _____
- _____
- _____
- _____