FALL 2023

Early Learning & Education PROGRAMS

What's Inside

Exploring Preschool Math

Children use math every day. When they play and participate in activities, children practice understanding numbers, sorting items, grouping things that are alike or different, recognizing patterns, measuring, manipulating shapes, solving problems in a logical way, and building their awareness of the position of objects or people in a space and how they move in relationship to each other (spatial awareness). These skills prepare children for learning higher mathematics, such as arithmetic, algebra, and geometry.

Children need an environment that encourages them to explore and experiment with math concepts at their own pace. Activities such as puzzles, stringing beads, matching games, blocks, and items for sorting and counting are crucial for developing and practicing math skills. Provide a variety of activities that can be rotated as children's interests change. Include empty containers, colored paper, muffin tins, and divided plates to invite children to sort and organize small items. Drawing a grid on a poster board and placing a prompt in each grid, such as a color or picture (different homes, habitats, shapes) can also invite children to sort objects.

Sorting objects into groups by their characteristics is called classification, an important pre-algebra skill. To practice classifying with children, select items to sort that directly relate to topics they find interesting. For example, a child who has just visited the zoo

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FAMILY BOOK KITS

Create book kits that families can borrow. Include activity ideas and questions to guide them in exploring math concepts with their children.

- *Changes, Changes* by Pat Hutchins
- *Each Orange Had Eight Slices* by Paul Giganti Jr.
- *Nature's Paintbrush: The Patterns and Colors Around You* by Susan Stockdale
- *Ten Little Rabbits* by Virginia Grossman
- *Twelve Ways To Get To Eleven* by Eve Merriam
- *Shapes, Shapes, Shapes* by Tana Hoban
- *It Looked Like Spilt Milk* by Charles Shaw
- *Mouse Paint* by Ellen Stoll Walsh
- *What Time Is It, Mr. Crocodile?* by Judy Sierra

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Exploring and **Learning**

Create a science and math area where children can explore and learn on their own. If possible, set it up near a window so children can observe the weather, bird feeders, prisms, and wind chimes. Include a variety of tools to aid in scientific inquiry, such as magnifying glasses, bug boxes, trays for sorting, tape measures, rulers, scales, notebooks, and writing tools. Add posters, photographs, and books related to children's current science interests. Rotate materials according to children's interests and developmental needs. Try changing materials every couple of weeks, but keep a few items that children can observe over time, such as plants, bird feeders, or a pet.

Children can investigate different scientific fields. Physical science experiences offer children the opportunity to learn about cause and effect, the physical properties of objects (size, shape, and weight), how objects can be manipulated (heating, cutting, mixing, or freezing), how force can set objects in motion, and how form affects function. Physical science experiences take place when children build with blocks, mold clay, mix water with sand, or construct ramps for toy cars. Children learn about life science when they collect leaves, hunt for bugs, garden, and care for animals. These activities help children understand what living things are, where they live, and how they survive. Earth science experiences allow children to explore the weather, climate, rocks, and other properties of Earth.

Materials used for scientific inquiry also support math development. Children can measure the growth of plants and rainfall. They can sort, count, and classify seeds; then match them to the corresponding vegetable, fruit, or plant. Invite children to make a sequencing chart that shows how a plant grows, look for shapes in nature (tree limbs that make a triangle), and use mathematical reasoning (question, observe, and report) to record the outcome of an experiment. Children can also try balancing on natural objects like logs or tree cookies to develop spatial awareness.

Source: *California Preschool Curriculum Framework, Volume 3* by the California Department of Education (Sacramento, 2013).

California Poison Control System

The **California Poison Control System (CPCS)** is an important resource for both child care providers and families. Its primary purpose is to answer questions about poisons and offer free treatment advice through their toll-free national hotline. The hotline is available to the public seven days a week, twenty-four hours a day, by calling **(800) 222-1222**. It is a good idea to save this number in your mobile phone and place it in a visible place in your child care program where others can see it.

Staff who answer the phone are pharmacists, nurses, doctors, and specialists in poison information. They can assist with a wide range of questions regarding insect stings, poisonous bites, lead poisoning, alcohol poisoning, toxic plants, carbon monoxide poisoning, medication overdose, pesticides, seasonal safety, and more. Calls made to the California Poison Control System are confidential and provide interpretive services in over two hundred languages. In addition to the hotline, they provide outreach services to educate the community about the dangers of poisons in order to prevent accidental exposure to dangerous substances.

Services offered to educators include free outreach materials that can be printed or ordered, a Poison Prevention Training Program, Poison Safety Education Course in English or Spanish, National Poison Prevention Week activities in the month of March, and opportunities for partnerships and presentation requests through their Health Education Program. Their website also provides an interactive game to practice recognizing the differences between candy and pills, and materials for teaching school-age children about poisons. Consider posting flyers where families can access them as a resource. Visit the CPCS website at **https://calpoison.org** to explore their free materials and learn more.

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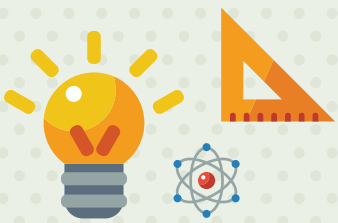
Exploring Preschool Math

might be interested in sorting plastic zoo animals. They might use blocks to construct animal enclosures, and then sort the animals by different characteristics such as color, shape, size, movement, diet, or habitat. Children can classify objects by general groups and subgroups, such as placing all the animals that eat plants into one large group, and then breaking that large group down into categories by a secondary characteristic such as type of animal (elephant, tortoise, hippo) or how it moves. Allow children to develop their own methods for classifying and ask questions that encourage them to explain their process, such as, *"How did you decide where these go?"*

Place items that can be classified into one basket or tub with the divided plates, shoeboxes, or other sorting containers next to it. Some items that can be classified by multiple characteristics include sea shells (size, shape, or color), baseball cards (team, position, symbol, numeral, or letter), seed packets (picture, color, shape, letter, or numeral), socks (size, color, pattern), buttons (size, shape, color, or number of holes), lids (type of material, size, or color), and books (size, subject, author, first letter of title, or copyright date). Select items appropriate for the ages and abilities of children, and avoid any that may be a choking hazard.

Look for ways to engage children in practicing math skills during free play and planned activities. Add calculators, telephones, and placemats that show the pattern for a table setting in dramatic play. Place books that introduce math skills like counting and shape recognition in the reading area, add rulers and grid paper to the writing or art area, and add measuring tape or scales to the math and science areas. Engage children in rich conversations about math and have fun exploring together.

Source:
California Preschool Curriculum Framework, Volume I by the California Department of Education (Sacramento, 2010).



REFLECTING ON MATH

The math concepts children develop in early childhood are the foundation for their future success. Children develop and practice math skills throughout the day as they play and engage in activities. Educators can help children notice the math in their work by asking open-ended questions or narrating what they observe. Use the following questions to reflect on how children explore mathematics in your program.

- What have you included, or could you include in your environment, to support the development of children's counting and understanding of numbers?
- What strategies have you used to engage children in mathematical reasoning? For example, if a child uses a cup to fill a bucket with water, you may ask, *"How many cups do you think it will take to fill the bucket?"*
- How could you integrate sorting and patterning experiences into children's current areas of interest?

Source: *California Preschool Curriculum Framework, Volume 1* by the California Department of Education (Sacramento, 2010).

RECIPES

Celebrate the Season

Invite children to explore the scents and flavors of the fall season with these recipes.

Pumpkin Pie Play Dough

- 6 1/2 cups of flour
- 2 cups of salt
- 9 teaspoons cream of tartar
- 3/4 cup of vegetable oil
- 1 container (1 1/2 ounces) of pumpkin pie spice
- Orange food coloring (4 drops of yellow and 2 drops of red)
- 4 1/2 cups of water

Directions

Combine all of the ingredients. Over medium heat, cook and stir the mixture until all the lumps disappear. Allow it to cool. Knead the dough on a flour covered surface until it is smooth. Add additional flour if necessary. Allow children to play freely with the dough. Store it in an airtight container when not in use.

Cranberry Freeze

- 16 ounce can (2 cups) of whole cranberry sauce
- 8 ounce can (1 cup) of crushed pineapple, drained
- 1 cup of sour cream or yogurt

Directions

In a medium bowl, combine all the ingredients and mix well. Pour the mixture into an ice cube tray. Freeze it for two hours, or until it is firm. Serve it cold.

Source: *Creative Resources for the Early Childhood Classroom, 5th Edition* by Judy Herr and Yvonne Larson (Thomson and Delmar Learning, 2009).

Math Games

Puzzles, board games, card games, and matching or memory games are fun and easy ways to learn and practice math skills. Outdoor games like hopscotch and four square also help build math skills.

Activity: Colored Balls and Boxes

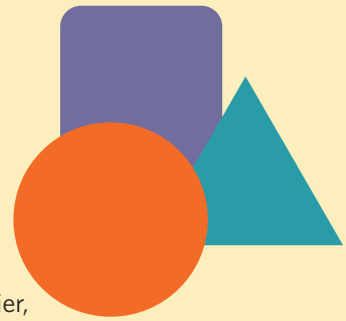
Age group: Infants

What you need: Several large cardboard boxes and different colored balls. Paint the boxes with non-toxic paint to match the balls. You can make soft balls by rolling a pair of socks together.

What you do: Start with just one box. For example, paint a box red and gather red balls. Place the box in the middle of the room. Allow infants to empty and fill the box with balls. While they are playing, introduce the vocabulary by describing what you see or by asking questions. For example, *"Jenny, can you put the red ball inside the box? How many red balls do we have?"* The next day, introduce a new colored box. Eventually, put out all the boxes and invite infants to sort the balls into their corresponding boxes.

What they learn: This activity provides infants with the opportunity to explore different colors, hear the names of colors, and engage in sorting objects by appearance.

Source: *Active Learning for Ones* by Debbie Cryer, Thelma Harms, and Beth Bourland (Addison-Wesley Publishing Company, 1987).



Activity: I Have a Shape

Age group: Toddlers

What you need: Cut out construction paper shapes for each child (square, circle, triangle). To make them sturdier, laminate the shapes or encase them in clear contact paper. They can also be glued to paper plates.

What you do: Gather children together to sing and give each child shapes to hold. Invite them to hold up the shape when they hear its name while you sing this song to the tune of "Skip to My Lou." *"I have a square shape, how about you? I have a square shape, how about you? I have a square shape, how about you? Hold your square up like I do!"*

Sing the song again, substituting "circle" and then "triangle" for the word "square." Once children have mastered those three shapes, you can add new ones.

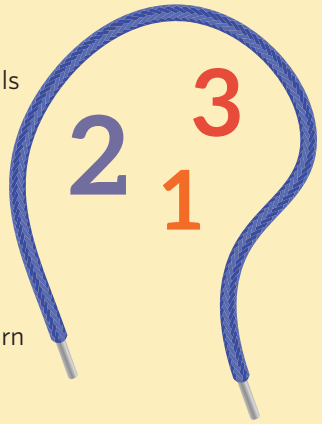
What they learn: Children practice identifying shapes by their spoken names. Once children are familiar with the song, place the shapes out on the carpet and encourage them to explore and sing by themselves.

Source: *1-2-3 Math: Pre-Math Activities for Working with Young Children* by Jean Warren (Warren Publishing House, 1992).

Activity: Shoelace Numerals

Age group: Preschool

What you need: Twenty sheets of construction paper, a black marker, and enough 20-inch-long shoelaces or yarn for each child.



What you do: Use the marker to draw a large numeral (number) on each piece of construction paper. Number the sheets 1-20. Give each child a shoelace. Invite children to create numerals by placing the shoelace on top of the written numerals on the construction paper. Talk about the shapes of the numbers. Encourage children to rotate the cards until everyone has had a turn with each numeral.

What they learn: Children learn to identify numerals and explore shapes. Children have an opportunity to talk about the characteristics of numerals, such as single- and double-digit numbers. Using the string allows children to practice fine motor skills.

Source: *1-2-3 Math: Pre-Math Activities for Working with Young Children* by Jean Warren (Warren Publishing House, 1992).

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Math **Games**

Activity: Knockout

Age group: School Age

What you need: Two dice, at least two people, paper, and pencils.

What you do: The goal is to have the highest amount of points after playing ten rounds. One player rolls both dice and adds the numbers together. If the number is not a seven, they write down the total on their paper, and the next player rolls. For example, if they roll a three and a two, then the score is five. If the number equals seven, they are "knocked out." This means they do not receive any points and lose their previous points. Continue until ten rounds have been completed. Players add up their total number of points, and the player with the highest points wins. Instead of playing rounds, children can also play until someone wins by reaching one hundred points.

What they learn: Children practice addition, subtraction, writing, and taking turns.

Source: Adapted from **https://www.whatdowedoallday.com/dice-games-for-kids/** in July 2023.

ABOUT CHS

For over 130 years, Children's Home Society of California (CHS) has adapted to the changing needs of children and families. Since 1891, CHS has worked diligently to protect our community's children and strengthen their families through diverse programs and services.

At CHS, we view a child not in isolation, but in the context of each family's health, stability, and resources. We believe that families are fundamentally strong and resilient. The mission of CHS is to reach out to children and families at risk with a range of services to ensure every child the opportunity to develop within a safe, healthy, and secure environment.

Therefore, CHS provides a variety of services to children and families in California and nationwide, working to improve their quality of life by offering vital information, education and resource services, and child care assistance.

CHS also serves as an expert resource for child care providers, other social service agencies, and government agencies at the local, state, and national level. To learn more about CHS and resources available to you, please visit our website at **www.chs-ca.org**.

If you would like additional copies of this newsletter to share with parents or other child care providers, please visit our website at **www.chs-ca.org/for-providers/provider-newsletter**.

BUILDING BRIGHTER TOMORROWS FOR CHILDREN TODAY

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