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**FEATURE**

# Learning centers: Best use of space in preschool classrooms

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*All of us respond to the space around us. The space can make us feel comfortable, cheerful, anxious, depressed, excited, or subdued. Space can help us organize our lives or add to the clutter. Space can be beautiful or dreary. Most of us like the space we live in to be suited to our needs, reflect our values, and be attractive, clean, and orderly.*

Linda Ard, *Room to Grow*, 1995



What's the best use of space in an early childhood program? Most experienced teachers will agree that it's learning centers. These divisions of a classroom into different interest areas, such as blocks, art, and dramatic play, give children choices in their learning through play.

Moreover, teachers can choose a curriculum unit—such as farm animals—and weave it into every center. In the language or book center, children can find books about farm animals, for example, and in the science center they can explore different textures of sheep's wool.

## Key principles

Set up learning centers so they are appropriate to age and developmental stages. A toddler room, for example, may have only two learning centers—art and books—plus an area for meals and another area for diapering. A preschool room may have 8 to 10 learning centers.

Define each center with physical boundaries. A large floor rug can mark the block center, and bookshelves can separate one center from another. Ideally, a large area will be left open for story and group time as well as music and movement.

Accommodate children with disabilities and developmental delays. In the art center, for example, chil-

dren with motor impairments may benefit from knob crayons and felt-tip pens or markers. Children with visual impairments may make collages and shape clay rather than drawing. For other adaptations, follow the guidance of Early Childhood Intervention (<https://hhs.texas.gov/services/disability/early-childhood-intervention-services>) and the Texas Education Agency (<https://tea.texas.gov/>).

To ensure children's safety, arrange all centers so you can supervise activities by sight and sound. Choose equipment and furniture that is sturdy and child-sized, and make sure all are in good repair. Choose materials that are washable, non-toxic, and free of choking hazards.

Make rules for each center to ensure safety, and teach self-regulation and responsibility. In the block center, for example, you and the children can agree on the size of the construction, how and when to take down buildings, and clean-up procedures.

Store materials so children can easily choose them



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for an activity and then return them to storage independently. Cover unused electrical outlets and keep traffic areas free of electrical cords. Arrange the environment so that messy centers (art and cooking) are near a sink and noisy centers (blocks and wood-working) are away from quiet ones (science exploration and books).

Choose themes and materials that not only satisfy your learning goals but also truly interest and engage children. To sustain interest, rotate the materials periodically. When introducing new materials, guide children in their use.

For general information on learning centers, see the “Back to Basics” column in the Summer 2019 issue of *Texas Child Care Quarterly* at ([www.childcarequarterly.com/pdf/summer19\\_basics.pdf](http://www.childcarequarterly.com/pdf/summer19_basics.pdf)) and the article “Learning Centers for Everyone” in the Summer 2010 issue ([www.childcarequarterly.com/pdf/summer10\\_centers.pdf](http://www.childcarequarterly.com/pdf/summer10_centers.pdf)).

## Group noisy centers together

The nature of the materials and activities in the centers will make some noisy, while others will be relatively quiet.

### Blocks/construction

Blocks are one of the most important tools in an early childhood classroom. Children can learn math concepts like size, shape, proportion, weight, and counting. They can discover scientific principles like gravity, friction, and the operation of simple

machines. Blocks also provide opportunities for social and emotional growth through problem solving, cooperative play, and creativity.

Start your collection with hardwood unit blocks. A basic unit measures 5 ½ inches by 2 ¾ inches by 1 ⅜ inches; all blocks are mathematically proportionate to this unit. You’ll need 100 to 300 blocks for a class of 15 children. Over time, you can add other types of blocks such as hollow blocks and foam blocks. To add interest, add toy vehicles and people figures, measuring tools such as rulers, pictures of buildings, and signs.

Inspiration for what to build can come from construction projects in the neighborhood, such as houses and office buildings. But you can also draw ideas from curriculum units. With a transportation theme, for example, you can invite children to build roads, tunnels, and bridges while exploring straight and curved lines.

Explore more ways in which block play supports learning in “Block play: Classroom essentials” in the Summer 2009 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/summer09\\_blocks.pdf](http://www.childcarequarterly.com/pdf/summer09_blocks.pdf) and “Blocks: A center for all seasons” in the Spring 2013 issue at [www.childcarequarterly.com/pdf/spring13\\_blocks.pdf](http://www.childcarequarterly.com/pdf/spring13_blocks.pdf).

### Dramatic play

The dramatic play center, sometimes furnished as the home or housekeeping center, is one of the most popular centers with children. Here they can indulge in pretend play through opportunities to try on roles, such as as mother, fire fighter, or airplane pilot and to interact socially with other children. It’s also highly adaptable to many settings, such as a post office, restaurant, supermarket, circus, airport, and hospital.

Basic furniture includes a kitchen cabinet, sink, and stove as well as table and chairs, doll cribs and high-chairs, and dollhouses. Stock the center with play dishes, dress-up clothes, and of course dolls. Make sure you offer plastic baby dolls, cloth dolls, and dolls representing diverse ethnic and cultural groups.

For more ideas on props, see “Prop boxes: Tools for empowering dramatic play” in the Spring 2017 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/spring17\\_props.pdf](http://www.childcarequarterly.com/pdf/spring17_props.pdf).

### Music/movement

The music center offers children an opportunity to listen to sounds that have rhythm and a beat. It

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builds auditory skills as children learn to sign along and to dance to the music. In the past, a CD, cassette, or record player were almost a necessity; today a smartphone or tablet makes traditional and contemporary music easily accessible. An autoharp, piano, guitar, or xylophone is a bonus. Headphones allow children to listen to music individually.

Perhaps the most common materials in the music center are rhythm instruments—bells, tambourines, rhythm sticks, drums, triangles, and maracas. You can buy these instruments from educational suppliers, but you can also make many of them. Empty oatmeal boxes can become drums, and plastic containers filled with acorns or pebbles can become rattlers. You can also use ordinary noisemakers such as metal pots and aluminum pie pans. See [www.childcarequarterly.com/pdf/spring19\\_music.pdf](http://www.childcarequarterly.com/pdf/spring19_music.pdf) in the spring 2019 issue of *Texas Child Care Quarterly*.

Involve children in musical games, such as *The Hokey Pokey*, and sing songs, like *Itsy Bitsy Spider*. Introduce them to classical music for children such as *Carnival of the Animals* by Saint-Saëns and *Peter and the Wolf* by Prokofiev as well as *The Nutcracker* by Tchaikovsky. Choose music from your community, drawing from country, gospel, folk, and jazz.

Plan a march or parade with rhythm instruments, and invite children to dance using scarves or ribbons.

## Group quiet centers together

For ease of supervision and to promote children's focus and attention, group quiet centers together.

### Art

The art center is the perfect place for children to express and develop creativity. With that in mind, it's important to distinguish *art* as free expression from *craft* in which a teacher makes a model for children to copy. That is, in an art activity a child may paint a sunflower purple, whereas in a craft activity all children may cut and paste yellow strips to represent sunflower petals. Such a craft can sometimes be useful, such as in a science activity when you are teaching the parts of a flower, for example, but never confuse it with art.

Equally important is asking open-ended questions about a child's work. Instead of "What is it?" you might say, "Tell me about it." When displaying art work, ask if children want it displayed. Avoid choosing only those that you think are the best. Don't

write on children's art; they can write their names or give the work a name if they wish.

Art materials encompass a wide range—tempera paint, crayons, markers, colored pencils, clay, collage materials, different types of paper—and the tools vary widely, including paintbrushes, sponges, cotton swabs, spray bottles, and scissors. Position this center in an area with good lighting and, if possible, near a sink. Provide smocks to protect children's clothing, and spread plastic sheeting or old newspapers on work surfaces.

Demonstrate clean-up procedures—how to wash brushes, wipe up spills, and put away clay and dough in airtight containers. Teach children how to dispose of leftover or unwanted materials. Paint, glue, and clay can clog plumbing pipes; use a plastic-lined garbage bin instead.

For more information, see the "Back to Basics" column in the Fall 2012 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/fall12\\_basics.pdf](http://www.childcarequarterly.com/pdf/fall12_basics.pdf). To learn more about painting in particular, see "Preschool painting: A primer" in the Fall 2007 issue at [www.childcarequarterly.com/pdf/fall07\\_painting.pdf](http://www.childcarequarterly.com/pdf/fall07_painting.pdf)

### Books/library

The book, or library, center is fundamental to language development. This center emphasizes both the written and spoken word. It's a place for reading and telling stories, activities that are critical for cognitive development and all later schooling.

If you're starting a book center, ask a children's librarian to recommend books to buy. You will need approximately 100 books, which allow you to have 15-20 books out at a time, and the rest to rotate. Buy nonfiction as well as fiction books, picture books, a picture dictionary, and books with rhyming text and poetry. Look for those that have been awarded the Caldecott Medal for exceptional illustrations. Choose books that reflect multiple cultures in a positive way, as well as books that show women and girls in non-stereotyped roles.

From time to time, you may need extra books that fit with curriculum units. Plan to borrow these books from the local public library. In addition to books, offer other materials that promote language development, such as flannel boards, puppets, and audio recordings. Furnish the center with a rug, pillows, and table and chairs.

Gather children together daily for story time, where you can introduce a book and then place it in the library center in a rack or on a shelf for children to look at on their own.

For more information, see the “Back to basics” column in the Summer 2013 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/summer13\\_basics.pdf](http://www.childcarequarterly.com/pdf/summer13_basics.pdf). See also the articles “Books abound! Benefits and guidelines for reading to young children” in the Fall 2010 issue at [www.childcarequarterly.com/pdf/fall10\\_books.pdf](http://www.childcarequarterly.com/pdf/fall10_books.pdf) and “Using books to foster resilience in young children” in the Fall 2012 issue at [www.childcarequarterly.com/pdf/fall12\\_resilience.pdf](http://www.childcarequarterly.com/pdf/fall12_resilience.pdf).

## Writing

Children become interested in writing early when they see adults writing grocery lists and older siblings doing homework. They may begin scribbling and then pretending to read what they have scribbled. In preschool, they begin learning letters and how to write their names, sometimes when they’re as young as 3 years old.

You can add writing to the book center by offering pencils and paper, with the rule that writing in books is not allowed. By the time some children are 4 years old or in kindergarten, you can create a stand-alone writing center next to the book or manipulatives centers.

Materials can include writing paper of all types, tools such as pencils and markers, a tablet or laptop computer with a printer, chalk and chalkboard, and a box of alphabet letters cut from newspapers and magazines.

Today most classrooms include media technology. Common are digital cameras (including those on smartphones) to music and learning game apps, YouTube videos, Internet images, and the tools in children’s hands like tablets and computers. Some classrooms build a separate technology center but most include electronic game and writing tools in the writing center.

As with all equipment, introduce new tools carefully and supervise their use—whether a toddler learning to swipe a screen to make colors change or a preschooler copying and printing Google images of a neighborhood map.

For more information on using technology in the classroom, see “Evaluating the pros and cons of tab-

let use in early childhood classrooms” in the Fall 2018 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/fall18\\_tablets.pdf](http://www.childcarequarterly.com/pdf/fall18_tablets.pdf). For more information on supporting children’s developing writing skills, see the articles “From scribbles to stories: Supporting writing development” in the Summer 2001 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/summer01\\_scribbles.pdf](http://www.childcarequarterly.com/pdf/summer01_scribbles.pdf), “Writing to communicate: Start young” in the Winter 2015 issue at [www.childcarequarterly.com/pdf/winter15\\_writing.pdf](http://www.childcarequarterly.com/pdf/winter15_writing.pdf) and “Evaluating the pros and cons of tablet use in early childhood classrooms in the Fall 2018 issue at [www.childcarequarterly.com/pdf/fall18\\_tablets.pdf](http://www.childcarequarterly.com/pdf/fall18_tablets.pdf).

## Manipulatives

In this center, children manipulate objects and play table games that enhance the small muscles of their fingers and hands. It was the increasing dexterity of the hands, argues neurologist Frank Wilson, that enabled the human species to advance in language, culture, agriculture, and technology (1998). Today this kind of play helps children learn to write and draw as well as improve living skills such as feeding and dressing themselves.

Manipulatives fall into five categories: construction toys (Bristle® blocks, Lego® and Duplo® bricks, small wooden table blocks), dexterity materials (sewing cards, beads to string), put-together and take-apart materials (puzzles, nesting toys), sorting and counting items (keys, coins), and simple games



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(checkers and cards).

Besides physical skills, manipulatives strengthen cognitive and social-emotional skills. Playing with a partner—in puzzle construction, for example—helps children learn about working cooperatively, while individual play enhances self-discipline and perseverance.

For general information, see the article “Manipulatives: Big learning from little objects” in the Fall 2005 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/fall05\\_manipulate.pdf](http://www.childcarequarterly.com/pdf/fall05_manipulate.pdf).

For suggested activities, see “Manipulatives: Sensory experiences that are safe, ethically sound, inexpensive, and fun” in the Spring 2019 issue at [www.childcarequarterly.com/pdf/fall05\\_manipulate.pdf](http://www.childcarequarterly.com/pdf/fall05_manipulate.pdf).

Also see the “Back to basics” column in the Fall 2013 issue at [www.childcarequarterly.com/pdf/fall13\\_basics.pdf](http://www.childcarequarterly.com/pdf/fall13_basics.pdf).

Manipulatives also serve as a precursor to math by helping children learn concepts such as *more* and *less*, the connection between quantities and counting, sorting by an attribute such as color or size, replicating a pattern or sequence, and matching similar items. Some teachers of 4- and 5-year-olds may wish to set up a stand-alone math center. For more information, see the article “Developing number sense and counting skills in prekindergarten” in the Fall 2018 issue at [www.childcarequarterly.com/pdf/fall18\\_numbers.pdf](http://www.childcarequarterly.com/pdf/fall18_numbers.pdf).

## Sand and water play

Like manipulatives, sand and water play provides important sensory experiences for children. Whether you use a large plastic tray or a metal washtub, playing with sand or water can enhance physical and cognitive development as well as offer a soothing and therapeutic experience for a stressed or upset child.

The obvious materials are water, sand, and dirt, either combined or separate, but you can also use ice cubes, leaves, corks, wood chips, seashells, packing peanuts, and shredded paper. For children 3 years old and younger, avoid materials that can cause choking such as beads, marbles, buttons, pebbles, and nuts, bolts, and washers.

Tools and props can include plastic cups, pitchers, spoons, scoops, squeeze bottles, plastic tubing, wire whips, and eggbeaters. Protect children’s clothing with vinyl smocks or oversize shirts. Have plenty of dish towels handy for spills and cleanup.

At first, children will be content by simply digging, pouring, mixing, and squeezing sand and dirt. Talk with children about texture, wet or dry, similarities and differences. As children gain experience, create a game such as burying items, such as keys and animal figures, in the sand, and have children dig them up.

For more information, see “The sensory table: Land of a thousand experiences” in the Winter 2014 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/fall18\\_numbers.pdf](http://www.childcarequarterly.com/pdf/fall18_numbers.pdf).

## Science

For a child, science is hands-on discovery and exploration, using all 5 senses. They develop skills that are the basis of scientific inquiry: observing, identifying, comparing, classifying, communicating, and applying to problems.

Basic equipment includes magnifiers, balance scale, magnets, thermometer, and measuring tools such as rulers. A digital camera is useful for documentation, such as the growth of plants, and a laptop computer can be helpful for finding photos and diagrams. If you have a classroom pet or an aquarium, the science center is the ideal place for it.

Offer ordinary materials to explore, choosing natural science items such as leaves and rocks as well as mechanical science items such as an old analog clock to take apart and put together. Provide science and

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nature magazines and age-appropriate science books.

Set up simple, hands-on activities, such as testing which objects will float, mixing oil and water, melting ice with salt, and mixing baking soda and vinegar. When children ask questions, it's OK to say, "I don't know" or "Let's look it up."

Model the scientific method in everyday situations with children. For example:

1. Make an observation: "Look at the plants in the front flower bed."
2. Ask a question: "Why is the begonia by the door drooping?"
3. Form a hypothesis: "It needs water."
4. Do an experiment to test the hypothesis: "Let's water the begonia every Monday for the next 4 weeks."
5. Examine the results: "Let's look at the photos we took every week."
6. Form a conclusion: "Yes, it needed water, all right."
7. Post the photos on the bulletin board.

For more information, see the "Back to basics" column in the Spring 2014 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/spring14\\_basics.pdf](http://www.childcarequarterly.com/pdf/spring14_basics.pdf) and the articles "Tips for helping children do science" in the Winter 2002 issue at [www.childcarequarterly.com/pdf/fall18\\_tablets.pdf](http://www.childcarequarterly.com/pdf/fall18_tablets.pdf) and "Giving STEM a place in early childhood classrooms" at [www.childcarequarterly.com/pdf/winter15\\_stem.pdf](http://www.childcarequarterly.com/pdf/winter15_stem.pdf).

## Cooking

Cooking activities can be set up in several ways. One is to make it a natural extension of the science center because it is the science—and art—of preparing food to eat. Sometimes the cooks cut and mix raw ingredients, and at other times they boil or bake mixtures, resulting in chemical reactions.

A fairly easy way to provide cooking activities is to invite children to prepare their own individual snacks, such as cheese and crackers, or stuffed celery, at the lunch table indoors or at a picnic table outdoors.

In some programs, cooking is as an occasional special activity. After harvesting lettuce, radishes, and carrots from the school garden, for example, the teacher and children wash and cut up the vegetables for a salad. On another day, the class may make individual pizzas with spaghetti sauce and cheese on English muffins.

In planning cooking activities, remember these tips:

- Avoid any recipe that can cause allergic reactions. If any of the children in the group is allergic to an ingredient, use a different recipe.
- Try a recipe at home before using it with children.
- Turn the written recipe into a rebus recipe that uses a picture for each step.
- Gather all equipment—bowls, spoons, measuring cups—and ingredients—flour, liquids, spices—in advance.
- Gather serving materials—paper plates, utensils, napkins.
- Review safety rules with children—handwashing, wearing hair pulled back, use of knives and other tools, turning away to sneeze or cough (and washing hands again!), planning tasting as part of the activity rather than allowing sampling with fingers during preparation.
- Provide vigilant supervision, especially with stoves and hot plates. Choose smaller, safer appliances, if possible, such as a toaster oven instead of a kitchen range. Only adults will place items on stovetop burners or into the oven.
- Discuss nutritional values of foods and the effects on health.
- Allow children to prepare the ingredients as much as possible—cutting, measuring, and mixing.
- Remind children that all will help clean up.

For activities, see the article "Classroom cooking: Learning to cut, mash, and spread" Fall 2018 issue of



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*Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/fall18\\_cooking.pdf](http://www.childcarequarterly.com/pdf/fall18_cooking.pdf).

## Woodworking

A center that rarely shows up in programs is woodworking. Its rarity derives from several factors, including the danger of injury and the need for constant supervision as well as a knowledge of wood and experience with carpentry tools. Although such factors can discourage teachers, remember that everyone can learn the skills with a little practice, and that a can-do attitude is important to model for all children.

It may also be difficult to find space for woodworking because of the noise and dust. A space of at least 3 feet by 5 feet is necessary to prevent crowding and accidents. The best space may be outdoors on the play yard or on a patio.

Nonetheless, woodworking offers a number of unique benefits. It allows children to experiment with tools and to develop skills related to building (measuring, sawing wood, hammering nails, painting), which can result in a lifelong skill. It can also stimulate thinking and problem solving, encourage working cooperatively, and release physical and emotional stress.

With preschoolers, you can limit activities to sanding and gluing. Children could glue small scraps of wood together to make a sculpture or glue scraps to a framed piece of fiberboard to make a collage. You can also have children make a sign or plaque by

sanding a board, gluing twigs to it to spell a word or name, and then using an eggbeater hand drill to make holes at the top corners for a hanging cord.

School-age children could practice skills like hammering nails and sawing wood. Introduce hammering by having children tap golf tees into a block of Styrofoam. After mastering this skill, they could hammer nails into wood. They could also practice sawing a piece of wood, using a vise or C-clamp. In all activities, be sure children wear safety goggles.

Set safety rules such as the following:

- Use a tool only for its intended purpose.
- No more than 2 children should be in the center at any time.
- Keep the workbench free of clutter.
- Don't leave nails protruding from wood.

For more information, see the "Back to basics" column in the Spring 2013 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/pdf/spring13\\_basics.pdf](http://www.childcarequarterly.com/pdf/spring13_basics.pdf) and the article "Woodworking: A constructive learning center" in the Winter 2011 issue at [www.childcarequarterly.com/pdf/fall18\\_cooking.pdf](http://www.childcarequarterly.com/pdf/fall18_cooking.pdf).

## Managing use

Once you have chosen and stocked the learning centers, consider how you will manage children in using them. Because of small spaces, some teachers limit the number of children who can be in a center at one time. They may establish a system such as a pegboard with pegs representing the child limit. Children take a peg when they enter and return it to the pegboard when they exit.

Other teachers resist limiting children because they believe it hampers building friendships and improving self-regulation. The key is to set a policy and be consistent in using it.

Remember that you can extend themes and offer variety by setting up centers outdoors. Weather can affect safety and choice of materials, but weather can also serve as a learning experience in itself (for example, activities related to shadows, rain fall, and cloud formations).

In addition, outdoor leaning centers allow experimentation without worrying about messes, and gives children more freedom in building large motor skills. For more information, see "Bringing multiple intelligences outdoors" in the Fall 2006 issue of *Texas Child Care Quarterly* at [www.childcarequarterly.com/](http://www.childcarequarterly.com/)



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pdf/fall06\_outdoors.pdf and “Courageous outdoor play: Reframing risk and building skill” in the Summer 2019 issue at [www.childcarequarterly.com/pdf/summer19\\_play.pdf](http://www.childcarequarterly.com/pdf/summer19_play.pdf).

Educate parents about how learning centers enhance development in all domains. Invite them to become partners in their children’s learning. They may be eager to help by donating materials (recyclable containers, all types of paper, dress-up clothes) and labor (building a bookcase, repairing a chair). Together teachers and parents can engage children in experiences that help children learn about themselves and their world.

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