Learning Through the Eyes of a Child

A Guide to Best Teaching Practices in Early Education
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Idaho Department of Education, Bureau of Special Education
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Idaho Training Clearinghouse
http://www.idahotc.com/

Adapted from:

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We are pleased to introduce *Learning Through the Eyes of a Child*, a guide for teachers in early childhood education and early childhood special education in Idaho. This guide was adapted, with permission, from a document of the same name developed by the Department of Public Instruction staff working with teachers and experts in early childhood education across North Carolina.

This guide is based on best practices information on how young children learn and how quality early childhood environments and experiences should look, and how play-based activities and routines teach early literacy, math, science, social studies, and the arts. It is a practical tool to help early childhood teachers make the connection between what children are learning and how they can enhance that learning by aligning activities with the Idaho Early Learning Standards.

We are very grateful to the Department of Public Instruction in North Carolina for allowing us to share and modify this great resource, and thank all the teachers, experts, and parents who played a role in the development of the guide.

In Idaho, we would like to thank the Idaho Early Learning Standards working group for the Early Learning Standards, and the conversations that led to the modifications we made to the guide. We gratefully acknowledge the work of Carolyn Kiefer who wrote the Idaho additions and edited the guide. You can also find this guide on our website, [http://www.sde.state.id.us/specialed/content/early.asp](http://www.sde.state.id.us/specialed/content/early.asp), or the Clearinghouse website, [http://www.idahotc.com/](http://www.idahotc.com/).

We dedicate this book to the many wonderful early childhood professionals in Idaho.
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Introduction

As greater focus is placed upon children’s academic performance in the preschool years, developmentally appropriate preschool programs are being put in the spotlight. Children are obviously having fun in these bustling, busy classrooms. But are they learning what they need to get ready for school? Shouldn’t the preschool teacher be teaching them the “Three R’s” instead?

The evidence might surprise parents and educators alike – and also reassure them. Early childhood programs organized around learning centers and interactive play activities do teach the “Three R’s,” but in a way that young children can understand at their level of development. Carefully planned programs provide the foundation experiences for later skills.

An important thing we know about young children is that they learn best when allowed to actively explore their environment. They try to make sense of common objects by prying into them, taking them apart and manipulating them in a variety of ways. As they build with blocks, they are considering size, proportion and numbers that will build later math skills. As they draw, cut, create patterns, glue and paint, they develop the arm and hand muscles needed for handwriting. In these critical years, children build their understanding of their world – in language, mathematics, science, social studies and the arts. Idaho early educators propose an “Early Learner’s Three R’s: Real experiences, Raw materials, and Relationships.”

The instruction, exploration and discovery that take place in a play-centered classroom mean much more than people may realize. By focusing on developing the whole child – socially, emotionally, physically and intellectually – the classroom provides a nurturing, safe environment that helps children enter their first years of formal schooling with a love of learning, an ability to socialize well with others, problem-solving skills, and a desire to master all subjects. Early learning is more than just singing the alphabet song or counting, it is using a variety of materials and experiences to become a curious, ready learner.

The deskwork and drill-and-practice curricula common to upper grades are still considered highly risky in the teaching of young children. The National Association for the Education of Young Children, in its official position statement on school readiness, soberly notes: “Whether the result of parental pressures or the push to improve student performance on standardized tests, children entering kindergarten are now typically expected to be ready for what previously constituted the first-grade-curriculum. As a result, more children are struggling and failing.” A failure at four??! This is a time to do 3 and 4 year-old learning tasks well!

It’s important that we remember what young children are like. Developing and changing at a rapid rate, they arrive at preschool with widely varying skills, maturity and needs. Maturity is an individual combination of growth and experience. Many children are trying things for the first time. Though naturally curious and enthusiastic, their attention span is limited, they tire easily and they’re wary of the unfamiliar. A classroom carefully arranged with blocks and books, sand and water tables, painting easels and tiny chairs, tells them that they are learners and that learning is fun!

Widespread concerns about the quality of education have resulted in an increased emphasis on academics and standardized testing in recent years, even encompassing the youngest learners. Experts, nevertheless, continue to urge schools, teachers and parents to resist the temptation to teach kindergarten and preschool in the same way as the upper grades. Instruction in reading and mathematics is best taught in activity or routine-based ways.

Research on early learning informs us that 3-4 year olds learn best in rich environments, through interaction with peers and in strong relationships with well-trained teachers. It does NOT mean “substituting academics for play time, forcing children to master first-grade ‘skills’ or relying on standardized tests to assess children’s success.” Success also depends upon enough time (25-45 minute segments) for child-directed activities in a well-organized and carefully-planned early childhood environment. As the debate over developmentally appropriate programs continues, the primary objective in creating this guidebook is to
offer Idaho’s early childhood educators a practical, everyday reference. This guide brings together basic information about organizing a classroom, ideas for enhancing learning opportunities and techniques for connecting children’s progress with the expectations of the Idaho Early Learning Standards. This book is in no way intended to narrowly prescribe how teachers teach or assess children nor does it attempt to be comprehensive. Rather, our hope is that it will prove to be a useful and much-used resource and an inspiration for everyone in the early childhood education family.

Assessing Success

Assessment plays a valuable role in helping to evaluate overall progress toward educational goals. At the same time, among young children, it can be very difficult to assess skill development accurately and fairly.

Though standardized tests have become a staple at all levels of education in recent years, their uses in preschool are limited. Because of the rapid, uneven development associated with young children, as well as the vast differences in backgrounds, experiences and primary languages they bring to the classroom, formal assessment may result in inappropriate conclusions being made about a child’s capabilities and potential. At worst, this type of testing is judgmental and might erroneously lower expectations for some children or inappropriately label others.

By contrast, a classroom built around activity centers provides an ideal setting for making observations and recording behaviors a natural and ongoing part of learning. Advocates of this approach point out that young children are more likely to perform at their best when engaged in interesting and meaningful classroom projects. For example, real reading and writing activities embedded in block and dramatic play give a better picture of competence than skills testing.

Through frequent and consistent observation of a child’s work and with understanding of child development and skills, the teacher gains a stronger picture of their progress. Using this information, the teacher can focus instructional activities to meet each child’s cognitive, social/emotional and physical needs.

This guidebook offers many examples of informal assessment techniques designed to support these best practices: giving teachers benchmarks and showing how to meet the goals set forth in the Idaho Early Learning Standards. It is hoped this will help each of these young Idaho children reach their full potential.

Gathering Data

Create portfolios of art, writings, photos, tapes, lists of favorite books providing a meaningful file of information that tracks a child’s development over time. Here are a few effective techniques:

- Frequently observe children performing typical tasks in comfortable circumstances.
- Jot down dated brief objective notes (on sticky notes, labels or index cards) that can be transferred easily to files or folders.
- Keep recording materials readily available in several places around the classroom or in a pocket or fanny pack. Keep a pencil or pen on a chain in your pocket or around your neck.
- Let children help by tallying their activities in journals or on audiotape.

Collect samples of both spontaneous and structured work in the range of curricular objectives.

Observe how children
- use language in talking about themselves and interacting with others.
- demonstrate their understanding of the function and conventional forms of written language.
- use mathematical concepts and skills in daily classroom life.
- use language, writing, reading and mathematics in demonstrating an understanding of science, social studies, the arts and physical education.

Plan for structured work samples collected during typical classroom activities but at a designated time and place. A card game can indicate a child’s understanding of number concepts; a conversation about a story can gauge a child’s language and reasoning skills.

In preschool, appropriate assessment
- reflects the ongoing life of the classroom and typical activities of the children
- avoids approaches that place children in artificial situations
- relies on demonstrated performance during real, not contrived, activities.
Blocks

In the Blocks Center, Children

☆ Learn about height, width, depth and length
☆ Develop language and vocabulary in a variety of situations
☆ Match objects in one-to-one correspondence
☆ Demonstrate concepts of part/whole and same/different
☆ Form groups by sorting and matching objects according to attributes
☆ Learn to cooperate, share, plan and negotiate
☆ Develop large and small muscle coordination and eye/hand coordination
☆ Recreate their view of place or social situation
☆ Learn physical representations of addition and subtraction — more and less
☆ Learn size and shape differentiation, relationships and recognition
☆ Create three-dimensional structures
☆ Understand gravity, stability, weight and balance

☆ Create and negotiate real-world problems of roles, territory and situations

Getting Organized

The Blocks center encompasses so many learning concepts that it needs to be given as much room as possible. It should be large enough to allow a number of children to work at once and leave their houses, cities and landscapes on display for continued work at a later time. The area’s space should be carpeted to make it comfortable and appealing and to soften the noise of falling blocks. Low shelves for storing unit blocks can help to define the area and slow down or prevent traffic through the area. Shelves labeled with block outlines facilitate shape matching and easy pickup. Creativity and problem solving are inherent in block play. The addition of paper, pencils and literacy materials extend children’s learning.

Basic Equipment

500 to 750 blocks in a variety of shapes and sizes
Sets of farm and zoo animals and other figures
Cars, trucks and other vehicles of different sizes
Sets of people figures of various ethnic groups
Dollhouse furniture
Landscaping accessories
Baskets for storing props
Hats
At least three shelves at children’s eye level for blocks and supplies
Camera for taking photos of projects

Observations and Ideas

Creativity can be encouraged in the Blocks center by including accessories such as different shapes of blocks, people, animals, road signs, vehicles, fabric scraps and paper for sign making.

Children value their structures whether or not they represent specific things. Saying “tell me about what you made” encourages a dialog and offers new opportunities to explore.

The best teachers are those that show you where to look, but don’t tell you what to see.

Alexandra K. Trenfor

As children experience the world around them, they form pictures in their minds of what they see. Playing with blocks gives them an opportunity to recreate these representations of their experiences. It is an important skill necessary for abstract thinking. Playing with blocks, children acquire a concrete understanding of concepts crucial to logical thinking. As they choose, build and clean up, they learn about sizes, shapes, numbers, order, area, length and weight. Because blocks are easy to share with others, they also promote social interaction and meaningful conversations.
Thinking outside the blocks

A castle built by Sam, Will, Allen and Jim, and we are inside of it. “And these are special buildings, yeah! And if we knock it down we have to build it up. And we are GOOD builders!”

The castle building engaged these four-year-old boys for about 45 minutes. There was intense negotiation, with each other and gravity, as they worked and spun an elaborate story. The narrative was a rich combination of building instructions, needed blocks, warnings of what might fall down, territory, good guys, bad guys and battles and monsters. There were fully engaged – the rest of the classroom had vanished, except when they needed something like paper, string, or hard hats. They were motivated learners! No need for stars or rewards, the job of solving real problems with blocks and words was powerful. By setting up a learning environment with enough space, materials and time, we saw many “great ideas” take shape. Pick-up time required some careful deconstruction, but also allowed for talk about what happened in the story-building, balance and shapes, and plans for the next building. Builders turned into “delivery guys” as blocks were sorted by shape and carried to their marked place on the shelf. “Yeah! And tomorrow we can build…”

<table>
<thead>
<tr>
<th>What a child may do in blocks</th>
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<tbody>
<tr>
<td><strong>Standard</strong></td>
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<tr>
<td><strong>Math</strong></td>
</tr>
<tr>
<td>257.01a</td>
</tr>
<tr>
<td>258.03a</td>
</tr>
<tr>
<td>260.01a</td>
</tr>
<tr>
<td>261.01c</td>
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<tr>
<td>263.01a</td>
</tr>
<tr>
<td><strong>Language</strong></td>
</tr>
<tr>
<td>671.01e</td>
</tr>
<tr>
<td>672.02a</td>
</tr>
<tr>
<td>674.01d</td>
</tr>
<tr>
<td><strong>Social Studies:</strong></td>
</tr>
<tr>
<td>370.01a</td>
</tr>
<tr>
<td>373.01b</td>
</tr>
<tr>
<td>376.01d</td>
</tr>
</tbody>
</table>
Education is not the filling of a bucket, but the lighting of a fire

William Butler Yeats

Through sand and water exploration, children begin to learn basic scientific and mathematical concepts, such as volume and capacity, empty and full, floating and sinking. By sifting sand and scooping water, they improve strength and physical dexterity. When children work together at the sand and water tables, they are faced with real problems that require sharing, compromising and negotiating. Sand and water play can be two separate activities, but wet sand play allow children to encounter principles of math, science, and creativity firsthand. In mixing sand and water, they discover that they can change the properties of both.

In the Sand and Water Center, Children

☆ Learn about volume, mass and measurement
☆ Learn to make predictions and estimate
☆ Explore force, cause and effect, and systems
☆ Make comparisons
☆ Discover properties of matter
☆ Learn about gravity, stability, weight and balance
☆ Use vocabulary to designate quantities such as more than, less than, equal to, as much as, over, under, through
☆ Acquire fundamental movement skills, strength and balance
☆ Develop awareness of cycles, interaction of materials and change
☆ Observe relationships between materials
☆ Sooth frustration and upset feelings

Getting Organized

It goes without saying that the Sand and Water area needs to be located near a water supply, both indoors and outside. Indoors, it should be in a waterproofed floor space rather than on carpet. Preferably, there should be space for both a water table and sand table adequate for more than one child to work at a time, along with storage shelves and a place for a broom, dustpan, sponge and mop.

Basic Equipment

Clean, washed, masonry-grade sand
Sterilized potting soil, bird seed, pea gravel
Toy cars, trucks, highway signs, construction equipment
Toy people and animals
Buckets, shovels, scoops and watering cans
Water and/or sensory table
Heavy-duty plastic tubs for storage
Liquid detergent for making bubbles
Funnels, sponges, corks, eyedroppers and sieves
Measuring cups, spoons, scoops and plastic containers, basters and squirt bottles
Boats, eggbeaters, water wheels and plastic tubing
Tempera paint, food coloring
Various lengths of PVC pipe and plastic gutter

Observations and Ideas

As the school year goes on, add or replace more basic materials in the Sand and Water area with others that require higher-order thinking. For example, items at the water table that earlier encouraged free exploration could be supplemented with corks, stones, string and tape. The children are now challenged to make floating things sink and sinking things float. In observing children's sand play, use mathematical terms like more/less, many/few,
Making a Splash

Sand and Water activities naturally lend themselves to the learning of scientific concepts.

At the sand table, children are shaping mounds with depressions and covering them with small pieces of clear plastic. These they fill with water to make lakes so they can float the boats they've made at the carpentry center. At the water table, children are pouring water through sieves they've made by hammering holes in tin pie pans and plastic foam trays. Their voices are animated as they compare how the results are affected by the size and number of holes and discover that you can make a bigger splash by holding the sieve higher as water is poured through it.
## What a child may do in sand and water

<table>
<thead>
<tr>
<th>Standard</th>
<th>Potential Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>769.01b</td>
<td>Participate actively in outdoor play, games, and other forms of exercise</td>
</tr>
<tr>
<td></td>
<td>Child carries buckets of water to the sand area to make a river.</td>
</tr>
<tr>
<td>771.01c</td>
<td>Communicate his/her own wants and needs and recognize the wants and needs of others</td>
</tr>
<tr>
<td></td>
<td>Tells a friend that she needs more room to wash trucks. Smiles and passes a sponge when asked.</td>
</tr>
<tr>
<td>774.01a</td>
<td>Recognize that his/her body is good, reliable and pleasing</td>
</tr>
<tr>
<td></td>
<td>Children talk about being strong and able to push and carry wet sand.</td>
</tr>
<tr>
<td><strong>Science:</strong></td>
<td></td>
</tr>
<tr>
<td>527.02a</td>
<td>Explore changes</td>
</tr>
<tr>
<td></td>
<td>Pours water into a tube, watches it come out the other end.</td>
</tr>
<tr>
<td>529.01b</td>
<td>Make observations based on his/her own experiences, using all five senses</td>
</tr>
<tr>
<td></td>
<td>Brings a snowball from the playground to see what happens when it is in the water table.</td>
</tr>
<tr>
<td>530.01a</td>
<td>Use senses to explore and describe matter with appropriate language</td>
</tr>
<tr>
<td></td>
<td>Wet sand becomes a road project. Four-year old tells another about how to pat the sand to make a good road. Children talk, make truck noises, plan roads and holes.</td>
</tr>
<tr>
<td><strong>Language/Arts Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>671.02b</td>
<td>Respond to text</td>
</tr>
<tr>
<td></td>
<td>Follows picture/word sequence posted over the water table to do clean-up.</td>
</tr>
<tr>
<td>674.01f</td>
<td>Use vocabulary to share knowledge of concepts</td>
</tr>
<tr>
<td></td>
<td>Talks about what is happening using words: pour, flow, squeeze.</td>
</tr>
<tr>
<td>674.01a</td>
<td>Develop an ability to express opinions and solve problems</td>
</tr>
<tr>
<td></td>
<td>Child negotiates tools, space, and themes of play.</td>
</tr>
<tr>
<td><strong>Mathematics:</strong></td>
<td></td>
</tr>
<tr>
<td>257.01a</td>
<td>Demonstrate an understanding of the numeration system (numbers represent quantity).</td>
</tr>
<tr>
<td></td>
<td>Counts scoops of sand into bucket.</td>
</tr>
<tr>
<td>259.01a</td>
<td>Use standard and nonstandard Tools for measuring time, length, volume, weight ...</td>
</tr>
<tr>
<td></td>
<td>Uses measuring cups, empty containers, and balance scale to explore volume and weight.</td>
</tr>
</tbody>
</table>
Art

In the Art Center, Children

☆ Discover color, shape, texture and dimension by seeing and feeling objects
☆ Experiment informally with a variety of media
☆ Look at and talk about artwork, including primary sources
☆ Use the senses to gain information about the environment through drawing and collage
☆ Develop problem-solving skills
☆ Develop independence
☆ Develop organization skills
☆ Experiment with art materials to understand properties and cause and effect
☆ Develop grasp and manipulative skills
☆ Develop eye-hand coordination
☆ Respond to story-telling by drawing or painting
☆ Make meaning of experience through drawing and painting
☆ Creative expression
☆ Make choices and decisions

Getting Organized

The art center is preferably an uncarpeted area close to a sink for easy cleanup. A variety of tools and materials should be easily accessible to children who want to work by themselves. The area should also be large enough to accommodate a special table for group activities that can be messy, such as collage projects, drawing, finger painting, as well as easel painting. Also consider having an area for project drying and storage.

Basic Equipment

Double-sided easels, worktables and low open shelves
Individual storage bins (such as baskets and shoeboxes) with picture and word labels for materials
Magazines, newspapers, catalogs and wall paper
Real clay and play dough, in airtight bins

It is the supreme art of the teacher to awaken joy in creative expression and knowledge

Albert Einstein

Working with art materials benefits all aspects of children’s development. As they draw, paint and make collages, they experiment with color, line, shape and size. By mixing color, they learn cause and effect. In making lines and shapes with markers and crayons, they develop the fine motor control needed for writing; in cutting paper and molding play dough, they refine their small muscle movements. For young children in art, the process of creating is what’s important, not what they actually create. In a safe and comfortable environment, they build self-esteem and confidence while learning that each person has different ideas of ways of working.
Plastic knives, scissors and hole punches
Crayons, markers and chalk
Paints, pastels and brushes
Various kinds and grades of paper
Glue, tape and paste
Collage materials (buttons, beans, feathers, fabric, greeting cards, yarn, glitter papers, tissue, cellophane).
Aprons or smocks

**Observations and Ideas**

Art experiences are among the most important ways children express themselves. In this very “wordy” culture, children are just learning language and it helps them to have other ways to communicate. Expressive art materials are another means of exploring, defining and expressing who they are and what they are experiencing. Art is part of learning to think abstractly through action — it is making paint, collage, drawing and clay represent thoughts and experiences. Children need lots of time to mess around and explore with art materials. With good art time, the child is in control, is deeply involved in sensory experience, and the world beyond the easel vanishes as they move into their own imaginative world.

The teacher can encourage exploration, creativity and problem solving through the strategic placement of materials. At the play dough table, a rolling pin and cookie cutters change the shape of the dough. Potter’s clay gives more resistance, strengthening hands and arms as it is pounded, pinched and molded. The texture and earthy smell of clay, the way it responds to a wet slippery finger, makes it a satisfying and tension relieving medium for most children.

Drawing and painting on plain paper is an important pre-cursor to writing. Children will often dictate a story or label for a picture. It is also an important way for children to re-create and symbolize their world and experiences.

The Art area provides important tactile stimulation that supports small muscle development, grasp, hand strength and wrist rotation. Paste, finger paint, glue and textured collage materials help develop neural paths and support sensory integration. Tearing, learning to cut with scissors and careful placement of small pieces are physical skills supported by collage, along with artistic expression.

Portfolios are a terrific way to document children’s art, drawing and writing. Let the child help choose the pieces to save, or scan them for a file copy when the child wants to take the original home. Collect one drawing a week from each child and put it in an individual portfolio, making sure to keep the drawings dated and in order of completion. At the end of the school year, put a cover on the collection to create a booklet. Parents will be able to see and enjoy their child’s drawing progress.

Display children’s art in the classroom at their eye level. Mats or contrasting colors of paper create an important message about the value of children's work.

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**High Praise**

Although praising children’s artwork may always seem called for, the way in which an adult responds is the key to supporting artistic development. Blanket comments like “Oh, that’s pretty” or “I like that” may in fact discourage a child who wasn’t thinking about “pretty” or producing something “likeable” but was trying to match up the edges of collage pieces. It is more helpful to a child to describe something you observe, such as “I see you used three red patterned pieces” or “tell me how you made the paint colors change.”
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<th>Standards</th>
<th>Potential Interactions</th>
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</thead>
<tbody>
<tr>
<td><strong>Humanities/Art</strong></td>
<td></td>
</tr>
<tr>
<td>868.01a</td>
<td>Participate in and experience self-expression in musical, visual arts, theatre/dramatic play and dance experiences from many cultures</td>
</tr>
<tr>
<td></td>
<td>Child makes colorful headdress after watching a multicultural dance troop.</td>
</tr>
<tr>
<td>872.01b.2</td>
<td>Progress in ability to create drawings paintings, models and other art</td>
</tr>
<tr>
<td></td>
<td>Child at the easel, painting and telling a story about a dinosaur in a big storm. Lots of bold brush strokes and paint.</td>
</tr>
<tr>
<td>672.01a</td>
<td>Show appreciation for the creations of self and others</td>
</tr>
<tr>
<td></td>
<td>Children at drawing table with markers and crayons, talking and drawing family pictures. Friends agree to hang theirs together.</td>
</tr>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>672.01c</td>
<td>Attempt to represent oral language in writing by using letter-like symbols/plain paper drawing</td>
</tr>
<tr>
<td></td>
<td>Child at the drawing table with markers and crayons, talking and drawing family pictures. Friends agree to hang theirs together.</td>
</tr>
<tr>
<td>672.03b</td>
<td>Use a variety of resources to facilitate writing</td>
</tr>
<tr>
<td></td>
<td>Child takes a blank book and makes drawings on several pages.</td>
</tr>
<tr>
<td>672.03c</td>
<td>Understand the purpose of writing is to communicate with oneself and others</td>
</tr>
<tr>
<td></td>
<td>Dictates a caption for each drawing. Asks teacher to read it at “circle time”.</td>
</tr>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01d</td>
<td>Recognize and practice personal hygiene and self-help skills</td>
</tr>
<tr>
<td></td>
<td>Child puts painting on drying rack, washes hands, and hangs up paint smock.</td>
</tr>
<tr>
<td>770.01a</td>
<td>Demonstrate an understanding of appropriate and inappropriate behavior</td>
</tr>
<tr>
<td></td>
<td>Upset child moves to clay table, pounds, pokes and twists clay. Gradually calms self.</td>
</tr>
<tr>
<td>774.03a</td>
<td>Demonstrate growing strength, dexterity and control needed to use tools such as glue, paintbrush and markers</td>
</tr>
<tr>
<td></td>
<td>Child carefully cuts tissue paper, dabs on paste, and adds it to a collage.</td>
</tr>
<tr>
<td><strong>Science:</strong></td>
<td></td>
</tr>
<tr>
<td>527.01a</td>
<td>Explore changes</td>
</tr>
<tr>
<td></td>
<td>Child with finger paints mixes colors, watches change.</td>
</tr>
<tr>
<td>529.01a</td>
<td>Make predictions and communicate observation</td>
</tr>
<tr>
<td></td>
<td>Child tells friend that he can make designs too, if he uses the potato to make stamp marks with paint.</td>
</tr>
<tr>
<td>536.01a</td>
<td>Observe and discuss characteristics of the local environment</td>
</tr>
<tr>
<td></td>
<td>Children gather leaves on a walk; glue them on a banner about Fall.</td>
</tr>
</tbody>
</table>
In the Dramatic Play Center, Children

☆ Expand their vocabulary in a variety of imaginative play situations
☆ Match objects in one-to-one correspondence
☆ Experience consequences of actions in social relationships
☆ Learn to “read” social cues
☆ Practice self-help skills such as dressing, pouring and using utensils
☆ Develop concepts of family by practicing roles and sequences in basic family routines
☆ Learn to work cooperatively, observe rules and negotiate
☆ Engage in creative, dramatic activities
☆ Learn to sort and classify objects
☆ Participate in leader/follower roles
☆ Make choices and decisions

Getting Organized

The Dramatic Play area needs sufficient space, time, equipment and materials to stimulate role-playing, self-expression and initiative. It should be a clearly defined area that provides a sense of separation from the other activity centers. Shelves or cupboards can provide low walls that give the children some privacy but still allow the teacher to monitor activities.

Basic Equipment

Stove, sink or refrigerator and kitchen supplies
Theme props (hospital, restaurant, space lab, museum, grocery store, office)
Dolls and hand puppets (multicultural)
Table and chairs
Telephones
Cash register
Full-length mirror
Play food
Dress-up clothes, including hats and shoes
Doll bed and rocking chair
Printed materials (maps, phone books, coupons)
Writing materials, notepads and pencils
Steering wheel
Keys
Flowers and plants to arrange
Doctor and nurse kits

Observations and Ideas

Children are fascinated by what people do in real life. The Dramatic Play area can be transformed into a post office, fire station, beauty parlor or grocery store through a variety of prop boxes. A hospital prop box could be filled with bandages, stethoscopes, black bags, pill bottles and hot water bottles. Prompt the creation of a shoe store by collecting a box containing an assortment of shoes, shoeboxes, and shoeshine kits with clear polish and rags.

Don’t be afraid of child-directed activities. Young children just learning social skills need to take roles, learn to negotiate, compromise, persuade and cooperate. When allowed to play, they will do all of these things with one another. Rather than stepping in to referee each conflict, teachers should observe and be ready to help children work out problems through discussion when necessary. This will allow children to develop important social skills and more complex abstract thinking skills through pretend play.
Play ... is a way of learning by trial and error to cope with the actual world.

Lawrence Frank

Imitating what happens in the world around them is the central focus of how children play. When they dress up and play with household items, they practice the understanding and mastering of adult roles. In playing out situations in their real lives or in pretend lives, they learn how to express themselves and think abstractly, an important precursor to reading. Dramatic play gives them opportunities to learn new words, both spoken and written, and becomes the basis for discussions that add to comprehension. In all pretend activities, children can incorporate early experimentation with writing - - using their own invented spelling to create grocery lists, letters to friends and stories. “There is more to learning than being taught.”
<table>
<thead>
<tr>
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<th>Potential Interactions</th>
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<tbody>
<tr>
<td><strong>Social Studies:</strong></td>
<td></td>
</tr>
<tr>
<td>370.01b Identify examples of simple machines, inventions and technology used in the home</td>
<td>Pretends to talk on the phone to order pizza for dinner.</td>
</tr>
<tr>
<td>376.01b Recognize that people meet their needs by sharing, trading, and using money to buy goods</td>
<td>Asks how much the “pizza guy” needs to be paid when playing restaurant.</td>
</tr>
<tr>
<td>375.01d Begin to demonstrate respect for the opinions feelings and actions of others</td>
<td>Agrees to let another child be the “mom” too, as they play in the house together.</td>
</tr>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>671.0 c Repeat rhymes, simple songs, poems and finger plays</td>
<td>Sings a song and rocks the doll in house play.</td>
</tr>
<tr>
<td>671.0 a Develop a sense of story or narrative from print, computer, video materials</td>
<td>Organizes dramatization of <em>Three Billy Goats Gruff</em> with props from Dramatic play area.</td>
</tr>
<tr>
<td>671.04 c Understand the purpose of print</td>
<td>“Writes” a shopping list and takes it to the store, while playing “family.”</td>
</tr>
<tr>
<td>674.03a Develop an ability to express opinions and solve problems</td>
<td>Announces to other children that this is their house.</td>
</tr>
<tr>
<td>674.03d Speak for a variety of purposes</td>
<td>Has a long conversation with another child as they pretend they are firefighters.</td>
</tr>
<tr>
<td><strong>Math:</strong></td>
<td></td>
</tr>
<tr>
<td>257.01a Demonstrate an understanding of the numeration system (that numbers represent quantity)</td>
<td>Four-year olds set the table for dinner at their restaurant. Put a plate, a fork and cup at each place.</td>
</tr>
<tr>
<td>260.01c Apply ideas about direction and distance</td>
<td>Child tells another “cook” at the pizza shop to get the pizza out of the oven and put it on a plate for the waiter.</td>
</tr>
<tr>
<td>263.01b Sort and classify objects by attributes</td>
<td>During pick-up time a child puts all of the play food in a basket and the cups on the shelf next to the bowls.</td>
</tr>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01d Recognize and practice personal hygiene and self-help skills</td>
<td>Plays the role of big sister, puts on dress-ups and fixes hair.</td>
</tr>
<tr>
<td>769.01g Begin to recognize and eat a variety of nutritious foods</td>
<td>Chooses plastic food and fixes taco, peas and oranges for play dinner.</td>
</tr>
</tbody>
</table>
Manipulatives

In the Manipulatives Center, Children

☆ Use vocabulary to define quantities and relationships and make comparisons
☆ Demonstrate concepts such as part and whole by sorting, matching, sequencing and classifying
☆ Form groups by sorting and matching
☆ Develop perceptual awareness skills
☆ Practice counting
☆ Experience basic addition/subtraction concepts
☆ Discover similarities and differences
☆ Develop small muscles, grasp and wrist rotation with puzzles and connecting pieces
☆ Develop three dimensional eye-hand coordination
☆ Make and repeat simple patterns using objects
☆ Discover color, shape, line and texture
☆ Work on persistence, attention-and problem-solving skills

Getting Organized

For children to use puzzles and other small-scale manipulative materials, there needs to be a defined area for their use away from foot traffic. There should be small tables, benches and an open space with a floor mat where individuals or small groups can play games. Many varied and interesting materials can be assembled for use in this area – anything that invites children to construct, fit things together or develop patterns. Shelving at the child’s level, with picture and word labels for containers, will keep the area from becoming messy. Puzzles and manipulatives need to be rotated as children look for the next level of challenge.

Basic Equipment

Puzzles of varying difficulty and puzzle rack
Matching games
Pattern blocks and patterns
Linking and Lego-type materials
Beads and string with bead patterns
Button, zip, lacing and snap boards
Light table with clear, colorful sorting and patterning objects
Counting objects
Peg and geo boards
Building sets/Legos
Simple dominoes and Lotto games

The art of teaching is the art of assisting discovery. Mark Van Doren

Doing things well with their hands is important for many things children will learn in school. They need to be able to hold pencils and crayons correctly so they can learn to write and do mathematics. Play that involves the use of hands, muscles and eyes helps children develop coordination and problem-solving skills. Puzzles and pegboards give practice coordinating hand-eye movements. Simple number games aid the learning of concepts and functions of numbers. In particular, children this age need a lot of practice in digital dexterity – opening and closing items and using things without dropping, breaking or spilling them. If they can’t use their hands well, they will be afraid to try new things, and trying new things is an important way that children learn.
Questions and Answers

Too often, well-meaning adults interfere with children’s learning by trying to shape the play or by asking a string of questions that serve to discourage thinking. (What shape did you use? Which of these things is your favorite?) A more appropriate way to guide learning is to join in the play and engage children in meaningful conversation. Asking questions that arise naturally from what they are doing will encourage vocabulary and the use of more sophisticated sentences as well as strengthen the ability to reason.

Observations and Ideas

☆ Complete puzzles should be available so children can see the whole picture before starting.
☆ Puzzle racks keep puzzles neatly organized.
☆ Clear storage bins with picture/word labels invite a child to choose materials and help with pick-up.
☆ A picture label on the shelves creates another matching activity when putting away manipulatives and bins.
☆ Encourage children to use one game or manipulative toy at a time and stop “dumping” toys in a heap.
☆ Carefully select a sequence and range of toys. Too many small pieces can overwhelm, while a “too easy” puzzle isn’t fun.
☆ Include some open-ended materials like pattern blocks and Legos as well as puzzles and lotto games.
☆ Questions to facilitate the exploration of the concept of area with manipulatives could include: “How many pennies/hands/buttons do you think it will take to cover the circle?” “How could you check?”
<table>
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<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>774.03a</td>
<td>Demonstrate growing strength, dexterity and control needed to use tools</td>
</tr>
<tr>
<td>774.03b</td>
<td>Demonstrate eye-hand coordination in different tasks</td>
</tr>
<tr>
<td>775.01b</td>
<td>Demonstrate an increased ability to persist in and complete a variety of tasks, activities and experiences</td>
</tr>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>672.01a</td>
<td>Participate in a variety of pre-writing and writing activities</td>
</tr>
<tr>
<td>669.01b</td>
<td>Know that the alphabet letters are a special category of visual graphics that can be individually named</td>
</tr>
<tr>
<td>674.03a</td>
<td>Develop ability to express opinions and solve problems</td>
</tr>
<tr>
<td><strong>Math:</strong></td>
<td></td>
</tr>
<tr>
<td>258.01b</td>
<td>Solve simple problems with concrete objects by applying and adapting appropriate strategies</td>
</tr>
<tr>
<td>261.01a</td>
<td>Recognize, describe, compare, name, build, draw, sort and order 2-3 dimensional shapes</td>
</tr>
<tr>
<td>263.01a</td>
<td>Replicate and extend patterns</td>
</tr>
<tr>
<td>263.01c</td>
<td>Understand and use appropriate vocabulary</td>
</tr>
</tbody>
</table>
Science and Discovery

In the Science and Discovery Center, Children

☆ Classify materials and make predictions
☆ Develop eye-hand skills by using magnifiers and balances
☆ Count and expand vocabulary
☆ Learn to use the senses (sight, hearing, touch, smell, taste) to gain information
☆ Compare similarities and differences among objects
☆ Observe color, texture, size and shape of objects
☆ Observe and share children’s “found objects” (rocks, birds nests, insects, and leaves)
☆ Learn about change and cause and effect
☆ Develop curiosity about the natural world
☆ Observe relationships between objects
☆ Match, sort, classify and group objects

Getting Organized

A well-equipped Science and Discovery center should contain materials that require looking, probing, touching and all types of sensory exploration. Try to include hand lenses, display boxes, collections and posters. Use both indoor and outdoor settings for scientific observations and explorations. Taking walks to observe and gather leaves, nuts, seeds and rocks is a part of science and discovery.

Basic Equipment

Weighing devices, balances and small items to be weighed (shells, bottle tops, rocks, rice, buttons)
A special well-lighted table or counter for display and work area
Markers and pencils, glue, scissors

Paper to record observations by drawing or dictating to teacher
Terrarium, fish tank, bug cages, animal cages
Collections of natural objects
Insects and small animals from the everyday world
Hand magnifying lens
Small mirrors and flashlights
Magnets and magnetic materials
Pulleys and simple machines
Plants, seeds and gardening tools
Thermometer, weatherboard
Science-related books and toys
Some simple machines to take apart

A good teacher explains … a superior teacher demonstrates … a great teacher inspires.

Unknown

The process of science is learning to question, wonder and systematically find out. Science activities encourage children to ask questions, look for answers and become aware of what is happening in the environment. With simple observations and experiments, they learn to gather data and make conclusions as they develop their visual and tactile senses. Science centers should offer opportunities for children to participate individually or in small groups.

Observations and Ideas

An explorations area, including a table to display various collections (stones, leaves, fossils and shells, for example), demonstrates to children that their personal interests are important to others. Caring for pets and plants, if possible in the context of the classroom or
outdoor area, offer new experiences to think about and new things to try, as well as the opportunity to develop respect for the environment and a sense of responsibility.

Ask questions that extend children’s thinking.
“What do you think will happen next? What else could you try? Has that cocoon changed?”

Mirror, Mirror

*Teaching fairly complex concepts to young children doesn’t require textbooks or lectures, as this teacher’s experience shows.*

Early in the school year I give mirrors to the children so they can explore the light that shines in our classroom window. They enthusiastically manipulate their mirrors, experimenting and discussing their captured sunlight, sharing and copying each other’s discoveries. They build their science vocabulary by talking about the path of light. They are delighted to use terms like “reflection,” “projection” and “screen” as I paraphrase their statements and model the new words for them. Soon the language of light is part of their everyday talk.
# What a child may do in science and discovery

<table>
<thead>
<tr>
<th>Standard</th>
<th>Potential Interactions</th>
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</thead>
<tbody>
<tr>
<td><strong>Science:</strong></td>
<td></td>
</tr>
<tr>
<td>527.01a</td>
<td>Observe and collect data — size and materials</td>
</tr>
<tr>
<td></td>
<td>Child arranges bird nests by size on the science table’s &quot;collections&quot; area, then uses a magnifying glass to look at them.</td>
</tr>
<tr>
<td>529.01a</td>
<td>Make predictions and communicate observations</td>
</tr>
<tr>
<td></td>
<td>Children take turns making daily drawings/observations of butterfly chrysalis in terrarium. Watch them hatch.</td>
</tr>
<tr>
<td>530.01a</td>
<td>Use senses to explore and describe matter with appropriate language</td>
</tr>
<tr>
<td></td>
<td>Explore and discover the properties of magnets with materials around the class.</td>
</tr>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>669.01c</td>
<td>Repeat rhymes, simple songs, poems, and finger plays</td>
</tr>
<tr>
<td></td>
<td>Sings “Eensy Weensy Spider” song to the spider in the “Bug Zoo” display.</td>
</tr>
<tr>
<td>672.01a</td>
<td>Participate in a variety of pre-writing and writing activities</td>
</tr>
<tr>
<td></td>
<td>Child makes a sign: “SARA SPIDR”.</td>
</tr>
<tr>
<td>674.01d</td>
<td>Use multiple-word sentences or phrases to describe ideas, feelings or actions</td>
</tr>
<tr>
<td></td>
<td>Child tells class about catching a big garden spider for their “Bug Zoo” at Meeting Time.</td>
</tr>
<tr>
<td><strong>Math:</strong></td>
<td></td>
</tr>
<tr>
<td>258.02a</td>
<td>Apply reasoning from his/her own experiences to justify ways of problem solving</td>
</tr>
<tr>
<td></td>
<td>Child counts the insects in the “Bug Zoo”, then counts just the grass-hoppers and spiders.</td>
</tr>
<tr>
<td>258.04a</td>
<td>Use appropriate vocabulary to communicate mathematical information</td>
</tr>
<tr>
<td></td>
<td>Child reports they have more grasshoppers than spiders or ladybugs in the “Bug Zoo.” Says they need more spiders.</td>
</tr>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01g</td>
<td>Begin to recognize and eat a variety of nutritious foods</td>
</tr>
<tr>
<td></td>
<td>Children plant seeds for their “salad bar garden”.</td>
</tr>
<tr>
<td>770.01c</td>
<td>Begin to demonstrate an ability to identify, evaluate, and provide possible solutions to problems in real life situations</td>
</tr>
<tr>
<td></td>
<td>Children argue over a basket of shells. Decide one gets the “curly ones” and other the “round ones”. Smile and start to trade.</td>
</tr>
<tr>
<td><strong>Humanities:</strong></td>
<td></td>
</tr>
<tr>
<td>870.01b</td>
<td>Use language to explain, describe or ask questions about art experiences and/or products</td>
</tr>
<tr>
<td></td>
<td>Explain leaf rubbings, and how they match the real leaf.</td>
</tr>
</tbody>
</table>
Books and Reading

In the Books and Reading Center, Children

☆ Learn that printed words have meaning and can be read
☆ Learn about books and the parts of books
☆ Interpret what is read or heard
☆ Learn about ideas, people and places
☆ Develop verbal and listening skills
☆ Learn to recognize and retell a familiar story
☆ Recognize the sounds and rhythms of language
☆ Learn to use a variety of words to express feelings and ideas
☆ Delight in favorite stories and poems
☆ Learn to distinguish between real and make-believe
☆ Follow simple story lines in stories and join in familiar repetitive phrases
☆ Learn about “reading” pictures
☆ Identify authors and illustrators as being the creators of a story

Getting Organized

Set up a comfortable, quiet area where the teacher can read to the children and where the children can spend individual time with favorite books. Carpet, cushions, a couch, chair, rocking chairs and pillows make a welcoming environment.

Schedule time everyday for the teacher to read to the group, and individual time for children to look at books and listen to story tapes.

Education is nothing more, nor less than learning to think!

Peter Facione

When children are read to regularly and encouraged to look through books on their own, to listen to stories on tapes and to make up their own stories, they develop the motivation and skills to read and write by themselves. They make the connection that words and ideas can be written down and that marks on paper stand for the words we use and the sounds we make. They begin to use language-prediction skills and gain the confidence to ask questions and express themselves.

Basic Equipment

Wide variety of books and books-on-tape, refreshed regularly
Display shelf where children can see the covers and easily select books
Tape or CD player
Non-book items such as menus, recipes, boxes, labels, calendars, catalogs and telephone books, create a print rich environment in all other activity centers
Puppets that match a story
Paper, pencils, crayons
Flannel boards, flannel board story characters
Observations and Ideas

Rotate books frequently and be sure to have on hand extra copies of very popular books.

Display books so that children can see the covers and titles. Label all storage areas clearly and teach children to recognize the labels.

Learning opportunities during story reading include asking thought-provoking questions such as “Why did that happen?” and “What do you think will happen next?” “Is this story real or pretend? What gives you a clue?” Encourage children to join in reading refrains: “Chick-a-chick-a-boom-boom” – perhaps clapping the word patterns.

Good children’s literature has a balance of words and clear illustrations that extend children’s understanding. Younger children respond to books with photographs and clear representational pictures rather than cartoons or abstract drawings.

Children enjoy picture books that relate to their current interests or experiences. There are many good children’s books that address family, culture, handicaps and social-emotional issues. Books with rhymes and poetry build an awareness of word sounds. Librarians in the children’s section are great resources for all kinds of books.

Teachers need to educate parents about the power and pleasure of reading. Help them to understand that the playful, creative child who comes to love learning is more likely to achieve and succeed than the anxious, pressured child who has to please adults. Reading readiness in 3 and 4 year-olds is more than knowing the ABC’s – it is also knowing about books and having favorite stories.
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<tr>
<td>671.01c</td>
<td>Repeat rhymes, simple songs, poems and finger plays</td>
</tr>
<tr>
<td>671.01a</td>
<td>Pretend to read easy or predictable books or tries to read along during his/her favorite part of story</td>
</tr>
<tr>
<td>671.1a</td>
<td>Develop an understanding and enjoyment of reading through shared experiences with others</td>
</tr>
<tr>
<td>674.0</td>
<td>Orally share known literature through various presentations and activities</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>770.01a</td>
<td>Begin to develop an increased ability to make independent and responsible choices</td>
</tr>
<tr>
<td>773.03a</td>
<td>Recognize trusted adults who can provide assistance</td>
</tr>
<tr>
<td><strong>Social Studies:</strong></td>
<td></td>
</tr>
<tr>
<td>370.01b</td>
<td>Identify examples of simple machines, invention and technology used in the home</td>
</tr>
<tr>
<td>372.01a</td>
<td>Explore experiences, stories, pictures and music of other cultures</td>
</tr>
<tr>
<td>373.0 c</td>
<td>Demonstrate understanding of some rules and reasons for them</td>
</tr>
</tbody>
</table>

**Planting Ideas**

"This teacher's technique for teaching reading is built on an understanding that young children vary widely in their levels of development."

It is helpful for those who have had more experience to share their thinking with others. I might ask, "How did you know the animal in the story was a cow?" A pre-reader might respond that there is a cow in the picture. An emergent reader might notice that the word started with a “c.” A child at the fluent stage would recognize “c-o-w” as the word cow. These discussions plant ideas for students to help them move on to the next reading stage. Also, hearing language helps children develop the phonemic awareness that is crucial to beginning reading. Songs and rhyming games ("I'm thinking of a word that rhymes with cat. It's something you wear on your head") can fill other transitions."
Writing and Printing

In the Writing and Printing Center, Children

☆ Learn they can communicate with squiggles, letters and written words
☆ Strengthen and develop small muscles
☆ Use a variety of writing tools to convey thoughts and feelings
☆ Recognize that writing can entertain and inform
☆ Create stories using drawing, dictation and invented letters and spelling
☆ Learn to respond to simple directions, commands and questions
☆ Use oral language in a variety of situations
☆ Draw and paint to represent ideas, experiences and feelings, and as precursors to writing

Getting Organized

The Writing and Printing center should be located in a quiet area with an ample work surface, shelving for supplies and enough chairs for several children to work at once with a range of materials and tools.

Basic Equipment

Table and shelves
Variety of papers, cards, envelopes, forms
Pencils, crayons, chalk, markers
Scissors, hole punch
Yarn, ribbon, string
Alphabet letters
Name cards with photographs
Tape, glue, paste
Small chalkboards and white boards
Typewriter, computer, printer
Salt tray
Textured letters and numbers

Observations and Ideas

Fold a large piece of construction paper in half and put blank pages in the middle to form a journal for each child to write and draw whenever he or she wishes. Staple the book across the top and glue a picture of the child on the front. When one journal is filled, start a new one, but keep completed journals to share at circle time.
Teachers should guide without dictating, and participate without dominating.

C. B. Neblette

Writing, like speech, is a developmental process. It begins with scribbles and proceeds to lines and circles, to random strings of letters, words and spaces and eventually to sentences. Writing can be made a natural part of every activity center in some way, but here especially, children are encouraged to connect reading to writing. When they see writing as a necessary, purposeful and enjoyable activity, they pursue it eagerly. Given opportunities and materials, they can produce labels, lists, cards, letters, stories and books, learning the many forms of the written language and the mechanics of communication. In manipulating crayons, pencils and chalk, they develop eye-hand coordination and small-muscle control.
## What a child may do in writing and printing

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<td>Know that alphabet letters are a special category of visual graphics that can be individually named</td>
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<tr>
<td><strong>671.04 c</strong></td>
<td>Understand the purpose of print</td>
</tr>
<tr>
<td></td>
<td>Child practices letters of name in salt tray.</td>
</tr>
<tr>
<td><strong>672.01a</strong></td>
<td>Participate in a variety of pre-writing and writing activities</td>
</tr>
<tr>
<td></td>
<td>Child makes menu for pizza restaurant in dramatic play.</td>
</tr>
<tr>
<td><strong>672.02a</strong></td>
<td>Use prior knowledge to comprehend information and construct meaning</td>
</tr>
<tr>
<td></td>
<td>Draws picture of scary troll after teacher reads “Three Billy Goats Gruff”.</td>
</tr>
<tr>
<td><strong>675.02a</strong></td>
<td>Develop awareness of various media</td>
</tr>
<tr>
<td></td>
<td>Uses computer to play a letter matching game.</td>
</tr>
<tr>
<td><strong>Social Studies:</strong></td>
<td></td>
</tr>
<tr>
<td>366.01b</td>
<td>Identify current events in the community</td>
</tr>
<tr>
<td></td>
<td>Children decorate and write letters on invitations to a family night at school.</td>
</tr>
<tr>
<td><strong>372.01</strong></td>
<td>Demonstrate understanding that holidays commemorate special events</td>
</tr>
<tr>
<td></td>
<td>Child makes “BOO”! signs and Halloween decorations.</td>
</tr>
<tr>
<td><strong>372.01e</strong></td>
<td>Identify personal and school experiences with large seasonal changes</td>
</tr>
<tr>
<td></td>
<td>Dictates note to parents about needing mittens for cold mornings.</td>
</tr>
<tr>
<td><strong>373.01c</strong></td>
<td>Demonstrate understanding of some rules and reasons for them</td>
</tr>
<tr>
<td></td>
<td>Asks teacher for a “Don’t Touch” message while sharing a family, cultural costume.</td>
</tr>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01e</td>
<td>Recognize safety signs and procedures at home, school and in the neighborhood</td>
</tr>
<tr>
<td></td>
<td>Copies the STOP sign from blocks to take outside for trike riding.</td>
</tr>
<tr>
<td><strong>773.01c</strong></td>
<td>Recognize trusted adults who can provide assistance</td>
</tr>
<tr>
<td></td>
<td>Asks teacher to write on a drawings, “Mommy I feel sad and want you”.</td>
</tr>
<tr>
<td><strong>774.03c</strong></td>
<td>Demonstrate abilities in writing and drawing</td>
</tr>
<tr>
<td></td>
<td>Engage in activities involving holding pencils, markers and crayons.</td>
</tr>
<tr>
<td><strong>Humanities/Art:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>872.02a</strong></td>
<td>Show appreciation for the creations of self and others</td>
</tr>
<tr>
<td></td>
<td>Dictate a long story to teacher after building a castle with blocks.</td>
</tr>
</tbody>
</table>
Carpentry

I know of nothing more inspiring than that of making discoveries for one’s self.

George Washington Carver

When children use tools, their hands and eyes work together, they use muscles, they observe, and they solve problems. They begin developing and practicing skills they can use later in life. Carpentry extends mathematical concepts and observation skills and encourages flexible, fluent and unique thinking. Through collaboration and discussion, carpentry activities shared by peers promote the development of oral language. Because every child feels good about being allowed to do a “grownup” activity, the challenge of working with tools helps build a healthy self-concept and sense of competence.

In the Carpentry Center, Children

☆ Develop motor skills, coordination and strength
☆ Learn to work with tools
☆ Learn to work independently
☆ Develop a willingness to try new things and to try again - resilience
☆ Understand stability and balance
☆ Develop safety awareness
☆ Explore force, cause and effect, and properties of materials
☆ Creativity
☆ Make choices and decisions
☆ Develop a strong sense of self-confidence and competence

Getting Organized

The Carpentry center is intended to provide a safe place for children to engage in the simple, satisfying activities of hammering, sawing, gluing and clamping. The area for this activity should be well defined and contained, with space for two or three children to work. Locate it out of the line of traffic and use carpet to minimize noise. The area needs to be visible from all parts of the room so the teacher can easily observe and supervise.

Basic Equipment

Workbench or low, fairly heavy table with a vice
Sturdy tool rack, mobile if possible, with tool outlines
Vise, wrench, pliers, saws, hammers (6-8 oz) and screwdrivers
Sandpaper
Wood – soft pine (no plywood)
Nails, including short, large-headed roofing nails
Paints and brushes
Safety goggles and hard hats
Paper and pencils to draw plans
Tape measures and rulers
Foam pieces, golf tees and wooden mallets for beginners
Pine stump (or round) for pounding nails
Observations and Ideas

Store each tool’s space on a tool rack or pegboard to show that organization is important. It’s also a good idea to trace the shapes of the tools into the pegboard with a permanent marker so children know where to store them. Shelves are needed for labeled containers of nails and wood.

Care should be taken to select appropriate wood pieces. Treated wood, which contain chemicals, should not be used. Use soft woods, since plywood is difficult for children to saw and nail.

Children’s sense of time and creativity can be developed by talking about their projects. “Tell me about your construction.” “Where did you get your ideas?” “How will you know when you are finished?”

Children love to figure out how things work, and tools invite exploration of everyday objects. Broken simple machines provide hours of opening, unscrewing and probing. The best “take apart” are mechanical rather than electronic devices. Some electronics also contain toxins. Make sure that “take apart” pieces are not small enough to be swallowed! While a digital clock has parts to explore, children do not see the gears and moving parts of a wind-up clock and how one part makes another turn. One seasoned preschool teacher claims that an old sewing machine (with some of the outer screws loosened) is the ultimate take apart for 4 year olds. There are endless small pieces to sort and save for making “inventions,” phillips and straight screws to turn. Causality is visible as turning the drive wheel makes the needle move!
## What a child may do in carpentry

<table>
<thead>
<tr>
<th>Standard</th>
<th>Potential Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>671.03a</td>
<td>Develop a sense of story or narrative from print, computer or video materials</td>
</tr>
<tr>
<td>672.01d</td>
<td>Attempt to print or copy his/her first name</td>
</tr>
<tr>
<td>674.01f</td>
<td>Use vocabulary to share knowledge of concepts</td>
</tr>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01e</td>
<td>Recognize safety signs and procedures at home, school, and neighborhood</td>
</tr>
<tr>
<td>771.01a</td>
<td>Begin to develop an understanding of how one’s actions affect others, and accept the consequences of one’s own actions</td>
</tr>
<tr>
<td>774.02c</td>
<td>Demonstrate ability to perform activities that combine gross motor movements with equipment</td>
</tr>
<tr>
<td>775.01b</td>
<td>Demonstrate an increased ability to persist in and complete a variety of tasks, activities and experiences</td>
</tr>
<tr>
<td><strong>Humanities/Art:</strong></td>
<td></td>
</tr>
<tr>
<td>868.0 a</td>
<td>Participate in and experience self-expression in musical, visual art and dance experiences from many cultures</td>
</tr>
<tr>
<td>872.01b.3</td>
<td>Visual Art: Develop growing abilities to plan, work independently, and demonstrate care and persistence in a variety of art projects</td>
</tr>
<tr>
<td><strong>Science:</strong></td>
<td></td>
</tr>
<tr>
<td>535.01b</td>
<td>Recognize that people have invented tools for everyday life and scientific investigation</td>
</tr>
</tbody>
</table>
Outdoor Activities

The object of education is to prepare the young to educate themselves throughout their lives.

Robert Maynard Hutchins

Outdoor play gives young children a safe environment to let off excess energy and polish newly acquired motor skills such as jumping, throwing and catching. As they twist, bend, swing and balance, children also are developing their imagination and learning important language, problem-solving and social interaction skills. In addition, group activities promote teamwork and a sense of commitment to a group.

In the Outdoor Activities Center, Children

☆ Explore ideas and concepts in nature

☆ Develop an appreciation for the environment
☆ Learn and practice new skills
☆ Make scientific observations
☆ Gain self-confidence
☆ Increase physical fitness and learn to throw, kick, ride, climb and jump
☆ Practice taking informed risks
☆ Solve problems
☆ Learn to take turns and play with others
☆ Increase communication skills
☆ Act out home and community experiences
☆ Explore nature

Getting Organized

A well-designed outdoor learning environment stimulates the imagination of children and allows them to test their abilities as well as enjoy the benefits of fresh air and vigorous physical exercise. A variety of equipment and adaptive equipment suitable for many children to use at once is preferable to one large all-purpose structure that limits participation. Establish sand, water and mud play areas. Bring prop boxes from the classroom to further encourage imaginative play. The outdoors should provide for a range of observation and exploration opportunities – the weather, the sky, the seasons, plant and animal life. The play area can be planned as an extension of the classroom. Weather permitting, art, music and dance, storytelling, dramatic play, carpentry and caring for classroom pets all can take place outdoors.

Basic Equipment

Climbing structures with lots of moving parts (swings, bars, ladders, steering wheel, and enclosures.)
Safe, impact-absorbing material under climber
Some paved areas and some grass or softer areas
Suspension bridges
Ramp and tunnels
Short sliding bars
Observations and Ideas

Many science activities can and should take place outdoors. Keep bags and other containers readily available for the many treasures children find outdoors. Take prop boxes outside for additional play experiences. An old tree stump could be used for hammering nails; sand, water and digging areas that are protected from wheeled vehicles encourage rich play. A track or area for wheeled toys like trikes, wagons and scooters provides space for vigorous play. Climbing and balancing equipment promotes healthy growth. Playgrounds need areas that are accessible to children with disabilities and provide participation by the children.

Exercising the Imagination

An outdoor sand area offers a great place to dig, pat, carry and mold. Water and sand toys encourage children to make everything from cakes to lakes. Assorted lengths of plastic gutter troughs become water slides.

A safely made tire swing can accommodate more than one child at a time for fun. Since the swing goes around as well as back and forth, it provides more feedback for the development of balance and the body-regulating parts of the brain.
# What a child may do in the outdoors

<table>
<thead>
<tr>
<th>Standard</th>
<th>Potential Interactions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Health:</strong></td>
<td></td>
</tr>
<tr>
<td>769.01b</td>
<td>Participate actively in outdoor play, games, and other forms of exercise</td>
</tr>
<tr>
<td>769.01e</td>
<td>Recognize safety signs and procedures at home, school and in the neighborhood</td>
</tr>
<tr>
<td>770.01c</td>
<td>Begin to demonstrate an ability to identify evaluate, and provide possible solutions to problems in real life situations</td>
</tr>
<tr>
<td>774.02a</td>
<td>Demonstrate proficiency in control, balance, strength, stamina and flexibility</td>
</tr>
<tr>
<td>774.02b</td>
<td>Demonstrate ability to combine a sequence of movements in an organized way</td>
</tr>
<tr>
<td>774.02c</td>
<td>Demonstrate ability to perform activities that combine gross motor movements with equipment</td>
</tr>
<tr>
<td><strong>Language Arts/Communication:</strong></td>
<td></td>
</tr>
<tr>
<td>671.01c</td>
<td>Play word and sound games</td>
</tr>
<tr>
<td>674.03b</td>
<td>Develop in ability to express opinions and solve problems</td>
</tr>
<tr>
<td>674.03c</td>
<td>Use words to express range of feeling</td>
</tr>
<tr>
<td><strong>Mathematics:</strong></td>
<td></td>
</tr>
<tr>
<td>257.01a</td>
<td>Demonstrate an understanding of the numeration system (numbers represent quantity)</td>
</tr>
<tr>
<td>258.0a</td>
<td>Build new mathematical knowledge through problem solving</td>
</tr>
</tbody>
</table>
CHILDREN WELCOME HERE

Learning centers, provide a variety of areas for exploration.

- A block corner for building
- A science area for observing and investigating
- A dramatic play space for role-playing
- An art area for trying out a variety of materials
- A comfortable, quiet place with good books for browsing and reading
- A writing area with paper, pencils, crayons, markers and possibly a computer
- Table games and manipulative materials for developing eye-hand coordination as well as sharing, problem-solving and thinking skills
  - A large open space for group meetings, story time, music and movement
  - Sand and water tables for beginning to explore basic mathematical and scientific concepts
  - Multiple opportunities for social studies experiences through classroom interactions
- An outdoors area for exercise, sharing and exploration
- A carpentry space for exercising small muscles and developing eye-hand coordination

Organizing the Classroom

Spontaneous play in an activity-centered environment is characteristic of early childhood programs. Learning center activities and experiences develop language skills and mathematics concepts as well as knowledge in other discipline areas. A well-organized classroom allows for successful learning activities and promotes appropriate social behavior. Some key considerations in planning the space:

- Make it usable for children. View each activity center from knee level.
- Keep quiet areas separate from active or noisy areas. Books should be distant from blocks, carpentry or dramatic play.
- Centers should address all developmental areas – cognitive, language, creative, self-help and social/ emotional.
- Provide space where children can go to be alone but still remain in full view of the teacher.
- Define boundaries with furniture and floor coverings so children can tell where learning centers start and end.
- Avoid large open areas to reduce running and aimless wandering.
- For safety, separate the carpentry workbench from other activity areas and limit the number of children who can work there at once.
- Equip the learning centers with materials for everyone and include duplicates of favorite toys.
- Provide each child with a personal cubby to store belongings.
- Label shelves and storage boxes with printed label and picture so children can connect projects with print as they put materials away.
An Example of a Simple and Effective Classroom Design
During the preschool years, between 3 and 5 years of age, children will know and be able to do the following:

**Standard 769: Health Lifestyles**

*The student will:*

01. Acquire the essential skills to lead a healthy life.

   a. Describe personal characteristics including first and last name, gender and family composition, including different family structures.
   b. Participate actively in outdoor play, games, and other forms of exercise.
   c. Participate in recognizing when to rest and sleep.
   d. Recognize and practice personal hygiene and self-help skills.
   e. Recognize safety signs and procedures at home, school, and in the neighborhood.
   f. Demonstrate knowledge of basic body parts.
   g. Begin to recognize and eat a variety of nutritious foods.

**Standard 770: Risk-Taking Behavior**

*The student will:*

01. Demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

   a. Demonstrate an understanding of appropriate and inappropriate behavior.
   b. Begin to develop an increased ability to make independent and responsible choices.
   c. Begin to demonstrate an ability to identify, evaluate, and provide possible solutions to problems in real life situations.
   d. Follow classroom schedules and routines.

**Standard 771.0: Communication Skills for Healthy Relationships**

*The student will:*

01. Demonstrate the ability to use communication skills to enhance health.

   a. Begin to develop an understanding of how one’s actions affect others, and accept the consequences of one’s own actions.
   b. Demonstrate successful interactions and relationships with other members of their learning community.
01. Demonstrate the ability to use communication skills to enhance health. (Cont’d)

c. Communicate his/her own wants and needs and recognize the wants and needs of others.

**Standard 772: Consumer Health**

*The student will:*

01. Organize, analyze, and apply health information practices and services appropriate for individual needs.

   a. Identify potentially harmful objects, substances, and activities, and respond appropriately.

**Standard 773: Mental and Emotional Wellness**

*The student will:*

01. Understand and demonstrate the key components to positive mental and emotional health.

   a. Demonstrate and express a positive awareness of self.
   b. Engage in play as a means of self-expression and creativity.
   c. Recognize trusted adults who can provide assistance.
   d. Demonstrate an understanding of feelings and moods in self and others.
   e. Increase ability to move from externally controlled behavior to self-control.

**Standard 774: Motor Development**

*The student will:*

01. Demonstrate positive body image.

   a. Recognize that his/her body is good, reliable, and pleasing.
   b. Recognize gender differences.

02. Demonstrate control, balance, strength, and coordination in gross motor tasks.

   a. Demonstrate proficiency in control and balance, strength, stamina, and flexibility.
   b. Demonstrate abilities to combine a sequence of movements in an organized way.
   c. Demonstrate abilities to perform activities that combine gross motor movements with equipment.

03. Demonstrate coordination and strength in fine motor tasks.

   a. Demonstrate growing strength, dexterity, and control needed to use tools such as scissors, glue, paintbrush, and markers.
   b. Demonstrate eye-hand coordination in different tasks, (e.g., build with blocks, scribble, put puzzles together, string beads).
   c. Demonstrate abilities in writing and drawing.
Standard 775: Approaches to Learning

The student will:

01. Demonstrate a variety of healthy approaches to learning.
   a. Show interest/curiosity and willingness to take risks in discovering/learning new things.
   b. Demonstrate an increased ability to persist in and complete a variety of tasks, activities, and experiences.
   c. Demonstrate an ability to reflect upon and to learn from experience.
   d. Demonstrate an increased ability to set goals and to follow through with plans.

Standard 868: Understanding humanities disciplines among various cultures

The student will:

01. Understand the historical and cultural contexts of the visual and performing arts.
   a. Participate in and experience self-expression in musical, visual arts, theatre/dramatic play, and dance experiences from many cultures.

Standard 870: Conduct analyses about art issues

The student will:

01. Conduct analyses in the disciplines of arts and humanities.
   a. Use language to explain, describe, or ask questions about art experiences and/or products, music, visual arts, theater/dramatic play, and dance.

02. Engage in reasoned dialogues about issues in the arts and humanities.
   a. Begin to demonstrate understanding of artistic products and experiences by sharing opinions about music, visual arts, theater/dramatic play, and dance.

Standard 872: Communicating in the Humanities

The student will:

01. Communicate in the visual and performing arts through application of artistic concepts, knowledge, and skills.
a. **Music**

1. Participate with increasing interest and enjoyment in a variety of music activities, including singing, listening, finger plays, games, and performances.
2. Experiment with a variety of musical instruments.
4. Begin to sign simple songs from different cultures.
5. Identify sounds of different instruments and voices.

b. **Visual Art**

1. Gain ability in naming and using different art media and materials in a variety of ways for creative expression and representation.
2. Progress in abilities to create drawings, paintings, models, and other art creations that tell a story.
3. Develop growing abilities to plan, work independently and demonstrate care and persistence in a variety of art projects.
4. Express personal preferences for specific works and styles.

c. **Theatre**

1. Communicate a message through action or dialogue.
2. Create characters, environments, and situations for dramatization. (Let’s pretend.)
3. Choose scenery, props, costumes, and makeup for dramatic play.
4. Develop reasons for personal preferences about dramatic performances.

d. **Dance**

1. Express through movement and dancing what is felt and heard in various musical tempos and styles.
2. Show growth in moving in time to different patterns of rhythm in music.

02. Communicate in the visual and performing arts through creative expression.

a. Show appreciation for the creations of self and others.

**Standard 884: Foreign Language Study**

*The student will:*

01. Understand the concepts essential to foreign language study.

a. Experience languages other than English, based upon the ethnic composition of the community and classroom.

b. Participate in activities that initiate simple greetings in another language.
Standard 669 - Reading

The student will:

01. Read a variety of traditional and electronic materials for information and understanding.
   a. Attend to different sounds in the environment.
   b. Know that alphabet letters are a special category of visual graphics that can be individually named.
   c. Repeat rhymes, simple songs, poems, and finger plays.
   d. Participate in word game.
   e. Attend to different sounds in words.
   f. Demonstrate an understanding of concepts of print:
      1. Recognize front and back of book;
      2. Begin to understand that books are read left to right, top to bottom, front to back, beginning to end;
      3. Distinguish between pictures and print;
      4. Begin to understand concepts of letter, word, page;
      5. Associate spoken words and concepts with written language;
      6. Respond to environmental print.

Context Clue

a. Pretend to read easy or predictable books or tries to read along during his/her favorite part of story.

02. Read and respond to a variety of literature to compare and contrast the many dimensions of the human experience.
   a. Develop an understanding and enjoyment of reading through shared experiences with others.
   b. Respond to text.

03. Read a variety of traditional, technical, and electronic materials for critical analysis and evaluation.
   a. Develop a sense of story or narrative from print, computer, or video materials.
   b. Demonstrate understanding of literal meaning of story being told through questions and comments.
04. Read to locate information from a variety of traditional, technical, and electronic sources.
   a. Show independent interest in reading related activities.
   b. Attend to a story.
   c. Understand the purposes of print.

**Standard 672 - Writing**

*The student will:*

01. Use the writing process
   a. Participate in a variety of pre-writing and writing activities, including drawing.
   b. Experiment with writing tools and materials.
   c. Attempt to represent oral language in writing by using letter-like symbols/scrribles to express ideas.
   d. Attempt to print or copy his/her first name.

02. Write and edit for correctness and clarity.
   a. Understand that an oral message can be represented with written language.

03. Write a narrative story.
   a. Tell others about intended meaning of drawings and writings.
   b. Use a variety of resources to facilitate writing.
   c. Understand that the purpose of writing is to communicate with oneself or others.

**Standard 673 - Listening**

*The student will:*

01. Listen for information and understanding.
   a. Demonstrate understanding of basic conversational vocabulary.
   b. Demonstrate understanding of messages in conversation.

02. Listen for literary response and expression
   a. Use prior knowledge to comprehend information and construct meaning.
   b. Make predictions, confirm meaning, and develop comprehension skills.

03. Listen for critical analysis and evaluation.
   a. Begin to understand jokes and riddles.

04. Listen to and follow directions.
   a. Follow simple directions.
Standard 674 - Speaking

The student will:

01. Speak to share understanding of information.
   a. Develop awareness of speaker behaviors, such as volume and use of complete sentences.
   b. Communicate in language that is spoken at home and is understood by others.
   c. Speak clearly, including use of appropriate intonation and phrasing.
   d. Use multiple word sentences or phrases to describe ideas, feelings or actions.
   e. Demonstrate use of rules of grammar.
   f. Use vocabulary to share knowledge of concepts.
   g. Use verbal and non-verbal language to express and to communicate wants, needs, and thoughts.

02. Speaking for literary response and expression.
   a. Orally share known literature through various presentations and activities.
   b. Demonstrate use of language and to begin to retell stories and relay events.
   c. Increase the use of new vocabulary.

03. Speak for critical analysis and evaluation.
   a. Develop an ability to express opinions and solve problems.
   b. Demonstrate use of social conventions.
   c. Use words to express range of feelings.
   d. Speak for a variety of purposes.

Standard 675 - Viewing

The student will:

01. View for information and understanding.
   a. Create awareness of different media.
   b. Demonstrate understanding of the main idea using various responses.

02. View media sources for personal response and expression.
   a. Develop awareness of various media.

03. View media to engage in critical analysis and evaluation.
   a. Differentiate between real and pretend.
Standard 257: Basic Arithmetic

The student will:
01. Understand and use numbers.
   a. Demonstrate an understanding of the numeration system (one to one correspondence, that numbers represent quantity).
   b. Demonstrate an understanding of the verbal, symbolic, and physical representations of number (what numbers represent, including counting).

02. Perform computations accurately.
   a. Explore the concepts of addition and subtraction using concrete objects.
   b. Use appropriate vocabulary.

03. Estimate and judge reasonableness of results.
   a. Use estimating techniques to predict and make realistic guesses about a number of objects.
   b. Evaluate and verify the reasonableness of an answer.
   c. Use appropriate vocabulary.

Standard 258: Mathematical Reasoning and Problem Solving

The student will:
01. Understand and use a variety of problem-solving skills.
   a. Build new mathematical knowledge through problem solving.
   b. Solve simple problems with concrete objects by applying and adapting appropriate strategies.
      ▪ Guess how many/what kind of blocks will fit in an area.
   c. Reflect on the process of problem solving.

02. Use reasoning skills to recognize problems and express them mathematically.
   a. Apply reasoning from his/her own experiences to justify ways of problem solving.

03. Apply appropriate technology and models to find solutions to problems.
   a. Use concrete objects to represent mathematical ideas.

04. Communicate results using appropriate terminology and methods.
   a. Use appropriate vocabulary to communicate mathematical information.

The student will:
01. Understand and use U.S. customary and metric measurements.
   a. Use standard and nonstandard tools for measuring time length, volume, weight, and temperature.
   b. Apply estimation of measurement techniques to real-world and content problems using non-standard and standard measuring.
   c. Use appropriate vocabulary.


The student will:
01. Use algebraic symbolism as a tool to represent mathematical relationships.
   a. Compare sets of objects using vocabulary (e.g., more, less, greater than, fewer, or same as).
   b. Analyze change in various contexts.

Standard 261: Concepts and Principles of Geometry

The student will:
01. Apply concepts of size, shape, and spatial relationships.
   a. Recognize, describe, compare, name, build, draw, sort and order two- and three-dimensional shapes, their parts and attributes.
   b. Recognize, describe, compare, and create shapes that have symmetry.
   c. Understand and apply appropriate vocabulary for directionality, order and position of objects.

02. Apply graphing to dimensions.
   a. Apply ideas about direction and distance.

Standard 262: Data Analysis, Probability, and Statistics

The student will:
01. Understand data analysis.
   a. Ask questions that can be addressed with data.
   b. Understand and use appropriate vocabulary.

02. Collect, organize, and display data.
   a. Create a graph using real objects or pictorial representations.
03. Understand basic concepts of probability.
   a. Predict and perform results of simple probability experiments.

04. Make predictions or decisions based on data.
   a. Make predictions or decisions based on probable results or past experiences.

**Standard 263: Functions and Mathematical Models.**

*The student will:*  
01. Understand the concept of functions.
   a. Replicate and extend patterns.
      - Copy and extend patterns with blocks.
   b. Sort and classify objects by attributes.
   c. Understand and use appropriate vocabulary.

**Standard 527: Unifying Concepts of Science**

*The student will:*  
01. Understand concepts and processes of evidence, models.
   a. Explore the concepts of observation and data collection.
   b. Explore and use various models.

02. Understand constancy, change, and explanation.
   a. Explore changes.

03. Understand the theory that evolution is a process that relates to the gradual changes in the universe and of equilibrium as a physical state.
   a. Understand the concepts of yesterday, today and tomorrow.

**Standard 529: Concepts of Scientific Inquiry**

*The student will:*  
01. Understand scientific inquiry and develop critical thinking skills.
   a. Make predictions and communicate observations.
   b. Make observations based on his/her own experiences, using all five senses.
   c. Use various tools to gather information.
**Standard 530: Concepts of Physical Science.**

*The student will:*
01. Understand the structure and function of matter and molecules and their interactions.
   a. Use senses to explore and describe matter with appropriate language.

**Standard 532: Interdependence of Organisms and Biological Change**

*The student will:*
01. Understand the theory of biological evolution.
   a. Observe and explore the characteristics of plants and animals.
   b. Sort animals into broad categories: insects, birds, fish, and mammals.
      ▪ Recognize that plants and animals grow and change.

**Standard 533: Matter, Energy, and Organization in Living Systems**

*The student will:*
01. Understand the relationship among matter, energy, and organization to trace matter as it cycles and energy as it flows through living systems and between living systems and the environment.
   a. Recognize the difference between living and nonliving things.

**Standard 534: Earth and Space Systems**

*The student will:*
01. Understand the scientific theories of origin and subsequent changes in the universe and the earth systems.
   a. Observe and identify the four seasons.
   b. Observe different weather conditions.

**Standard 535: Technology**

*The student will:*
01. Understand common environmental quality issues, both natural and human induced.
   a. Distinguish between natural objects and objects made by humans.
   b. Recognize that people have invented tools for everyday life and for scientific investigations.
   c. Create a tool to perform a specific function.
   d. Use available and appropriate technology.
Standard 536: Personal and Social Perspectives

*The student will:*
  01. Understand common environment quality issues, both natural and human induced.
      a. Observe and discuss characteristics of the local environment.
  02. Understand the importance of natural resources and the need to manage and conserve them.
      a. Understand the concept of recycling.
      b. Discuss the conversation of natural resources.


*The student will:*
  01. Understand that interpersonal relationships are important in scientific endeavors.
      a. Learn appropriate cooperation and interaction skills.
  02. Understand technical communication.
      a. Understand and following instructions.

Standard 366: Critical Thinking and Analytical Skills

*The student will:*
  01. Acquire critical thinking and analytical skills.
      a. Use vocabulary associated with time (e.g., now, then, before, after, today, yesterday, and tomorrow).
      b. Identify current events in the community or family.
      c. Demonstrate awareness that historical events have been recorded.

Standard 370: Political, Social, and Economic Response to Industrialization and Technological Innovation

*The student will:*
  01. Understand the political, social, and economic responses to industrialization and technological innovations that have occurred in the United States.
      a. Identify different means of transportation used today to travel from place to place (e.g., airplanes, boats, automobiles, buses, trains, and bicycles).
      b. Identify examples of simple machines, inventions and technology used in the home.
Standard 371: International Relations and Conflicts

The student will:

01. Understand significant conflicts in United States history.

a. Explore why we celebrate Independence Day, Veterans’ Day, and Martin Luther King, Jr., Day.

Standard 372: Cultural and Social Development

The student will:

01. Understand the cultural and social development of the United States.

a. Explore experiences, stores, pictures, and music of other cultures.
b. Demonstrate understanding that holidays commemorate special events.
c. Participate in patriotic activities.
d. Recognize that people celebrate in many different ways.
e. Identify personal and school experiences with large seasonal changes.
f. Demonstrate an understanding of own personal history as part of family, school, and community.
g. Demonstrate understanding of how people in the community help each other.
h. Demonstrate understanding of how all children’s families have similarities and differences.
i. Demonstrate understanding of how each person is special and unique.

Standard 373: Foundations of the American Political System

The student will:

01. Understand the foundations and principles of the American political system.

a. Listen to stories that reflect the cultural heritage of the United States — present, past, real, and fiction.
b. Participate with groups to make decisions and solve problems.
c. Demonstrate understanding of some rules and reasons for them.

Standard 375: Citizenship Responsibilities and Rights

The student will:

01. Understand that all citizens of the United States have responsibilities and rights.

a. Begin to identify individuals who are helpful to people in their everyday lives (e.g., principal, police officer).
b. Demonstrate ways to be helpful to family, school, community.
c. Demonstrate understanding of the need for leadership in the family, school, and community.
d. Begin to demonstrate respect for the opinions, feelings, and actions of others.
e. Demonstrate the ability to make choices and take responsibility for one’s own actions.
01. Understand that all citizens of the United States have responsibilities and rights. (cont’d)

   f. Begin to demonstrate respect for rules at home, school, and community.
   g. Begin to understand “fairness.”

**Standard 376: Economic Fundamentals**

*The student will:*

01. Understand basic economic concepts.

   a. Observe that people have needs and wants.
   b. Recognize that people meet their needs for sharing, trading, and using money to buy goods and services.
   c. Demonstrate understanding of some of the jobs that people do to earn money.
   d. Begin to demonstrate knowledge of people who work in the school or in the community and become aware of their products and services.

**Standard 8: Geography**

*The student will:*

01. Understand the spatial organization of people, places, and environment on the earth’s surface.

   a. Begin to demonstrate understanding of the natural features of the earth in the immediate environment and in pictures.
   b. Distinguish between masses of land and water.
   c. Begin to demonstrate an understanding that a map represents the physical environment.
   d. Use simple terms such as near, far, smaller, and bigger.

02. Understand that human actions modify the environment and how physical systems affect human activity and living conditions.

   a. Begin to demonstrate understanding of the ways that the four seasons affect our lives.
   b. Demonstrate ways to be helpful to the environment and the community.
   c. Recognize that many kinds of plants and animals live on earth.