PRESCHOOL CURRICULUM

Introduction

The San Francisco School preschool is a *Montessori* program. The curriculum and school schedule are designed around several guiding principles developed by Maria Montessori resulting from her own observation and work with children. Two important principles are the absorbent mind and the sensitive periods. The *absorbent mind, which* lasts from birth to about six years of age, refers to the child's unconscious learning, or the ability to learn effortlessly through interaction with the environment. The most easily recognized example of the absorbent mind is the child's acquisition of oral language.

Coupled with the absorbent mind is the concept of *sensitive periods*. Sensitive periods are transitory times during which the child appears more focused on certain aspects of the environment than others. Montessori noted that very young children are particularly attentive to language, movement, color, order, and observing small objects, as well as other sensitivities. In the Montessori classroom an awareness of the sensitive periods guides the teacher in the development of activities for children.

The *prepared environment* is a fundamental aspect of the Montessori program. The teacher creates and maintains a classroom that is both esthetically beautiful and appropriately designed to provide children the opportunity for emotional, physical, social and cognitive growth. Children from ages three through six years are grouped together in the Montessori classroom because of the perspective that at these ages children are learning through sensorimotor experience. There is no separate kindergarten class at the San Francisco School. Because the preschool classes provide for children from ages three through six, the environment must address the needs, interests, and capabilities of children reflecting this age span. The curriculum is both age appropriate and individually appropriate. Children choose or are guided towards materials for which they are developmentally ready *on an individual basis*. For example, some three year olds have an interest and readiness to work with letter symbols and sounds, other children may not develop this capacity until they are five.

The environment invites children to interact and exercise their desires to move freely, practice speech, develop a sense of order and relate to their peers. It is also designed to encourage children to become independent and to make choices. When a child spills water, for example, child-sized mops are easily accessible so children can clean up. Free choice periods during the day and the availability of many different activities allow children the opportunity to decide, **"**Do I want to paint a picture, work with the pink tower, or read a book?**"**

Other aspects of Montessori's approach include the teacher as the guide to the environment; a focus on the individual child; a recognition of age-appropriate developmental characteristics; the importance of order in the formation of clear thought and creativity; active hands-on learning; respect for the child's natural interests; and the development of inner discipline.

In addition to Montessori equipment, the prepared environment includes many materials such as blocks of varying sizes and shapes, dramatic play, costumes, traditional board games, educational toys, a variety of manipulative materials, as well as numerous faculty-created extensions. Carefully selected components such as the marble game, wooden trains, peg boards, geo boards, clay, blocks, crates, light and water tables, and sand trays help children to develop small motor dexterity, perceptual discrimination and spatial awareness, as well as offering

opportunities for them to express their natural creativity. The curriculum respects play as a way of learning. Materials are selected that are multi-cultural, nonsexist and non-stereotyping.

The School Day Schedule includes:

* Time for the children to work independently with materials. (Recognition of the conditions necessary for inner growth through concentration and use of the hand in learning).

* Time for group participation. (Recognition of the importance of socializing for the preschool child and the valuable experience of being part of a peer group).

* Time to work directly with a teacher. (Recognition of the value of the teacher as a guide to the environment, a resource for information, and a trusted caregiver selected by the parents).

* Time to work with peers.

* Time for outdoor play.

* Time for rest and reflection.

* Time for nourishment (snacks and lunch).

Practical Life

Practical life activities include a wide range of tasks, from pushing in a chair or pouring water to baking a cake. These activities address the child's basic desire to feel competent, to be independent, and to belong. In addition, the practical life activities help children develop a sense of order and sequence, help develop muscular coordination, hand/eye coordination, and provide an opportunity for concentrated purposeful work. The skills gained through work in the practical life area are essential for success in all other curriculum areas.

The teacher carefully presents practical life activities to the children, paying attention to sequence, timing and rhythm. What we have to consider is how we can present this action to the small child and at the same time disturb as little as possible the creative instinct (Maria Montessori).

Practical life activities can be divided into the following categories:

* *Care of the person:* Includes activities such as hand washing, dressing, and personal hygiene. These activities embody the foundations of self-esteem.

* *Care of the environment:* Includes activities such as washing chairs, sweeping, dusting, cooking, feeding animals, watering plants, composting, recycling and job time at the end of the day. These activities promote the beginnings of community awareness and embody the foundations of an ecological ethic.

* *Social relations:* Maria Montessori called these exercises Grace and Courtesy.

They include developing skills in greeting visitors, participating in a conversation, self-assertion, resolving conflicts, initiating and maintaining friendships.

* *Coordination of movement: This* includes many exercises involving hand/eye coordination, carrying objects, self-expression through movement as well as initiating and inhibiting actions and impulses. The Silence Game is an example of a group activity in which children have to restrain impulses to speak or move for a short period of time in order to report on what they may have experienced in the interim.

These activities become progressively more detailed and complex as the child moves along the continuum. Each task utilizes a previously mastered skill while introducing a new skill.

Sensorial Materials

The sensorial materials were designed by Maria Montessori to offer young children concrete experiences in comparing and classifying their environment. She believed that there is nothing in the intellect that was not first experienced via the senses. These materials isolate particular qualities such as; shape, color, texture, flavor, weight and offer the children keys for exploring the environment as they engage their attention with hands-on work.

As with practical life activities, sensorial materials are carefully presented to children by the teacher. Because much of the material has a built-in control of error, correction by the teacher is often unnecessary. Children are encouraged to work repeatedly with the materials. Though there is an initial prescribed presentation by the teacher, variations invented by the children that lead to discovery and new understanding of relationships are encouraged.

* The sense of sight is refined and developed through the use of materials which help the child discriminate *color, dimension, shape, and form.* The materials for the discrimination of color are: Color Box 1 which contains two tablets of each of the primary colors for the child to match; Color Box 2 which contains secondary and tertiary colors plus black and white and is used in a similar fashion; Color Box 3 which contains eight tablets of varying shades of eight different colors for the child to grade in order from light to dark. The materials for the discrimination of dimension include the Cylinder Blocks, the Pink Tower for size, the Brown Stair for thickness, and the Red Rods for length. Materials for the discrimination of shape include the Geometric Cabinet and the Geometric Solids, whereas the Constructive Triangles, the Binomial and Trinomial Cubes and other materials help students to refine their understanding of both shape and form.

* Development of the sense of hearing is assisted by a material known as the Sound Cylinders. This is two boxes containing six closed wooden cylinders, one box with red tops, one with blue. The child shakes the cylinder near his/her ear and listens to variations in volume, pitch and intensity. Each red cylinder has a matching sound in the blue set. The cylinders may be simply enjoyed, matched or graded. The Montessori Bells may be used in similar fashion and exercises such as the Silence Game also help in the development of the sense of hearing.

* A number of materials are used to help refine the child's sense of touch. The Tactile Boards are used to teach about texture. Mystery Bags contain paired objects which the child must match without looking. The Fabric Boxes similarly contain paired swatches of fabric which the child must match. Children often find it enjoyable to use these materials while wearing a blindfold. The Baric Tablets are used to develop a child's perception of weight, and the Thermic Tablets are used to help develop the perception of variations in temperature.

* The Smelling Bottles are used to help develop the olfactory sense. This material is similar in appearance to the Sound Cylinders in that it is two boxes each containing six bottles with paired smells. The aromas may simply be enjoyed or they may be matched.

* Opportunities for exercises in the development of the sense of taste occur throughout the year at snack, lunchtime and in the garden. The teachers may also create tasting exercises to explore the experience of sweet, salt, sour and bitter.

Language, Reading and Writing in the Preschool

The acquisition of oral language is a main focus in the preschool language program. Children develop language skills and increase vocabulary through exposure to stories, rhymes, poetry, song and conversation with peers and adults. The desire to communicate is strong in children and they are encouraged to express themselves through language.

Teachers recognize that children will mirror the language of the environment; therefore they are attentive to presenting the best possible model. Correct pronunciation, syntax, and grammar as well as clear, concise speech are continually presented to the children by the teachers. When a child speaks without correct pronunciation, syntax, or grammar, teachers repeat what the child has said with the corrections but without explicitly calling attention to the mistake. For example, a child might say, "The fishes are swimming." The teacher may respond, "Yes, The fish are swimming in the fish tank." Children hear the language and eventually absorb the correct patterns and vocabulary. With reflective repetition they also benefit from knowing that they have been heard and understood.

Vocabulary enrichment is another aspect of the preschool environment. Children learn the proper names of objects in the classroom. They expand vocabulary when exploring the cultural subjects of the Montessori curriculum which include the study of animals, plants, social studies, geography, etc. Children learn names of materials in the classroom that are geared towards teaching language and concepts such as comparison or classification. For example, there are specific concrete Montessori materials with a direct aim of teaching color names, the names of geometric shapes or the language of comparison: long, longer, longest; small, smaller, smallest. These materials are available throughout the year. However each set of concepts is introduced in sequence, beginning with more concrete materials and moving towards abstraction as the child achieves mastery of his/her repertoire. Language is a primary focus in all curriculum areas, and is viewed as an important way to help children organize their thinking processes as well as the fundamental vehicle for the expression of individual personality.

Reading and writing are the natural abstract extensions of spoken language. However, before a child can benefit from reading instruction some key skills must be in place. The three most

critical skills are: awareness of print and how a book is read; knowledge of the names of the letters; and awareness of the speech sounds in words, also called "phonemic awareness". As a child's need to symbolize his/her thoughts on paper grows, so begins the use of the written word in combination with drawings. Dictation of stories, using the child's exact words is offered. These thoughts can then be read back over and over again to various people. The power of the written word becomes clear as to the child's delight his/her exact words are repeated every time they are read back. This is one occasion when the teacher may choose not to correct the child's grammatical errors. For example, a child may insist that the teacher write "I eated pizza for dinner." These are their words, they know it, and they take great pleasure in seeing their idea written and read back exactly as they expressed it. The powerful experience of using symbols on paper motivates children to spring forward into the world of writing and reading.

When teachers write, an effort is always made to print clearly so that the children can begin to recognize and read the words on their own. Lower case letters are emphasized, so that children become familiar with print as it appears in books (standard capitalization may be employed for proper names, or at the beginning of a sentence). Young children will often begin to write in an experimental way that can look like scribbling to an adult. Usually it has specific characteristics that are very similar to print. It is linear and often moves from left to right in a horizontal pattern, with some individual markings resembling or being real letters. Sometimes the writing looks similar to cursive longhand. Teachers value the communication of thoughts through symbols from the beginning stages such as just described, to the more sophisticated writing that children move on to over the course of preschool.

Writing and reading go hand in hand**.** Materials for both activities are always available in the classroom. Thick pencils (for easier gripping), thin pencils, pencils with grips, crayons, colored pencils, markers, paint brushes of various sizes, and chalk are some of the basic supplies available for writing. In addition, the metal insets (a Montessori material designed for tracing and coloring geometric shapes) and many sensorial and practical life materials (i.e. knobbed cylinders or work with tweezers) offer further opportunities to develop the fine motor control necessary for writing. Children are encouraged to grasp these materials with their thumb, index and middle fingers in preparation for holding a pencil. As they learn to hold pencils with a standard grip, letter formation and handwriting are introduced. Again, there is an emphasis on the use of lower case letters. Imaginative play and conversation about their lives often gives the child the source and inspiration for the stories they will write or dictate.

Books are an essential component of the reading curriculum. There is a classroom library that includes a tremendous variety of genres, styles and subjects; fiction, non-fiction, folk tales, animal and people stories, books about our units of study, books that represent women and men in a variety of roles, multicultural books, all kinds of family structures, holidays from around the world, poetry, patterned books, phonetic books, and many others. Books are rotated on the shelf throughout the year. Books may also be found at the science table or near the circle area as they relate to current areas of study. Books on tape are available with the use of the tape cassette player. Children also love to bring in books from home to share with the class. The proper care of books is frequently demonstrated by the teachers. The teachers continually express their love of reading, and convey a vision of books as a treasure for everyone's enjoyment.

Children are read to every day at circle time, as well as informally at other times during the course of the day. The books used range in complexity from simple single word pages with pictures to chapter books without illustrations. Discussions may occur before, during or after the reading and can focus on storyline, patterns in the story, sequence, predicting outcomes, as well as thoughts about the characters - their actions, motives, and feelings. The teacher frequently

asks open-ended questions to encourage reflection and discussion. For example, "What do you think will happen to Wilbur at the fair?" There are no wrong answers. Children are encouraged to think about what they might do in a similar situation. After a story, children may be asked to explain what happened in order to foster the development of comprehension - and the next day the class may work together recalling the events of the previous chapter. Sometimes large formatted books, often called big books are read. These books lend themselves to choral reading, modeled tracking by the teacher using a pointer, and the whole group sharing strategies to decipher words. Teachers ask parents to be sure to read to their children daily and to model the pleasure of reading at home.

The fundamental approach to teaching reading and writing in a Montessori program is based in phonics. An array of Montessori materials are used, many of which include a motor or sensorial aspect. When children begin to work directly with letters, the association of a sound with a graphic symbol is made. First, the Sandpaper Letters are used. These are individual boards with each letter of the alphabet represented in sandpaper. The child traces the letter with their fingers, looks at the letter, says it aloud, and hears the teacher say it out loud. In this way the child receives an auditory, visual, and kinesthetic impression of the letter and its corresponding sound. Lower case letters are most often used in Montessori language materials because the vast majority of letters in text and books are in lower case.

Children are encouraged to trace and say letters repeatedly during a lesson. The same letter may be presented the following day for reinforcement. Some children may have difficulty remembering a letter sound when only experiencing it visually. The teacher may therefore suggest tracing the letter with fingers, or using the whole arm and large motor action to trace the letter in the air or on the rug. Often tactile sensation helps the child remember the sound that goes with the symbol (letter). Of special note is that *letter sounds rather than letter names* are emphasized in order to build a phonemic awareness, the foundation of our approach to reading.

Teachers may choose to build awareness of particular sounds by focusing on them at circle time. Recently called The Sound of the Week, a letter is posted on a bulletin board in the classroom and children bring in objects or pictures of objects that begin with that sound. These are shown at circle as the whole group *sounds out* the names of the objects.

After developing a facility with a majority of the sounds of the alphabet, including the short vowel sounds *which* are taught initially, children begin to put sounds together to make words. A Montessori material called the Movable Alphabet is utilized for these first exercises in word building. This large box includes all the letters of the alphabet in lower case, several of each sound - consonants are red and vowels are blue. For example, an initial presentation by the teacher may be: We are going to make the word jet, **j-e-t** (each sound is said). Can you get the **j**...? Can you get the **e**? And now the **t**? Good. This word is jet, **j-e-t,** jet. Can you say it with me? Several words may be dictated in this fashion.

The next step would be to give a child a picture or object, have them independently decode the sounds and retrieve them from the movable alphabet box to place next to the picture or object. A picture of a **box**, a **top**, and a **fox** may be presented in one lesson. These tasks encourage the development of memory; yet provide cues in several modalities for children who are predominantly visual or auditory learners. It also provides for a way to create words for children who may not yet have the fine motor skill necessary to write.

Children often use the skills they have learned from phonics in their own spontaneous writings. This inventive spelling begins to accompany children's drawings and first attempts to write

notes, letters and stories. Inventive spelling may follow several stages. During the initial stages teachers encourage children's expression *without corrections*. Later, when children have established confidence in their ability to communicate by writing, correct spellings may be offered. When using inventive spelling the first stage is when the initial consonant is used alone for each word. Later the initial and final consonant are used together. Next all of the easily heard consonants are used, then vowels are added, and the final step moves towards an interest in conventional spelling. At this stage children may be asked to circle a few words that they would like to check in the dictionary. Dictionary skills are introduced along with rereading and editing.

We have described a developmental sequence of stages for inventive spelling in order to give an overview of the whole process. Please be aware that a particular child's arrival at the final stages may occur during the kindergarten year as well as during first grade. Most preschoolers will begin inventive spelling with one or two letters.

Sometimes children may build words with the movable alphabet or with their own inventive spelling and may not be able to read them back. However, the important connection between letters and words is still being made during this process and soon children do learn to read back the words. After work with word analysis, children progress to reading simple phonetic three letter words, longer phonetic words, word phrases, polysyllabic phonetic words, and non-phonetic sight words. A variety of materials and exercises are used to promote the development of reading skills. Children who have developed some skills may use phonetic readers and eventually books that include some phonetic and non-phonetic material may be introduced. Children often memorize books and read them back to parents, teachers and friends. Patterned books such as Brown Bear, Brown Bear, What Do You See? by Bill Martin Jr. lend themselves to this type of reading. Children can learn about tracking (left to right, drop down a line, go back to the left, and start to read again) and practice that skill without getting bogged down with sounds or sight words that are difficult to decode. Reading is a complicated process that involves perceptual, motor, visual and auditory skills. Provided with exercises to develop fundamentals, eventually children can combine more and more of the skills necessary to become fluent readers.

To make sight words fun and intriguing, the classroom is full of words. The names of the children are on the tables, on cubbies, and in games on the shelf. Items in the classroom are labeled. Baking words are on recipes written out in large format, regular size, and broken down for memory games. Colors are written on cards as an extension of the sensorial exercises involving color. Words are posted by the science table. Songs and rhymes are sung and played with in a written format. Class books are made. An environment filled with words is created for the children. Often parents report that children are spontaneously reading sights words outside of the school environment (stop signs on the street, words in the grocery store, etc.) The excitement about reading both sight words in their world and using phonetic sounds to decode new and unfamiliar words grows as the confidence and skills progress in each child.

Among the language materials in the classroom are a variety of games emphasizing various aspects of the curriculum including sound bingo, memory games, phonetic matching, reading tablets, and object boxes. I Spy is an example of a phonetic awareness game that may be played individually or in a small group. It encourages children to listen for individual sounds in words. For example, the teacher may say, "I spy with my little eye something green that starts with the sound t." After the children give the correct response, tree, another sound may be used. Sounds in the middle, or at the end of a word may be used as well. Teachers play sound games and other word analysis games often so that children learn the individual sounds in words.

Children progress through the reading curriculum at their own pace. There may be a wide range of skills and levels of competence among children of the same age group. It is essential to respect each child's individual pace and interest. Learning to read should be a relaxed and enjoyable activity. Teachers find that pressure and emotional stress will interfere with a child's natural interest and motivation to learn to read. Our task is to create the environment that fosters positive attitudes towards reading, to provide the necessary tools and materials, and to value each individual child's learning process. These important components will insure success for all the children.

Mathematics

The Montessori environment is designed to encourage early mathematical exploration with very concrete and practical activities that appeal to the youngest learners. Practical Life and Sensorial materials prepare children for formal math. Practical life activities provide children with hands-on exercises in precision, concentration, order, sorting and counting. The Sensorial materials offer practice in discriminating shapes, classifying, seriating, correspondences and the concept and experience of ten.

The classroom environment is designed to support the day-to-day use of math materials. We introduce any new material or concept with concrete, sensorial activities that deepen the child's mathematical understanding. The Montessori materials foster individual discovery and auto-didactic learning. Children are encouraged to share their discoveries. The multi-age setting is conducive to cooperative learning across age groups. Teachers guide children in gaining developmentally appropriate knowledge and skills on an individual basis, as well as in small or large groups. From simple exercises of one-to-one correspondence (How many cups are needed to offer juice to four friends?) to subtraction (There are 36 children in our class but two people are absent. How many children are here today?), the classroom environment offers numerous opportunities for teachers to guide children in their natural curiosity about numbers.

Our goal over the course of the three-year program is that each child will have gained an understanding of small numbers (0-10), one-to-one correspondence, quantities and simple shapes. Each student will be able to count, compare, describe and sort objects, as well as develop a sense of properties and patterns. A beginning sense of abstraction is achieved by many five to six year olds. To this end, we cover the following six math strands:

Number Sense
The goal is for students to understand the relationship between number symbols and quantities. The children will be able to count, recognize, represent, name and order numbers of objects from one to ten. The Number Rods, (ten wooden rods in graded lengths, each rod divided into sections representing the number of the rod) are used to help children learn the names of numbers, to help them see that each number is a separate entity in itself, to help them learn the sequence of one to ten and to make the association between spoken number and quantity. After an understanding of quantity is attained, number symbols are taught. The final step in work with numbers from one to ten is associating the symbol and the quantity. The Montessori materials such as the Spindle Boxes, the Shell Game and the Colored Bead Stairs support this process.

Extensive work with the numbers from one to ten provides a foundation for all further mathematical endeavors. Children who are ready may be introduced to the teens. The difficulty with learning the teens is in the language: irregular names like eleven and twelve, thirteen and fifteen, as well as inverted sequences (twenty-seven sounds like 27, eighteen doesn't sound like

18) can be confusing. As with earlier work, a progression is made from quantity to symbol. Children learn that teen numbers are based on ten and a certain number of units. Unit beads and ten bars are used to introduce teen quantity and other materials such as Cuisenaire rods are helpful tools in promoting the leap from units to teens.

Students gain an understanding and practice simple addition and subtraction by using concrete objects (beads, Unifix cubes, manipulatives, etc.) to determine the answers to problems. Children will be introduced to mathematical language symbols (+, -, =) and will gain experience with written addition problems. The Addition Strip Board and Addition Finger Charts as well as a variety of dice, card and domino games provide additional practice with addition and the learning of addition facts (1+_ =10, 2+_ =10).

Children prepare for mental math by learning to visually grasp number patterns without having to count individual dots or objects. Thus, they can recognize that a ten-bar always represents 10, and that a certain arrangement of dots on a domino always stands for a corresponding number.

The children are introduced to the decimal system, learning the relationship of units, tens, hundreds and thousands. The Montessori Golden Beads offer a concrete representation of the decimal system. For many children, the Hundred Board represents a milestone in their work with numbers. In addition to demonstrating facility with number sequence, it is another vehicle that allows children to glean a sense of the patterns of the decimal system. The material can be used to learn to count by ones, twos, tens, etc.

Children may also compare sets of objects and recognize which set contains more than, less than, or is equal to another set.

Algebra

Students identify, sort, and classify objects by attributes and identify objects that do not belong to that group.

Preschoolers can recognize simple patterns, copy and extend them using manipulatives. They can translate a pattern from one mode to another. We offer a vast array of materials for children to explore pattern formation such as the Sensorial Materials, attribute blocks, pattern blocks, colored tiles, buttons, bead stringing, Unifix cubes, as well as the Hundred Board, etc. Beyond consciously created patterns, we guide children to discover patterns in everyday life, in the environment, and in the cycles of nature.

Constructing and deconstructing the Binomial and Trinomial Cubes are further concrete engagements with algebraic concepts.

Measurement

When children are first introduced to the sensorial materials, they learn to compare weight (the Baric Tablets, the Brown Stair), textures (fabric, wood), sounds (the Sound Cylinders, bells), and various dimensions (the Pink Tower, the Cylinder Blocks). They begin to understand that objects have properties such as length, weight, capacity, and duration and that comparisons may be made by referring to those properties.

Children are familiarized with the language used to measure time (e.g. morning and afternoon, yesterday and today, the days of the week, the months of the year). We introduce the use of

calendars. Students often learn to identify time to the full hour. A wooden Montessori analog clock is used to demonstrate the position of the numbers and the movement of the hands.

Practice with non-standard measurements is a frequent enjoyable activity (weighing with teddy bears, measuring the length of a table with hands or Unifix cubes). Children learn about standard measurements when being weighed on a scale and measured with a tape measure. They experiment with the use of rulers and yardsticks. They are also introduced to other measures of volume and the use of fractions through extensive cooking experiences (cups, tsp., 1/2, 1/4).

Geometry
Children are able to identify and describe common geometric shapes and forms (circle, triangle, square, rectangle, cube, sphere, cone, cylinder) which they learn through exposure to the Metal Insets, the Constructive Triangles, the Geometric Cabinet, the Geometric Solids, rubber band geoboards, tangrams and block play. The children learn to compare familiar plane and solid objects by identifying attributes (shape, size, roundness, number of corners). The concept of symmetry in art and in everyday designs is introduced.

Statistics and Probability
Students collect information about objects and events in their environment and may record results using objects, pictures and picture graphs (daily weather, votes for which book to read in a given day, types of pets kids have at home). They learn to describe graphs and make interpretive statements about them.

Five year olds are introduced to strategies in estimating. For example, children must guess the number of marbles in a small jar. In refining their computations they learn to recognize when an estimate is reasonable and how to strategize estimation.

Mathematical Reasoning and Logic
Students make decisions on how to solve a problem by choosing appropriate materials and thinking about strategies. Children are encouraged to talk about their thinking process and explain their approaches in dialog with a teacher or in discussion with another student. We acknowledge that there are many creative ways of figuring out any specific problem.

In instructing mathematics, teachers are cognizant of various learning styles and attempt to incorporate multi-sensory techniques and approaches. Students may explore math kinesthetically (hop scotch, skywriting); through tactile means (Sandpaper Numbers and a variety of objects for counting); auditorily (through songs with number sequences, chants, clapping); and visually (various art materials, painting). We also link literature to math by introducing books with stories employing patterns and number sequences. Teachers are familiar with a variety of rhymes, poems and finger plays which support a mathematical awareness.

Evaluation and Assessment
We evaluate each individual child's progress on an ongoing basis, both formally and informally. Teachers take daily notes remarking what activities children choose and their level of understanding. Regular lesson plans are created based on our daily observation of each child. New concepts appropriate to the sequence may be introduced on an individual or small group basis. We follow up with extending activities, repetition, or variation depending on each child's needs. Progress in math skills, achievement and capacities are described to parents during our annual conferences, as well as profiles in all other areas of the curriculum.

Science

Science and nature study in the preschool is not so much a subject as an ongoing and constant activity. Children gain physical knowledge of the world when working in the practical life areas. For example, pouring water or wiping up a spill with a sponge teaches children the properties of liquid. Block play teaches children about gravity, stability, balance and weight - as well as offering experiences in trial and error, inductive thinking and discovery! Both the classroom and the outdoor environment offer continuing spontaneous opportunities for exploration, discovery, experimentation and magic! In addition to ongoing science exploration, a science table is present in the classroom where children can observe objects such as bones, bird nests, shells, and other items of interest. The science table may also include exercises exploring magnets, sink and float, or mirrors. Plants and animals may exemplify life cycles, metamorphosis, and on occasion a decaying pumpkin might offer children a chance to observe growth and physical change.

The outside environment offers an excellent opportunity for children to study nature. Children participate in the planting and care of outside gardens, as well as in the general care of the yard including sweeping, raking and cleaning. Children collect spiders, explore under rocks, and follow butterflies around the yard. Respect for the ecology of the yard is an integral part of the program. The science curriculum in the preschool is experiential, hands-on, and may change with the current discoveries of the children. The science curriculum in particular is often dictated by the children's emerging interests. What a few children discover may become the focus of an exploration and study for the whole class. The value of life is communicated to the children, and living collections are returned to the yard at the end of the day.

Group time also offers an opportunity to explore in depth a variety of science-oriented subjects. Discussion may include a closer look at the five senses, the states of matter, the earth, the solar system, animal classification, dinosaurs, weather, the seasons or botany.

Geography/Social Studies

The Montessori globes and maps are used as a framework for the study of geography and social studies. Maria Montessori believed that children should be introduced initially to the whole world and then move to more regional understanding. An early exercise in geography may involve the sandpaper globe. The children *feel* the globe and experience the shapes of the continents. They gain an understanding that the Earth is made up of water (smooth and blue) and land (rough and brown). Books, pictures on the walls, and other materials are used to help children gain knowledge of the world. Moving away from the global concept, later map work introduces the continents, countries, animals and people of the world.

Children also enjoy, learn and develop self-esteem through talking about things close to them such as their families, friends, and pets. Classroom teachers provide opportunities throughout the year for children to share their personal experiences and to connect their home lives with life at school. This may happen in many different ways, such as asking children to bring in family photographs or birthday pictures (one for each year of the child's life). Literature and picture books are also available depicting many different types of families and lifestyles.

The classroom also provides a community to which the children automatically belong. With the help of Practical Life materials they learn to care for their environment and begin to understand their role in their community. Job time at the end of every day gives them responsibility in

caring for and pride in ownership of their classroom. As the children get older their concept of community is expanded to include other parts of the school. For example, meeting the cook, the administrator, the older children and other teachers. Community is also extended into the surrounding neighborhood via short walking tours and field trips.

Multicultural Education

The San Francisco School is committed to a multicultural program. Multicultural education is approached not as a subject area, but as an ever-present thread woven throughout all curriculum areas and throughout each day. Teachers recognize that children learn to value diversity both through the study of other cultures and from the attitudes and behaviors that are revealed to them each day. Recognizing this, teachers must carefully evaluate their own presentations, as well as the total classroom environment.

One important way in which cultural diversity is represented in the classroom is through the images presented each day. Dolls and other toys representing children or family units show people of different ethnicities, genders and ages. Pictures displayed for decoration, holidays, or as part of other curriculum studies may also include variations from the traditional in order to demonstrate a wider range of choices. Literature is selected to reflect ethnic and cultural diversity. Children hear music from around the world and sing songs in different languages. Children can share objects, money or toys from their travels or from other countries. Teachers are attuned to such opportunities for spontaneous lessons in geography or social studies.

To help children appreciate different customs, classrooms may also participate in holiday celebrations. During the winter, for example, classrooms may celebrate Kwanzaa, Hanukkah, Christmas and the winter solstice. Chinese New Year, Cinco de Mayo, and other cultural festivals may also be recognized. Holiday celebrations are only one aspect of a cultural experience, and teachers must ensure that a multicultural approach does not occur in isolation, but continues in the year-round curriculum.

Social-Emotional

The social-emotional curriculum is an integral component of the preschool program. Teachers create an environment that supports the social and emotional growth of each child. The child is encouraged to trust her teachers and her peers while at the same time become self-reliant and autonomous. She is given opportunities to speak out and express herself in socially acceptable ways. The teachers value and support her ideas and feelings. During the course of her preschool and kindergarten time, the child grows in her social and emotional capacities.

As a beginning preschooler, the child learns to make choices for herself and learns ways to become part of a group. Separation from her parents is a significant element in gaining independence. The teachers become an important link in this transition away from home and parents as the child develops trust in adults other than her primary caregivers. As the child becomes increasingly independent, she is also learning the rules, routines, and expectations of the classroom. This includes waiting her turn, knowing the daily schedule, sitting in circle, raising her hand to speak, and walking in line. She begins to discover that there are natural and logical consequences if these expectations are not met.

The child also learns to take care of herself and the environment around her. Montessori believed that when given the proper models and the correct tools, every child could and should do for herself all that she is capable of doing. In the classroom, this manifests into being

responsible for self-care, such as hand washing and dressing oneself, and care of the environment, such as sponging her table, mopping, sweeping, watering plants, and mirror washing. The child is also expected to exhibit "grace and courtesy." For example, she is encouraged to push in her chair when getting up from her table, walk while inside the classroom, put materials away when finished working with them, and say please and thank you when appropriate.

Making friends is an important social skill that the child begins to learn in preschool and all throughout her life. She learns how to share materials and practice give and take. When there is a conflict with a peer, she is given the tools to resolve those conflicts, at first with the guidance of a teacher and later, without the intervention of an adult. The teachers use a variety of methods such as role-playing and puppets to help the child identify the problem and find a solution that satisfies all involved. As she becomes an older preschooler and kindergartener, she learns the language of inclusion, which consists of inviting someone to play, asserting her interest in joining a group, and including others in a group game. She is also provided with many occasions to express her feelings and emotions. Teachers talk about their own feelings, read books about emotions, and model vocabulary for expressing them. In turn, the child learns to read facial and body expressions, talks about her feelings in terms of her own experiences and may make a book of feelings.

An essential aspect of the social-emotional curriculum is the acknowledgement of the child's need for control and the means that are given to her to express that need appropriately. She is learning skills and feeling competent when she is successful with the materials and activities. She takes various roles as both the leader and follower in games and play. The teacher also provides various jobs in the classroom to give the child opportunities to feel powerful.

As the child becomes proficient and confident in her skills and abilities, she becomes a leader to her peers and younger classmates. She models appropriate classroom behavior and teaches younger children various classroom activities. By becoming a responsible member of the community, she develops empathy, demonstrates caring behavior for others, and mediates in her peer's conflicts.

The social-emotional curriculum is a pervasive and underlying theme of the preschool program. The child develops a sense of trust and initiative within the context of her relationship with her teachers. Additionally, the teachers offer her activities that support her self-esteem and respect for others.

Arts and Crafts

Arts and crafts activities are an important part of the preschool program and are integrated into all other curriculum areas. Children draw pictures about stories they have heard, decorate their addition fact papers, prepare and paint continent maps or make their own geometric solids from construction paper.

Work with practical life and sensorial materials prepare children for creative expression with art materials. Practical life activities develop a sense of order and fine motor dexterity, as well as providing an opportunity to develop concentration and focus. With the sensorial materials children explore shape, color and visual relationships.

The teachers prepare the environment to offer numerous opportunities for creative expression. Art materials are available every day, during work time and free choice periods. Crayons,

marking pens, chalk, paint, paper, yarn, glue, tape, scissors and other materials are accessible to the children. Art activities, such as painting with watercolors, are introduced to children with a presentation similar to that of practical life activities. Teachers show children how to carry out the painting project from beginning to end. The process is emphasized as children watch and learn how to set up the materials, where to get the water, how to dip the brush and change colors, etc.

The steps involved in painting are isolated and presented clearly to the child. After an initial presentation by the teacher children are free to work independently with the watercolors. As with other practical life activities the teacher's job is to introduce new materials, offer the child the opportunity to work confidently and successfully, and also nurture the child's creative instincts.

As well as working independently with art materials, children are also invited daily to work in small groups with a teacher directed art project. Teachers select activities that help children develop skills such as cutting, coloring, pasting, paper folding etc. Teachers monitor the skill levels of children and increase the complexity of projects for children whose skills are advanced. As in other curriculum areas children work at their own pace. Some art activities are designed for older children, while others are more appropriate for three-year olds.

A wide variety of art and craft activities are presented each year. These include: coloring, painting, gluing, printing, sewing, weaving, work with clay, multi-media collage, self portraits. Process and pleasure rather than product are emphasized in the art and craft curriculum.

Music

The music program at the San Francisco School is based on Orff-Schulwerk, an internationally recognized approach to music and movement education. This practice begins from the premise that every child is innately musical and naturally loves to sing, dance, and play. Children come to music once a week to exercise their musical imagination through activities in rhythmic speech, games, movement, folk dance and Orff instrument ensemble. An additional weekly singing time teaches both song repertoire and group music making skills. The preschool child's way of knowing is playful, exploratory, tactile and inquisitive. Orff''s emphasis on both imitation and improvisation celebrates these musical tendencies, while also building the foundation for future development. Classroom teachers support and enhance these musical goals by incorporating music into the curriculum: Playing classics, jazz, and ethnic music during class time; teaching songs, finger plays, rhymes and poems; scheduling instrumental and vocal performances by staff, parents and guest artists, and permitting special times for free dancing during celebrations.

Drama

Children spontaneously engage in dramatic play as an enjoyable means of resolving internal conflicts, problem solving, addressing important questions, and trying on roles from the social relationships they observe among adults and siblings. At the San Francisco School, teachers support this free and creative play. We carefully observe the themes involved on a daily and ongoing basis. Occasionally we may choose to interject, facilitate or redirect the activity in order to further the children's learning**.** Classroom teachers may sometimes orchestrate a more structured drama activity, act out a story, or engage in a role-play. Specialty drama teachers are employed on a periodic basis to teach specific dramatic skills and/or create a play.

Physical Education

The spacious and beautiful outdoor environments of the San Francisco School preschool classes provide ample opportunities for gross motor development, cooperative games and sports, as well as free and active play. Physical apparatus includes swings, slides, parallel ladders, sliding poles, climbing structures, climbing trees, balance beams, trikes, and balls of all types (basketballs, soccer balls, softballs, tee balls, nerf footballs, utility balls). Large motor development is also encouraged through the use of tools: Child-sized brooms, shovels and rakes and woodworking tools such as hammers and saws are available. The proper use of all apparatus is carefully presented by the teacher and activities involving tools are closely supervised for safety. Teachers lead children in games such as: **Duck, Duck, Goose**; **Red Light/ Green Light**; or various tag games.

Four and five-year olds participate in formal physical education by attending a weekly class in elementary outdoor areas with the PE teacher. The goals of this program can be summarized as follows: Developing efficient movement skills; improving and maintaining physical fitness; enhancing coordination; reinforcing skills needed to cooperate with others; offering methods to resolve issues of cooperation in a mutually satisfying manner, and stimulating interest in anatomy, health, safety and the environment.

It is important in this experience with a more structured group that the children feel excited and enthused about PE. By intertwining a variety of small group games, cooperative games, obstacle courses with holiday and seasonal themes, and individual skills practice sessions throughout the year, the broad goals of the program can be met.

Concluding Comment

It is important to note the flexible nature of education at the San Francisco School. The Montessori environment is highly structured, yet there is ample room for spontaneity within that structure. Teachers often access their own talents, interests and cultures in a way that makes the curriculum come alive. Other adults in the community may be invited to contribute to the class process. It may be to talk about an ethnic holiday, to teach a yoga class, or perform on a musical instrument. Additionally, the staff is sensitive to the interests of the children and invites them to contribute to the curriculum in a dynamic way. Objects brought to school are valued and talked about, children's ideas are respected and employed, and the staff is observant of the themes in the children's play which may be developed to shape new curriculum ideas.

While this outline for curriculum attempts to be broadly comprehensive, it cannot capture with exactness the detailed richness of the experiences of any particular child. Those experiences vary with each individual. Yet, as was Maria Montessori's goal, we attempt to provide *keys* in every area of importance to the growth, nourishment and education of the young child, k*ey* experiences which will open the doors to future learning and particularly the love of learning.