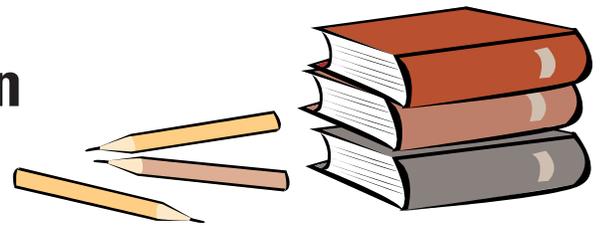


THE EARLY YEARS

Evaluating Montessori Education

Angeline Lillard^{1*} and Nicole Else-Quest²

An analysis of students' academic and social scores compares a Montessori school with other elementary school education programs.



Montessori education is a 100-year-old method of schooling that was first used with impoverished preschool children in Rome. The program continues to grow in popularity. Estimates indicate that more than 5000 schools in the United States—including 300 public schools and some high schools—use the Montessori program. Montessori education is characterized by multi-age classrooms, a special set of educational materials, student-chosen work in long time blocks, collaboration, the absence of grades and tests, and individual and small group instruction in both academic and social skills (1). The effectiveness of some of these elements is supported by research on human learning (2).

We evaluated the social and academic impact of Montessori education. Children were studied near the end of the two most widely implemented levels of Montessori education: primary (3- to 6-year-olds) and elementary (6- to 12-year-olds). The Montessori school we studied [located in Milwaukee, Wisconsin (3)], which served mainly urban minority children, was in its ninth year of operation and was recognized by the U.S. branch of the Association Montessori Internationale (AMI/USA) for its good implementation of Montessori principles (4).

Because it was not feasible to randomly assign children to experimental and control educational groups, we designed our study around the school lottery already in place. Both the experimental and the control group had entered the Montessori school lottery; those who were accepted were assigned to the experimental (Montessori) group, and those who were not accepted were assigned to the control (other education systems) group. This strategy addressed the concern that parents who seek to enroll their child in a Montessori school are different from parents who do not. It is crucial to control for

this potential source of bias, because parents are the dominant influence on child outcomes (5).

Recruitment

We contacted parents of children who had entered the Montessori school lottery in 1997 and 2003 and invited them to be in the study. All families were offered \$100 for participation.

Because the lottery, which was conducted by the school district, was random, the Montessori and control groups should contain similar children. Ninety percent of consenting parents filled out a demographic survey. Parents from the Montessori and control groups had similar average incomes (\$20,000 to \$50,000 per year) at each student age level. This addressed a concern with a retrospective lottery loser design that the final samples might be different for reasons other than the treatment. Another variable, ethnicity, was not surveyed because parent income contributes more to child outcomes than does ethnicity (6). We were also concerned that requesting ethnicity data would reduce participation in this racially divided city.

Overall, 53 control and 59 Montessori students were studied (table S1). The 5-year-old group included 25 control and 30 Montessori children, and the 12-year-old group included 28 control and 29 Montessori children. Gender balance was imperfect, but gender

did not contribute significantly to any of the differences reported here. Children at the Montessori school were drawn from all six classrooms at the primary level and all four at the upper elementary level. The control children were at non-Montessori schools: 27 public inner city schools (40 children) and 12 suburban public, private/voucher, or charter schools (13 children). Many of the public schools had enacted special programs, such as gifted and talented curricula, language immersion, arts, and discovery learning.

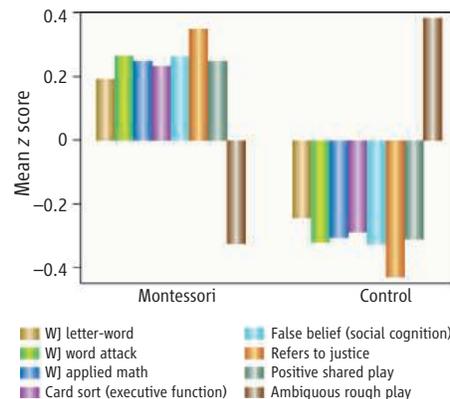
Children in both groups were tested for cognitive/academic and social/behavioral skills that were selected for importance in life, not to examine specific expected effects of Montessori education. Our results revealed significant advantages for the Montessori group over the control group for both age groups.

Results: 5-Year-Olds

Cognitive/Academic Measures. Seven scales were administered from the Woodcock-Johnson (WJ III) Test Battery (7). Significant differences favoring Montessori 5-year-olds were found on three WJ tests measuring academic skills related to school readiness: Letter-Word Identification, Word Attack (phonological decoding ability), and Applied Problems (math skills) (see chart, left). No difference was expected or found on the Picture Vocabulary test (basic vocabulary) because vocabulary is highly related to family background variables (8). Two WJ tests of basic thinking skills—Spatial Reasoning and Concept Formation—also showed no difference.

Five-year-olds were also tested on executive function, thought to be important to success in school. On one such test, children were asked to sort cards by one rule, switch to a new rule, and (if they did well) then switch to a compound rule. Montessori children performed significantly better on this test. A test of children's ability to delay gratification (a treat) did not indicate statistically significant differences.

Social/Behavioral Measures. Children were given five stories about social problems, such as another child hoarding a swing, and were asked how they would solve each problem (9).



Results for 5-year-olds. Montessori students achieved higher scores [converted to average z scores (18)] for both academic and behavioral tests.

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Montessori children were significantly more likely (43% versus 18% of responses) to use a higher level of reasoning by referring to justice or fairness to convince the other child to relinquish the object. Observations at the playground during recess indicated Montessori children were significantly more likely to be involved in positive shared peer play and significantly less likely to be involved in rough play that was ambiguous in intent (such as wrestling without smiling).

The False Belief task was administered to examine children's understanding of the mind (10). Recognition that people represent the world in subjective as well as objective ways is a landmark achievement in social cognition (11). Social negotiation and discussion about mental states leads to this advance in children (12). Whereas 80% (significantly more than chance) of the Montessori 5-year-olds passed, the control children were at chance, with 50% passing.

Results: 12-Year-Olds

Cognitive/Academic Measures. Twelve-year-olds were given 5 minutes to complete a story beginning “___ had the best/worst day at school.” The Montessori students' essays were rated as significantly more creative and as using significantly more sophisticated sentence structures (see chart, below). Control and Montessori essays were similar in spelling, punctuation, and grammar. Unlike the 5-year-olds, the 12-year-olds did not perform differently on the WJ tests. This is surprising, because early reading skills normally predict later reading (13). Either the control group had “caught up” by age 12 to the Montessori children, or the 12-year-old Montessori children were not more advanced in these early reading skills when they were 5. If the latter, one possible explanation is that the 12-year-olds started at the school when it was in its third year. The Montessori method relies on peer teaching and modeling, so those who are in the early classes of a new school lack some advantages relative to those who begin later.

Social/Behavioral Measures.

As a social skills test, 12-year-olds read six stories about social problems (such as not being asked to a party) and were asked to choose among four responses. Montessori 12-year-olds were significantly more likely to choose the posi-

tive assertive response (for example, verbally expressing one's hurt feelings to the host). On a questionnaire regarding their feelings about school, Montessori children indicated having a greater sense of community, responding more positively to items such as, “Students in my class really care about each other” and “Students in this class treat each other with respect.”

Benefits of Montessori Education

On several dimensions, children at a public inner city Montessori school had superior outcomes relative to a sample of Montessori applicants who, because of a random lottery, attended other schools. By the end of kindergarten, the Montessori children performed better on standardized tests of reading and math, engaged in more positive interaction on the playground, and showed more advanced social cognition and executive control. They also showed more concern for fairness and justice. At the end of elementary school, Montessori children wrote more creative essays with more complex sentence structures, selected more positive responses to social dilemmas, and reported feeling more of a sense of community at their school.

These findings were obtained with a lottery loser design that provides control for parental influence. Normally parental influence (both genetic and environmental) dominates over influences such as current or past school and day-care environments. For example, in the large National Institute of Child Health and Human Development (NICHD) study of early child care, correlations between parenting quality and WJ early academic tests had effect sizes comparable to those seen here, whereas school effects were much smaller (5). An evaluation of *Success for All*, considered a highly successful reading intervention, reported a quarter of a standard deviation as its largest effect size (for Word Attack) in a randomized field trial, and stated that it was equal to a 4.69-month advance in reading skills (14). Stronger effects are often found in the first years of pilot programs when researchers are involved in implementation of their own programs (15), termed the “super-realization effect” (16). In our study, the school did not anticipate an evaluation. Especially remarkable outcomes of the Montessori education are the

social effects, which are generally dominated by the home environment (17).

Future research could improve on the research design here by following lottery participants prospectively and by tracking those who drop out and examining their reasons. It would be useful to replicate these findings in different Montessori schools, which can vary widely. The school involved here was affiliated with AMI/USA, which has a traditional and relatively strict implementation. It would also be useful to know whether certain components of Montessori (e.g., the materials or the opportunities for collaborative work) are associated with particular outcomes.

Montessori education has a fundamentally different structure from traditional education. At least when strictly implemented, Montessori education fosters social and academic skills that are equal or superior to those fostered by a pool of other types of schools.

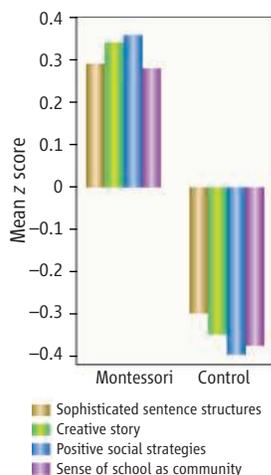
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18. The z-score conversion was used for the graph to give all tests the same metric. A z score sets the mean (in this case of the entire sample) at 0, one standard deviation above the mean at 1.68, and one standard deviation below the mean at -1.68.
19. Funding was provided by the Jacobs and Cantus Foundations and sabbatical fellowships from the Cattell Foundation and the University of Virginia to A.L. J. DeLoache, B. Detmer, L. Ma, A. Pinkham, R. Tai, and J. van Reet provided helpful comments, and E. Turkheimer provided valuable statistical advice. We thank the Milwaukee schools that participated; the children and their families; and A. Hart, T. Nishida, A. Pinkham, J. van Reet, and B. Rosen.

Supporting Online Material

www.sciencemag.org/cgi/content/full/313/5795/1893/DC1

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Results for 12-year-olds.

Students in the Montessori program wrote more sophisticated and creative stories and showed a more developed sense of community and social skills. Scores were converted to average z scores (18).

Six to Twelve Years

1. **Seek to understand your child's developmental changes.** Your child from 3 to 6 years of age was interested in absorbing information and asking question "what" in an effort to label new information. Now your child begins to ask much more elaborate, analytical questions: why, where, when and how. He becomes curious about culture, history, animals, botany, geography, and many more topics.

His analytic nature will be accompanied by a growing interest in his peers and wanting to work in groups. Your child in his first stage of development (0 to 6 years of age) was busy creating himself, now your child will be focused on the outside world and his place in the community. This focus on the group will lead to a better understanding of acceptable behavior as defined by cultural norms. This new, moral development will give rise to questions regarding right and wrong, justice, and compassion.

2. **Understand that your child will have a distinctive learning style and approach based on his genetic propensities and his environment.** Your child has a range of capabilities dictated by his genetics that can be influenced by his environment. The smarter the environment, the stronger his skills and abilities. Seek to understand how your child's brain should be functioning from year to year within the systems of learning defined by Levine (2002). Addressing the eight core cognitive functions possessed by every individual, these systems provide the foundation for how and what a person learns:
 - a. **Language.** Sensitivity to spoken and written language including the ability to process the 44 different sounds of the English language
 - b. **Sequential Ordering.** Responsible for carrying out mathematical problem solving and analyzing information and directions (e.g., most instructions and geometry).
 - c. **Spatial Ordering.** This is the ability to visualize patterns and configurations. This is important for math and science as well as picturing images when reading.
 - d. **Motor.** The connections between the brain and various muscles.
 - e. **Social Thinking.** The ability to understand and engage in a cooperative manner with others.
 - f. **Attention control.** The administrative bureau of the brain. It regulates and controls learning and behavior. It directs the distribution of mental energy and causes your child to finish what

child share in the cooking, shopping, gardening, and cleaning. Encourage him to pack his own lunch, keep track of his own belongings, and honor his promises.

13. **Encourage your child's exploration of the world outside of the home and the classroom as he continues to orient himself to his culture and society.** He will gain a growing understanding of what is typical and acceptable behavior in society at large.
14. **Have your child arrange excursions to cultural events and the like.** Schedule outing to concerts, ballets, symphonies, plays, and art exhibits to broaden your child's. exposure.
15. **Involve your child in party/event planning for holidays and birthday celebrations.**
16. **Follow-up on your child's spontaneous interests by arranging trips to the zoo, library, museum, mountains, etc.** It is important to expose your child to a variety of rich experiences.
17. **Encourage social interaction with others in the community through various forms including sports, clubs, and community service.** One activity per week is plenty.
18. **Help your child go into the community to discover it and to experience the satisfaction of providing a service.** Consider opportunities at nursing homes, political offices, conservation centers, theatres, museums, and universities.
19. **Help your child make contact with his role models: painters, musicians, teachers, writers, firefighters, or other professionals.** This will allow your child to better understand his opportunities and possibly find mentors.
20. **Take family vacations that expose your child to different cultures and their unique attributes like food, art, language, and customs.** Study about the culture before you start the vacation.
21. **Create a home library with reference materials covering a wide variety of subjects (e.g., history, biology, geography, outer space, etc.)**
22. **Set up a room with plenty of space for different collections and purchase and provide other tools for research such as bug nets, a microscope, notebooks, and a telescope.** Provide shoe boxes for your child to arrange and group items of interest.

- 32. Provide an emotionally safe home environment where your child feels free to discuss and explore parts of himself without judgment.** Actively listen to your child. This may include repeating part of your child's words or ideas in your response. Have an honest discussion about your child's physical changes through the adolescent maturation process.
- 33. Model and support healthy self-esteem by appreciating your child's difference, helping to develop his strengths, encouraging him to have his own passions, and supporting his "down time" to think.**
- 34. Try to allow your child to follow his own rhythms in regard to eating and sleeping.**
- 35. Know your child's friends and host them frequently.**
- 36. Promote independence in daily life – cooking, cleaning, and caring for others.**
- 37. Encourage entrepreneurship, economic independence, and responsibility in handling money and personal belongings.**
- 38. Encourage your child's connection to a bigger world.** Have him read the newspaper and discuss world events. Among other things, continue to have your child attend cultural events, visit museums, and volunteer. Expect service to others and the community.
- 39. Encourage interest in studying and living abroad.**
- 40. Support weekend retreats with peers and young adult leaders.**



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Aiding the Development of Self-Esteem in Children

by Susan M. Stephenson

"Self-esteem" is talked about a lot in education and psychology today, but it seems to me that there are two levels of self-esteem being confused as one. One is shallow, transitory, and dependent upon constant, or at least periodic, validation from someone other than oneself. It is sort of like the traditional search for "fame, wealth, and power", or grades and the approval of teachers. The other is deep, solid, and dependent solely upon the actions of oneself. The result is more often the self-actualized, content human being who has no need for fame, wealth and power, grades or approval. The first can indeed be "given" to the child - and it can be taken away. The second must come from the child's own achievement. But we must always look at the reason for this achievement to find which level of self-esteem is being gained. Is the child working or behaving in a certain way in order to get the approval of others, or because he/she is really satisfying an inner need?

Even though the word "self-esteem" implies that we are talking about a feeling that comes from the self, very few children or adults in our culture actually get to the highest level of fulfillment, inner peace, and

confidence that comes from loving and being proud of oneself.

Dr. Montessori's most famous work with children was in the Roman slums of San Lorenzo in 1907. She did not set out to aid children's self-esteem, but that is just what happened. There are many stories about this first Montessori *Casa dei Bambini* (House of Children) which attracted world-wide attention, but one of the main lessons learned is that children, when given the chance, prefer real work to make believe. This real work, when not required, rewarded, or manipulated by the adult in any way, and the deep concentration which it calls forth, leads to a kind of healing of the spirit. The result is true self-esteem and an overflowing of love and care for others and for the environment.

In the beginning, the first *Casa dei Bambini* was very much like some modern preschools; beautifully outfitted with dolls, dress-up, make-believe, and adult-led art or other activities. But Dr. Montessori was an astute observer of human nature. She spent many hours taking notes of exactly what the children did during the day, and many hours going over these notes, thinking and planning changes in the environment to follow

...real self-esteem is dependent on what one really thinks about oneself, and it is fed by effort and success on important work.

the interests of, and to aid the complete development of, the children.

More and more she saw that they wanted lessons in an area of work which is today called "practical life", with self-correcting puzzles and other materials which allowed them to be completely independent of an adult in their work. Because the children had shown an interest and been allowed to participate in the real work, they ignored the dolls, the doll houses, the play kitchen, and the other toys. Dr. Montessori showed them different ways to play with the dolls to try and get them interested, but the children could hardly wait to get back to the real work, for this was what fulfilled them and created a new kind of self-esteem, calmness, and joy. Visitors to the *Casa dei Bambini* brought the usual gifts of candy, praise, and even sometimes

the traditional little badges of achievement which were given out to reward good behavior. The children were unaffected, even disdainful, of these rewards. They were not working to please an adult or because of any coercion or reward system. They were working for deeper, more important reasons, and this work fostered the highest level of self-esteem.

Writing about this reminds me of the time I suggested that a young mother visit a Montessori preschool instead of trying to learn about Montessori through books. After her visit, which began an hour after the children arrived, I asked her what she thought. She replied that it was very beautiful and interesting, "... but," she said, "when do the children get to do what **THEY** want to do?" I was shocked! I had visited that class many times and I knew that the children were always doing what they wanted to do. I had watched them come in and, with no suggestion from the teacher, pick out the activity each wanted to work on. Their choices usually included math work, movable alphabets for writing stories, puzzles for the exploration of size, shape and color, geography, puzzle maps, setting the table or washing dishes, painting and then spending a long time scrubbing the easel, and many other activities. I thought a long time about her question and finally realized that for this mother, as for most of us, working on math, language, cleaning and geography were not the favorite choices of our childhood activities. This woman assumed, understandably, that children would rather be playing with dolls or being entertained than to be concentrating on important and difficult work.

As adults, what gives us the highest level of self-esteem? Is it watching a movie? Dressing up and being admired for our looks or our clothing? Spending hours weeding and making a garden beautiful?

Earning a lot of money? Getting elected president of the board? Earning a degree? Washing windows for money? Washing windows because it feels good? Learning a new piano piece which we thought we would never be able to learn? Winning a piano competition? Which of these gives us the lowest level of self-esteem, the level which is dependent on praise or recognition from others? Which give us true inner self-esteem? If we discover the difference for ourselves we can better understand the motivation for activity, and the development of true self-esteem in children.

Can we help children who have low self-esteem? The answer is certainly. How we go about this depends on the needs and the stages of development of children.

Self-Esteem in the Newborn

Aiding the development of movement and language, and respecting natural rhythms, are the keys to helping an infant keep his natural self-esteem. In the womb the child has slept and wakened and exercised his muscles exactly according to his needs. The child is born with a natural self-esteem, knowing that he is doing everything right. Here are some specific ways we can help him continue with this natural development of abilities, independence, and self-esteem:

1. From the first day respect his ability to go to sleep naturally, being careful not to train him to think that he is dependent on the actions of someone else for this simple and natural function.
2. Let him sleep until he awakens naturally.
3. Dress him in as few clothes as necessary, and have movement areas in several areas of the house to allow for free movement of the whole body.
4. Avoid swings, walkers, and other objects that put him into positions he cannot get into by himself. This

gives the message that whatever he can do at the moment, turn over, sit up, crawl, is exactly the right thing.

5. Talk to him with the same respectful voice and vocabulary as you would anyone else.
6. Learn to identify the meanings of all of the many vocalizations from birth on - they might be messages such as "My left arm is asleep," "I want to see my dad," "Someone please talk to me," "This wet diaper feels creepy," "I'm tired of looking at this ceiling," "I am hungry," "Why is everyone in the other room?," "The Mozart sonata is far preferable to the TV ad," "Please touch my head," "Hey, how about a bath!," and so forth.
7. Respond as quickly and as correctly as you can to these requests.
8. Look before interrupting him. He may be concentrating or looking at something, learning to move forward on all fours, reaching a rattle, and many other important activities. If we wait until he has completed the effort before picking him up, the message is that his choice of work was important, and so is he.

Self-Esteem at Age One

For a year now, the child has watched the family do lots of interesting things, and she has been working hard to get up on two legs, her hands freed to join in the work. The best thing we can do for her at this age is to welcome her into all of our daily activities. There are hundreds of little ways she can join in, in small ways at first, to be part of the real work of life. Here are some specific suggestions:

1. Let her help set the table, even if it is just reaching up and putting the napkins next to the plates.
2. Let her help brush the dog.
3. Let her help pick dead leaves off of the sidewalk.
4. Let her help put clothes into the dryer.

5. Let the child expend the maximum effort in carrying things, climbing, walking long distances. These successes build self-esteem.
6. Engage her in conversation and give her choices. Even though she isn't responding in full sentences, or even words, she appreciates the respect you show her by talking with her.

Self-Esteem at Age Two

At this age, the child has a strong and healthy need for independence, and encouraging this independence feeds his self-esteem. Specific suggestions:

1. Continue with all of the above suggestions.
2. Give choices - questions like: "Do you want apple or orange juice?", "Do you want to use a spoon or a fork?", "Do you want to wear this scarf of that one?" are much more successful than "Drink your juice", "Eat", or "We are going outside now", and they encourage thinking, decision making and cooperation.
3. Show the child, over and over, patiently, how to put on his boots, brush his teeth, wipe, clean up spills, put clothes away, brush his hair, put on a jacket, all of the things that, when done for oneself, build self-esteem, improve coordination and provide for the child's need for independence.
4. Communicate on an equal level. A child knows when he is being ignored in conversation or spoken down to, in a voice usually reserved for the dog or the cat. We have all felt the difference in our own self-esteem between being ignored or included in the conversation.

Self-Esteem from Age Three to Six

I haven't mentioned television, but, as we can see from all of the activities mentioned above, there is plenty of real and interesting work for the child to do when we really get good at

including her in our lives, and the need for such passive entertainment doesn't even become an issue.

Aside from all of the daily work of life, the child is now able to share many of our hobbies and interests: poetry, making music, working on the car, gardening, many things. Specific suggestions:

1. Continue with the above ideas.
2. As much as possible do your real work and engage in pastimes when the child is at home. Don't wait until she is out of the house. She needs to see the work carried out for a while first, and then join in a bit at a time.
3. Set an active and joyful example about what activities are important in life. Commercial and passive pastimes, such as going to the mall or watching television are far inferior to cleaning, sewing, baking, drawing, building, visiting with friends, offering food to friends, reading, arranging flowers, singing, playing music, all of the most important activities in a happy life.

Self-Esteem from Age Six to Twelve

This is a time for more social interactions, intellectual exploration and increasing independence. The child changes daily, and we have to change with him. Analyze your child's day, in school if you are a teacher, at home if a parent. What are you now doing that he could just as easily do? This is difficult, because we are so used to "taking care of", not realizing that any unnecessary help is actually a hindrance to development.

I once visited a Montessori 6 - 12 class where one child welcomed me and got me a chair, another asked if I would like a cup of tea, and brought the guest book to be signed. Then I watched two children phone a museum in San Francisco to arrange a field trip and call the parents on the "field trip drivers" list to arrange the transportation. Another child took

the attendance and marked off the calendar, and when it was time, several children started clearing tables to prepare for lunch, all without a word from the teacher. Imagine the level of self-esteem of these children. Look for activities which you are doing that could be done by the child in your school or home.

1. In School - taking attendance, grading papers, testing each other's math facts, making phone calls, keeping track of state requirements in math, etc., planning work schedules for themselves, cleaning and organizing the environment, planning and carrying out ecological and social projects, and so on.
2. At Home - planning meals, shopping, cooking and baking, cleaning everything, fixing things that break, organizing shelves and closets, figuring out exactly what the daily family work is, experimenting with different ways to share it, budgeting, making phone calls, writing family thank-you notes, composting, looking for and carrying out service projects, and so forth.

Self-Esteem from Age Twelve On:

Sometime during these next few years the child quite literally becomes an adult. We need to work especially hard to help her find real meaning to her life. And we need to work on ourselves even more because it is very difficult for a parent to realize that baby-infant-child has suddenly all of the needs of an adult! It is not enough to do school work in the hopes of college success, or for some other future goal. There is an intense feeling that something wonderful and important is about to happen, and a need to create and to change things. We have all seen what happens when this expectation fails to be realized - children change things by destroying, or by wasting their time and energy. We can help during this precarious time and aid the child's

self-esteem by some of the following methods:

1. Keep communication open, learn and share communication skills.
2. Help her find real work and responsibility.
3. Commiserate with her over societal and educational demands made on young people today.
4. Listen.
5. Treat her as you would an equal as much as possible, listening to your words and the tone of your voice to see if you would talk to another adult in this way.
6. Be easy on yourself. Realize that there are no blueprints or experts on adolescents in today's culture.

This is a brief list, but the thread weaving its way through all of these points is the same: real self-esteem is dependent on what one really thinks about oneself, and it is fed by effort and success on important work. It is participation in activities that call for the coordination of the brain and body working together, concentration, effort, striving for perfection, that call forth the best of the person and build self-esteem.

I made a comment in the beginning that very few children or adults in our culture actually get to experience the highest level of self-esteem. I learned a lot about the reasons for this sad situation in a book by Alfie Kohn called *Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise and Other Bribes*. I'm sure you would find it valuable.



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Cosmic Education As A Parent Education Tool

by Ramya Fernando

It is that time of year again! The time for admissions and renewing parent contracts.

Re-enrollment forms are distributed and parents are reminded to revisit their decision and commitment to continue having their children educated with Montessori principles.

"The primary was great, but should we go on? What about experience with real school?"

"They keep talking about something called 'cosmic education' in the elementary."

"Is there a curriculum? There are no workbooks or homework or textbooks."

"They don't give tests."

"Yet they seem to do well when they transition into traditional programs. I've heard the alumni success stories."

"Anne Smith was so worried about keeping Jane in the elementary last year but is so thrilled about what's going on in there that she's keeping her through middle school."

It is normal that parents reflect, express views, concerns, and doubts at this time of year.

No matter how many different ways and how many times cosmic education is discussed with parents, it seems that, in reality, parents' own traditional experiences take precedence and often prevent them from completely trusting the value of cosmic practice. To build this trust, it is crucial that parents participate through education and classroom observation. This should be welcomed and even invited.

It is important for parents to recognize that an "authentic" Montessori school is committed to practicing Dr. Montessori's vision of "Education for Peace" and "Education for Life," now being referred to as "holistic education" - educating the whole child - by pro-

gressive educators.

Dr. Montessori said that, "Peace is what every human being is craving for and it can be brought about by humanity, through the child. This can happen only if adult society would organize a world of progressive interests in which the children's intellectual life becomes insatiable in its search for knowledge."

Raising a thinking child—what an amazing challenge for educators and parents. How do we do this? Is there a plan? We believe there is! Dr. Montessori called it "cosmic education." It is simply knowledge for the elementary child, who is now entering his second plane of development.

It is recognizing that, "In the cosmos there is harmony. That everything there is in it, both the animate and inanimate, have collaborated in the creation of our globe, correlating in doing this, their single tasks."

The child is key to this harmony. He wants us, needs us to nurture his never ceasing work, his single task, to reach full human potential, in order that he may take his rightful place in the cosmic balance of the universe.

Children come with gifts of human tendencies and psychological characteristics particular to each plane of development. These are the gifts they use in their work to gather knowledge to build character, to reach their individual and very precious potential.

Therefore, all lessons given in Montessori environments are designed to nurture and complement the psychological characteristics particular to each developmental plane.

Presenting this harmony in the cosmos and its interdependence and interrelatedness, this formula we refer to as "cosmic education," was Dr. Montessori's vision for the second

plane child. She described it as "A central idea of greatly ennobling inspiration, the cosmic plan in which all, consciously or unconsciously serves the great purpose of life."

"Let us give him a vision of the universe. The universe is an imposing reality and answer to all our questions."

...we cannot possibly separate knowledge into isolated unit studies or subjects to be memorized because it will alienate the child from his most fundamental need and task to form a personal framework to gather knowledge.

"As all parts are related they will be scrutinized sooner or later. Thus, the way leads from the whole, via parts, back to the whole. And thus, the child will develop a kind of philosophy which teaches him the unity of the universe. This is the very thing to organize his intelligence and give him better insight into his own task and place in the world."

This message for learning is consistent in all Montessori elementary classrooms. Once a child is allowed to reach his universal center through work, he comprehends knowledge that is best and valuable. It is why, as Montessori educators and parents, we cannot possibly separate knowledge into isolated unit studies or subjects to be memorized because it will alienate the child from his most fundamental need and task to form a personal framework to gather knowledge.

The years from six to nine are a time for process. Still using concrete materials, the child builds on the foundation of his primary years to develop tools and skills to form the framework to gather knowledge. He uses his "reasoning mind" to decide what he needs, what he must explore, what skills he needs to strengthen, what conclusions he must reach, in order that he may personalize his framework for study. He wonders and reflects and questions. He is inspired and ready to learn anywhere and everywhere.

The nine to twelve child continues to build. He is specializing his skills and moving from concrete conceptual understanding to abstract thinking. He is recognizing his responsibilities towards the incredible function of universal order. He understands the interdependence and inter-relatedness of all learning, he is increasingly aware of justice and fairness and his duty as a member of the human race.

Therefore, we must be careful not to impart knowledge for "perfor-

mance" or assigned "product." Children who are truly in harmony with learning with interest and enquiry will work passionately to gather knowledge that far exceeds any curriculum.

Dr. Montessori said, "In this intellectual period the child's questions are innumerable. He wants to know everything. His thirst for knowledge is so insatiable that generally people are at their wits end about it. Therefore they mostly choose the easiest way, and simply force the child to be silent and to learn only what we grownups feel is useful for him. But in doing so, we also spoil his spontaneous interest. Learning then becomes a tedious and tiresome business."

As parents and educators we must have a vision to nurture the child's learning beyond standard curriculums. All knowledge and subject matter children encounter must reflect universal inter-relatedness, have variety for repetition, allow discussion and debate for practicing society and justice, nurture freedom with responsibility, and in-

spire interest for exploration and independent thinking.

Protecting the authenticity of Montessori's work against traditional expectations and everyday politics is sometimes discouraging. In these moments, the wisdom of Miss Margaret Stephenson, who has written widely on the development of children at all planes, comes to mind. She often reminds us to practice the principles of this vision without compromise, and "trust" the child's innate human spirit and thirst to learn, and know that as Montessori educators and parents, we have the formula to nurture and support this work. (Refer to *Parenting for a New World*, Vol. II, No. 2, April 1993, for M.E. Stephenson's article *The Child from Six to Twelve in Home and Elementary Class*.)

The following are practical applications which may provide both parent and teachers with the tools necessary for tackling the subject of cosmic education.

PARENT EDUCATION MEETINGS

Meetings between the elementary teachers and parents which are designed to educate them to the value of cosmic education are an important addition to classroom observation. The following plan has been developed for my meetings with parents. It sprang from the understanding that parents need to relate this concept of cosmic education, therefore I approach it from personal confidence in the value of the method. This trust combined with an inherent excitement is usually quite contagious.

- Several lessons are presented to demonstrate Montessori theory in practice. For example, telling a simple story about the Egyptians while giving the lesson on area with the yellow material, showing the different directions it will take, from studying history and language, to building simple machines, or studying current events, art and hand work.
- I take the opportunity to include many examples that show integra-

tion of art, music, foreign language and movement in everyday practice.

- The importance of uninterrupted work cycles, that are necessary in the child's quest for work, is stressed.
- In the case of specialists, if they are utilized, I explain clearly how they are used in our environments to serve as a resource to the children, teachers, and sometimes the parents. It is also important to give credit to these inspired individuals who tediously work their schedules in support of the uninterrupted work cycle.
- The value of Miss Stephenson's directive on using "guest lecturers," who sometimes visit our classrooms to share their particular gift, practice or interest, is explained and emphasized.
- I mention that only one or two current textbooks are available to the children for reference at every level,

on the different subject areas such as language and social studies.

- Record keeping and assessment are discussed briefly.
- Standardized testing, usually given in the middle of the school year, must be mentioned. I assure parents that it is primarily used as a tool for helping us know of any gaps the child may have, and that it is not a measure of the intellect. I also stress that children do need the experience of testing, it is an expectation of "life."
- Finally, I talk about preparing the children for "going out" into the world. The four walls of the classroom must simply be extended to include life and society. The child must "go out" to experience and understand the stories he has heard in the classroom. Parents are asked to volunteer their time and energy to participate in this, the child's quest, when he explores the universe beyond the classroom.

CHARACTERISTICS OF THE ELEMENTARY CHILD

1. Social being
 - has a need to explore and connect with wider society / work groups
 - seeks to conform to peer preferences
 - follows peer leaders
 - shows strong admiration for particular member of peer group or extended society - hero worship; e.g. sports heroes, mythical heroes
2. Strong moral sense - is practicing society, and developing powers of reason & clarity of intellect
 - appears rude but is exercising / exploring limits, rules and values of society; in doing so is developing own sense of justice
 - makes own rules to explore global rules
 - uses strange languages and codes that signifies the group
 - has great compassion and a sense of what is fair or not
 - appears tough & daring
 - has strong loyalties to the group
3. Sense of external order disappears
 - appears untidy and even slovenly
 - not very fond of bathing; wants to be trendy / dress like peers; older children explore creating own style / may appear odd
 - work areas are spread out / appears messy but order is already internalized
4. Physical / Intellectual
 - strong physically
 - not often sick or tired / is energetic
 - strong intellectual capacity / approaches ideas with a sense of awe, almost visionary; work projects are enormous because of capacity to imagine
5. Balance of competition
 - has innate need to be the best
 - accomplishes this with respect and gratitude for each others differences and often competing with own self

Dr. Montessori's vision of "cosmic education" is designed to meet the needs, tendencies and psychological characteristics of the second plane child.

CHARACTERISTICS WITHIN THE PLANES OF DEVELOPMENT

First Plane - 0-6
[sub planes 0-3 and 3-6]

- Period of self-construction: building a solid foundation
- Exploration: of factual reality
- Sensorial explorer: needs hands-on, concrete experiences to excite senses to gather facts
- Realm of exploration: the world
- Natural gifts: human needs & tendencies psychological characteristics
- Intellect: absorbent mind
- Focus: individual / developing self

At the end of the first plane the child has built the foundation to be a unique individual and has the power to develop and extend his intellect as an independent, social being in the second plane.

Second Plane - 6-12
[sub planes 6-9 and 9-12]

- Continue construction: with collaboration of peers
- Exploration: with imagination
- Explorer across time & space: is able to use imagination to abstract and explore beyond what is concrete
- Realm of exploration: the universe
- Natural gifts: human needs & tendencies psychological characteristics
- Intellect: reasoning mind
- Focus: Global - what is my social and universal role?

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Computers in the Montessori Home: Guidelines for Decision-Making

By John R. Snyder

Thirty years ago, digital computers were large, complex machines expensive enough to be owned only by businesses, universities, and agencies of government. Today computers are small, complex machines cheap enough to be owned by children. It is almost taken for granted in America that children who do not have ready access to computers at home are at a terrible educational disadvantage. Hardware and software manufacturers have found, to their delight, that parents who would never buy computers and software for themselves can be persuaded to buy them for their children. In many households, the family computer monitor has become (along with video games and network television) the third in the unholy trinity of screens that dominate the family's recreational life. As the adults in the family become more and more attached to their computers, disappearing into individual laptops can become what the family typically does "together."

There is no doubt that the personal computer, when used wisely and with attention to the child's true developmental needs, can be a powerful adjunct to classroom learning. However, because so many parents are themselves new to the computer or new to Montessori education, it is difficult to sort out what "wise use" means in concrete situations -- all the more so because of the confusing messages circulating in the culture and its media.

Perhaps the most important thing that Montessori educators can say to today's parents is "Relax. Your child will not be intellectually stunted because they do not have access to a home computer. Virtually nothing a well-rounded child needs to know requires the use of a computer to learn it." In truth, with the possible exception of certain mathematical and engineering ideas related directly to the design and programming of computers themselves (hardly the focus of most software marketed to children), the introduction of the digital computer has changed almost nothing in the fundamental intellectual landscape of childhood. This is largely because the child's most important intellectual tasks are determined not by fads or the advent of new technologies, but by the unfolding of the human organism according to a genetically coded plan conditioned by the entire span of human evolution. It was the genius of Maria Montessori that she was able to map out much of this process of human development and begin to understand how educators might support it in a systematic and universal way. When we understand the true needs of the developing child, much of the hype about how indispensable computers are to children quickly evaporates.

Many of us already have computers at home, and we will have noticed that our children seem to be fascinated by them. How can we use the computer in the best interest of our child's learning and development? Here are four questions that may help.

1. Is my child at least 7 years old, reading fluently, and writing effortlessly in cursive?

If not, the child is simply not ready to use the computer -- or, more accurately, the computer is not designed to support your child's development. Children below age 7 learn in ways very different from those of adults and older children. Young children learn primarily through physical movement and by using all their senses to explore the physical environment. Computers restrict both these modes of learning. Young children also tend to uncritically absorb whatever is presented to them -- a disturbing thought, considering many of the sounds and images that flow through the multimedia screens of our home computers.

2. Does this software support my (older) child's current developmental needs? Are there better ways to meet those needs?

Most software marketed to children can be divided into two categories: games and "educational software." Some educational software is packaged in a game-like format, ostensibly to make it more interesting to the child.

The question to ask about games (computerized and non-computerized) without educational content is "Could my child be having the same kind of relaxation and fun doing an activity that is not a developmental waste of time?" With a little thought and creativity, we can almost always answer "yes." Educational games and other educational software need to be carefully reviewed, case-by-case. The educational benefits of the software need to be balanced against the potential side-effects, such as

- social isolation,
- missed opportunities for collaborative learning,
- missed opportunities for neurological development that comes from activities based on intensive use of the hands, body and creative thinking,
- development of sedentary habits (contributing to the current epidemic of obesity in children),
- presentation of material in ways that conflict with the Montessori child's classroom experiences,
- substitution of extrinsic rewards for the intrinsic joy of learning.

This last side-effect deserves more comment. Much software for children is based on the tacit assumption that children are not intrinsically interested in learning and must therefore be tricked or manipulated into learning by hiding the educational content under layers of multimedia gimmickry. Nothing could be farther removed from the Montessori philosophy and experience. On the contrary, it is precisely the joy of learning and increasing self-mastery that drive the child to overcome the challenges of the material. If a child finds certain material uninteresting, the Montessorian would usually take this to mean that it was not yet the right time for this child to learn that material. From this perspective, it can be a positive harm to seduce a child into "going through the motions" just to be rewarded with a funny noise or a favorite cartoon character cartwheeling across the screen. What is the child really learning? That learning is boring, but cartoons are fun? To expect whiz-bang, showbiz responses at school for each little increment of effort? That they cannot learn without an authority figure to validate and praise their efforts? All this is really just a high-tech way of once again imposing an adult educational agenda on the child, instead of supporting the child in the exciting task of constructing a self according to the blueprint that is uniquely theirs.

Proponents of video-gaming and other computer software for children are now citing research that shows that children who play video games out-perform their peers in certain aspects of cognitive development. This is hardly a surprise: people do tend to get much better at things they extensively practice, and the brain adapts to whatever training it receives. Closer examination of these claims reveals that unless one wants to be an air traffic controller or a fighter pilot, these enhanced cognitive-spatial skills are good for little more than playing more video games. All that time and effort is better spent developing cognitive skills that can only be developed the "old-fashioned" way: by many years of creative use of hands, body, and mind in a sensorially and socially rich environment. It is these higher "executive function" thinking skills that research profoundly links to success and happiness throughout life.

3. Does this software support my family's values? The values of the school community of which my child is a member?

Many computer games, and even some "educational games," have shocking amounts of violence. Unfortunately, this will continue to be the case since violent games sell like hotcakes in our country. Nevertheless, protests from parents have made software developers a little more sensitive to the needs of the children's software market. Sometimes the violence is softened by presenting it as "good guys versus bad guys" or "monsters fighting monsters." Even non-violent software can have questionable content. For example, at the end of one popular game, a bikini-clad girl runs in from the side of the screen and gives the winning character (always male) an adoring kiss. What messages is this game sending about gender equality and human dignity? Suffice it to say, parents need to review software before giving it to children and make conscious choices about what is acceptable in their family and in the larger school community.

If adult members of the family choose to play violent or sexually suggestive computer games, it is very important to do it when the children are asleep or not in the house. Earphones will keep children in their beds or playrooms from hearing the gunfire, explosions, screams, profanity, war cries and other disturbing sounds that go along with most violent games.

4. Does this software ultimately increase or decrease my child's creativity and natural self-expression?

Most adult computer users have found that they can do things well on the computer that they could not do by hand -- at least not in the available time. It is easy to assume that what is wonderful for us will also be wonderful for our children. Not necessarily. For example, desktop publishing tools are a boon to the writer or the small business owner; they even appear to have played a part in the democratization of eastern Europe. However, in the hands of a child struggling to master cursive handwriting or conventional spelling, they may become a way of avoiding the difficulties of mastery. Computer graphics tools have opened up a whole new range of possibilities for modern visual artists. Yet, will the child who makes complex, fantastic digital collages from images captured from the Internet be more motivated or less motivated to master the classic art of drawing a human face with paper and pencil? The general principle here is an important one: walk before you run. Our children will have plenty of time as adults to use sophisticated software to do all sorts of amazing things. Childhood is for laying the groundwork of creativity by training the eye, the hand, the ear -- using simple, time-tested tools specifically designed for each. Although they are not the first generation to have tried, our children are the first generation to actually have the option of leaving the basics of craft to automation; so far, the aesthetic results are not promising.

Some computer software can be viewed as a surrogate for adult expertise. For example, a good chess program can teach a child far more about chess strategy and tactics than most of us personally can. There are musical ear training and music theory programs that can tutor a child (or an adult) almost as well as the average music teacher. For adolescents, access to the Internet can open up the world in a very effective and exciting way. In the right social context, and with ongoing parental observation and monitoring, these sorts of application can be a positive addition to the home learning environment.

Most importantly, the computer should be used as a tool to accomplish some purpose greater than the use itself. For example, older children who are fluent readers and writers of cursive, can use the word processing capabilities of the computer to explore different ways of composing a story; or they can use music software to learn how to write a fugue or harmonize a melody. What must be avoided at all costs is the use of the computer as an open-ended entertainment device. The child should sit

down at the computer with a clear purpose and plan, not with the question, "I wonder what I can find to do on the computer to amuse myself?" As an open-ended entertainment device, the computer has a remarkable ability to become an addiction; as a purposeful tool, it does not. Children who use the computer as a tool may become "addicted" to writing stories or composing music or exploring fractal geometry, but they will not become addicted to "using the computer." Nevertheless, even goal-directed computer use should be restricted to one 20-30 minute session per day, at most. Longer sessions can be a strain on young eyes, necks, and hands.

If you would like to read more extensively on the effects of computer use on children and families, an excellent place to start is the report "Fools Gold: A Critical Look at Computers in Childhood," available online from the Alliance for Childhood (www.allianceforchildhood.org).

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Picture Books

- "Bringing the Rain to Kapiti Plain" by Verna Aardema
- "A Chair for My Mother" by Vera B. Williams
- "Frederick" by Leo Lionni
- "Henry's Freedom Box" by Ellen Levine
- "I Wish I Were a Butterfly" by James Howe
- "Mufaro's Beautiful Daughters" by John Steptoe (an African Tale)
- "The Old Woman Who Named Things" by Cynthia Rylant
- "One Grain of Rice" by Demi (an Indian Mathematical Folktale)
- "One Small Blue Bead" by Byrd Baylor
- "James Herriot's Treasury for Children" - A James Herriot Treasury
- "Make Way for McCloskey" - A Robert McCloskey Treasury
- "Rakoto and the Drongo Bird" by Robin McKown (out-of-print)
- "The Keeping Quilt" by Patricia Polacco
- "The Reluctant Dragon" by Kenneth Grahame
- "Sweet Clara and the Freedom Quilt" by Deborah Hopkinson

My First Little House Books adapted from the Little House series by Laura Ingalls Wilder:
"County Fair," "Dance at Grandpa's," "The Deer in the Wood," "Going to Town," "Going West," "A Little House Birthday," "A Little Prairie House," "Prairie Day,"
"Sugar Snow," "Summertime in the Big Woods," "Winter Days in the Big Woods,"
"Winter on the Farm"

Biographies:

- Childhood of Famous Americans series: "Benjamin Franklin, Young Printer," "Elizabeth Blackwell, Girl Doctor," "Mark Twain, Young Writer," "Jean Felix Piccard, Boy Balloonist," "Sacagawea, American Pathfinder," and others
- "A Weed is a Flower" by Alike (the story of George Washington Carver)
- "A Picture Book of" series (many titles by David Adler, some may depict scenes of violence depending on subject material): "A Picture Book of Rosa Parks," "A Picture Book of Abraham Lincoln," "A Picture Book of Christopher Columbus," and others
- "Eleanor" by Barbara Cooney (the story of a young Eleanor Roosevelt)
- Books by Ingri and Edgar Parin D'Aulaire: "Abraham Lincoln," "George Washington" "Benjamin Franklin" and others

Science/Animals

Let's-Read-and-Find-Out Science Books - Stage 1 and Stage 2 reading levels, many titles in this series, here are a few:

"Follow the Water from Brook to Ocean" by Arthur Dorros

"Look Out for Turtles" by Melvin Berger

"Where Does the Garbage Go?" by Paul Showers

"How Do Apples Grow?" by Betsy Maestro

"Bugs are Insects" by Anne Rockwell

"Why Frogs are Wet" by Judy Hawes

"Archaeologists Dig for Clues" by Kate Duke

"Fossils Tell of Long Ago" by Alike

"Be a Friend to Trees" by Patricia Lauber

"Big Tracks, Little Tracks" by Franklyn Branley

"All About" series by Jim Arnosky (many in this series, some out-of-print)

"All About Turtles," "All About Turkeys," "All About Alligators," and others

Books by Nic Bishop (beautiful photographs): "Nic Bishop Spiders," "Nic Bishop Marsupials," "Nic Bishop Frogs," and others

National Geographic "Face to Face" series: "Face to Face with Caterpillars," "Face to Face with Wild Horses," "Face to Face with Dolphins," and others

Books by Seymour Simon (numerous topics, here are a few): "Volcanoes," "Saturn," "The Heart"

"A Drop of Water" by Walter Wick

"Stars Beneath Your Bed: The Surprising Story of Dust" by April Pulley Sayre

"Living Sunlight: How Plants Bring the Earth to Life" by Molly Bang & Penny Chisholm

"Pale Male: Citizen Hawk of New York City" by Janet Schulman

Social Sciences/History

"A True Book" series and "A New True Book" series - many, many diverse topics (

"A Life Like Mine" by UNICEF in association with DK

"Celebrations" by UNICEF in association with the United Nation's Children's Fund

Holidays Around the World series by National Geographic:

"Celebrate Rosh Hashanah & Yom Kippur," "Celebrate Hanukkah," "Celebrate Ramadan & Eid Al-Fitr," and others

The "If You..." series published by Scholastic: "If You Sailed on the Mayflower," "If You Were There When They Signed the Constitution," "If You Lived in Colonial Times," and others

Poetry/Fables/Myths

- "All the Small Poems and Fourteen More" by Valerie Worth
- "Around the World in 80 Tales" by Saviour Pirotta (Explore six continents through retellings of traditional tales)
- "Comets, Stars, the Moon, and Mars" by Douglas Florian (space poems)
- "D'Aulaires Book of Greek Myths" by Ingri and Edgar Pain D'Aulaire
- "D'Aulaires Norse Gods and Giants" by Ingri and Edgar Pain D'Aulaire
- "Dogku" by Andrew Clements (a shaggy dog story told in haiku, picture book)
- "Joyful Noise: Poems for Two Voices" by Paul Fleischman
- "A Light in the Attic" by Shel Silverstein (and other titles)
- "My Dog May Be a Genius" by Jack Prelutsky (collection by the first Children's Poet Laureate)
- "Stopping by Woods on a Snowy Evening" by Robert Frost (picture book)
- "Unwitting Wisdom - An Anthology of Aesop's Fables" retold/illustrated by Helen Ward

Emerging Readers

DK Readers, such as: "Born to be a Butterfly," "Tale of a Tadpole," etc.

Rookie Readers, such as: "From Seed to Plant", "The Seven Continents," etc.

Beginner Reader Chapter Books (short chapters, simple stories)

"An I Can Read" Books - many titles and series, here are a few:

- Little Bear books by Else Minarik: "Little Bear," "Father Bear Comes Home", "A Kiss for Little Bear," etc.
- "Amelia Bedelia" by Peggy Parish
- "Danny and the Dinosaur" by Syd Hoff
- Frog and Toad books by Arnold Lobel: "Frog and Toad are Friends," "Frog and Toad Together," etc.
- Harry books by Gene Zion: "Harry the Dirty Dog," "Harry and the Lady Next Door", etc.
- "Owl at Home" by Arnold Lobel
- "Mouse Tales" by Arnold Lobel
- "There is a Carrot in My Ear and Other Noodle Tales" by Alvin Schwartz

Billy and Blaze series by C.W. Anderson - adventures of a boy and his horse: "Billy and Blaze," "Blaze and Thunderbolt," "Blaze Shows the Way", and others

"The Blue Hill Meadows" by Cynthia Rylant - Four short chapters describe a family's existence through the seasons.

Dick and Jane books: "We Look," "We See," "We Play," "Away We Go," "Guess Who," "Fun with Dick and Jane," "Go Go Go" and others

Henry and Mudge (series) by Cynthia Rylant - Adventures of a boy and his big dog: "Henry and Mudge, The First Book," "Henry and Mudge in Puddle Trouble," and others

Little House Chapter Books (adapted from the Little House series by Laura Ingalls Wilder)

"The Adventures of Laura and Jack," "Pioneer Sisters," "Animal Adventures," "School Days," "Laura and Nellie," "Farmer Boy Days," "Little House Farm Days," "Hard Times on the Prairie," "Little House Friends," "Christmas Stories," "Laura's Ma," "Laura's Pa," "Laura and Mr. Edwards," "Little House Parties"

Mr. Putter and Tabby (series) by Cynthia Rylant - Adventures of an elderly man and his tabby cat: "Mr. Putter and Tabby Pour the Tea," "Mr. Putter and Tabby Walk the Dog," and others

Snipp, Snapp, Snurr series and Flicka, Ricka, Dicka series by Maj Lindman (originally published in the 1940's and 1950's and recently reissued)

Chapter Books - Level 1 (longer chapters, dynamic story lines)

26 Fairmont Avenue (series) by Tomie DePaola (later titles in the series concerning WWII may not be appropriate for younger children) - DePaola shares engaging childhood memories

"All of a Kind Family" by Sidney Taylor - A heartwarming story of five little girls living with their parents in New York City at the turn of the century. When Mama tells them her big news, it's the most wonderful surprise of all!

The Boxcar Children series by Gertrude C. Warner - The adventures of four siblings, the first 19 books in the series are by the original author, the entire series includes 100+ titles.

"The Courage of Sarah Noble" by Alice Dalgliesh - In 1707, young Sarah Noble and her father traveled through the wilderness to build a new home for their family. "Keep up your courage, Sarah Noble," her mother had said, but Sarah found that it was not always easy to feel brave inside. The dark woods were full of animals and Indians, too, and Sarah was only eight!

"The Enormous Egg" by Oliver Butterworth - When twelve-year-old Nate Twitchell takes care of a gigantic egg laid by one of his hens, he is shocked to find that it hatches into a triceratops.

Fudge books by Judy Blume: "Tales of a Fourth Grade Nothing," "Otherwise Known as Sheila the Great," "Superfudge," "Fudge-a-Mania," "Double Fudge"

"Gooseberry Park" by Cynthia Rylant - An assortment of domesticated pets and untamed creatures band together to help a friend in need.

The Henry Huggins books by Beverly Cleary: "Henry Huggins," "Henry and Beezus," "Henry and Ribsy," "Henry and the Paper Route," "Henry and the Clubhouse," "Ribsy"

"Ida Early Comes Over the Mountain" by Robert Burch - Ida Early is as tall as the tales she tells, a gangly scarecrow who comes to the rural Georgia home of widower Mr. Sutton during the Depression years. Her offer to help out for a spell delights the four Sutton children and their father ... and life becomes a three-ring circus for the kids.

Magic School Bus series by Joanna Cole - The books feature the antics of Ms. Frizzle, an elementary school teacher, and her class, who board a magical school bus which takes them on field trips into the solar system, under the Bed, into the American Flag, or to other such impossible locations.

Magic Tree House Series by Mary Pope Osborne - Go back in time and discover history with Jack and Annie! From France in the Middle Ages to the prairies of America, then to the Moon.

Moffats books by Eleanor Estes: "The Moffats," "The Middle Moffat," "Rufus M" - Meet the Moffats. There is Sylvie, the oldest, the cleverest, and-most days at least-the responsible one; Joey, who though only twelve is the man of the house...sometimes; Janey, who has a terrific upside-down way of looking at the world; and Rufus, who may be the littlest but always gets in the biggest trouble.

"A Mouse Called Wolf" by Dick King-Smith - the adventures of Wolfgang Amadeus Mouse (Wolf for short), a little mouse with a big name and talent to match! The world's first singing mouse, Wolf sings his way into the heart of Mrs. Honeybee, his music-loving, human housemate, and even helps save her life.

"Mr. Popper's Penguins" by Richard Atwater - The 1938 classic tells the story of Mr. Popper, the small-town housepainter who dreamed of exploring Antarctic regions, and Captain Cook, the redoubtable penguin who turned Mr. Popper's world upside down.

Mrs. Piggle-Wiggle books by Betty McDonald: "Mrs. Piggle-Wiggle," "Mrs. Piggle-Wiggle's Magic," "Mrs. Piggle-Wiggle's Farm" - Mrs. Piggle-Wiggle lives in an upside-down house that smells like cookies. She was even married to a pirate once. Most of all, she knows everything about children.

The Ralph S. Mouse books by Beverly Cleary: "The Mouse and the Motorcycle," "Runaway Ralph," "Ralph S. Mouse" - "Pb-pb-b-b-b. Pb-pb-b-b-b." With these magic vocables, Ralph the mouse revs up a dream come true--his very own motorcycle. Once a mouse can ride a motorcycle ... almost anything can happen!

The Ramona Quimby books by Beverly Cleary: "Beezus and Ramona," "Ramona the Pest," "Ramona the Brave," "Ramona Quimby, Age 8," "Ramona Forever" - Nine-year-old Beezus Quimby has her hands full with her little sister, Ramona. Sure, other people have little sisters that bother them sometimes, but is there anyone in the world like Ramona?

"The Saturdays" by Elizabeth Enright - *The Saturdays* is the first installment of Enright's Melendy Quartet, an engaging and warm series about the close-knit Melendy family and their surprising adventures (Other titles in the series: "The Four-Story Mistake," "Then There Were Five," "Spiderweb for Two.")

Three Tales of My Father's Dragon by Ruth Gannett - "My Father's Dragon," "Elmer and the Dragon," "The Dragons of Blueland" - The story begins when Elmer Elevator (the narrator's father as a boy) runs away with an old alley cat to rescue a flying baby dragon being exploited on a faraway island. With the help of two dozen pink lollipops, rubber bands, chewing gum, and a fine-toothed comb, Elmer disarms the fiercest of beasts on Wild Island.

Chapter Books - Level 2 (More complex themes and language)

American Girls Series (Kaya, Josephina, Kirsten, Molly, Samantha, Kit, Rebecca, Felicity, Addy, the "Julie" series is not recommended for Early Elementary children) - A set of six books for each title character takes you into the life of a girl during different times in American

history, from 1764 and the life a Nez Perce girl to 1944 and the life of girl on the home front during World War II.

"Babe: the Gallant Pig" by Dick King-Smith - The story of an extraordinary pig that wants to be a shepherd.

"Bunnica" by Deborah and James Howe - Before it's too late, Harold the dog and Chester the cat must find out the truth about the newest pet in the Monroe household -- a suspicious-looking bunny with unusual habits...and fangs!

"Because of Winn-Dixie" by Kate DiCamillo - Because of Winn-Dixie, a big, ugly, happy dog, 10-year-old Opal learns 10 things about her long-gone mother from her preacher father. Because of Winn-Dixie, Opal makes new friends among the somewhat unusual residents of her new hometown, Naomi, Florida. Because of Winn-Dixie, Opal begins to find her place in the world and let go of some of the sadness left by her mother's abandonment seven years earlier.

"Black Stallion" by Walter Farley - From Alec Ramsay and the Black's first meeting on an ill-fated ship to their adventures on a desert island and their eventual rescue, this beloved story will hold the rapt attention of readers new and old.

"Caddie Woodlawn" by Carol Brink - Caddie Woodlawn is a real adventurer. She'd rather hunt than sew and plow than bake, and tries to beat her brother's dares every chance she gets. Caddie is friends with Indians, who scare most of the neighbors -- neighbors who, like her mother and sisters, don't understand her at all.

"The Castle in the Attic" by Elizabeth Winthrop - A magical replica of a castle transports William to adventures in another land.

"Charlie and the Chocolate Factory" by Roald Dahl - The gates of Willy Wonka's chocolate factory are opening at last . . . and only five children will be allowed inside.

"Charlotte's Web" by E.B. White - An affectionate, sometimes bashful pig named Wilbur befriends a spider named Charlotte, who lives in the rafters above his pen. A prancing, playful bloke, Wilbur is devastated when he learns of the destiny that befalls all those of porcine persuasion. Determined to save her friend, Charlotte spins a web that reads "Some Pig," convincing everyone that Wilbur is no ordinary animal and should be saved.

"The Cricket in Times Square" by George Selden - The story of a musical cricket and his friends, a mouse and a cat of real character, who took up their abode in a Times Square newsstand.

Encyclopedia Brown series by Donald Sobol - Encyclopedia Brown, fifth-grade mastermind behind Idaville's police force, "a complete library walking around in sneakers." Each book is set up so that readers can try to solve the case along with the boy genius, and the answers to all the mysteries are found in the back.

"The End of the Beginning: Being the Adventures of a Small Snail (and an even Smaller Ant)" by Avi - Avon the snail has never had an adventure. And adventure, he has heard, is the key to a happy life. So with his new friend Edward the ant, Avon sets out on a journey to find the excitement his life has been missing.

Freddy the Pig books by Walter R. Brooks, 26 books written from 1927-1958, some titles: "Freddy the Detective," "Freddy Goes Camping," "Freddy the Magician" - Freddy is

introduced as "the smallest and cleverest" of the pigs on the Bean farm. He becomes the central character shortly into the series. Freddy's interests drive the books as he becomes a detective, politician, newspaper editor, magician, pilot, and other vocations or avocations.

"Half Magic by Edward Eager (many other titles by author as well) - The title refers to a coin that the children find. Through a comical series of coincidences, they discover that the coin is magic. Well, it's not totally magic--it's only (you guessed it) half magic. Imagine the results emerging from inaccurate efforts: half invisible, half rescued, half everything!

"The Great Brain" by Fitzgerald - The best con man in the Midwest is only ten years old. Tom, a.k.a., the Great Brain, is a silver-tongued genius with a knack for turning a profit. When the Jenkins boys get lost in Skeleton Cave, the Great Brain saves the day. Whether it's saving the kids at school, or helping out Peg-leg Andy, or Basil, the new kid at school, the Great Brain always manages to come out on top—and line his pockets in the process.

"Harriet the Spy" by Louise Fitzhugh - Harriet is determined to become a famous author. In the meantime, she practices by following a regular spy route each day and writing down everything she sees in her secret notebook. Her life is turned upside down when her classmates find her notebook and read it aloud!

"Homer Price" by Robert McCloskey - Welcome to Centerburg! Where you can win a hundred dollars by eating all the doughnuts you want; where houses are built in a day; and where a boy named Homer Price can foil four slick bandits using nothing but his wits and a pet skunk.

"The House at Pooh Corner" by AA Milne - The House at Pooh Corner continues the adventures of Pooh and introduces the bouncing, pouncing, lovable Tigger.

"The Indian in the Cupboard" by Lynn R. Banks - What could be better than a magic cupboard that turns small toys into living creatures? Omri's big brother has no birthday present for him, so he gives Omri an old medicine cabinet he's found. Although their mother supplies a key, the cabinet still doesn't seem like much of a present. But when an exhausted Omri dumps a plastic toy Indian into the cabinet just before falling asleep, the magic begins. Turn the key once and the toy comes alive; turn it a second time and it's an action figure again.

Little House series by Laura Ingalls Wilder - Based on the memories of Laura Ingalls Wilder's childhood in the Midwest region of the United States during the late 19th century: "Little House in the Big Woods," "Farmer Boy," "Little House on the Prairie," "On the Banks of Plum Creek," "By the Shores of Silver Lake," "The Long Winter," "Little Town on the Prairie," "These Happy Golden Years."

"Mary Poppins" by P. Travers - From the moment Mary Poppins arrives at Number Seventeen Cherry-Tree Lane, everyday life at the Banks house is forever changed. This classic series tells the story of the world's most beloved nanny, who brings enchantment and excitement with her everywhere she goes.

"My Side of the Mountain" by Jean Craighead George - Every kid thinks about running away at one point or another; few get farther than the end of the block. Young Sam Gribbley gets to the end of the block and keeps going--all the way to the Catskill Mountains of upstate New York. There he sets up house in a huge hollowed-out tree, with a falcon and a weasel for companions and his wits as his tool for survival. In a spellbinding, touching, funny account, Sam learns to live off the land, and grows up a little in the process.

- "Minn of the Mississippi" by Holling Clancy Holling** - The history of the Mississippi River Valley is told in text and pictures through the adventures of Minn, a snapping turtle, as she travels downstream.
- "Misty of Chincoteague" by Marguerite Henry** - On an island off the coasts of Virginia and Maryland lives a centuries-old band of wild ponies. Among them is the most mysterious of all, Phantom, a rarely seen mare that eludes all efforts to capture her--that is, until a young boy and girl lay eyes on her and determine that they can't live without her. Phantom would forever be a creature of the wild. But her gentle, loyal colt Misty is another story altogether.
- "No Talking" by Andrew Clements** - Dave Packer's fifth-grade classmates are so boisterous and difficult to quiet down that the teachers have dubbed them "The Unshushables." Dave has just read about Mahatma Gandhi and learned that the man practiced silence one day a week to bring order to his mind. Though Dave likes to talk nonstop, he's determined to give the idea a try. An encounter with Lynsey, another chatterbox, sparks the boys and girls into challenging each other to a no-talking contest for 48 hours.
- "Paddle to the Sea" by Holling Clancy Holling** - A young Indian boy from Nipigon country in the Canadian wilderness carves an Indian figure in a 12-inch canoe that he names Paddle-to-the-Sea. Wishing that he could undertake a journey to the Atlantic Ocean, the boy sends the toy carving instead. Paddle-to-the-Sea begins on a snow bank near a river that eventually leads him to the Great Lakes, the St. Lawrence River, and finally the Atlantic Ocean. Along the way, Paddle's journey is fraught with danger including wild animals, saw mills, fishing nets, and a shipwreck.
- "The Penderwicks: A Summer Tale of Four Sisters, Two Rabbits, and a Very Interesting Boy"** by Jeanne Birdsall - This summer the Penderwick sisters have a wonderful surprise: a holiday on the grounds of a beautiful estate called Arundel. Soon they are busy discovering the summertime magic of Arundel's sprawling gardens, treasure-filled attic, tame rabbits, and the cook who makes the best gingerbread in Massachusetts. But the best discovery of all is Jeffrey Tifton, son of Arundel's owner, who quickly proves to be the perfect companion for their adventures.
- "The Phantom Tollbooth" by Norton Juster** - This fantasy centers around Milo, a bored ten-year-old who comes home to find a large toy tollbooth sitting in his room. Joining forces with a watchdog named Tock, Milo drives through the tollbooth's gates and begins a memorable journey. He meets such characters as the foolish, yet lovable Humbug, the Mathemagician, and the not-so-wicked "Which," Faintly Macabre, who gives Milo the "impossible" mission of returning two princesses to the Kingdom of Wisdom...
- "Rascal" by Sterling North** - Rascal is only a baby when young Sterling brings him home. He and the mischievous raccoon are best friends for a perfect year of adventure—until the spring day when everything suddenly changes.
- "Sarah Plain and Tall" by Patricia MacLachlan** - Two children experience the apprehensions and joys of the possibility of a new mother.
- "The Story of Doctor Dolittle" by Hugh Lofting** - Doctor Dolittle is truly extraordinary. Not only can he talk to the animals--he can also understand what they say to him. One day Doctor

Dolittle receives a message from Africa. The monkeys there need his help. So he sails off from his home, bringing along all his animal friends: Dab-Dab, the duck; Jip, the dog; Gub-Gub, the baby pig; Polynesia, the parrot; and Too-Too, the owl. The doctor and his friends have many amazing adventures. They even meet the rarest of all animals, the two-headed pushmi-pullyu!

"Thimble Summer" by Elizabeth Enright - A few hours after nine-year-old Garnet Linden finds a silver thimble in the dried-up riverbed, the rains come and end the long drought on the farm. The rains bring safety for the crops and the livestock, and money for Garnet's father. Garnet can't help feeling that the thimble is a magic talisman, for the summer proves to be interesting and exciting in so many different ways.

"The Toothpaste Millionaire" by Jean Merrill - Likable, clever, and inventive sixth-graders Rufus Mayflower and Kate Mackinstrey develop and sell toothpaste to become millionaires in just one year! This fun, breezy story includes many real-life mathematical problems which the characters must solve to succeed in their budding business.

"The Trumpet of the Swan" by E.B. White - Like the rest of his family, Louis is a trumpeter swan. But unlike his four brothers and sisters, Louis can't trumpet joyfully. In fact, he can't even make a sound. And since he can't trumpet his love, the beautiful swan Serena pays absolutely no attention to him. Louis tries everything he can think of to win Serena's affection--he even goes to school to learn to read and write. But nothing seems to work. Then his father steals him a real brass trumpet. Is a musical instrument the key to winning Louis his love?

"Winnie the Pooh" by AA Milne - Whether Pooh is tracking a wild Woozle with Piglet, finding a tail for Eeyore, or sailing off in Christopher Robin's umbrella, he is always ready to lend a paw to his friends.

"Where the Mountain Meets the Moon" by Grace Lin - In the valley of Fruitless mountain, a young girl named Minli lives in a ramshackle hut with her parents. In the evenings, her father regales her with old folktales of the Jade Dragon and the Old Man on the Moon, who knows the answers to all of life's questions. Inspired by these stories, Minli sets off on an extraordinary journey to find the Old Man on the Moon to ask him how she can change her family's fortune. She encounters an assorted cast of characters and magical creatures along the way, including a dragon who accompanies her on her quest for the ultimate answer.

"The Wonderful Wizard of Oz" L. Frank Baum - Follow the adventures of young Dorothy Gale and her dog, Toto, as their Kansas house is swept away by a cyclone and they find themselves in a strange land called Oz. Here she meets the Munchkins and joins the Scarecrow, Tin Woodman, and the Cowardly Lion on an unforgettable journey to the Emerald City, where lives the all-powered Wizard of Oz.

Chapter Books - Level 3 (Challenging Language, Great Read-Aloud for Older Children)

"Alice in Wonderland" by Lewis Carroll - Alice falls down, down, down into a land of wonder, a place filled with White Rabbits, Mock Turtles, screaming Queens, and Mad Hatters. Join Alice as she experiences the silliness and excitement of a place gone crazy.

- "Adam of the Road" by Elizabeth Gray** - Eleven-year-old Adam loved to travel throughout thirteenth century England with his father, a wandering minstrel, and his dog, Nick. But when Nick is stolen and his father disappears, Adam suddenly finds himself alone. He searches the same roads he traveled with his father, meeting various people along the way. But will Adam ever find his father and dog and end his desperate search?
- "Anne of Green Gables" by L. M. Montgomery** - When eleven-year-old Anne Shirley arrives at Green Gables with nothing but a carpetbag and an overactive imagination, she knows that she has found her home. But first she must convince the Cuthberts to let her stay, even though she isn't the boy they'd hoped for. The loquacious Anne quickly finds her way into their hearts, as she has with generations of readers, and her charming, ingenious adventures in Avonlea, filled with colorful characters and tender escapades, linger forever in our memories.
- "Heidi" by Johanna Spyri** - What happens when a little orphan girl is forced to live with her cold and frightening grandfather? The heartwarming answer has engaged children for more than a century, both on the page and on the screen. Johanna Spyri's beloved story offers youngsters an endearing and intelligent heroine, a cast of unique and memorable characters, and a fascinating portrait of a small Alpine village.
- "The Hobbit" by J.R.R. Tolkien** - Bilbo Baggins, the hobbit, is a peaceful sort of cozy hole in the Shire, a place where adventures are uncommon and rather unwanted. So when the wizard Gandalf whisks him away on a treasure hunting expedition with a troop of rowdy dwarves, he's not entirely thrilled. Encountering ruthless trolls, beastly orcs, gigantic spiders, and hungry wolves, Bilbo discovers within himself astonishing strength and courage.
- "Just So Stories" by Rudyard Kipling** - How did the camel get his hump? How did the leopard get his spots? How did the elephant get his trunk? For one hundred years, these classic tales -- drawn from the oral storytelling traditions of India and Africa and filled with mischievously clever animals and people -- have entertained young and old alike. Intertwined within these delightful tales are little pearls of wisdom about the pitfalls of arrogance and pride and the importance of curiosity, imagination, and inventiveness.
- "A Little Princess" by Frances Hodgson Burnett** - When Sara Crewe arrives at Miss Minchin's London boarding school, she seems just like a real little princess. She wears beautiful clothes, has gracious manners, and tells the most wonderful stories. Then one day, Sara suddenly becomes penniless. Now she must wear rags, sleep in the school's dreary attic, and work for her living. Sara is all alone, but keeps telling herself that she can still be a princess *inside*, if only she tries hard enough.
- "Little Women" by Louisa May Alcott** - Set in New England during the Civil War, the novel follows the adventures of the March sisters as they struggle to pursue their dreams.
- "The Secret Garden" by Frances Hodgson Burnett** - Frightened orphan Mary discovers the joyful wonders of life on the Yorkshire Moors with the help of two local boys and a mysterious, abandoned garden...where all things seem possible.
- "Wind in the Willows" by Kenneth Grahame** - A classic of magical fancy and enchanting wit, this children's tale follows the adventures of an intrepid quartet of heroes-Mole, Water Rat, Badger, and the incorrigible Toad.

Montessori Homework

Please plan to spend 30 minutes each evening with your child doing homework.

Creative Arts/Construction

Knit

Weave

Quilt

Hook rugs

Tie Dye

Paint

Sculpt

Build a doghouse, a bike ramp, bookcase, bench etc.

Learn names and uses of woodworking, gardening or car repair tools.

Learn how to take a really good picture.

Learn how to operate a video camera and make a movie.

Learn a musical instrument.

Choose a genre of music and learn new songs to sing.

Dance freely or take a dance class.

Language/Words/Literature

Go to the library weekly.

Write a description of a friend, a pet, a favorite place etc...

Make a family newsletter. Interview family and friends for information.

Read aloud. One person can do this while the rest of the family cleans up the dinner dishes.

Play great board games such as Scrabble, Boggle, Upwords etc.

Memorize and recite a poem.

Write a letter to someone far away.

Write a comic book.

Mathematics/Numbers/Geometry

Go to the store and comparison shop. Look at price per pound. Discuss sale items that appear less expensive but in reality are more.

Older elementary children can read *The Number Devil* by H.M. Enzensberger. This is a terrific book for people who have not learned to love mathematics....yet!

Compile facts and make graphs: how many pages read each day, how many ounces of water you drink each day, how long it takes to eat breakfast each day, how fast you can jog around the block etc.

Measure things around the home and calculate their surface area or volume. Younger children can simply measure or measure and record. You can also measure things at the park.

Let children help you write checks when paying bills and record them in the check register.

Learn to play chess.

Bake cookies. Halve or double a batch.

Nature/Plants/Animals

Go camping

Go for a nature walk

Make a botany map of your backyard or local park. Place each plant in its place on the map and label each plant with its common name and scientific name.

History/Geography

Make a map of your house and garden. Make a detailed map of your room.

Study world religions.

<http://killeenroos.com/link/anchist.htm> has links to hundreds of other sites on ancient civilizations.

Pick a continent. Using an atlas, make flash cards of all the countries in that continent. Write the country on one side and the capitol city on the other.

Interview someone from another country. Ask about their country's landmarks, cities, agriculture, industries, religions, festivals, government, famous scientists, famous authors and artists.

Science

Try some of the experiments and activities from the San Francisco Exploratorium website

www.exploratorium.edu/explore/hands-on.html

Check out the "Life on Earth" site at the UC Berkeley site

www.ucmp.berkeley.edu/allife/threedomains.html. This might be pretty advanced but it is very cool!

Sports/Exercise

Play on a team.

Work on a physical skill: swimming, biking, skating, climbing, canoeing, snorkeling, running, gymnastics, basketball etc..

Download a free book of cooperative games at <http://freechild.org/gamesguide.pdf>

Community Service/Activism

Keep a scrapbook of newspaper articles in issues you care about in the community or in the world.

Write letters to elected officials: congresspersons, senators, the President, city councilors etc.

Participate in an environmental clean up. This might be going to the park with a trash bag or being part of a larger community event.

Visit an elder. Look for opportunities to assist the elderly.

Offer to help neighbors with pet sitting, newspaper pick up etc. while they are out of town.

Do chores to earn and save money for a charity organization.

Household Services

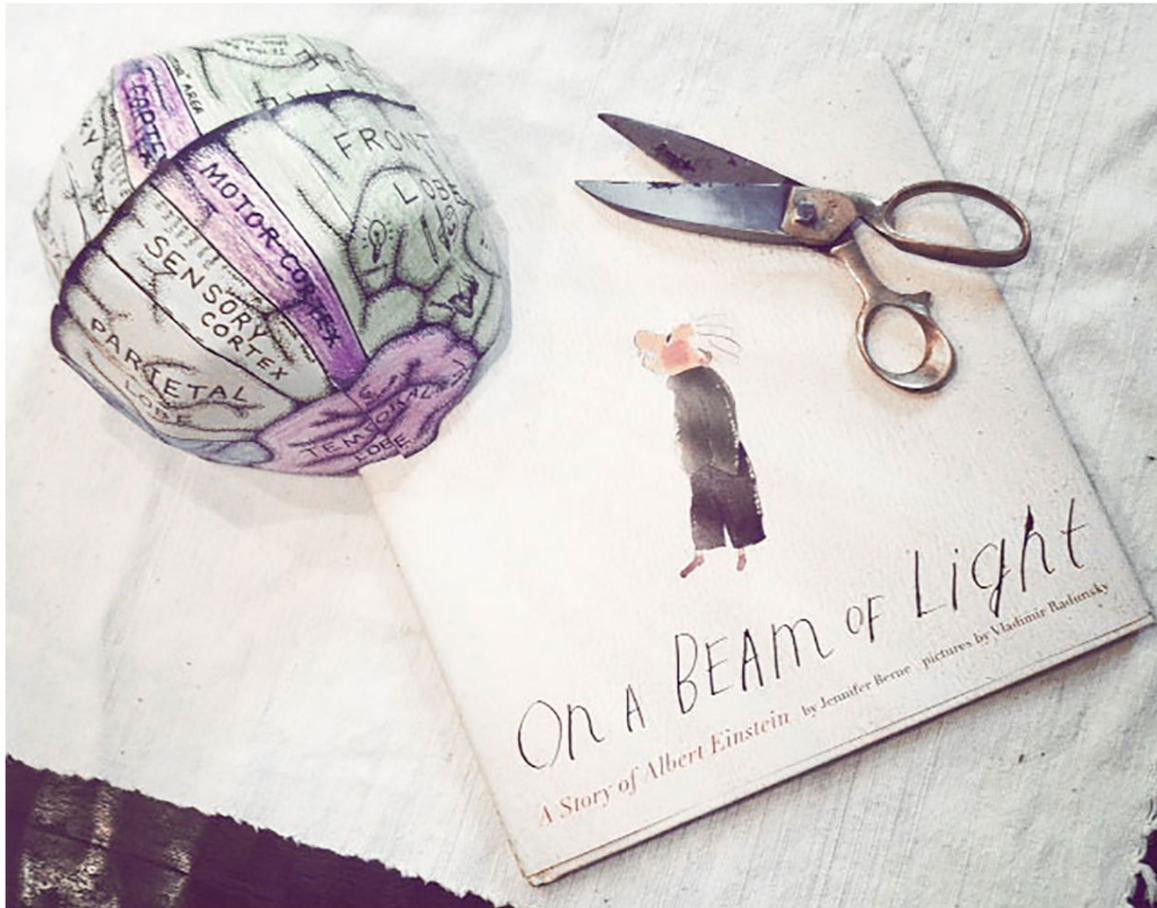
Learn to iron, wash clothes, fold laundry, polish furniture or vacuum.

Plan and cook dinner one night a week.

This is by no means an exhaustive list. Create your own ideas for homework and share them with us!

MIND[SET]FULNESS: THE IMPORTANCE OF PRACTICE + PERSEVERANCE

From the Playful Learning Blog



MIND[SET]FULNESS

Growing up, I would watch my dad render, completely by hand, his architectural designs. I remember a conversation about these that started with me asking how I could draw like that. It ended with me mad at his suggestion that I would need to work at it. I was certain that, as the daughter of an architect, I was naturally blessed with spatial intelligence and the ability to manifest this gift through drawing. It never occurred to me that he actually took classes on it and spent countless hours practicing and perfecting his craft. I had a rigid understanding of artistic ability. What Dr. Carol Dweck would classify as a “fixed mindset”.

This theory does not dispute whether or not certain individuals have natural predispositions towards areas of study or skill sets. It does posit that ALL individuals can polish and improve their intellectual abilities. This idea of improvement and effort had never entered my mind when it came to my ability to draw. I figured you either had it or you didn't. End of story.

Unfortunately, this rigid or "fixed" mindset is present in many people across many subjects. This includes school-age children. Dr. Carol Dweck was the first to study mindset and published her findings in *Mindset: The New Psychology of Success*. Since then, the ideas of fixed vs. growth mindset have spread like wildfire in the educational world. Schools and districts have made it the focal point of meetings and countless professional development sessions. There seems to be one population being left out of the conversation, however...parents!

The premise is fairly straightforward; that children and adults have well-developed ideas of their own abilities and skill levels. We all fall along a mindset spectrum ranging from fixed to growth. Our confidence in various subjects effects the choices we make and the risks we take in those areas. A child who sees themselves as "bad at math" probably won't put forth a ton of effort or take risks that might reveal their self-diagnosed inadequacies.

Interestingly enough, children with the title, "gifted", often fair the same in similar situations. Very few gifted children will take public risks when they feel challenged. It makes sense from a mindset perspective; this challenge is viewed as a threat and this feeling of disequilibrium is internalized as a deficiency! Adults are no different. And it is us, the adults in these children's lives, who they are watching and listening to for cues. So, what can we do?

PRACTICE

What if we were to start practicing mind(set)fulness? Take a mental inventory about your own mindset. How do you view challenges? How do you view failure? Success? What value do you place on these two outcomes? Be honest! If we can get into the...well, mindset, of practicing and modeling the importance of effort, preaching it might become a whole lot easier; or at the very least, more genuine.

PERSPECTIVE and PERSEVERANCE

Meeting all kids at their own current level of understanding is one of the most important things we can do to cultivate a growth mindset. We know that each child has subjects that they seem to enjoy, and even excel at, more than others. It is okay for them to know this. The important thing is to not let a child check out in subjects they see themselves as less successful in. This seems like an obvious statement...and I admit that it is. How we keep them engaged and putting forth

effort is perhaps not as obvious. In my classroom, we spend a lot of time talking about the topic of perseverance. We talk honestly about our own, and very individual levels, of perseverance. I do realize that this may be a conversation that is saved for older students. By fourth grade, students have a fairly sophisticated and even profound understanding of what it means to persevere.

It seems that having this sense of ownership not only on their work, but also on their feelings, has helped so much in building an environment where kids see the importance of perseverance. As the adults in their lives, recognizing our children's ability to push through and persevere and offering encouragement when needed is a simple thing we can do. We can also have conversations with our kids about the fact that our intelligence and abilities can grow simply by working towards it. Research on children who are praised on their effort vs. praised on their product suggests that they are more likely to persevere and put forth the effort needed to complete more challenging tasks (Dweck, 72). And there it is...the "P" word. The magnitude of praise cannot be underestimated.

PRAISE

As parents and teachers, we have the very difficult job of choosing our words carefully...even meticulously. Have you ever found yourself in a situation admitting your own shortcomings to the children in your life? Parent-teacher conferences seem to be a natural breeding ground for these types of confessions. Countless times, parents telling their students that they, too, were bad in math with the teacher nodding sympathetically nearby. As if this is some sort of genetic Get-Out-of-Math-Free card. Sometimes we believe that if we admit to our children that we aren't "good at something" it will soften their own encounters with failure. But, I don't think it does. What if we were to admit our struggles with the clause of either "with work" or "extra effort"?

As if this is not difficult enough, adults also have the added challenge of being mindful of the words we pick out when issuing praise. Telling a child that they are "so smart" is easy and a natural thing to do...just like admitting that we really weren't that good at fractions when we were growing up. However, the ramifications of that little piece of praise are far reaching. What happens when that child inevitably fails at something in the same subject area? The natural answer would be that they see themselves as the opposite of smart. They see themselves now as "so dumb". Perhaps we could re-package praise. Praising the effort required for the task, praising the perseverance showed during the task, in short, praising the process with intention and specificity. Last, but certainly far from least, is good old-fashioned extension and application...in keeping with the "P" headers, we will call this one:

PLAY!

Watch: [This video](#) about mindset. Only the adult needs to do this part...

Read: [On a Beam of Light: A Story of Albert Einstein](#) by Jennifer Berne.

Discuss: This may be the sort of thing that you reserve only for middle to upper elementary children, but you know your kids best. Here are some conversation starters:

- Do you think Einstein always succeeded?
- Do you think Einstein ever failed at things?
- Where did Einstein have to persevere in his life?

Grow: Go to www.mindsetworks.com and sign up for a free trial to gain access to resources on teaching kids about the brain's plasticity.

Make: Color, construct and converse about [these paper brain hats](#) and learn about the structure of this amazing organ (definitely wear them around too).

THE CHECKUP

Helping Our School-Age Children Sleep Better

By **Perri Klass, M.D.** July 25, 2016 6:00 am

THE CHECKUP

Dr. Perri Klass on family health.

Everyone knows that getting a baby to sleep through the night can be a big challenge for parents. But sleep problems are common among preschool and school-age children, too. As we ask children to function in school, academically and socially, fatigue can affect their achievement and behavior.

Australian research on sleep problems in children has included work aimed at the “school transition” year in which children adjust to a school schedule. In a study of 4,460 children, 22.6 percent had sleep problems, according to their parents, at that transition age of 6 to 7 years. “We were surprised, we thought it was all baby sleep” that was the problem, said Dr. Harriet Hiscock, a pediatrician who is a senior research fellow at the Murdoch Childrens Research Institute at the Royal Children’s Hospital in Melbourne who was one of the authors of the study.

Those results led to a randomized controlled trial of a brief intervention for children in their first year of school. A group of 108 parents who felt their children had sleep problems was divided into two groups. One group got a consultation at school, with a program of strategies tailored to the child’s sleep issues, and a follow-up phone consultation; the other group got no special intervention and served as controls. Parents in the intervention group were counseled about a range of possible measures to improve sleep, from consistent bedtimes and bedtime

routines to relaxation strategies for anxiety that might be contributing to insomnia. The children in the intervention group resolved their varying sleep problems more quickly, though sleep problems got better over time in both groups. The interventions also produced positive effects on the child's psychosocial function and parents' mental health.

The most common sleep issues for children around the age of school entry, Dr. Hiscock said, definitely include limit-setting issues — that is, some of them need their parents to make the rules and routines clear. But there are also children with what sleep specialists call “sleep onset association disorder,” in which a child has become habituated to falling asleep only in a certain context, requiring the presence of a parent, or needing to have the TV on, to cite two common examples. Very anxious children are also often problem sleepers. And then there are children beset by nightmares, night terrors and early morning waking.

Screen use is a major issue in childhood sleep, and more generally in childhood these days. The first recommendation is always to get the screens out of the bedroom, the same recommendation made for improving adolescent sleep, and for adults in the current best-selling book by Ariana Huffington. All of us, old and young, are vulnerable here, but it's a good place for parents to draw the line for their children, even when they can't quite manage it for themselves.

Reut Gruber, a psychologist who is an associate professor in the department of psychiatry at McGill University, where she is director of the Attention Behavior and Sleep Lab, said that there is a close association between sleep and a wide range of cognitive functions, including attention, executive function and memory. When children go to school, “they need to pay attention and plan and follow instructions, all of which fall under executive function, which is very much affected by sleep,” she said.

Many parts of the brain work less well when children are tired. “The prefrontal cortex is very sensitive to sleep deprivation, and it is key to the brain mechanisms which underlie executive function and some of the attentional processes,” she said. “The amygdala is affected by sleep deprivation and is essential for emotional processes.”

These different but connected brain pathways led her to be interested in the

way that sleep affects many different aspects of academic performance. In an experimental study of a small group of 7- to 11-year-olds who did not have sleep, behavior or academic problems, the children were asked to change their sleep patterns, so that they were sleeping an hour less per night, or an hour more. After five days with less sleep, she said, there was measurable deterioration in alertness and emotional regulation, and after five days with more sleep, there were gains in these areas.

For the past several years, Dr. Gruber and her colleagues have worked with a school board in Montreal to develop a school-based sleep promotion program that was piloted in three elementary schools; results were published in May in the journal *Sleep Medicine*. The intervention involved a six-week sleep curriculum for the children, to teach them about healthy sleep habits, and materials designed to involve parents, teachers, and school principals, who were asked to consider the sleep ramifications of school schedules, extracurricular activities and homework demands.

The children in the intervention group extended their sleep by an average of 18.2 minutes a night, and also reduced the length of time it took them to fall asleep by 2.3 minutes. These relatively modest changes correlated with improved report card grades in English and math; the control group children's sleep duration did not change, and their grades did not improve.

The goal of the intervention was to help families make sleep a priority.

“How do you make changes in your priorities, find the way as a family, as a school, as an individual, to reshuffle things, no matter how much homework, no matter how many aunts and uncles coming for a visit, that bedtime will still be respected?” Dr. Gruber asked. “We all agree in principle, but how do we actually incorporate it into daily life?”

The American Academy of Pediatrics recently endorsed the 2016 guidelines issued by the American Academy of Sleep Medicine, that 3- to 5-year-olds need 10 to 13 hours of sleep per day (including naps), while 6- to 12-year-olds need nine to 12 hours for optimal health and well-being.

Dr. Gruber advised that a child should wake up naturally, without requiring

energetic parental encouragement. If after nine or 10 hours of sleep, a child still seems very tired, parents might wonder about whether a sleep disorder is affecting the quality of the child's sleep, she said.

But for most school-age children, it's an issue of habits and routines, screen time and setting limits. Many of us know, as adults, that we don't get as much sleep as we should, or that we don't practice very good "sleep hygiene," as the experts would say when they advise us to get the screens out of our bedrooms, create regular routines and avoid caffeine too close to bedtime. Making school-age sleep a family priority is a good way to get everyone focused on what really matters: waking up rested and ready to function well, in body and mind.

Related:

Parents Shouldn't Feel Guilty About Training Babies to Sleep

The Benefits of Spicing Up a Breast-Feeding Mother's Diet

A Reconsideration of Children and Screen Time

Sign up for the Well Family newsletter to get the latest news on parenting, child health and relationships with advice from our experts to help every family live well.

Eucalyptus Favorite Websites

<http://www.commonsemmedia.org/>

This website provides reviews and ratings of books, movies, video games, and various types of media. The information can assist you in finding age and topic appropriate media for your family so that you can make informed choices about media exposure your child receives.

www.MariaMontessori.com

This website provides a variety of articles written by Montessori guides and was created by Matt Hillis.

www.goodreads.com

This website helps you choose your next favorite book!

www.greatgood.berkeley.edu

This website provides articles and information relevant to humanity, social justice, and Cosmic Education. It's very inspirational!

<http://www.michaelgurian.com>

We heard Michael Gurian speak at the Montessori Congress in Portland last August. He is the author of several books about the workings of and differences between boys' and girls' brains and the social and educational implications. His discussion about bridge brains and nurturing aggression really helped me mentally shift the ways in which I thought about behavior I observe in the classroom. I recommend his website and his books.

As many of you know, I spent the summer immersed in environmental education. Here are some of my favorite websites related to nature and children.

<http://www.discovertheforest.org/where-to-go>

This website helps you plan your next family adventure and provides information on different hiking trails and camp sites.

<http://www.childrenandnature.org/>

This website provides a lot of wonderful information and articles about the importance of children playing outside. And, there is a blog written by Richard Louv (the author of *The Nature Principle* and *Last Child in the Woods*).

<http://www.nwf.org/Wildlife/Wildlife-Conservation/Citizen-Science.aspx>

Citizen science is a way for families to connect with nature. There are many opportunities to volunteer and make a difference in our local environments. Your family can help pick up trash along the river, get rid of invasive plants, make your backyard a certified wildlife habitat, or record the birds in your backyard. This website provides some examples of citizen science and information on how to become involved.