



OSD Newsletter

Every Child, Every Day

October 3, 2014

Note from the Principals

Denyse Woods & Greg Mendenhall

Welcome to the 2014-2015 school year! It has been a very busy start for us, but a GREAT beginning of the year. We have welcomed the preschool program over to the school building and have enjoyed seeing their little faces daily. We have also welcomed about 25 (and counting) new students to OSD. We are continuing to grow each week, and thank all of you for your help in doing that. Positive word of mouth has been one of the main reasons for this increase in student number.

We have already had homecoming, started up our fall sports, been on a few field trips, and are just weeks away from the end of the first grading period. The first quarter ends on October 17, and grades are due the next Friday. Report cards and progress reports should be sent home a week or so after that. If you are looking for teacher feedback, or are concerned about a grade, please contact the teacher. We will be holding Parent teacher conferences on November 13 from 3:30-7 which will be a great time to discuss your child's progress so far.

Please remember that when you are interested in having students stay after school for rec. it is important to contact the school office, the youth leader and send in a note. This all needs to happen 24 hours in advance. All three of these things need to be done in order to stay after school. Parent communication is key for a successful year.

Please contact us if there is anything we can do to ensure the best education for your child.

Denyse Woods (pk-8) dwoods@osd.oh.gov
Greg Mendenhall (9-4Plus) Mendenhall@osd.oh.gov

IMPORTANT UPDATE

Please check the last page of this newsletter for the UPDATED school calendar. This has 2 additional days of no school for students that was not on the calendar sent home during the summer. Please keep for your records.

New Staff to OSD

This year, we hired 5 new staff in the school building. Morgan Sipka and Chris Kuhns (alumnae) were hired into our elementary department. Terry Stewart was hired to join our middle school department, and we hired two specialists; Rae Ann Brown as our physical therapist, and Ann Ramsey as our occupational therapist. We are very excited to welcome them into our Spartan Family. Each month, we will feature a new teacher so that everyone else can get to know a little about these people as well. Stay tuned...

Parent teacher conferences will be held on November 13, 2014 from 3:30-7:00. More information to come.

October

| Monday | Tuesday | Wednesday | Thursday | Friday |
|--------------------|-----------------------------------|-----------|-------------------|----------------------------------|
| | | 1 | 2 | 3 |
| 6 | 7 3 rd Grade OAA | 8 | 9 Author Visit | 10 |
| 13 No School | 14 | 15 | 16 | 17 End of first Quarter |
| 20 | 21 | 22 | 23 | 24 NO SCHOOL |
| 27 | 28 | 29 | 30 | 31 |

School Updates

Preschool

Megan Key & Leslie MacFarland

Preschool is digging their new digs! This school year is off to a great start! We are making so much progress and having so much fun in our new learning center! We have been getting familiar with routines and schedules, family, school staff, and our friends. We have really focused on what friends do and how to help each other. We are reading our hearts out and love every book from "The Kissing Hand" to "Crazy Pizza Day." Special thanks to Bill Costello for loaning us the butterflies to see them hatch from their chrysalises. Our upcoming unit is on trees and we are excited to discover the world outdoors and around us. Our skills will grow every day.



Elementary

Kaleigh Bowling, Gretchen Douglas, Chris Kuhns, Emily McDermott, Veronica Shonkwiler, Morgan Sipka, Jessica Sloan, Jeani Thomas

Jess and Veronica (k/1):

The Kindergarten/1st Grade classes have been working on rules, authority and citizenship in Social Studies for the past 2 units. In Science, the students have been learning the scientific process. The students have really enjoyed making hypotheses, conducting experiments, and recording conclusions

Gretchen, Morgan, Kaleigh (2/3):

In the second and third grade, we have been working hard on our reading skills and building vocabulary. In math, we have been working on identifying if a number is even or odd and the many different ways we can write and draw numbers. We have started recording some of our work in a math journal to help us remember all of the different things we will learn throughout the year. In Social Studies, we started off the school year discussing how to be a good friend/citizen at school. We also lead into communities and map skills. In science, we started off the year with reviewing how to be a scientist and use our senses for some fun experiments. We can't wait for more!

Emily (4/5):

In the beginning of the year, our little scientists learned the process of the scientific method. My 4th grade hard-working scientists just completed our fun "Gummy Bear" science lab, while the 5th grade motivated scientists just learned about symbiotic relationships.

Jeani (4/5):

In Social Studies, both fourth and fifth graders have been working on timelines. After creating self-timelines to gain background knowledge – the two groups did a few different timeline activities.

4th graders compared events in Ohio history to US history while 5th graders created a multi-tiered timeline of US and World history events.

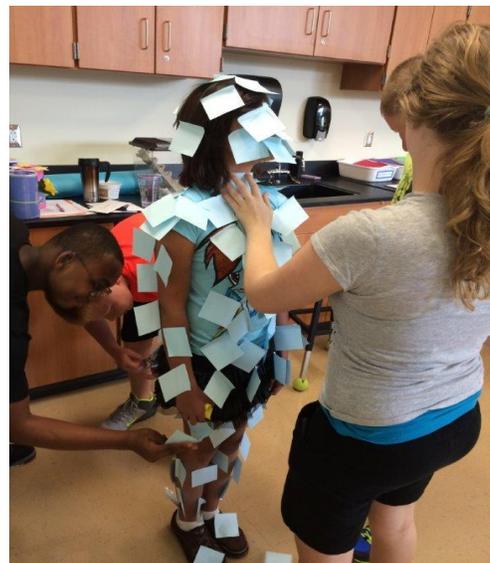
Middle School

Susie Bachtel, Brooke Hohlbaugh, Phyllis Moore, Michele Ogden, Terry Stewart

During the first week of school, we did some ice breaker activities in between some serious stuff. Knowing that our students haven't been use to sitting for a long period of time, we decided to give them time to adjust. We discussed rules, consequences, and expectations. Yes, the boring stuff. But, we did have a lot of fun. We did many cooperative games: building bridges with spaghetti, tapes, and marshmallow, making posters using the words: ready, responsible, and respect, line up by name in alphabetical order without talking/signing, split into teams with each picking one person, and see how fast they could stick 2 pads of sticky notes on that person, and then made a poster with everyone's names as the crossword puzzle.

One of our students brought a gecko to the science lab. It is a Blizzard Leopard Gecko. Now, we have two lizards. The other one is a bearded dragon named Izzy. The gecko's name has not been decided yet.

Coming up on the agenda is another version of Cinderella. Middle School department is gearing up to perform an Egyptian version on September 26th. This is part of a school wide fairy tale program. The Egyptian version is considered the oldest version of the story, recorded by the Roman historian Strabo in the first century BC. It is a story about a young maiden named Rhodopis who was kidnapped and became a slave. The master saw her dancing and gave her beautiful slippers. Then the Pharaoh was holding court and all in the kingdom were invited. The servants left Rhodopis at the bank of the river. Her slippers got wet. She set them on the ground to dry. A falcon swooped one of them and dropped a slipper on the Pharaoh's lap. He decided to find the girl whose slipper fit. He finally found Rhodopis hiding in the bushes. He took her in as a queen.



Putting 2 packets of post-it notes on our friends

High School Updates

High School

Tamara Burnett-Penny, Bill Costello, Mary Ellen Cox, Anthony Coy-Gonzalez, Charisse Heine, Jeff Jones, Melissa Lago-Jones, Angie Layman, Amy Massey Norton, Laura Smith, Kim Sutton

The month of September was a busy one for the high school department! We celebrated our annual Homecoming by hosting Spirit Week during the week of September 15th, where students and staff participated all week by wearing different outfits to fit the theme of the day, as well as participating in activities. Monday was "Nerd Day," Tuesday was "Superhero/Villain Day," Wednesday was "Twin Day," Thursday was "Business/Tie Day," and Friday was "Spartan Day" (Blue and White)! Students from Mr. Anthony Coy-Gonzalez's Leadership Development class led different activities throughout the week that tied in with the theme of the day. Our students and staff did a fantastic job in showing school spirit throughout the week!

Prior to the Homecoming dance on Saturday September 20th, this year's Homecoming King and Queen were announced. Our Homecoming Court consisted of three female students, Abigail Aites, Danielle Smithour, and Dominique Willingham, and three male students: Michael Adkins, Zachary Davenport, and Gregory Rinker, Jr. Congratulations goes to this year's King and Queen: Abigail Aites and Michael Adkins!

This month was Deaf Awareness Month, and the high school department kicked off the month by listening to a wonderful presentation on Deaf Identity, given by Verne Taylor, Ohio Association for the Deaf's president. Additionally, the high school department has completed various activities, including identifying deaf school superintendents and principals from across the country. Students are proud to be deaf, are proud to be at Ohio School for the Deaf and proud to be Spartans!

Transition Updates

4Plus

Nancy Swisher, Bill Newman

This school year the 4PLUS program started with 10 students. Four students returned as second year 4PLUS students and six students are first year 4PLUS students. One student is new to OSD.

All students are placed in internships and/or busy with continuing their education.

One student is a full time cosmetology student at the Delaware Area Career Center. This student works after school in the cafeteria. This student also has applied at Wesley Glen retirement Community to work in the dining room. She has been interviewed and is waiting to be hired.

Two students are ½ day career center students: one student in early childhood education program and the other student is in the food service program. Both students are interns on the OSD campus, one working in the preschool program as a teacher helper and the other student working in the print shop as an office helper.

Two other students work fulltime in the cafeteria as production/utility helpers. One of those students work outside cleaning up and beautifying the campus part-time.

One student leaves campus every day to work as a cafeteria helper at the Ohio State School for the Blind. One student also goes off campus daily full time to North Broadway Children's Center to assist teachers in their preschool program. This student has her communicable disease, first aid and CPR certifications and is currently working on her child abuse certification. She wants to work full time at The Ohio State University Childcare program.

One student works part- time in the preschool program at OSD as a teacher helper and also travels to Bexley, Ohio to work for Deaf Initiatives as a production assistant.

One student works in the ACC (Alice Cogswell Center) as a lunch helper and also travels to Bexley, Ohio to work for Deaf Initiatives as a production assistant.

Most students are at OSD on Fridays where you would find the 4PLUS group cooking up delicious meals in the Life Skills Lab.



Selective Service Registration!

Sheri Uhrin

All boys within 30 days of their 18th birthday must register with the Selective Service. Go to: www.sss.gov

If you fail to register, you cannot qualify for federal student grants or loans for college, job training benefits, and many state and federal jobs. Registration takes just a few moments online.

ACT Testing

Sheri Uhrin

Testing will be offered October 2014 & Feb2015 at Ohio School for the Deaf (October registration is now closed) Jr/Sr interested in college can see Sheri Uhrin to register for the test.

College Day

Sheri Uhrin

NTID and Gallaudet will be coming to OSD ON Nov 13. Seniors that have completed their applications will be scheduled for a personal interview.

Get those applications IN!

See Sheri Uhrin for assistance.



Two of our 4PLUS students are working at Deaf Initiatives. Check out their website to see the beautiful quilts that they can make out of your favorite tshirts.



<http://deafinitiatives.org/>

Reading and Math Tips

Feed Me a Story!

DOES IT REALLY MATTER IF I READ TO MY CHILD EVERY DAY?

Yes, if daily reading for **30 minutes a day** begins at birth, by the time the child is 5 years old, he or she has been fed roughly **900 hours** of brain food! Reduce that to just 30 minutes a week, and the child enters kindergarten with just 130 hours. The child's hungry mind loses over 770 hours of nursery rhymes, songs, and stories.

No teacher, no matter how talented, can make up for those lost hours of mental nourishment. You want me to read to my child for 30 minutes a day. How in the world can I do that? **I don't have time!**

The good news is that much of what you already do every day can be brain food.

Source: U.S. Department of Education, America Reads Challenge, Start Early, Finish Strong: How to Help Every Child Become a Reader. For more information, www.ed.gov/americanreads.

FACT MEMORIZATION IS CRUCIAL TO GAIN HIGHER LEVEL MATH SKILLS.

- Start your child on the right foot by signing them up for an XtraMath account (<https://xtramath.org>). It's free!
- Target and most 'dollar stores' sell flashcards for \$1 or less. Pick up a couple of packs and take 5 minutes a day to work with your child.
- Addition and subtraction facts should be memorized prior to beginning 3rd grade. Multiplication and division facts should be memorized by the completion of 4th grade.

BUT...it is never too late! Start practicing TODAY!!!

Please see the article Kids' Brain Reorganize When Learning Math Skills, which is related to fact memorization at the end of this newsletter.

30 minutes of brain food everyday

The thought of reading to your child for 30 minutes can feel overwhelming. But "reading" for infants and small children involves talking or signing, singing, naming things, telling stories out loud as well as reading books. Here's how to fit it all in:

In the morning...

| | |
|--|-------------------------|
| Sing a good morning song to your child | 1 minute |
| Talk about the clothes that your child will wear | 2 minutes |
| "Read" a thermometer to see what the temperature is | 1 minute |
| Play "This Little Piggy" while putting on socks | 1 minute |
| Name parts of your body or things in the room | 1 minute |
| Read the cereal box (milk carton, etc.) at breakfast | 2 minutes |
| Think of all the words that rhyme with "milk" or "egg" | 2 minutes |
| Read the bus schedule/school schedule to get information | 1 minute |
| | TOTAL 11 minutes |

During the day...

| | |
|---|-------------------------|
| Sing "Old MacDonald" while walking to school | 2 minutes |
| Read all of the store and street signs on the way to school | 5 minutes |
| Bring a book to read while riding on the bus | 3 minutes |
| Ask your child's teacher/caregiver to read to your child | 5 minutes |
| | TOTAL 15 minutes |

In the evening...

| | |
|--|------------------------|
| Read the TV Guide to find out when your shows are on | 1 minute |
| Cuddle with your child and point at the pictures in a book | 2 minutes |
| Sing a lullaby to your child at bedtime | 1 minute |
| | TOTAL 4 minutes |

This gives you a total of 30 minutes of reading activities a day!

Athletics Page

Athletic Director Memo

Bill Estes

Soccer: The Spartans soccer team is coached by Ashton Luff and William Schmidt. Our boys are currently at 0-3 and have 4 games to go.

Volleyball: The Spartans volleyball team, coached by Teresa Gasaway and Kallie Mendenhall, is 4-8 after finishing 4th of 6 teams in Kentucky Spike Out, winning two games on Friday, Sept. 12 while losing 4 tough games on the following day. Senior Dominique Willingham of Toledo and freshman Hannah Carter of Miamisburg were selected on All-Star team.

Pee Wee Soccer: Coached by Luis Reyes, Jr. and Peter Schneck, the parents of our students and soccer players, our little Spartans are off to a 1-2 start. They are having a blast no matter what during their games every Saturday at Woodward Park. Check their schedule on website and make effort to come to watch them.

Homecoming 2014: Participating in our homecoming activities besides our high school students were St. Rita School for the Deaf (volleyball only), and Western Pennsylvania School for the Deaf. In volleyball matches on Friday, Sept. 19th, WPSD defeated us, and St. Rita while we defeated St. Rita. WPSD soccer team defeated us 7-0. On Saturday morning, again, WPSD remained unbeaten defeating us and St. Rita and we managed to defeat St. Rita again in volleyball actions. In soccer, it was a hard fought battle between the Lions of WPSD and us, and the game ended up 1-0 in their favor leaving us winless for the weekend. Seniors Michael Adkins of Mansfield was crowned the homecoming king while Abby Aites of Columbus was the homecoming queen.

Upcoming Basketball Events: We are to host our annual Spartan Classic on second weekend of December 12-13 at OSD gym. Other than us, WPSD, St. Rita, and Kentucky are participating. On the weekend of January 30-31, 2015, we will be hosting Central States Schools for the Deaf basketball tournament and cheerleading competition. It will be a 4-team tournament field instead of traditional 6 or 8 teams. Kentucky, Illinois and Michigan will be competing here. Be on the lookout for flyers for both events in OSD websites.

Our Athletic Website: Please take time to check our own website at www.osdsports.com as we update our games on weekly basis. We sell neat OSD Spartans merchandises in this website.

Any questions, feel free to email me at estesb@osd.oh.gov.

Go Spartans!



Boys Soccer

| Date | Day | Opponent | Location | Time/Score |
|----------|-----------|-----------------|----------------|------------|
| 09/30/14 | Tuesday | Torah Academy | Columbus, OH | 5:30 PM |
| 10/01/14 | Wednesday | Veritas Academy | OSD | 5:30 PM |
| 10/03/14 | Friday | WPSD | Pittsburgh, PA | TBA PM |
| 10/04/14 | Saturday | WPSD | Pittsburgh, PA | TBA PM |

Girls Volleyball

| Date | Day | Opponent | Location | Time/Score |
|----------|----------|------------------------|------------------------|------------|
| 9/30/14 | Tuesday | Columbus Torah Academy | Columbus Torah Academy | 5:30 PM |
| 10/03/14 | Friday | WPSD | Pittsburgh, PA | TBA PM |
| 10/04/14 | Saturday | WPSD | Pittsburgh, PA | TBA PM |
| 10/07/14 | Tuesday | St. Rita | St. Rita | 4:30 PM |
| 10/09/14 | Thursday | Veritas Academy | OSD | 5:30 PM |
| 10/16/14 | Thursday | Veritas Academy | OSD | 5:30 PM |

PeeWee Soccer

| Date | Day | Opponent | Location | Time/Score |
|----------|----------|----------|---------------|------------|
| 10/04/14 | Saturday | Seattle | Woodward Park | 11:30 AM |
| 10/04/14 | Saturday | Columbus | Woodward Park | 9:30 AM |
| 10/11/14 | Saturday | Toronto | Woodward Park | 10:30 AM |
| 10/18/14 | Saturday | Seattle | Woodward Park | 11:30 AM |
| 10/18/14 | Saturday | Columbus | Woodward Park | 9:30 AM |

Tip from the Nurse

Diana Dick, Tobbi Valentine, Tammy Woodyard



Just a reminder that Student Health Services has sent out reminder letters to families who still need to provide paperwork to our office. Medical history forms, shot records, and medication orders are vital in allowing our nurses to perform proper medical assessments and provide care to your student. These documents not only provide important information about the medical background of a student but also are often legally required by state law.

Specialists

Bobbi Colatruglio, Leanna Goss, Susan McTyiere, Rae Ann Brown, Miranda Walker, Ann Ramsey

It's been a wonderful summer and we've been blessed with gorgeous weather as we head into fall. One thing to remember as we enter the rainy season is that hearing aid and cochlear implant processor performance and reliability is highly affected by humidity, moisture and perspiration. Nightly use of a drying kit will not only prevent many moisture related problems but will also extend the life and performance of your student's hearing technology. There are many different kinds of hearing aid and processor drying kits, or drying caddies, on the market and they may be obtained through various places.

There are electric drying kits which use desiccants, or "drying bricks" as well as warm, moving air which helps to remove moisture. Some electric drying kits also have a germicidal UV lamp. Disposable drying kits also come with a desiccant, which will need to be replaced once it is saturated.

Drying kits can be purchased through your student's audiologist or online. Key words to search are "hearing aid drying kit" or "cochlear implant drying kit". Whichever you choose, know that your choice and your consistent use of a drying kit will help keep your student's hearing technology in good working order.

November

| Monday | Tuesday | Wednesday | Thurs. | Friday |
|-----------------|---------|---------------------|---|-----------------|
| 3 | 4 | 5 | 6 | 7 |
| 10 No School | 11 | 12 | 13 College Day Parent Teacher Conf. | 14 |
| 17 | 18 | 19 | 20 | 21 |
| 24 | 25 | 26 Dismiss at 12 | 27 No School | 28 No School |

Library

Nancy Boone, Donna Henderson

Elementary classes have begun reading the five books nominated for the **Buckeye Children's Book Award** in the K-2 category. You can find more information about the award at www.bcbookaward.info.

Everyone is reading Cinderella stories! We kicked off our **school-wide, year-long fairy tale theme** during zero period on August 29 with elementary, middle school, and high school all together in the gym. After a short intro, including discussion of the various name signs for "Cinderella," we enjoyed a couple of games before watching a brief version of the traditional Cinderella story acted out by teachers. During the month of September, students will be reading variations of the Cinderella story from different cultures and/or "fractured fairy tale" versions. As voted by the elementary teachers, our October story will be....<drum roll>...**The Three Little Pigs!**

The middle school students have been making video announcements during their library specials class. These announcements are broadcast on TV within the school. Some middle and high school students have even volunteered their time after school to work on the announcements. We are nearing our goal of having the announcements run daily.

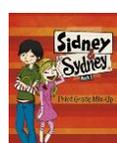
These are only the highlights of what has been a busy but exciting start to the 2014-15 school year!

Specials

Nancy Boone, Kaleigh Bowling, Bill Costello, Anthony Coy-Gonzalez, Bill Estes, Angie Layman, Nona Pierce,

We are excited to announce a new class in the "Specials" rotation! The Speech Language Pathologists are teaching a class titled "Learning through Language and Literacy". The elementary and middle school students attend our class 3-4 times per month to participate in fun and engaging activities that support their reading and writing abilities! We are approaching literacy from 3 angles: phonological awareness, vocabulary, and grammar. They will learn new strategies and tools to bridge their ASL to written English. Every month we will have a fun activity (the first one was "kites"!) after completing the activity your student will have the opportunity to make an experience book with pictures of themselves and their classmates engaging in the activity. They will practice using target vocabulary words, spelling strategies, and grammatical structures in their writing. At the end of the unit they will be able to bring the book home to share with you and your family. Currently, we have been making applesauce and focusing on some of these target vocabulary words: applesauce, peel, slice, core, basket and dozen. If you have any questions about our new class, please feel free to contact us! We are very excited for this opportunity to see all of the elementary and middle school students in a classroom based setting!

On October 9, we will have author Michele Jakubowski visiting our school! We are very EXCITED!



<http://www.michelejakubowski.com/>

Congratulations to our Summer Readers

To encourage our students to read over the summer, the library hosted a **Summer Reading Challenge**. For students that participated, they then held a "Beach Party" for students during lunch time...It was a lot of fun!



Congratulations to....
Toby Mulholand (pk)
Micaela Pritts (1st)
Peyton Mellring (2nd)
Jamari Key (1st)
Harley Ellis (2nd)
Bo Porter (2nd)
Parecee Hall (5th)
Gabby Bashak (9th)
Nicole Greene (9th)
Amanda Hoffman (10th)
Destinee Lee (10th)
Olivia Haycox (10th)
Emma Weigerig (11th)
Robert Buckingham (12th)



Parent Staff Association Page

PSA Mission Statement

The Parent-Staff Association (PSA) at OSD exists to empower families and school staff to serve students by creating and hosting events and by independently organizing in ways that will elevate a school spirit where every child might reach their fullest potential.

PSA Fundraiser & School Spirit



Kids- \$15

Adults (s-xl)- \$20

Adults (xxl)- \$25

Interested in showing your OSD pride? You can order the above shirts and 25% of the proceeds come directly to the PSA! Can place orders via Facebook, and send money to school office.

Wanna Come to a Meeting?

They happen the 2nd and 4th Tuesday of the month in the Multi-Purpose Room at OSD. Meetings are from 3:45-4:45

Upcoming Events

PSA is hosting a variety of events this year. Fundraising nights at local restaurants, movie night at school, field day, bake sales, holiday lights at the zoo, etc. Please stay tuned for more information and dates. Please email lereyesjr@gmail.com for more information.

Like OSD PSA on Facebook, get information about upcoming events
<https://www.facebook.com/OSDPSA>



Shop. Scan. Support Our School. Apples for the Students starts again October 1. This program is a great way for our school to earn educational rewards such as computers, software, video equipment, gym and playground gear, and more. Is your Giant Eagle Advantage Card® registered? Now's the time to check. All you need is our school code **5153** to verify a card or register a new card.

1. Call 1-800-474-4777 or visit www.gianteagle.com/schools/apples-for-students.
2. Enter your Giant Eagle Advantage Card® number (which appears under the bar code).
3. Enter the school code. **5153**
4. Done! Please encourage your extended family and friends to register too.

Want to get PSA Meeting Minutes?

Contact Brad Pritts to join the email list and receive emails... Bpritts75@gmail.com



We will be hosting our PSA Spring Carnival on Sunday May 3. This event takes lots of volunteers, we will be collecting items for our silent auction, and could use as much support as we can gather. If you are willing to help, please email Denyse Woods and dwoods@osd.oh.gov

Kids' Brains Reorganize When Learning Math Skills

By [LAURAN NEERGAARD](#) Aug. 18, 2014 9:00 AM EDT

WASHINGTON (AP) — Sometime in elementary school, you quit counting your fingers and just know the answer. Now scientists have put youngsters into brain scanners to find out why, and watched how the brain reorganizes itself as kids learn math.

The take-home advice: Drilling your kids on simple addition and multiplication may pay off.

"Experience really does matter," said Dr. Kathy Mann Koepke of the National Institutes of Health, which funded the research.

Healthy children start making that switch between counting to what's called fact retrieval when they're 8 years old to 9 years old, when they're still working on fundamental addition and subtraction. How well kids make that shift to memory-based problem-solving is known to predict their ultimate math achievement.

Those who fall behind "are impairing or slowing down their math learning later on," Mann Koepke said.

But why do some kids make the transition easier than others?

To start finding out, Stanford University researchers first peeked into the brains of 28 children as they solved a series of simple addition problems inside a brain-scanning MRI machine.

No scribbling out the answer: The 7- to 9-year-olds saw a calculation — three plus four equals seven, for example — flash on a screen and pushed a button to say if the answer was right or wrong. Scientists recorded how quickly they responded and what regions of their brain became active as they did.

In a separate session, they also tested the kids face to face, watching if they moved their lips or counted on their fingers, for comparison with the brain data.

The children were tested twice, roughly a year apart. As the kids got older, their answers relied more on memory and became faster and more accurate, and it showed in the brain. There was less activity in the prefrontal and parietal regions associated with counting and more in the brain's memory center, the hippocampus, the researchers reported Sunday in *Nature Neuroscience*.

The hippocampus is sort of like a relay station where new memories come in — short-term working memory — and then can be sent elsewhere for longer-term storage and retrieval. Those hippocampal connections increased with the kids' math performance.

"The stronger the connections, the greater each individual's ability to retrieve facts from memory," said Dr. Vinod Menon, a psychiatry professor at Stanford and the study's senior author.

But that's not the whole story.

Next, Menon's team put 20 adolescents and 20 adults into the MRI machines and gave them the same simple addition problems. It turns out that adults don't use their memory-crunching hippocampus in the same way. Instead of using a lot of effort, retrieving six plus four equals 10 from long-term storage was almost automatic, Menon said.

In other words, over time the brain became increasingly efficient at retrieving facts. Think of it like a bumpy, grassy field, NIH's Mann Koepke explained. Walk over the same spot enough and a smooth, grass-free path forms, making it easier to get from start to end.

If your brain doesn't have to work as hard on simple math, it has more working memory free to process the teacher's brand-new lesson on more complex math.

"The study provides new evidence that this experience with math actually changes the hippocampal patterns, or the connections. They become more stable with skill development," she said. "So learning your addition and multiplication tables and having them in rote memory helps."

Quiz your child in different orders, she advised — nine times three and then 10 times nine — to make sure they really remember and didn't have to think it through.

While the study focuses on math, Mann Koepke said cognitive development in general probably works the same way. After all, kids who match sounds to letters earlier learn to read faster.

Stanford's Menon said the next step is to study what goes wrong with this system in children with math learning disabilities, so that scientists might try new strategies to help them learn.

