Cornell Woodside High School District

▶ Picutre Perfect Science 2
▶ Study of life Cycle 2
▶ Problem solving in the classroom 1
▶ NSTA Conference 1
▶ Iowa Scale Up Grants 2

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Saydel STEM Focus

EMPOWERING PREPARING INSPIRING

Problem Solving in the Classroom

Mr. Corwin's CADD 2 class recently had an opportunity to experience an authentic learning experience. Corwin saw a student in his class struggling with the operation of the wood lathe. Rather than ignoring the problem, he jumped into action by posing the problem to his CADD 2 students and required them to come up with a solution. The Challenge: Design a device which will allow a student with amniotic band syndrome (ABS) to work in a traditional woodworking class.

ABS is a birth defect which impacts limb development in the womb due to restricted blood flow. Nico Law is currently a freshman at Saydel High School and suffers from ABS. Nico has digits that did not develop completely due to ABS, but did not want his disability to be a barrier to experiencing woodworking like his peers.

Mr. Corwin's CADD 2 class was required to complete the design process in order to come up with viable solutions to the problem. Students researched, brainstormed, sketched, modeled, and prototyped potential solutions. With the assistance of the new 3D printer at high school, students were able to print their prototypes and allow Nico to test their designs. Corwin stated, "This project allowed students to apply what they have learned to directly impact a student in their school. The use of the 3D printer allowed the students to instantly produce their design. This allowed them to test the object to see if any further modifications needed to be done to it."

CADD 2 student Trevor Lundy showing his prototyped solution.

Corwin provides each of us with a great example of developing an authentic learning experience and the power of empowering our students.

If you are interested in learning more about CADD 2, Woodworking, or the 3D printer, please contact Mr. Corwin at corwinjosh@saydel.net.

Nico Law uses the lathe in woodworking class with the assistance of a 3D printed part as an aid. Nico states, "The invention made my woodworking improve so I could make the pen. I am very impressed and now I can make impressive pens easier."

NSTA Conference

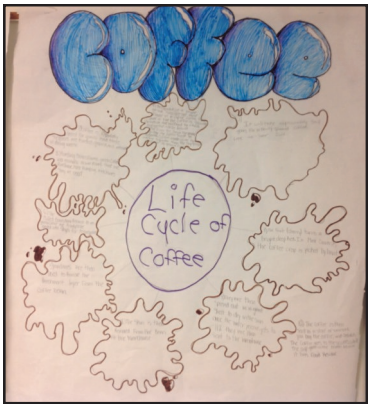
A group of Saydel representatives recently attended the National Science Teacher Association (NSTA) conference in Chicago on March 12-14. Teachers and administrators had an opportunity to learn more about STEM education, Next Generation Science Standards (NGSS), inquiry processes, curricular resources, and instructional practices. Keynote speakers included Bill Nye, The Science Guy, Arne Duncan, U.S. Secretary of Education, as well as business executives from top companies. Attendees also had an opportunity to experience science first hand with learning opportunities at Shedd Aquarium, Field Museum, and Brookfield Zoo. Attending the conference was made possible through the TAP grant. Each attendee had a positive experience and would encourage other Saydel teachers to consider attending the 2016 NSTA conference held in Nashville, TN on March 31-April 3, 2016. Teachers are encouraged to apply for TQ funds within their building to support professional development opportunities similar to the NSTA conference.

Iowa STEM Scale-Up Grants

In July of 2011, Governor Branstad signed Executive Order 74. The goal of Executive Order 74 is to bolster STEM education and innovation across the state to better prepare Iowa for the future. In order to make the goal mentioned above a reality, numerous initiatives have been set in motion by the state STEM advisory council. One of these initiatives is called Iowa scale up grants. Scale up grants are dollars allocated to bring STEM related programs to students across the state of Iowa. During the 2014-15 academic year, Saydel was awarded 3 scale up grants. They were Gateway to Engineering, FIRST Tech Challenge, and Defined STEM. Saydel has applied for 4 scale up grants for the 2015-16 academic year. These grants are FIRST Tech Challenge, Principles of Engineering, Defined STEM, and ST Math. School districts awarded scale up grants for the 2015-16 academic year will be announced April 15th. Please look for further information about these grants in the next STEM Focus.

Study of Life Cycle

In late January, 7th grade students in Mr. Wilson class learned about life cycles. Students worked in productive groups, researched, developed posters and presentations, and presented their findings to their peers. The life cycle projected was concluded by having guest speaker Jason Scholbrock visit each class for the day. Jason is a sustainability specialist from Pioneer in Johnston. He spoke about careers with a science focus as well as ways to help with sustainability. Mr. Scholbrock informed the students they could focus on sustainability by helping with the 3 r's (reduce, reuse, and recycle) when considering energy, water, and waste.



Student work posted in the hallway showcasing the life cycle of coffee.

Encouraging children to follow the 3 r's at home is a great place to help with sustainability . A conversation about the 3r's during dinner could be a great place to start. For more information about sustainability please visit http://kids.niehs.nih.gov/explore/reduce/

Picture Perfect Science

Cornell students have been looking forward to science block in recent weeks. This is due to the tremendous effort by teachers to implement the newly adopted elementary science curriculum called Picture Perfect Science (PPS). PPS is a National Science Teacher Association resource developed by teachers for teachers. The PPS series relies on the reading of picture books and a specific inquiry process to provide a robust structure for science instruction. Students are immersed in "doing" the science and "applying" the concepts learned to unknown situations. Cornell teachers have observed the enthusiasm from the students during science block and are looking forward to utilizing PPS resources for years to come.

If you are interested in assisting Cornell teachers with PPS by providing the district external connections such as field trips, guest speakers, or hands on manipulatives. We are looking to partner with the following occupations:

- Engineers–all types
- Agronomist
- Arborist
- Scientist
- Chemist
- Archeologist
- Dermatologist
- Astronomer
- Zoologist
- Veterinarian
- Biologist
- Anthropologist
- Acoustic Expert
- Soil Scientist
- Environmental Expert
- DNR

Please contact STEM Master Teacher, Joshua Heyer if you are interested in assisting the district in this capacity.

Mrs. Sager's 2nd grade class learning about Mexican jumping beans.

Getting to know.....

Curriculum Development Facilitators

- With the Teacher Leadership Compensation (TLC) grant from the state, Saydel has created curriculum development facilitators in multiple disciplines to assist other career teachers with writing of curriculum throughout the district. The CDF's associated with the STEM disciplines include:

•Kelly Sager: K-5 STEM

•Wendy Smith: 5-8 Math

•Mike Yeoman: 9-12 Science

•Shawn Pavlik: 9-12 math

•Brenda Brown: 5-12 STEM

If you see one of these CDF's, please acknowledge their contributions to improving curriculum throughout our district.

Upcoming STEM Events:

- Drake STEM Festival
  Drake– Olmstead Center
  April 16th 6:00-8:00
- Party for the Planet
  Blank Park Zoo
  April 16th 5:00-7:00
- Star Party
  Ewing Park-DSM
  April 18th 8:30
- Family Night
  Science Center of Iowa
  May 8th 5:00

STEM Resources

Teachers looking for various STEM resources can join the Schoology group called Saydel STEM Resources. The access code for this group is:
7C2V4-536KX

Saydel CSD
5740 NE 14th St.
Des Moines, IA 50313

Email: heyerjoshua@saydel.net
@SaydelSTEM