



PLTW - Gateway to Technology Update

June 24, 2014

Design Class Year 1: 6th Grade Enrollment



6th Grade PLTW Design and Modeling (DM): DM was a required course for sixth grade students. 6th graders rotated out of their Integrated Studies Class for one trimester to take DM as a means to fulfill the design requirement of IB.

- Brooks 6th grade students: 256
- Julian 6th grade students: 271
- Total 6th grade students who took DM: 527 (90% of all 6th grade students)

Design Class Year 1: 7/8th Grade Enrollment



7th/8th Grade PLTW Design and Modeling (DM): DM was offered as an elective course for seventh and eighth grade students.

- Brooks 7th/8th grade students: 202
- Julian 7th/8th grade students: 182
- Total 7th/8th grade students who took DM: 384 (32% of all 7th/8th grade students)

Goals of the IB Design Class



To encourage and enable students to:

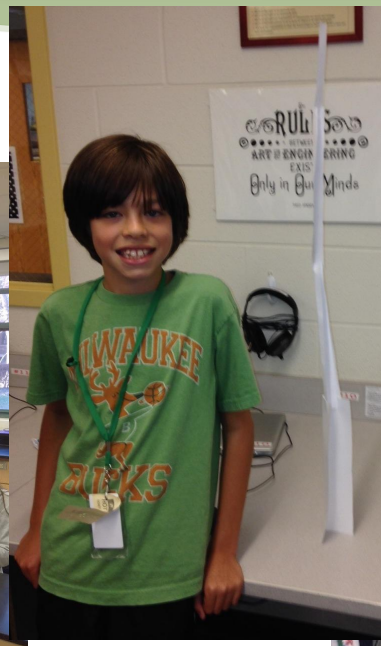
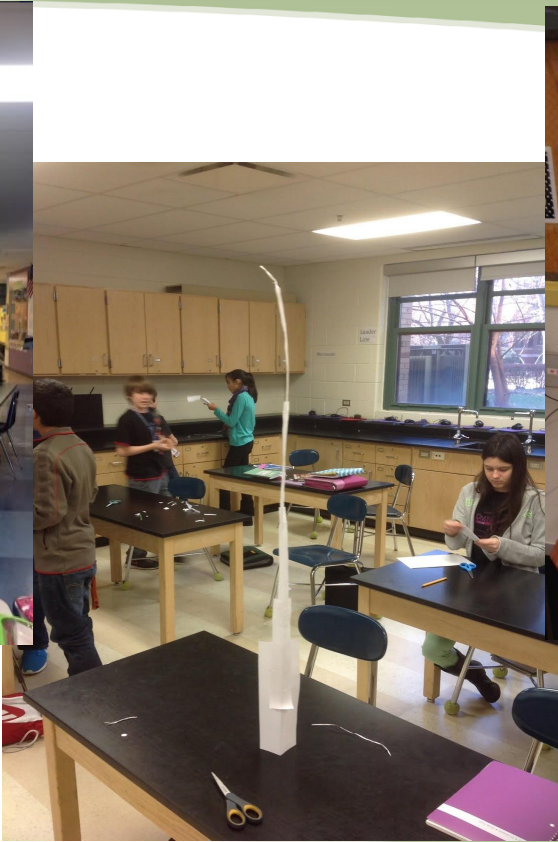
- enjoy the design process, develop an appreciation of its elegance and power
- develop knowledge, understanding and skills from different disciplines to design and create solution to problems using the design cycle
- use and apply technology effectively as a means to access process and communicate formally in, model and create solutions and to solve problems
- develop an appreciation of the impact of design innovation for life, global society and environments
- appreciate past, present and emerging design within cultural, political, social, historical and environmental contexts
- develop respect for others viewpoints and appreciate alternative solutions to problems act with integrity and honesty and take responsibility for their own actions developing effective working practices.



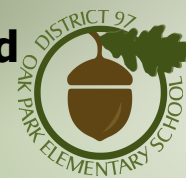
IB Goal: To encourage and enable students to enjoy the design process, develop an appreciation of its elegance and power

Demonstration in the classroom: Tower Project

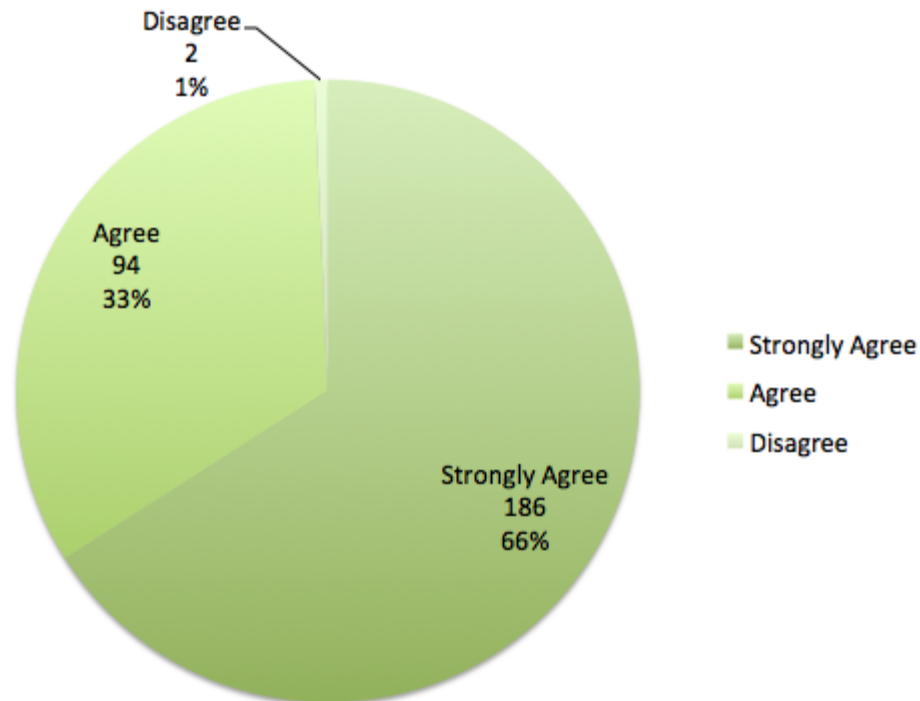
Tower Project



I've learned to be humble, because I can't always be the best, but I've also learned to be ambitious because I can always try to be the best. ~Henry W.~



As a result of this class, you have an enhanced appreciation for the designed world that we live in. You understand that many things that you interact with a given day have been created by humans and were made that way deliberately.



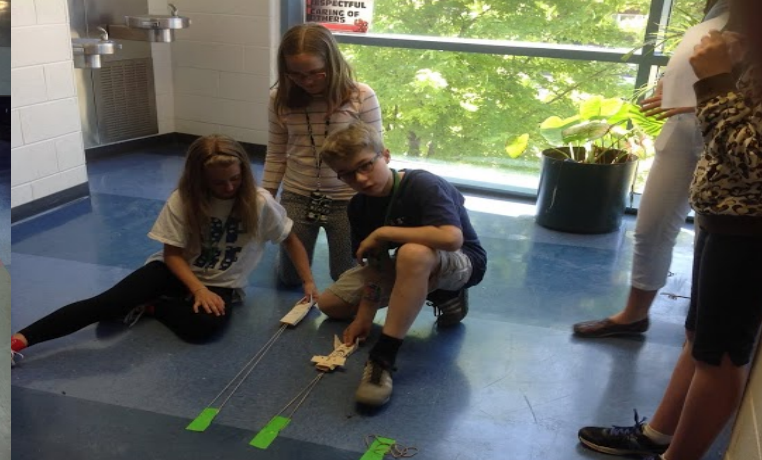
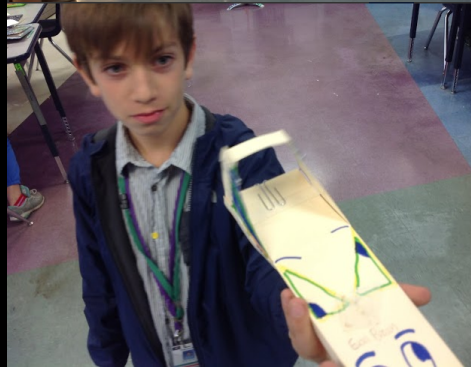
I think that the class Design and Modeling has allowed me to see things in a whole different perspective. It has made me think before I make an assumption, and question nearly everything. ~Ellie T~



IB Goal: To encourage and enable students to develop knowledge, understanding and skills from different disciplines to design and create solution to problems using the design cycle

Demonstration in the Classroom: Skimmer Car Project

Skimmer Car Project



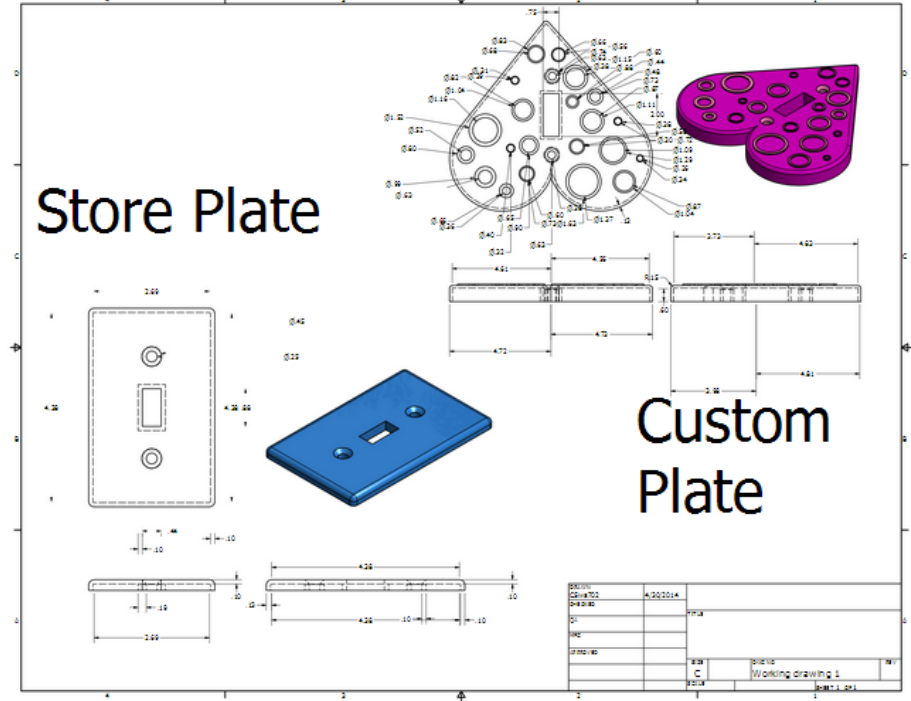
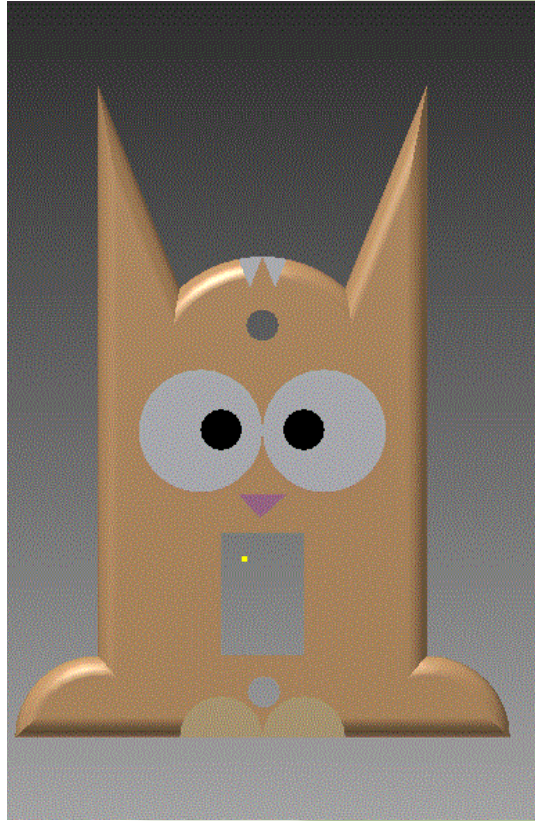
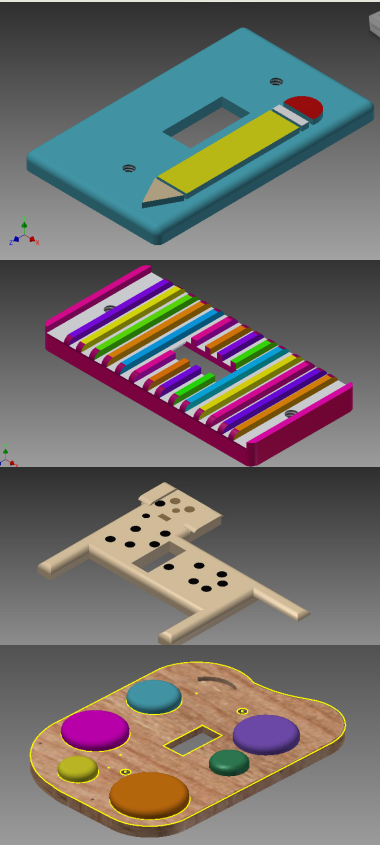
I learned that you should always dig deeper and never give up. ~Monica B.~



IB Goal: To encourage and enable students to use and apply technology effectively as a means to access process and communicate formally in, model and create solutions and to solve problems.

Demonstration in the Classroom: Inventor Projects

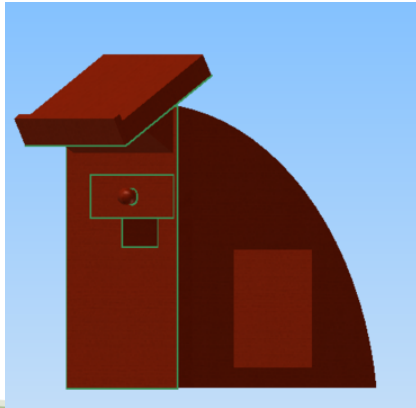
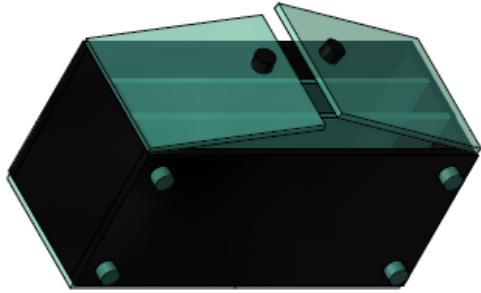
Light Switch Project



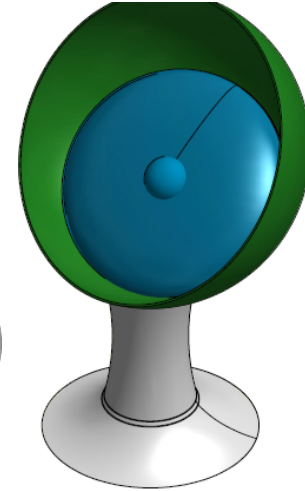
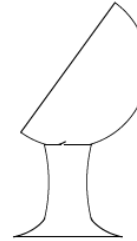
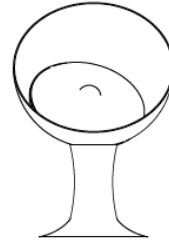
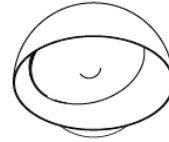
This class has taught me as a citizen, student, and person to be creative and open to learning new ideas.

~Leah H.~

Furniture Project



Chair with Pillow

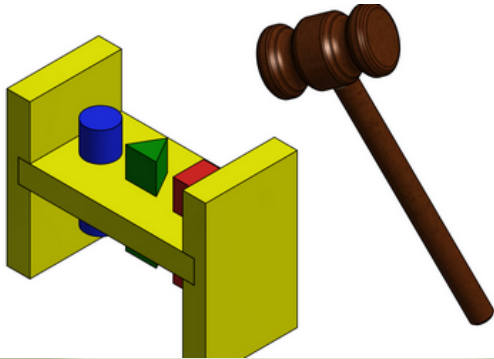
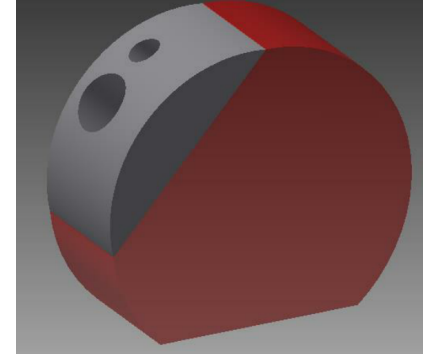
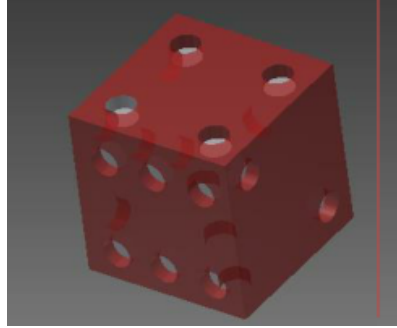


ITEM		QTY	PARTS LIST	PART NUMBER
1		1	Chair Base	
2		1	Chair Seat	
3		1	pillow	

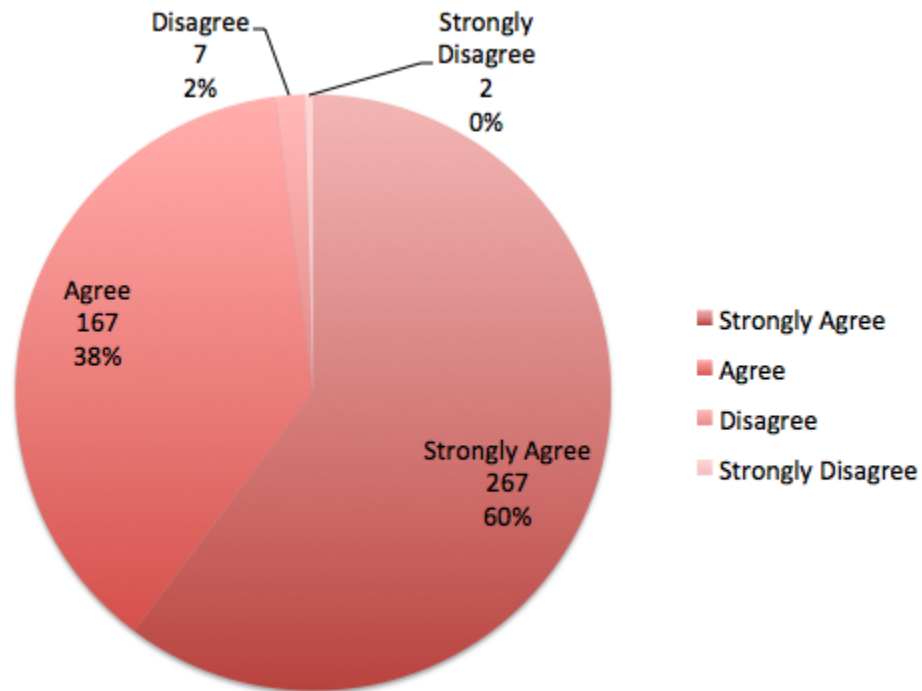
DESIGNER	6/4/2014	
CHECKED		
DATE		
BY		
APPROVED		
TITLE	Chair Drawing	
SCALE		SHEET 1 OF 1

Design and Modeling offers a wealth of originality and chances for divergent thinking. ~Griffin B.~

Other Samples of Students Work in Inventor:



We are growing up in a world that is technologically advancing every few seconds, it seems like, and this class has definitely put us ahead of the curve, or at least right on its tail. ~Charlie P.~



I like this class because it was very fun and it gave me a better understanding of how things are made in the world. Now I am going to build things at home. ~Liv~



IB Goals: To encourage and enable students to appreciate past, present and emerging design within cultural, political, social, historical and environmental contexts

To encourage and enable students to develop an appreciation of the impact of design innovation for life, global society, and environments

Demonstration in the Classroom: Technology Invention Presentation

Technology Invention Project



The Telescope

Then



Now

The Pencil

Then



Now

The Airplane

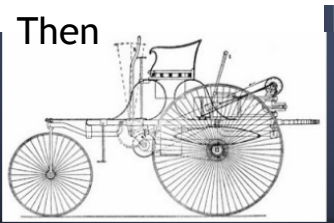
Then



Now

The Car

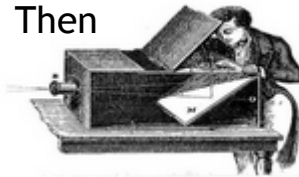
Then



Now

The Camera

Then



Now

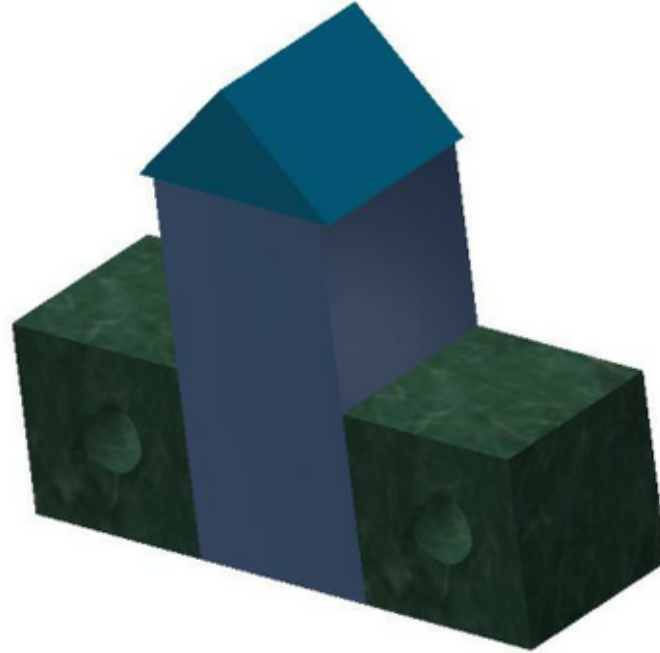
Everything that exists today exists because of the design process. What we have is not only a table, a vacuum, an iPad, but the culmination of human minds and labor. ~Ari S.~



IB Goal: To encourage and enable students to develop respect for others viewpoints and appreciate alternative solutions to problems act with integrity and honesty and take responsibility for their own actions developing effective working practices.

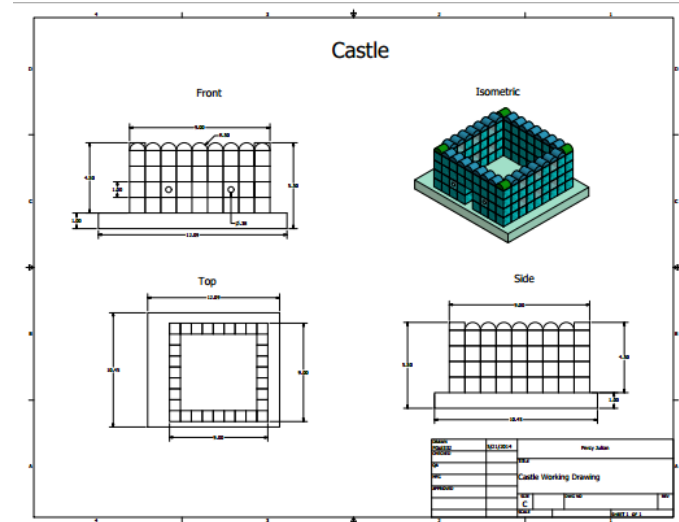
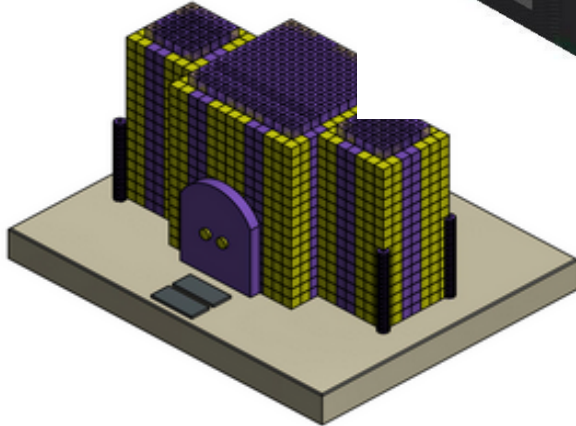
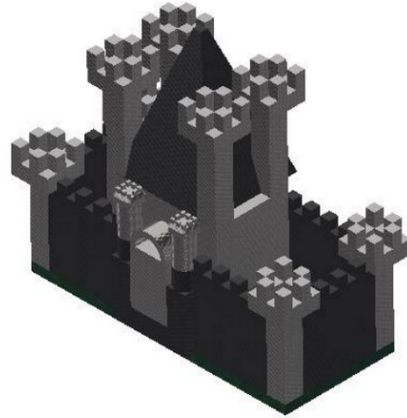
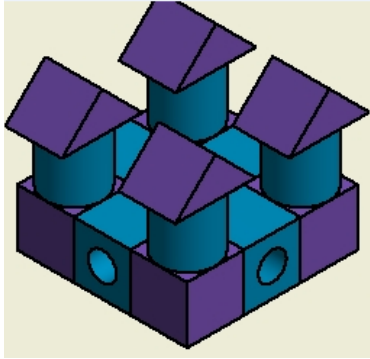
Demonstration in the Classroom: Castle Block Project

Castle Project



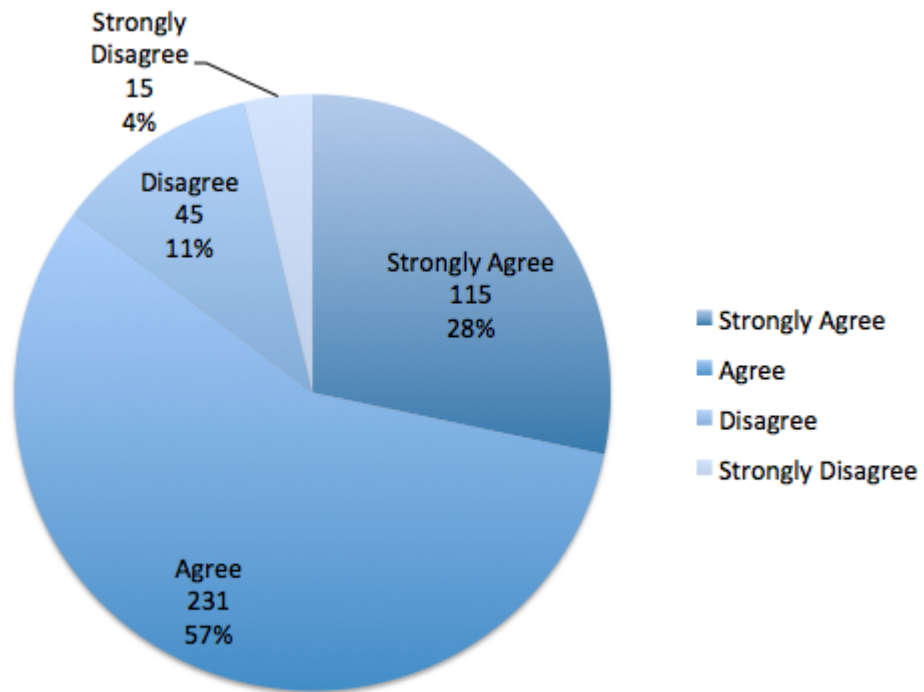
I love that I get to express my thoughts and ideas in ways that I couldn't before. Inventor is a very powerful program that has been a lot of fun to learn how to use. ~Eva O.

Castle Project



Before this class I never thought I could build a castle on a computer. Now I know anything is possible and whenever I see a new object I immediately start thinking how could I make that in Inventor? ~Charlie R.~

Would you consider a STEM based career for the future?



*This class has inspired me to go into an engineering career, something I had never thought of before this class.
~Tyler Y.*

Phase 2: GTT for the 2014-2015 School Year



Grade Level Plans

- All 6th grade students will take one trimester of **Design and Modeling**
- All 7th grade students will take one trimester of **Robotics**
- All 8th grade students will take one trimester of either:
 - Design and Modeling (students who did not take DM last year)
 - Robotics (students who took DM last year)

Professional Development Plans:

- New staff member will attend a week long *Design and Modeling Training*
- Four current staff members will attend a week long *Robotics Training*

Phase 3: GTT for the 2015-2016 School Year



Grade Level Plans:

- 6th Grade: **Design and Modeling**
- 7th Grade: **Robotics**
- 8th Grade: Staff will observe other schools to determine the best fit for our 8th Grade Design Course. GTT courses we will be evaluating are:
 - Energy & the Environment
 - Magic of Electrons
 - Green Architecture
 - Medical Detectives

Professional Development:

- Staff will attend training for the 3rd course offering as needed.