



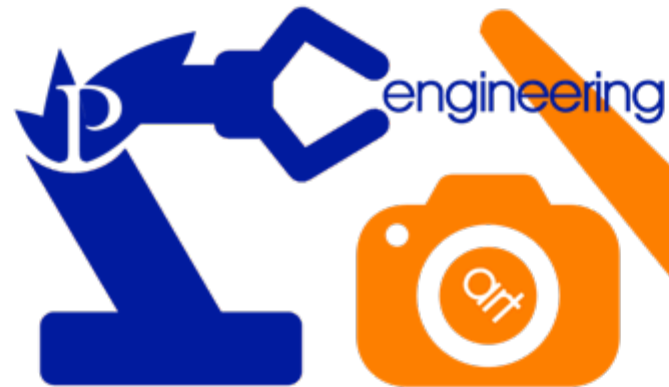
**The best way  
to PREDICT  
the  
FUTURE  
is to  
CREATE IT.**

- Abraham Lincoln





# STEAM Academies



# Academy Enrollment

Students from across the District had the opportunity to interview



29  
Students



29  
Students



23  
Students

# Qualities of a STEAM Student

A STEAM Student...

## Questions

Asks questions and tries to find answers.



## Perseveres

Even when things get difficult.



## Adapts

Is willing and able to work with a wide variety of people.

## Committed

Is committed to taking their education to the next level!

# Technology

In the Classroom

Apple tv



# Technology

In the Classroom



**KHAN**  
ACADEMY



# Wednesdays

## Clubs & Project Based Learning



### Clubs

Meets the social needs of our students



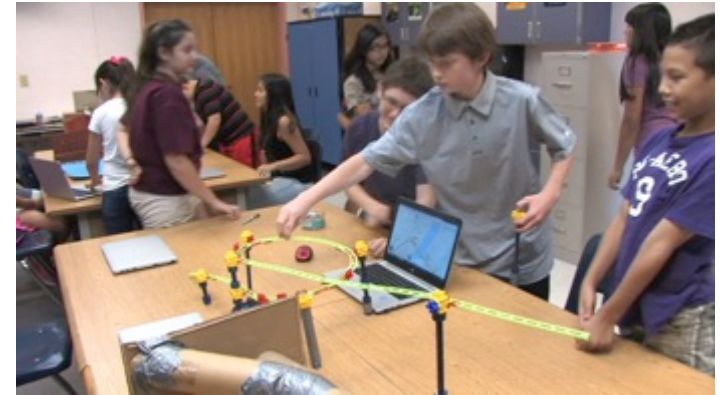
### Music

Grouped by favorite genre of music



### Engineering Feats

Researching the engineering feats of the past and present



### Career Choices

Careers available in STEAM



### Project Lead the Way

Extended time for group projects



### EverFI Webquest

Future goals, digital literacy, entrepreneurs and financial literacy



### Town Hall

Reflect on essential character skills and set goals

# Monthly Field Trips

Based on Area of Study

Musical Instrument Museum



Arizona Coyotes

Tour of the Gila River Arena





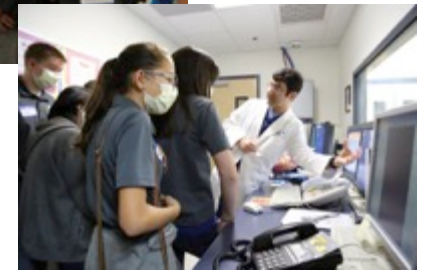
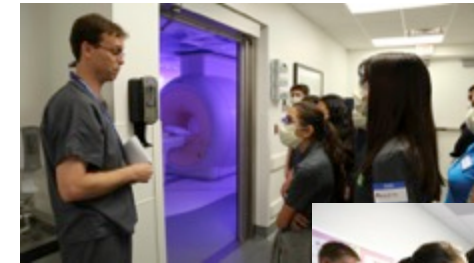
# University of Advancing Technology



# Arizona Cardinals Tour of the University of Phoenix Stadium

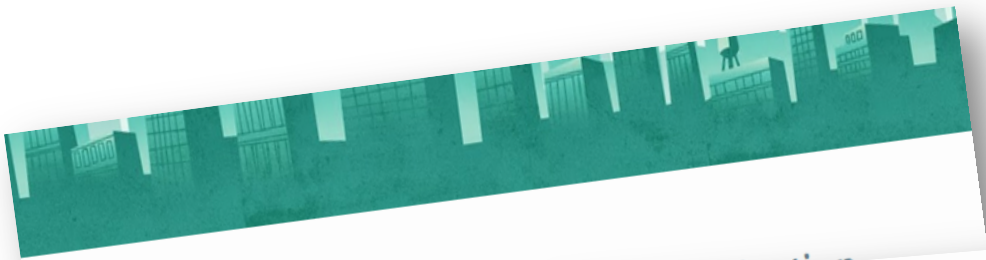


# MIHS Hospital Tour Maricopa Integrated Health Services



# Self Evaluation

## and Reflection



### Geography and Engineering

Reflect on your participation in your group and the quality of your work.

\* Required

Your first and last name: \*

Select one of the options below that describes you best.

To improve the quality of our work, next time we will:

I exhibited self-regulation by demonstrating the following:

I have the ability to monitor and control my emotions.



### January Reflections....

Reflecting on the first semester of STEAM, what are three things that you are proud of yourself for accomplishing?

And, what are three things that you see that you could have done better?

Now, looking forward to this second semester of STEAM, choose at least one goal for each area:

- Personal goal
- Academic goal
- Work/mindset goal.

Define a STEAM thinker:

Then, do you see yourself as a STEAM thinker? Give evidence.

ASSIGNMENT Tricia Ridgeway Aug 24 (Edited Aug 24)

### Reflection - Field Trip to the MIM

Write a paragraph relating to your experience at the museum. It should include: 1. The relationship between concepts and their presentation at the MIM. 2. Personal observations about the museum and the experience. 3. Questions you have about the museum.

Reflection: Week 7

1. Settling in to the STEAM Academies
  - a. Discuss the teaching and learning process being utilized with the STEAM Academies. Are you getting used to us?
  - b. Have you changed how you approach learning? Explain your reasoning.
  - c. Looking at our activities this year, where have you had an "aha" moment?
2. PLTW
  - a. List the steps in the Design Process.
  - b. Explain why it is important to follow this process.
3. Please provide some feedback about the NHL Future Goals Webquest
  - a. Was the format easy to work with? Any changes that you would make?
  - b. Was the information presented in a way that you could understand, yet be challenged?
  - c. Would other students enjoy the Hockey Scholar activity? Explain.



# Project Lead the Way

A critical thinking, project based STEM curriculum



## PLTW Foundation Units

- Design & Modeling
- Automation & Robotics

## PLTW Specialization Units

- Green Architecture



## PLTW Foundation Units

- Design & Modeling
- Automation & Robotics

## PLTW Specialization Units

- Energy & Environment



## PLTW Foundation Units

- Design & Modeling
- Automation & Robotics

## PLTW Specialization Units

- Medical Detectives

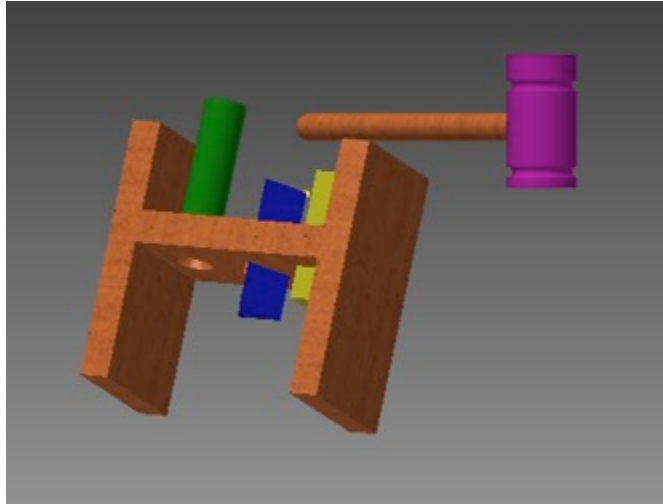
**Logger Pro 3**



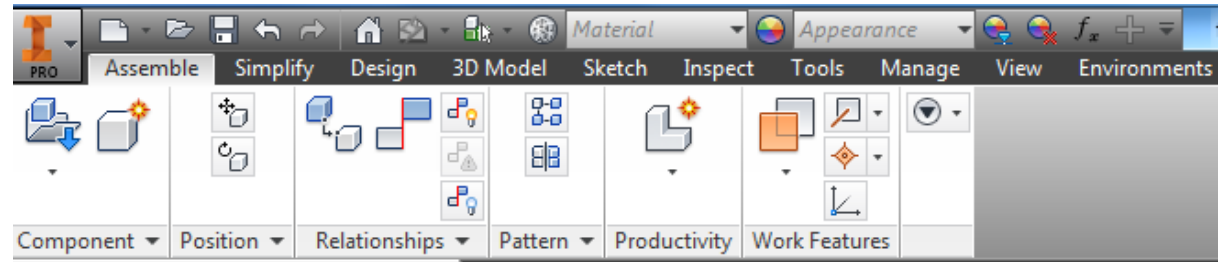
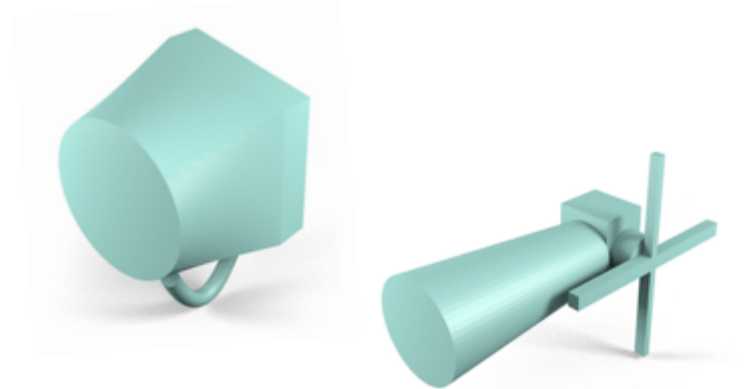


# Project Lead the Way

ALL STUDENTS: Design & Modeling



**I** | AUTODESK  
INVENTOR





# Project Lead the Way

## ALL STUDENTS: Automation & Robotics

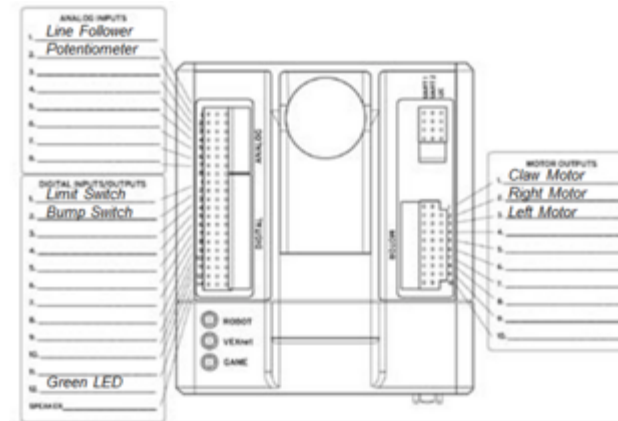
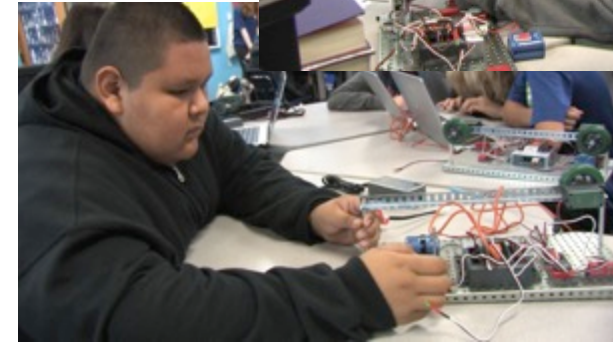
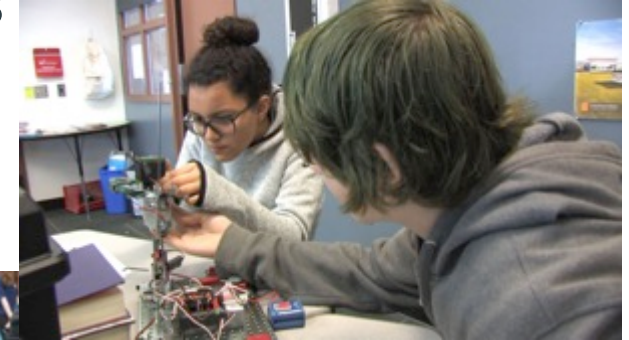
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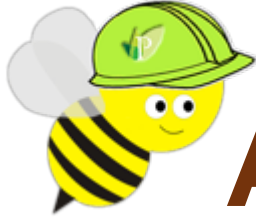
while(1 == 1)
{
  if(SensorValue[bumper] == 1)
  {
    startMotor(rightMotor, 63);
  }
  else
  {
    stopMotor(rightMotor);
  }

  if(SensorValue[limit] == 1)
  {
    startMotor(rightMotor, -63);
  }
  else
  {
    stopMotor(rightMotor);
  }
}

```

VEX EDR





orcutt|winslow

# Architecture & Design

## 6<sup>th</sup> Grade





# Project Lead the Way

6<sup>th</sup> Grade: Green Architecture



# Energy & the Environment

7<sup>th</sup> Grade







# Project Lead the Way

7<sup>th</sup> Grade: Energy & the Environment





# Medical & Health Services

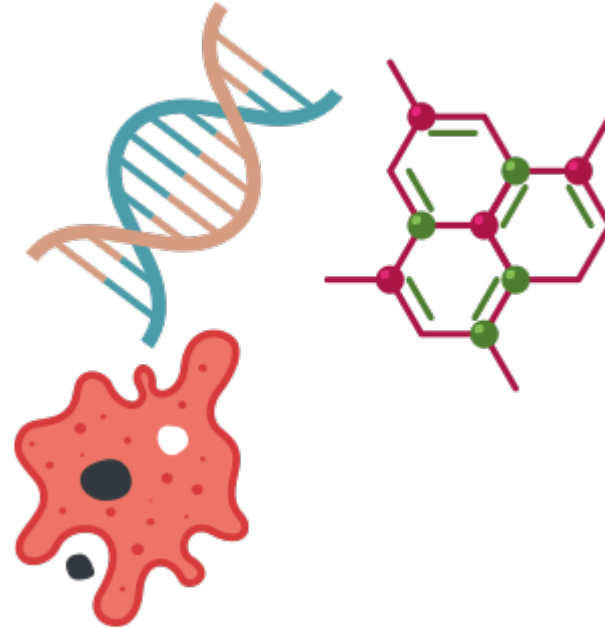
8<sup>th</sup> Grade





# Project Lead the Way

8<sup>th</sup> Grade: Medical Detectives



# Next Generation of Interaction

1960s  
Text



1980s  
Mouse



2000s  
Touch



Today  
Virtual Reality



# Virtual Reality

Inspiring STEAM Careers Using Virtual Reality in Schools

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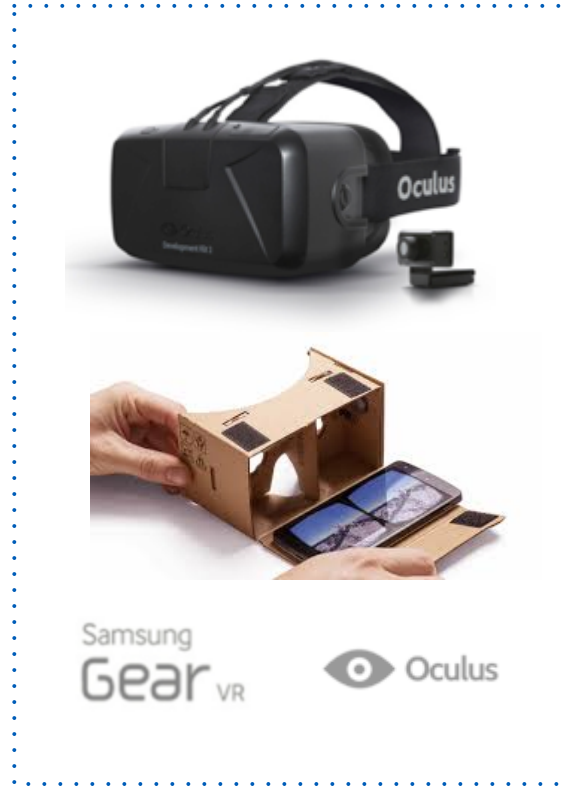


# Virtual Reality Landscape

Augmented/Glasses

Fully Immersive/  
Goggles

Desktop VR



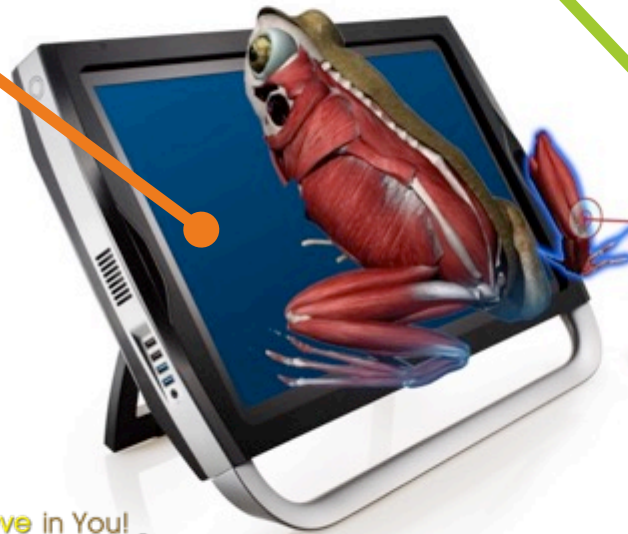
# Demonstration

Full color, HD stereoscopic display with head tracking

Unique stylus for virtual interaction

Passive, non-tracked 2D conversion eyewear

Passive, polarized tracking eyewear



# Virtual Reality Labs







water investigations academy





# water investigations academy



## Project Based Learning

Students will learn...



...in an authentic, integrated and meaningful manner



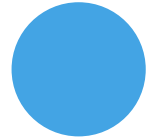
# water investigations academy



will develop...



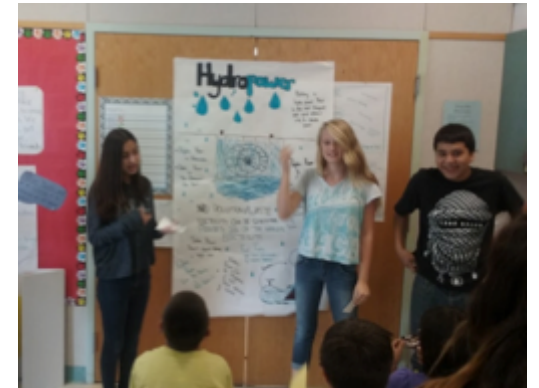
Knowledgeable Leaders



Innovative Leaders



Passionate Leaders



...equipped to engage the community in water sustainability and inspire younger students to do the same.



# water investigations academy



will provide...



- Authentic
- Student Driven
- Revolves Around the Interrelated Water Systems
- Takes into Consideration a Full Spectrum of Perspectives



# water investigations academy



## Year Long Topics of Study

7<sup>th</sup> Grade



### QUARTER ONE

Marine Ecology:  
Building and sustaining  
a saltwater aquarium

### QUARTER TWO

Water in Space: Water  
Properties

### QUARTER THREE

Exploring the Salt River:  
Water Quality Analysis

### QUARTER FOUR

Documentaries and  
Public Policy on Water:  
Water Conservation



# water investigations academy



## Year Long Topics of Study

8<sup>th</sup> Grade



### QUARTER ONE

Freshwater Ecology:  
Building and sustaining  
a freshwater aquarium

### QUARTER TWO

Water Chemistry: Water  
properties

### QUARTER THREE

Southwest Human Water  
Management and Use

### QUARTER FOUR

Documentaries and  
Public Policy on Water:  
Water Born Diseases

# Community Cabinet Breakfast

Partnering with the Community



# Parent Lunches

Partnering with the Community







**We have the**  
**OPPORTUNITY**  
**to CREATE the**  
**FUTURE**

**and decide**  
**what**

**THAT'S LIKE.**

**- Mae Jemison**





First Graders Answer the question...  
"Why is Water Important to You?"



<https://youtu.be/XbqgjaMJwLA>