



The Gold Standard in Public Education

CABSE

October 2019

Dr. Raul Garza, Jr.



Academy



1533 Miles Distance

Border Wall

Two elementary schools and 1 middle school within 1 mile distance from the border wall.

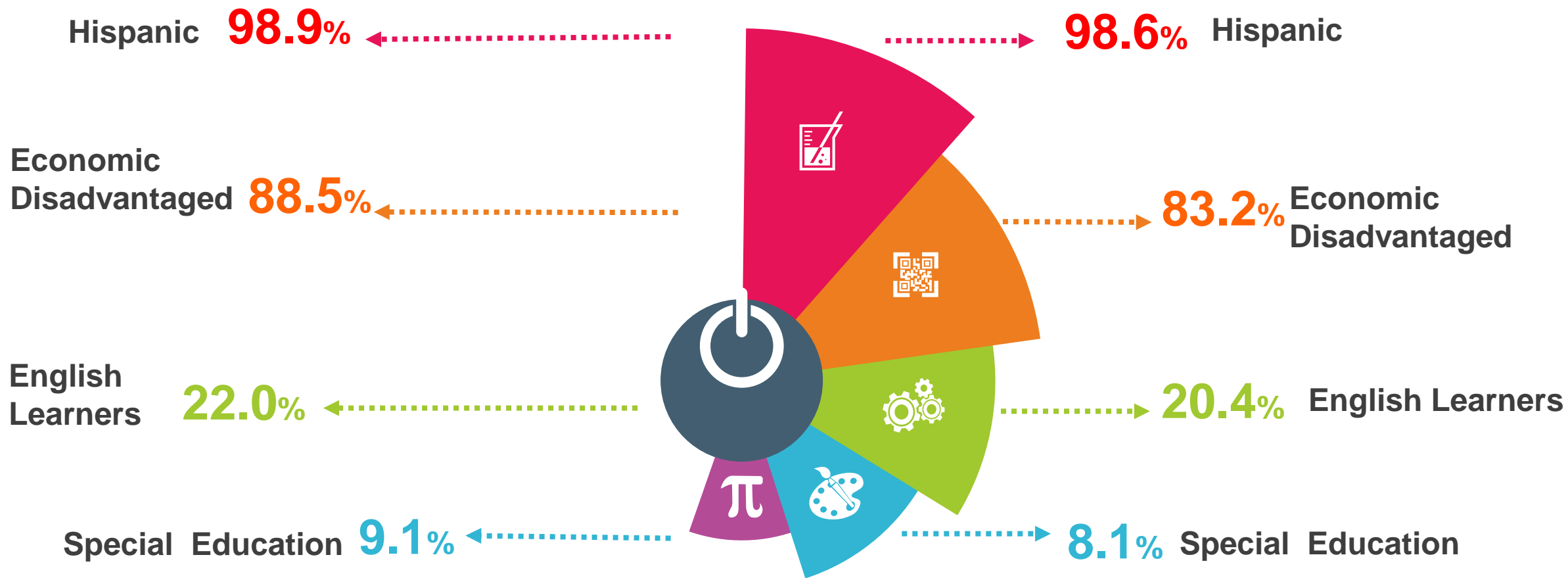




Demographics

San Benito CISD

Dr. Raul Garza, Jr. STEAM Academy



88.5% Economically Disadvantaged





Our STEAM Team at CABSE



**SBCISD Board of
Education**

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Mr. Hector Madrigal**

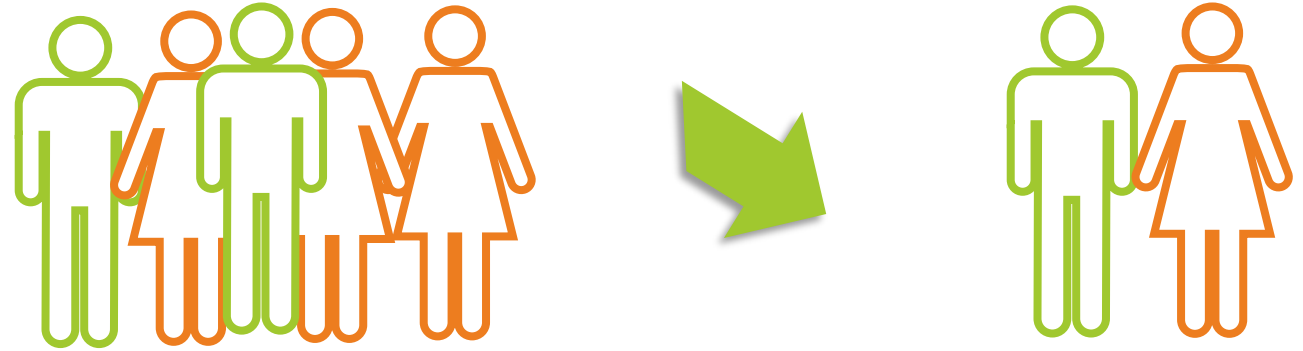
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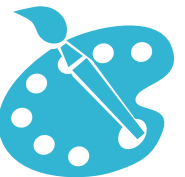
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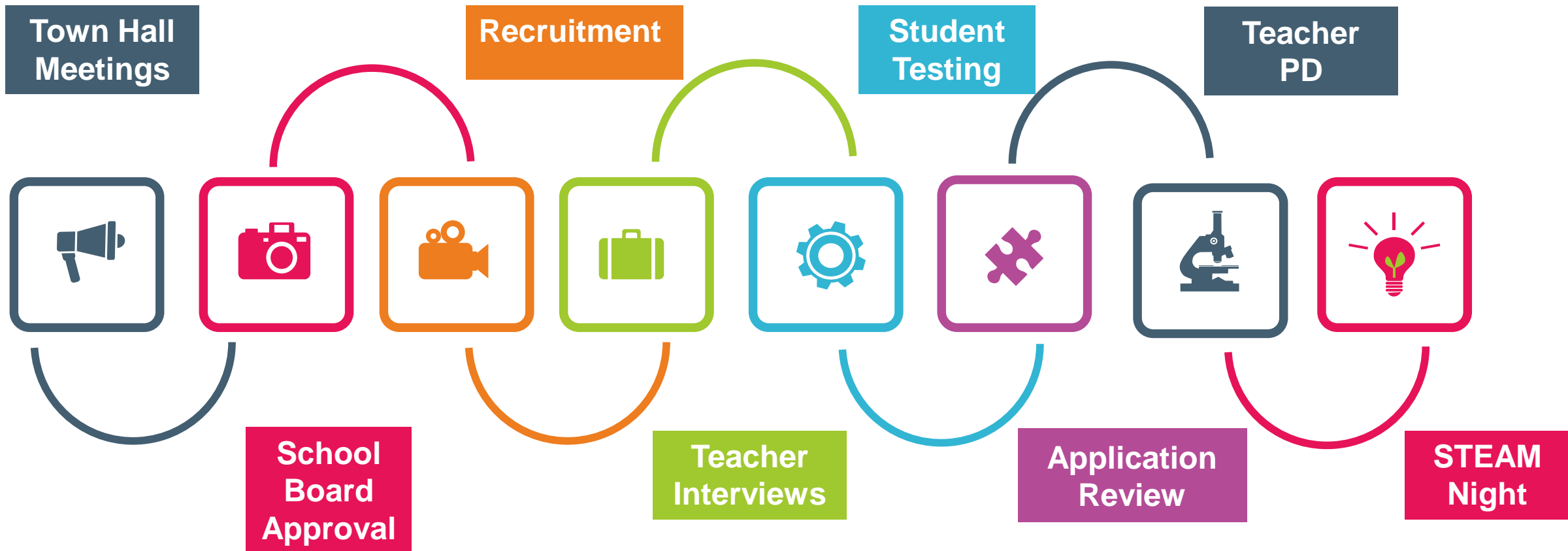
Our Journey



- * Decline in student enrollment due to charter schools
- * Need for a more rigorous curriculum
- * Need to repurpose the elementary campus



Where do we start?

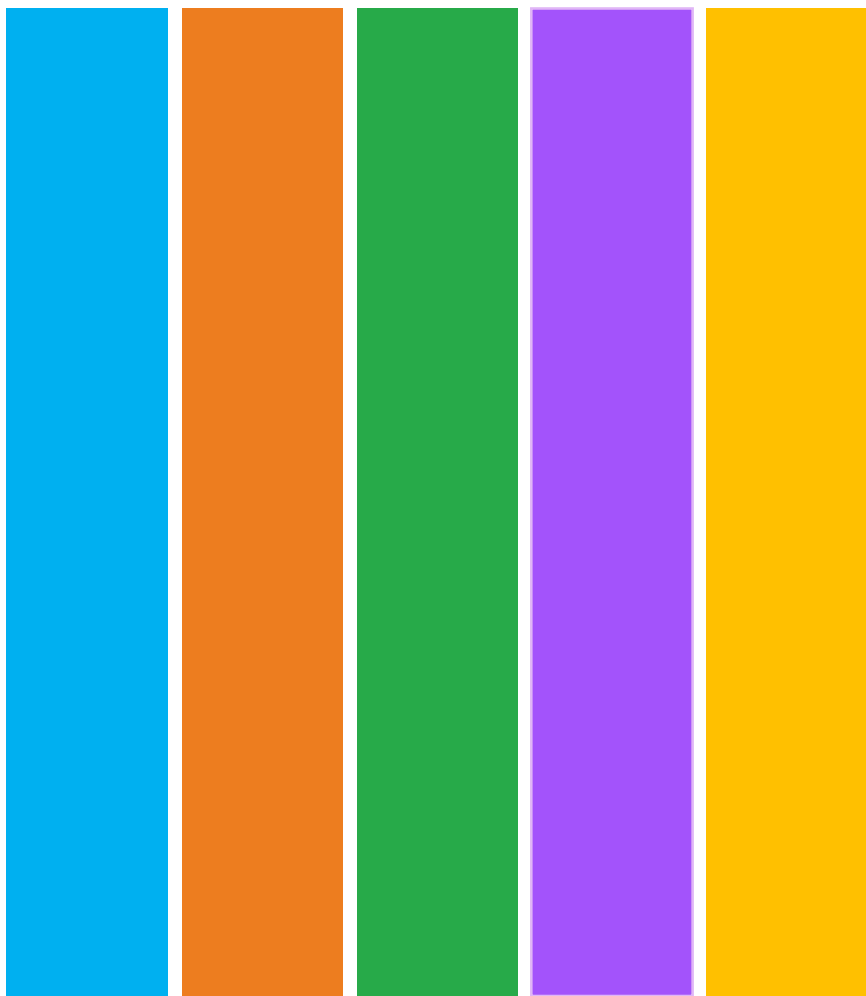


Why STEAM?

Develops a set of thinking,
Reasoning,
Teamwork,
Investigation,
and Creative skills that students can
use in all areas of their lives.

**STEAM isn't a standalone class—it's
a way to intentionally incorporate
different subjects across an existing
curriculum, plus it's FUN!**





Building a Vision

Focus on building a program that uses STEAM to inspire and excite students as they prepare for college and 21st century careers

Students see themselves as capable problem solvers that can adapt and strategize in the face of challenges, both academic and personal

Students will have a passion for learning and activism that extends beyond the classroom and will believe they have the capacity to make change in their community.

Create a STEAM program that will dramatically transform student engagement, teacher practice, and the school culture as a whole.

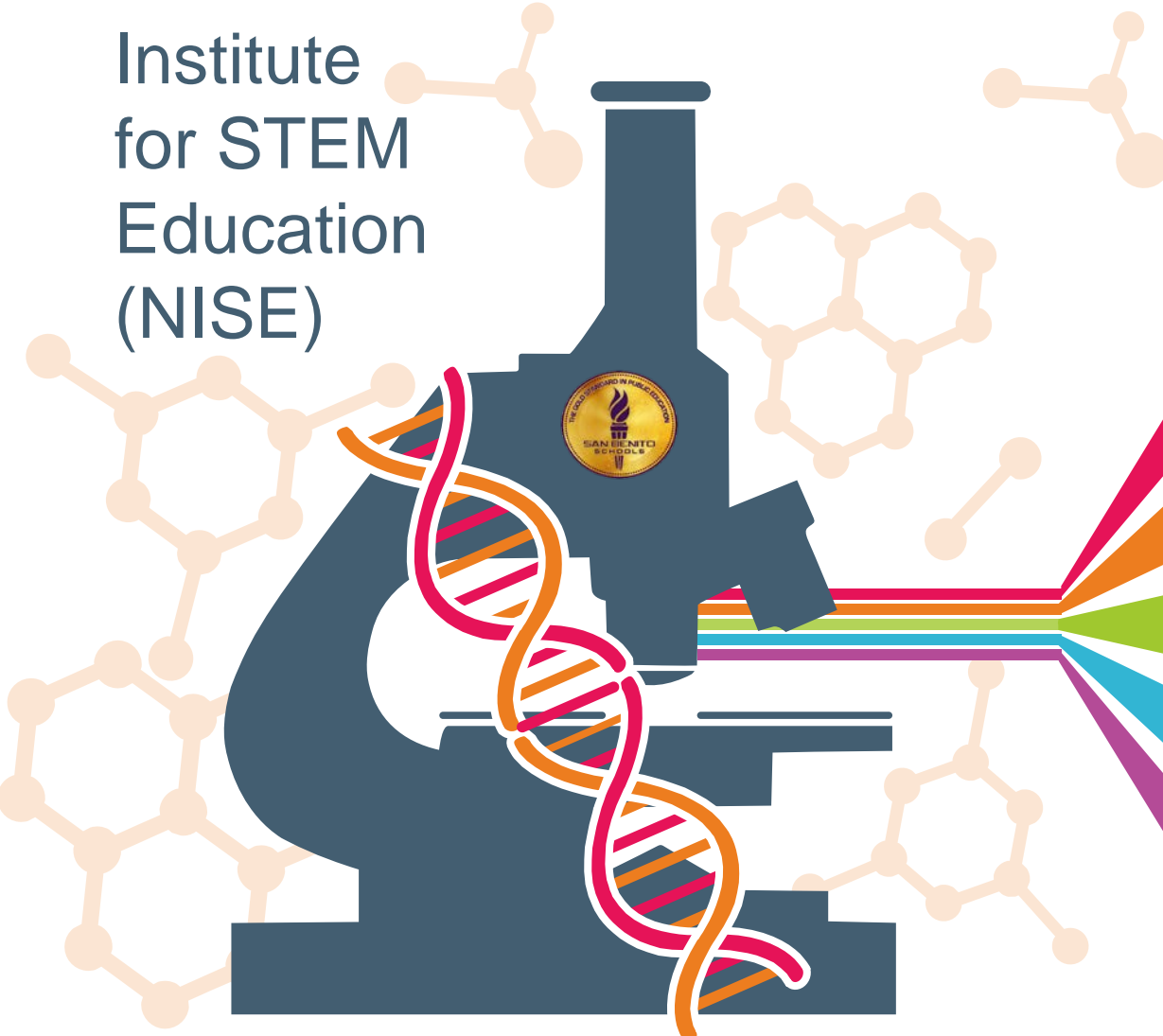
National Institute for STEM Education (NISE)



NATIONAL CERTIFICATE FOR STEM TEACHING 2.0



NATIONAL CERTIFICATE FOR STEM EXCELLENCE



Teacher Certification



Campus Certification



Improved Instruction



Improved Teaching Techniques



Improved Scores



National Institute for STEM Education Certification



The certification was a collaborative effort between teachers and leaders to review the needs of the campus and incorporate numerous activities along with continuing the state mandated core curriculum.



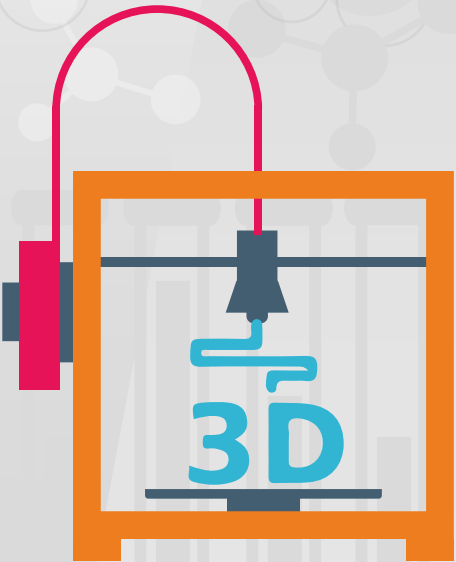
In the process, the teachers were required to continually reflect on their practice and compare their practice to the performance levels within each Indicator. They then used the 15 teacher actions to refine their teaching and incorporate STEM opportunities for all students.



There were 3 Domains and 15 teacher actions throughout the process. Domain 1: Creating an Environment for Learning, Domain 2: Building Scientific Understanding, and Domain 3: Engaging Students in Scientific and Engineering Practices.



The training provided a systematic support of teacher understanding and use of high-impact, evidence-based STEM instructional strategies.



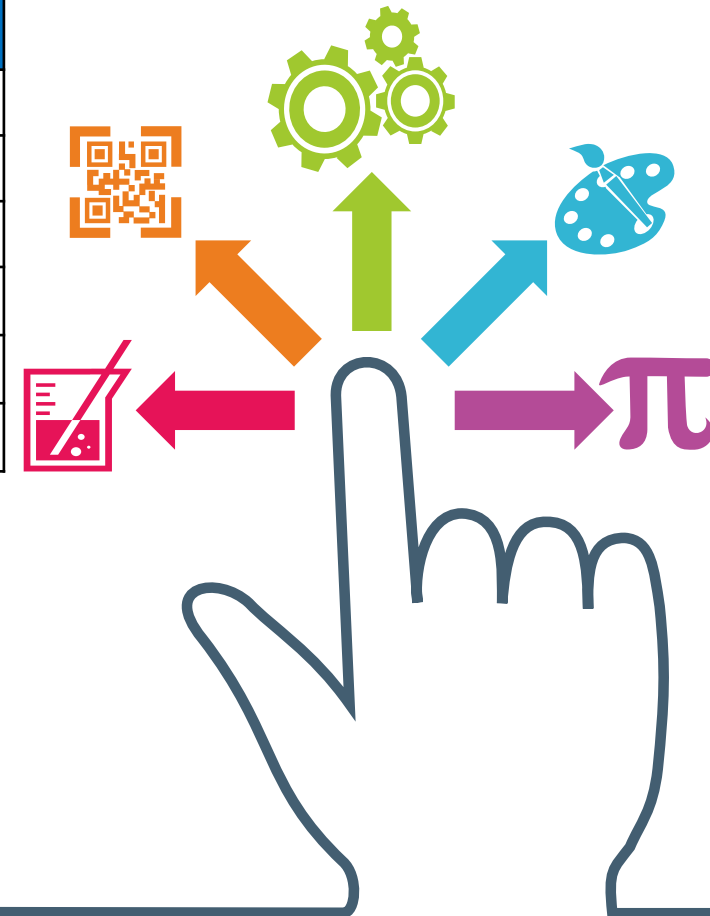
Fifteen Teacher Actions



Creating an Environment for Learning
Creating a Positive Classroom Culture
Establishing Cooperative learning
Integrating Technology
Connecting Learning Outside the Classroom

Building Scientific Understanding
Implementing Inquiry
Addressing Student Misconceptions
Facilitating Questioning & Discourse
Utilizing Assessment
Building Scientific Literacy

Engaging Students in Science and Engineering Practices
Cultivating Scientific Investigations
Developing Engineering Solutions
Fostering Data Utilization
Implementing Project Based Learning
Developing Scientific Explanations
Promoting Scientific Argumentation



Teachers had a campus coach which met with the NISE assigned coach via Zoom, who then in turn helped teachers achieve their goal. Teachers submitted artifacts per module and an online coach approved each module.



NATIONAL CERTIFICATE FOR
STEM EXCELLENCE



NATIONAL CERTIFICATE FOR
STEM TEACHING 2.0





Teacher Training



Continuous and systematic Professional Development was provided throughout the summer prior to starting up STEAM and throughout the year. This Professional Development helped build capacity at the building level. Teachers were trained in the areas of:

1. Project Based Learning
2. Engineering is Elementary
3. Flipgrid
4. Google Classroom
5. Microsoft
6. Minecraft Education
7. ICLE
8. NISE

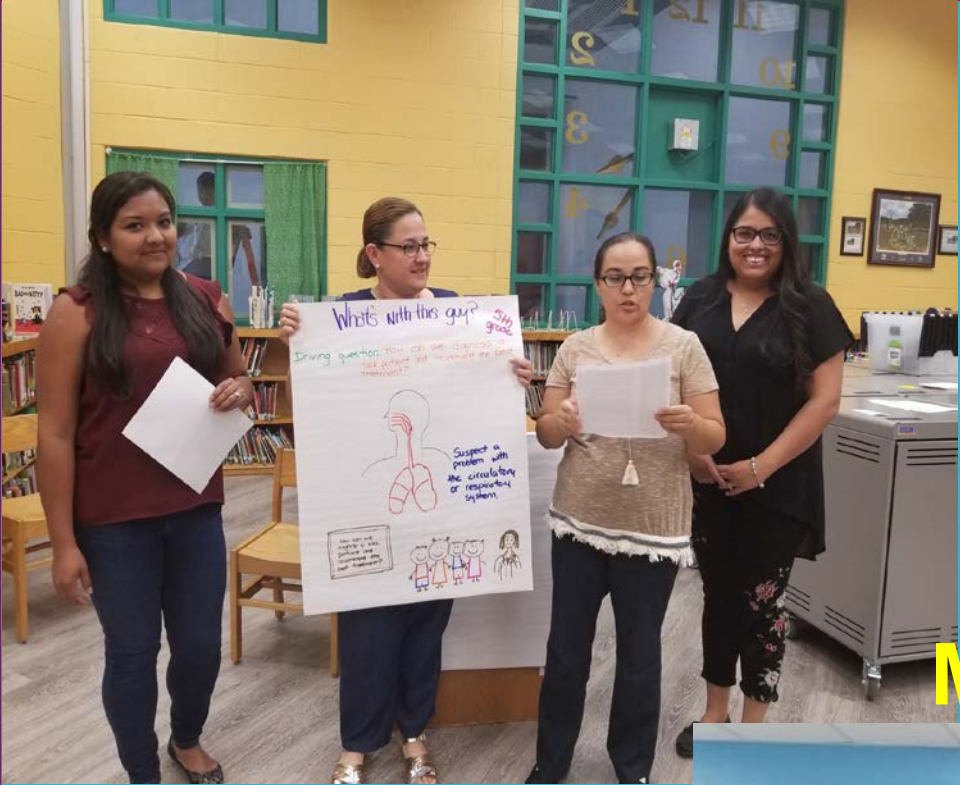




NISE Training



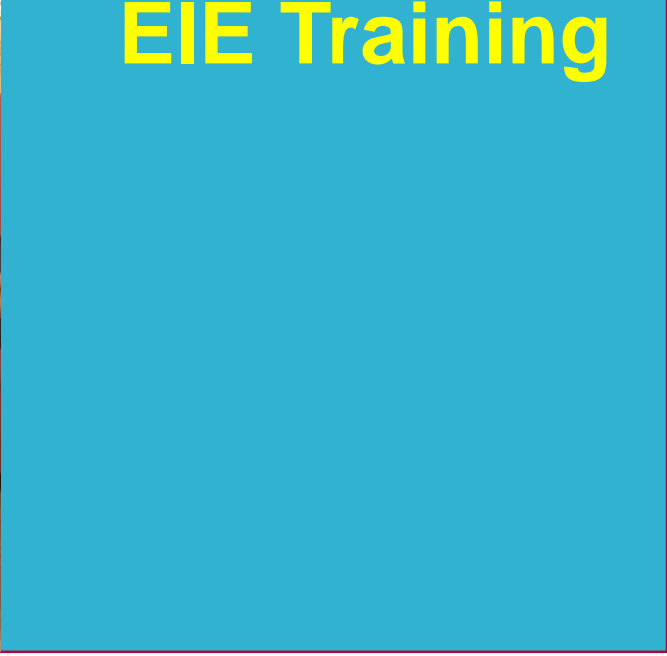
PBL Training



Minecraft Training



PBL Training

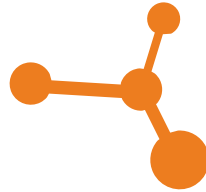


EIE Training

Closing the Achievement Gap

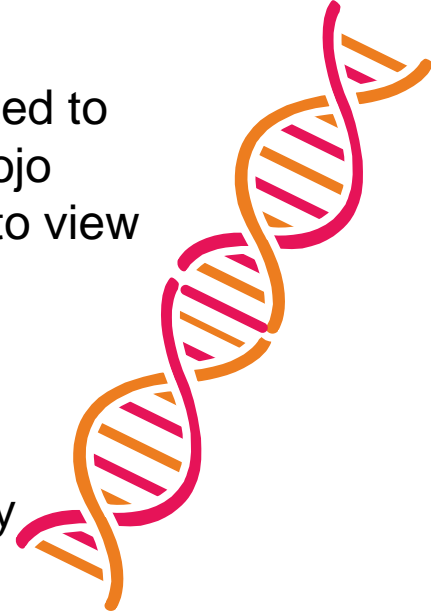
Weekly PLC Meetings

- Review CFAs
- Track Student Progress
- Provide support on TEKS Resource System (TRS)
- Review Lesson Plans
- Provide PD
- Reshaping the Instruction



Parental Involvement

- 100% of parents are connected to classrooms through Class Dojo
- Digital Portfolios for parents to view
- Monthly activities
- Weekly Parent Centers
- Social Media
- Positive Relationships
- Main Office is Family Friendly



Collaborative Teaching

- Vertical Alignment Meetings
- Grade Level Team Planning
- Reflective Teaching
- Student Reflection
- Teachers Observing Teachers
- Building Relationships
- Tutoring students in need by Strongest Teachers



High Expectations for All

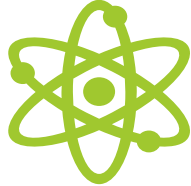
- Mode of Dress
- Behavior Expectations/PBIS
- Challenging Curriculum
- Highly Qualified Teachers
- High Quality Training



Closing the Achievement Gap

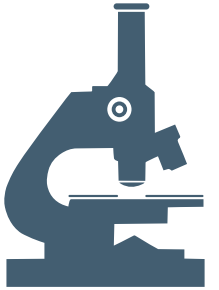
Support for Students

- Early Screening: Academic, Visual, Medical
- Identify students who need Additional Support within the first 2 weeks of school
- TIER II and TIER III instruction begins immediately
- Needs communicated to the parent within the first 2 weeks of school



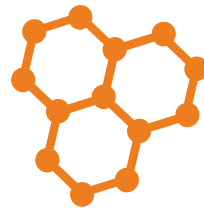
Extended Learning Opportunities

- Full Day Prekindergarten
- Full Day Kindergarten
- After School Program that focuses on Academics
- Campus Wide Activities that Foster Academic growth



Support in Classrooms

- Reading and Math instruction are prioritized on the schedule
- Reading and Math times are safeguarded-no interruptions
- Use of hands on activities in all subjects
- Strong Team Leaders
- Materials available



- **Use Data to improve instruction**
- **No Excuses**
- **EVERYONE is involved in the improvement of the campus**
- **Work Hard and Persevere**
- **Celebrate Successes**



Vocabulary Development Through Experiences



- Games
- Conversation
- Journals
- Experiences
- Anchor Charts



Science Lab



The Science Lab was remodeled to include new lab tables, flexible seating, a space themed background and numerous science and safety tools for students to use in their labs and experiments.

For the Love of Science



SCIENCE

Fair

Video

$$E=mc^2$$

Na

H₂O

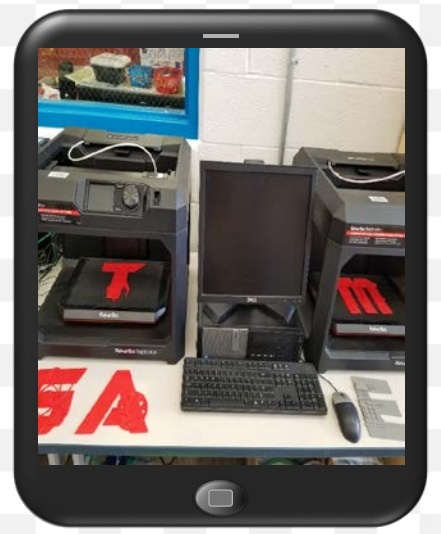
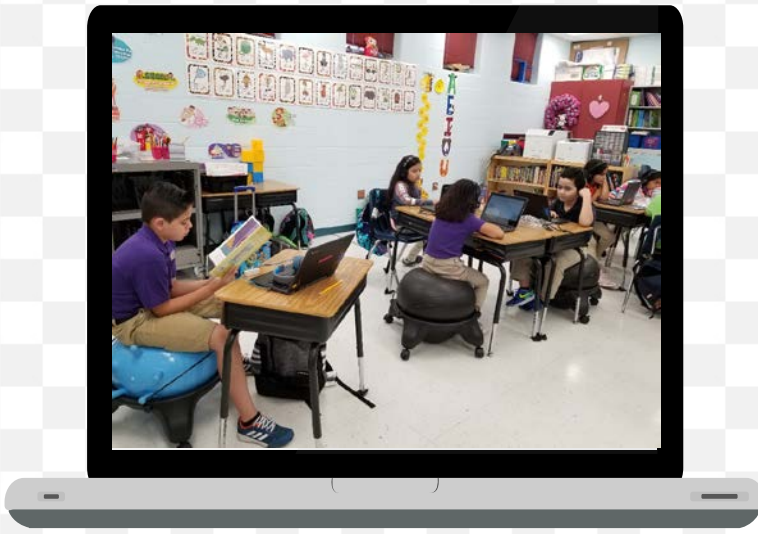
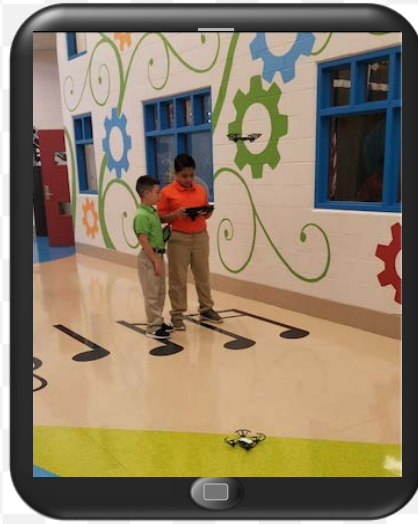


Learning is Always an Adventure



Technology

Science Technology Engineering Arts Mathematics



S T E A M

E D U C A T I O N

Epson Projectors

One to One Initiative

3 D printers

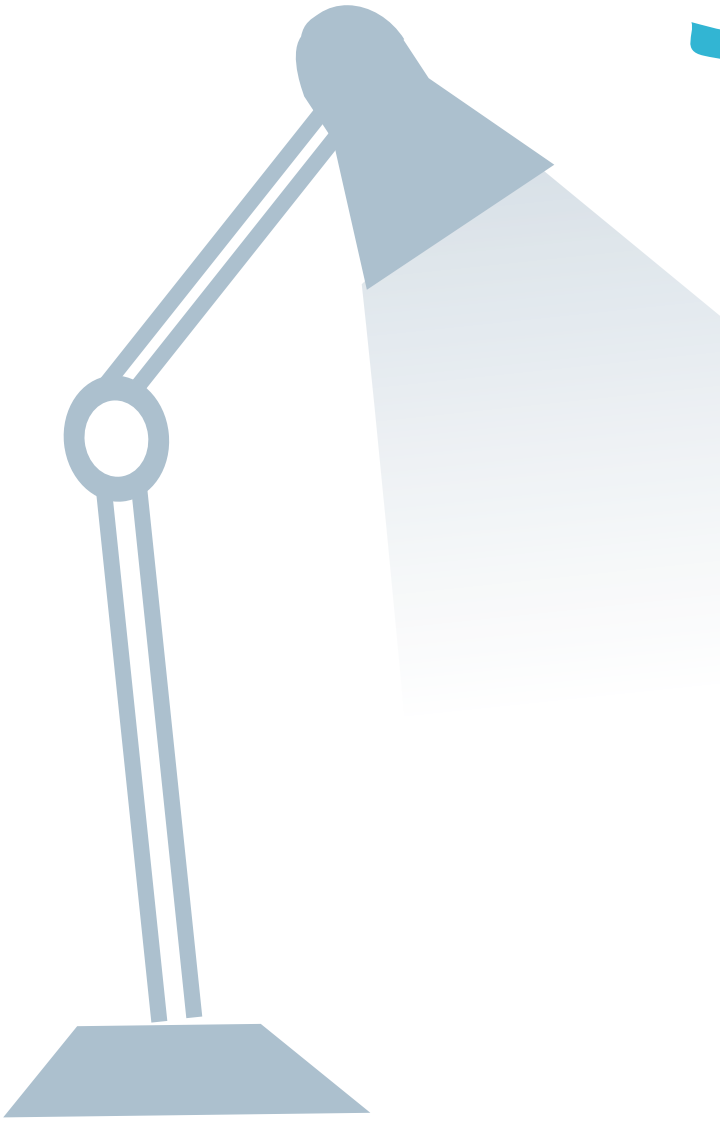
Drones





Video

3D Printing



The image features a dark, moody background with a mix of deep purple, blue, and black tones. On the left side, there are some blurred, curved shapes that suggest a mechanical or architectural structure. In the center, a white rectangular box contains the word "Video" in a bold, black, sans-serif font. The overall aesthetic is modern and minimalist.

Video

Minecraft Lab

The computer lab was transformed into a Minecraft Education Lab. Students can build, imagine, and create in a three dimensional environment. They also use their coding skills and incorporate digital activities into their daily lessons. Teachers attended a Minecraft Education Training to prepare for the school year.



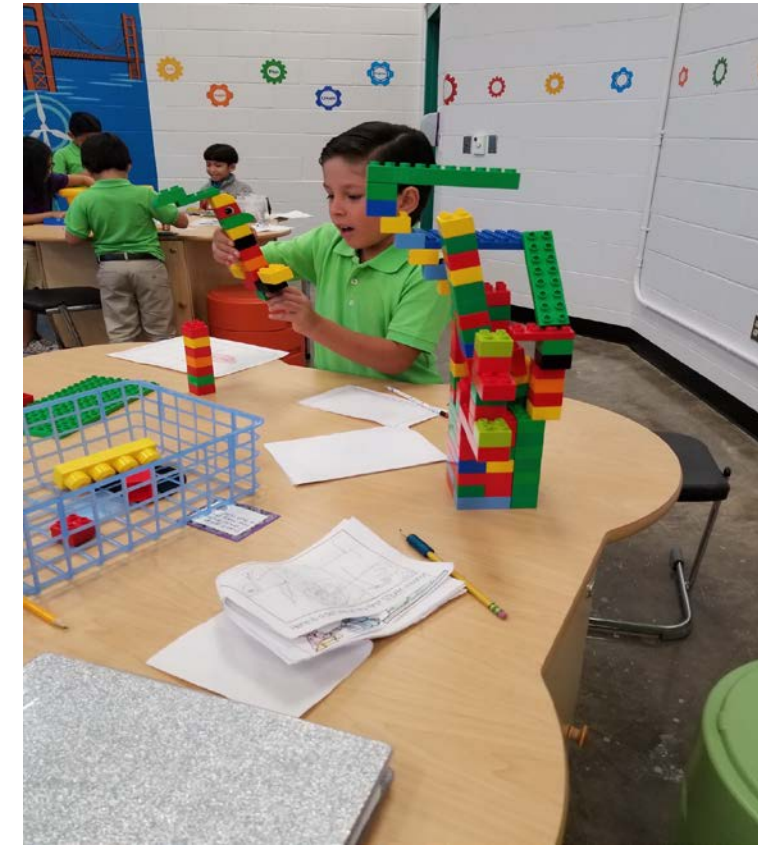
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EDUCATION

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Engineering Lab



A multi-purpose room was transformed into an Engineering Lab that included a Lego Table, various work areas, flexible seating, and individual work areas for students to create, use critical thinking skills, and design their products. Students engage in various hands on activities, engineering projects and challenges using the Engineering Design Process.

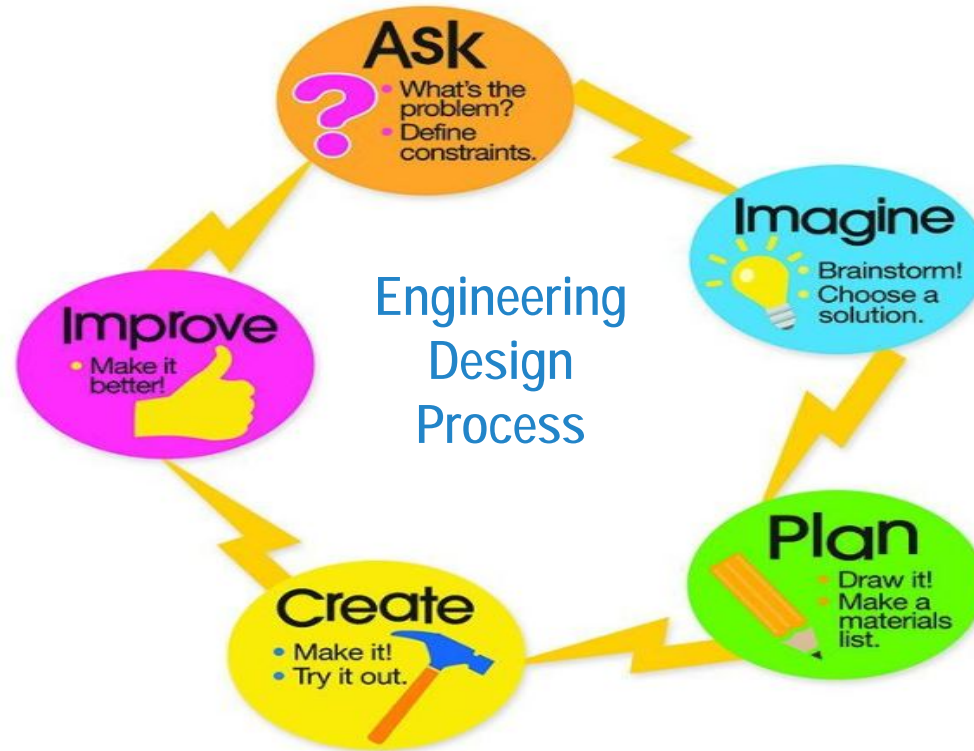




Engineering Curriculum



Teachers utilize the EiE curriculum to incorporate the Engineering Design Process in their classrooms.





ENGINEERING

Video



Kids Love to Engineer



A close-up, high-angle shot of a person's hands and legs on a go-kart. The person is wearing a yellow shirt and khaki pants. They are holding the black steering wheel with their right hand. The go-kart has a large, treaded black tire on the left side. The floor is made of blue and red checkered tiles. A white rectangular box with the word "Video" is overlaid on the center of the image.

Video

Art is integrated throughout the curriculum



Free Resources to get started with Art



[STEAM Art Lessons from Tricia Fuglestad's Elementary Art Room](#)

This resource has HUNDREDS of ideas of elementary STEAM lessons.

[Art to Remember STEAM Lessons](#)

This video shows how to create art with a doodle bot and a paint pendulum.

[How to Easily Add STEAM to Your TAB Curriculum](#)

This article from our archives has simple STEAM ideas for drawing, collage, origami, sculpture, and ceramics.

[Use STEAM Initiatives to Build Art Appreciation](#)

This article from our archives details a collaborative STEAM project that will allow students to find a deeper appreciation and value of the artistic process.

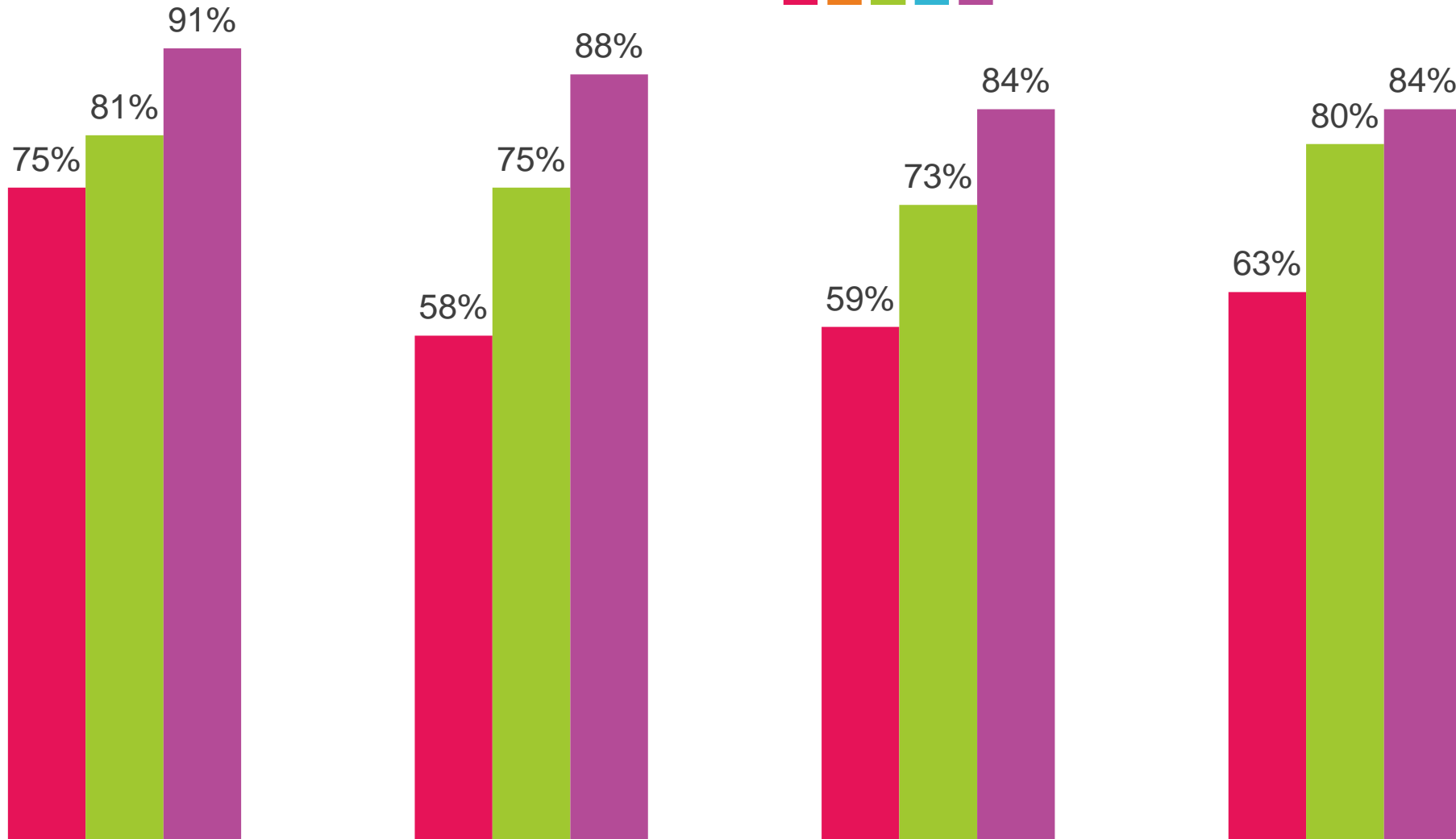
[Five Easy Ways to Gather Steam in Your Art Room](#)

This article from our archives shares five super simple ways to start bringing STEAM ideas into your classroom.

Motivated, Energetic, Enthusiastic, Self Driven, Team Work



End Results



■ 2017
■ 2018
■ 2019

Math

Reading

Writing

Science



Grade Level Accountability



		State	District	STEAM Academy
3rd Grade	Reading	76%	74%	82%
	Math	78%	82%	89%
4th Grade	Reading	74%	76%	94%
	Math	74%	77%	91%
	Writing	65%	68%	84%
5th Grade	Reading	77%	84%	89%
	Math	83%	91%	91%
	Science	74%	78%	84%



Closing the Gap



Economic
Disadvantaged

2017	63%
2018	76%
2019	86%

Hispanic

2017	65%
2018	78%
2019	88%

English
Learners

2017	63%
2018	71%
2019	74%

Earned 6 out of 6 Distinctions

Academic Achievement
ELAR



Top 25% Student Progress

Academic Achievement
Math

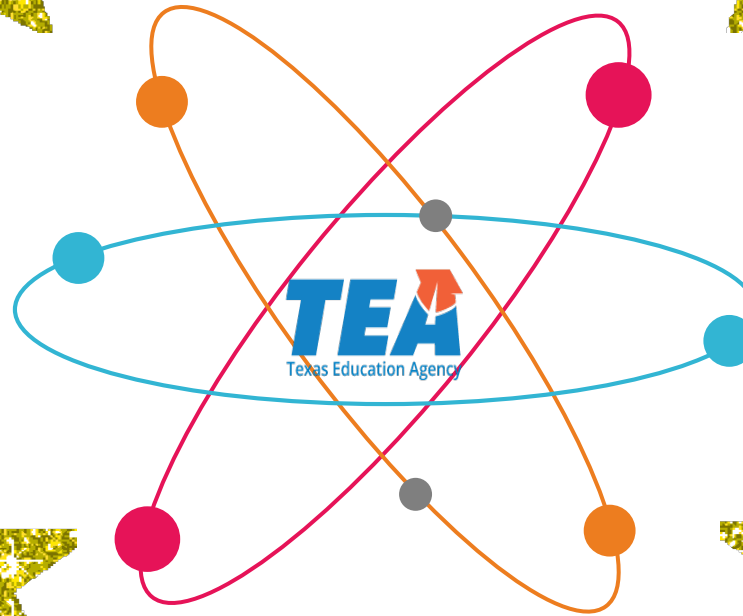


Top 25% Closing the
Performance Gap

Academic Achievement
Science



Post Secondary
Readiness



2018-2019





Video



00:00.00





EDUCATION



Thank You!

San Benito CISD

Dr. Raul Garza, Jr. STEAM Academy

