



# STEM Plus for ALL

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February 10, 2022



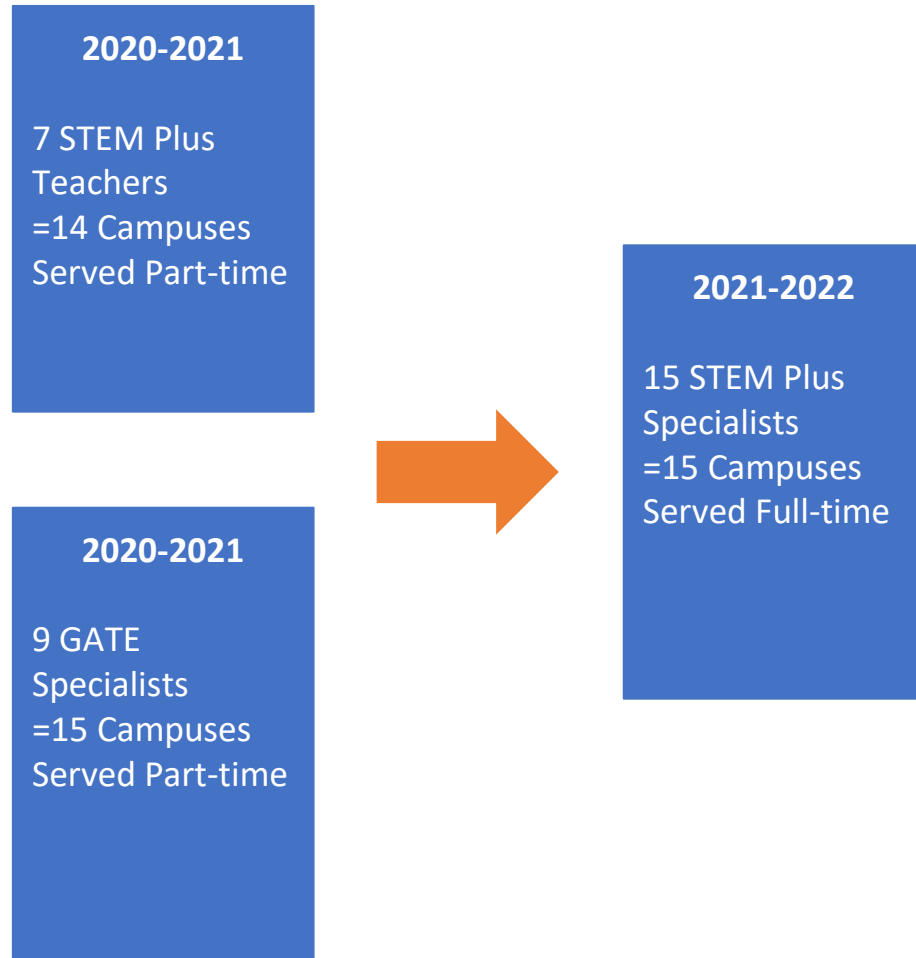
# Why STEM Plus?



## STEM Plus is...

- A way of thinking (mindset)
- Presenting real-world problems as part of the learning and ensuring students are challenged to apply content
- STEM/learner profile skills that are transferable (across contents, out of school, etc)
- Engaging in the work, like an expert from a STEM field and learning about careers that use what they are practicing
- Preparing students to be future ready with learner profile and STEM fluency skills
- Exposing students to skills, real-world applications, careers, and CTE programs





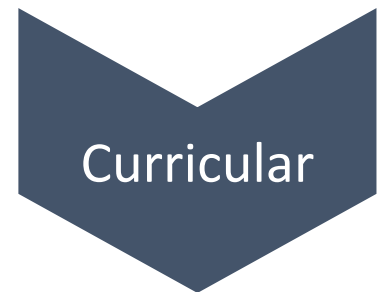
## STEM Plus Focus

- Merging of the GATE and STEM
  - Programming
  - Scheduling
  - Framework
- Professional learning of GATE and STEM components
- Team collaboration
- Support and coaching

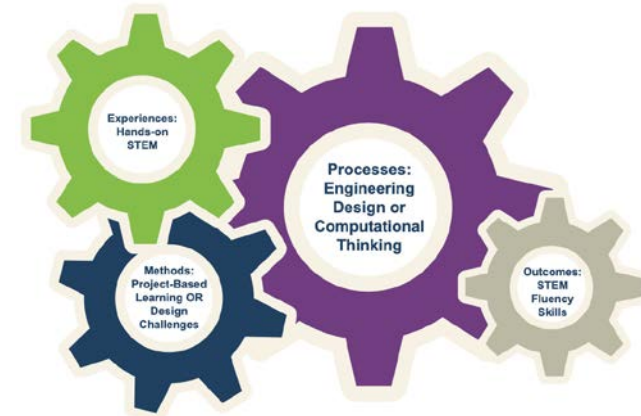




STEM Plus, in elementary, has a strategic plan including GATE and STEM. Integrated instruction aligned to the TEKS, and exposure to CTE/careers are offered regularly throughout the school year.



STEM builds, PBLs, and design challenges are aligned to grade level TEKS, have integrated content across STEM fields, and include real-world career and CTE exploration opportunities.










# STEM Specialists & Updates



By providing each elementary campus a full time STEM Plus Specialist, Crowley ISD is opening doors for ALL students to be exposed to STEM Plus learning and enrichment opportunities to impact multiple areas of a campus.

Each campus elementary STEM Plus Specialist provides extracurricular STEM Plus programming for K-5 in STEM focused topics such as: coding, gardening, robotics, engineering design, and other campus interest areas such as space and science clubs.








STEM Plus Specialists		
	Kayla Buckner Meadowcreek Elementary	<a href="mailto:kayla.buckner@crowley.k12.tx.us">✉ kayla.buckner@crowley.k12.tx.us</a>
	Dorriane Chou J.A. Hargrave Elementary	<a href="mailto:dorriane.chou@crowley.k12.tx.us">✉ dorriane.chou@crowley.k12.tx.us</a>
	Catherine Emerson S.H. Crowley Elementary	<a href="mailto:ceemerson@crowley.k12.tx.us">✉ ceemerson@crowley.k12.tx.us</a>
	Jazmin Jimenez Sidney H. Poynter Elementary	<a href="mailto:jazmin.jimenez@crowley.k12.tx.us">✉ jazmin.jimenez@crowley.k12.tx.us</a>
	Lauren Kelly Oakmont Elementary	<a href="mailto:lauren.kelly@crowley.k12.tx.us">✉ lauren.kelly@crowley.k12.tx.us</a>
	Jacqueline Lee Jackie Carden Elementary	<a href="mailto:jacqueline.lee@crowley.k12.tx.us">✉ jacqueline.lee@crowley.k12.tx.us</a>
	Susan Marshall Dallas Park Elementary	<a href="mailto:smarshall@crowley.k12.tx.us">✉ smarshall@crowley.k12.tx.us</a>

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STEM Plus Specialist	
	Kayla Buck Meadowcreek
	Dorianne J.A. Hargrave
	Catherine S.H. Crowley
	Jazmin Jim Sidney H. Poy
	Lauren Ke Oakmont Elemen
	Jacqueline Jackie Carden
	Susan Ma Dallas Park El



## Meet Our STEM Plus Team

Each newsletter, we'll highlight and spotlight several members of our STEM Plus team throughout the CISD campuses.

Meet Ms. O'Shea at Mary Harris Elementary!  
[https://flipgrid.com/s/xwN2z\\_tyWWZ-](https://flipgrid.com/s/xwN2z_tyWWZ-)

Meet Ms. Lee at Jackie Carden Elementary!  
<https://flipgrid.com/s/ETnZ5yhr6V9>

Meet Ms. Pitts at Parkway Elementary!  
<https://flipgrid.com/s/nin1NbJgChiv>

## STEM Plus Students in Action



### Mary Harris Elementary

Students at Mary Harris Elementary finished up their Mars 2030 by having a Futuristic Fashion Show. Students were tasked with designing the future space suits that would be worn on Mars following both form and function.



### Oakmont Elementary

Kid City has begun! Students at Oakmont Elementary have been busy diving into their Kid City unit, where students are in charge of imagining and designing their own city.



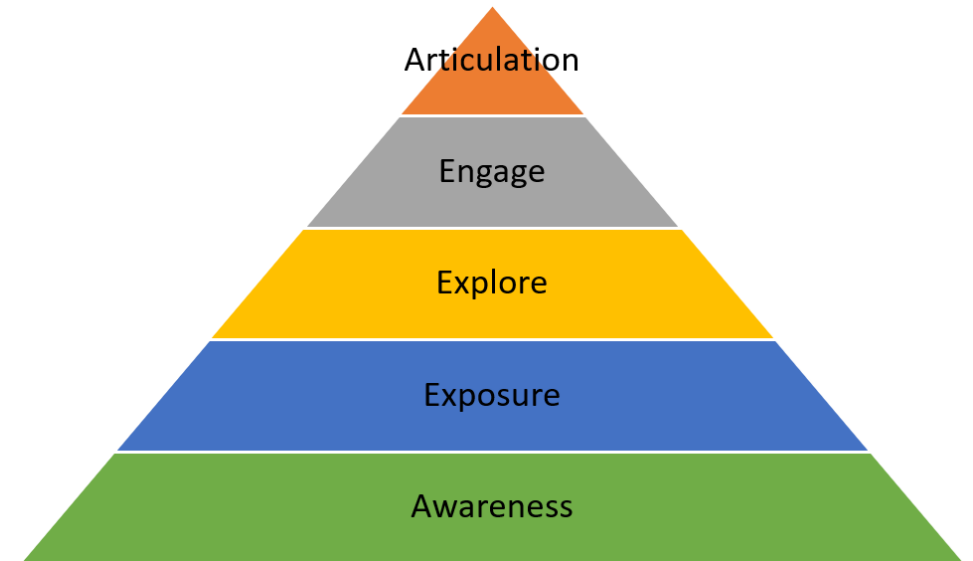
### SH Crowley Elementary

Next stop SEPs! Students at SH Crowley Elementary practiced testing different fabrics to determine which one would be most viable in their prototype model.

# Awareness 2021-2022



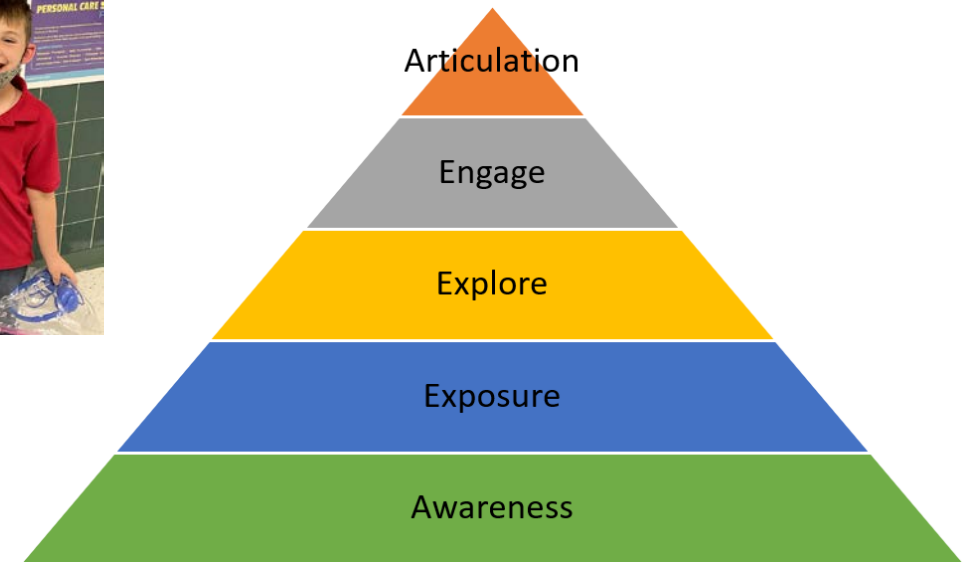
**Definition:** conscience, intangible, abstract, knowing, general, introduce, familiar, clarify, enlightenment



# Exposure 2021-2022



**Definition:** concrete, tangible, doing, physical/contact, accept that it exists, specifics of careers, representation

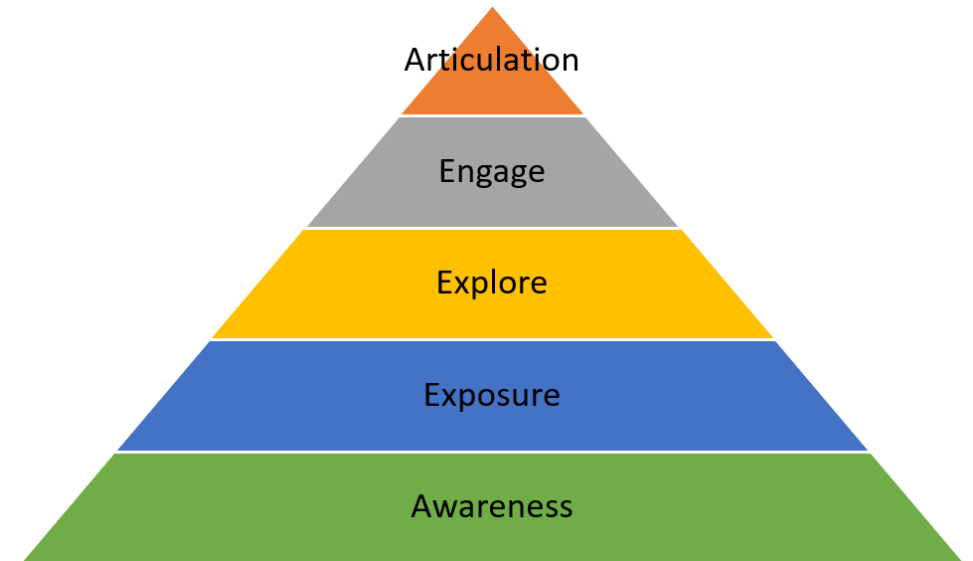




# Explore 2021-2022



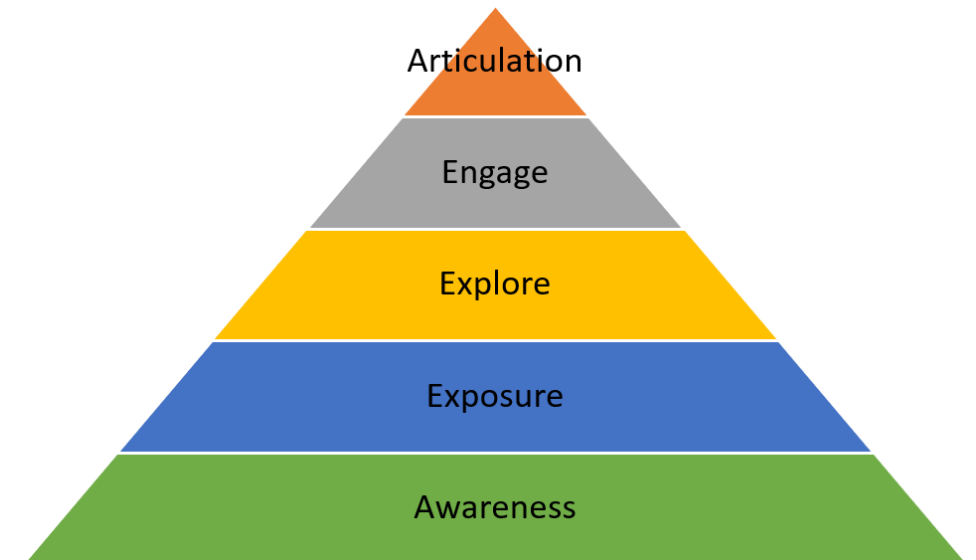
**Definition:** learning while doing, discovery, risk, experiment, hands on, investigation, deeper understanding, AHA moment



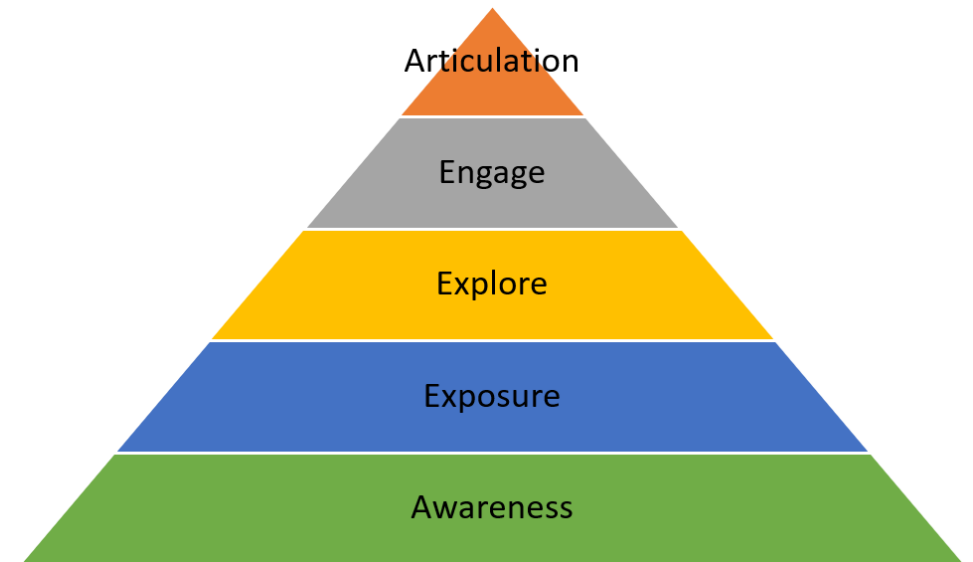
# Engage 2021-2022



**Definition:** apply knowledge, deeper inquiry, demonstrating, relevant, application, align passion with pathway



**Definition:** show, putting things into action, own the knowledge, teach someone else, initiates the learning



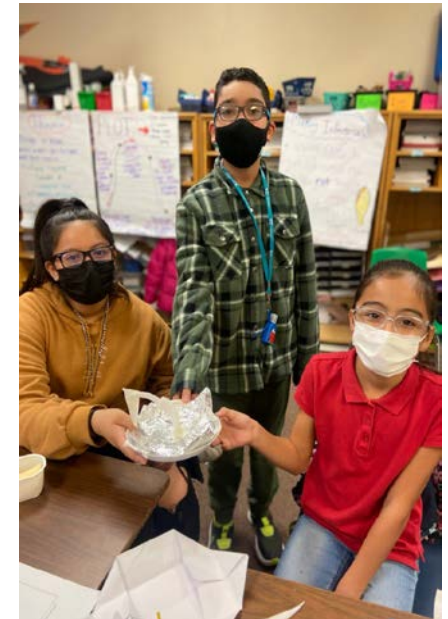


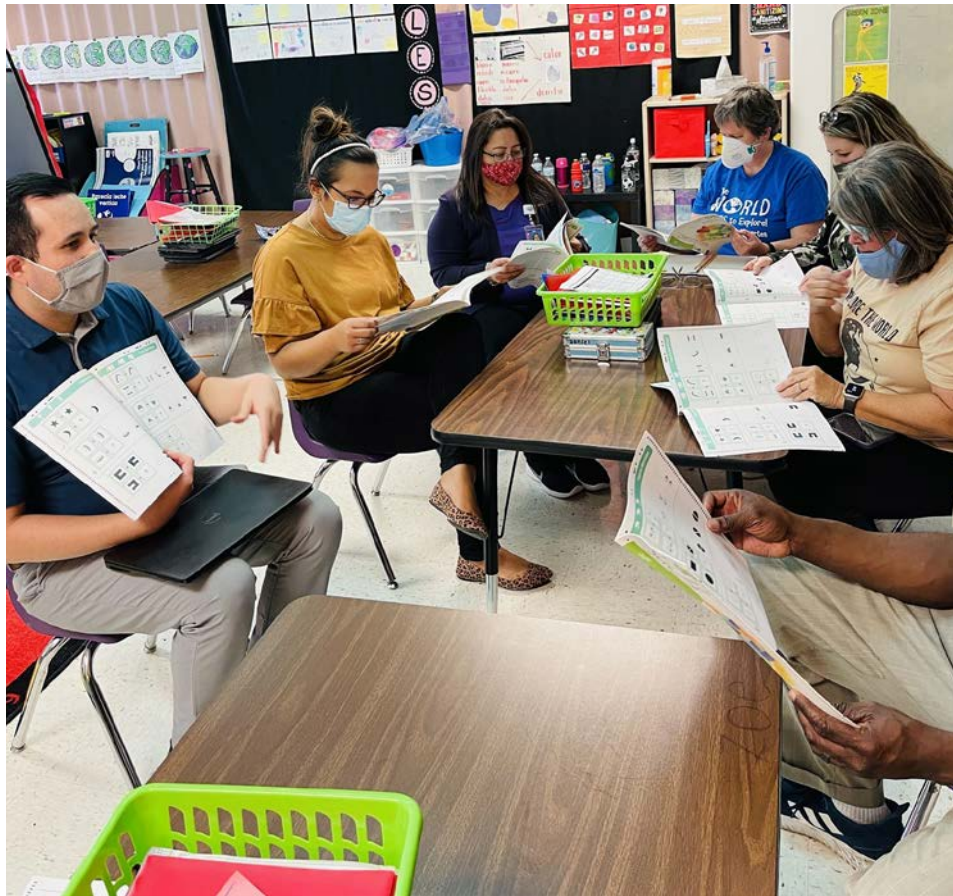
# Deer Creek Elementary STEM Plus Recognition

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## Prek-5 STEM Activities





## Critical Thinking Framework

### EDWARD DE BONO'S SIX THINKING HATS



Facts - just collecting facts



Brightness & optimism -  
positiveness, value & benefits



Caution & criticalness -  
reasons of why something  
may not work  
*Do not overuse!*



Possibilities & creativities -  
new ideas, concepts  
& perceptions



Reviewing your thinking process -  
making sure all hats  
have been used



Feelings, hunches & intuition -  
allowing your feelings come in e.g.  
happy, terrible, impossible...

# After School Programming



Challenge: Create your own path for the evo bot to travel.



### Color Codes | Chart

 Short Super Slow R G B	 Slow R BK R	 Cruise G BK G
 Fast B BK B	 Turbo B G B	 Nitro Boost B G R
 Left at Intersection G BK R	 Straight at Intersection B BK R	 Right at Intersection B R G
 Line Switch Left G R G	 Line Switch Straight G B G	 Line Switch Right R G R

 U-Turn B R B	 U-Turn (line end) B R	 Tornado R G R G
 Zigzag B BK G R	 Spin G R G R	 Backwalk R G BK B
	 Win/Exit (Play Again) G B	 Win/Exit (Game Over) G R

BK: Black  
B: Blue  
G: Green  
R: Red

ozobot



# JA Hargrave Elementary STEM Plus Recognition

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First Lego League (FLL) Robotics  
Core Value Award & Advancement to  
Regional Championships





# FLL Qualifier



“The mission of *FIRST*® is to inspire young people to be science and technology leaders and innovators, by engaging them in exciting mentor-based programs that build science, engineering, and technology skills, that inspire innovation, and that foster well-rounded life capabilities including self-confidence, communication, and leadership.”

# FLL Components



## Robot Mission Board

Based on the theme, there are various obstacles placed throughout a board that teams must build and program a robot to complete autonomously. The goal is to complete missions and score as many points as possible.

## Robot Design & Programming

To compete in the mission board, teams must build and design their own robot, as well as attachments to help complete each obstacle. After building, teams must then program the robot to run missions autonomously.

## PBL Research Project

Teams must identify and innovate a solution to the challenge and theme. Through this, they must undergo research and use the engineering design process to iterate their ideas to create solution and prototype to present to judges.

## Core Values

Through the process and competition, teams must practice and consistently demonstrate the following STEM skills:

- Discovery: We explore new skills and ideas.*
- Innovation: We use creativity and persistence to solve problems.*
- Impact: We apply what we learn to improve the world.*
- Inclusion: We respect each other and embrace our differences.*
- Teamwork: We are stronger when we work together.*
- Fun: We enjoy and celebrate what we do!*

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# Robot Mission Board



CROWLEY INDEPENDENT SCHOOL DISTRICT



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