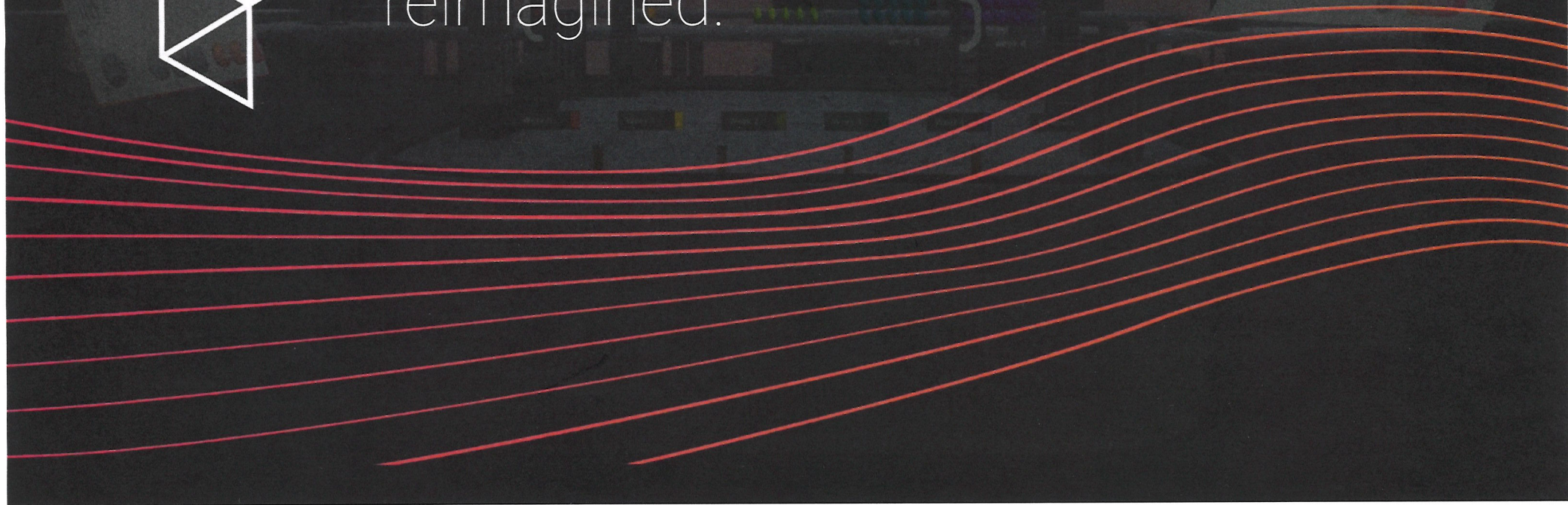


prisms the classroom  
reimagined.







# FOUNDER'S JOURNEY

- BS and M.Eng in EECS, **MIT**
- M.Ed in Science Curriculum & Teaching, **Boston University**

- HS Physics & Math Teacher
- Director of Secondary STEM:  
**Boston Public, NYC DOE,**  
**Success Academies**

- **NSF / NIH** SBIR Awardee
- **Prisms Founding!**

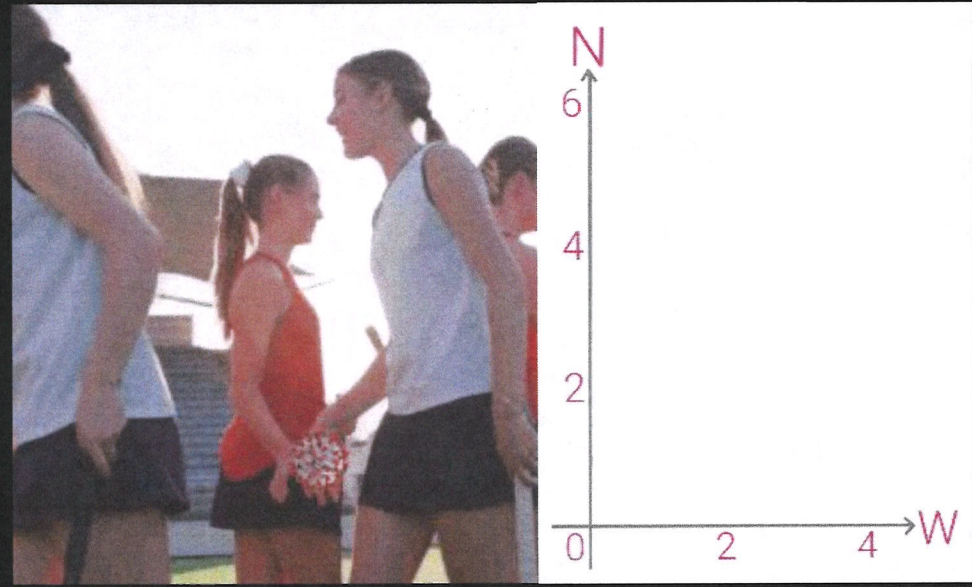


# WE KNOW HOW WE LEARN MATH BEST

## 1 Spatial Reasoning



## 2 The Ability to Abstract

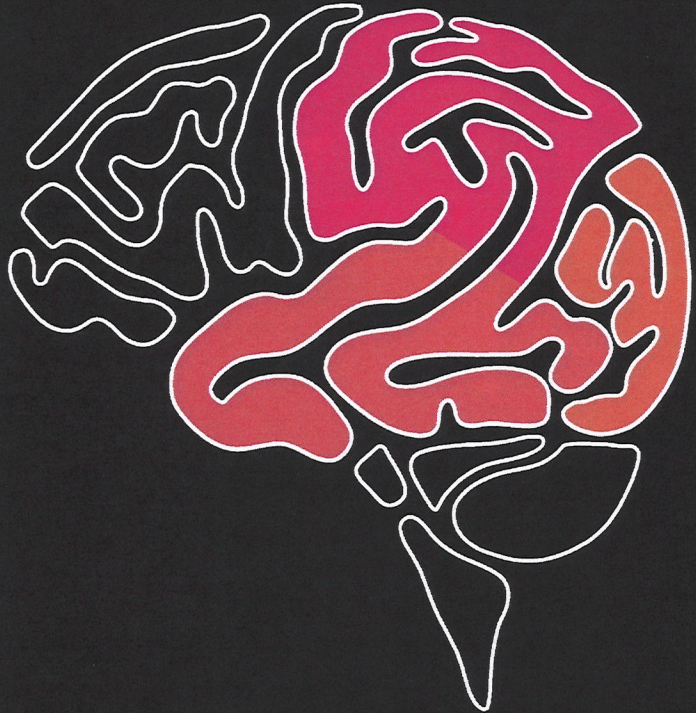


Spatial reasoning and abstraction from real life experiences are the top indicators of success in the STEM fields



# WE KNOW HOW WE LEARN MATH BEST

We are wired to learn *experientially*



- PERCEIVING
- SEEING
- DOING
- MOVING

*Thinking is **muscular***

*Learning is **experiential***

*Information is **forgotten***

- Einstein



# BUT EXISTING TOOLS DON'T EXPLOIT THESE FACTS

How do the leading Algebra learning solutions teach exponential growth functions, today?

$$y = 5^x$$

x	y
1	5
2	25
3	125

$\times 5$   
 $\times 5$

Memorize the form  
divorced from meaning

Memorize the growth  
pattern

A town is experiencing an outbreak of a virus. The town **began with one person** who had the virus.

The number of people infected each week **grows by a rate of 5**.

Write an equation that models this scenario.

Memorize key words and a  
procedure to execute

1. Write the explicit equation that represents the pattern in the table below.

x	y
0	65
2	48
3	23
4	2

4. Write the explicit equation that represents the relationship between x and y shown in the graph below.

2. Mary's car displays the number of gallons remaining in her gas tank. When she fills her tank, she has 15.7 gallons of gas. After traveling 2, 3, and 4 miles, she has 13.1, 11.4, and 9.7 gallons of gas left, respectively. Write an explicit equation that represents the remaining gallons of gas after traveling x miles.

3. Write the explicit equation that represents the relationship between x and y shown in the graph below.

5. A population of deer is decreasing. The population this year is 500 deer. After 1 year, it is measured that the population will be 220 deer. After 2 years, it is measured that the population will be 100 deer. Write the equation to describe the deer population in any year t.

t	y
0	500
1	220
2	100
3	45.12

**Students learn some reflexes, but leave with no understanding or intuition.**



The background of the slide is a stylized, futuristic classroom. On the left, a large digital display shows a grid with numbers 0 through 10. Below it, a smaller screen displays the equation  $10 =$  followed by five colored circles (grey, grey, grey, orange, orange). In the center, a large black circle contains the text. To the right of the circle, a digital display shows a 'Submit' button. In the upper right, a circular gauge displays the number 75. The overall aesthetic is modern and tech-oriented, with red wavy lines at the bottom.

## OUR SOLUTION

The first ever spatial learning platform for math, where students learn through movement, discovery, and purpose.



# A NEW WAY FORWARD

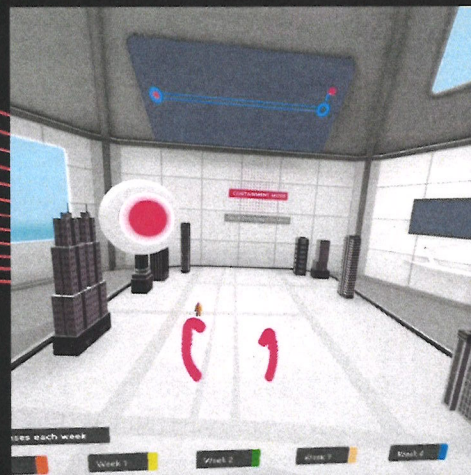
## Algebra I - Sample module: Exponential Functions



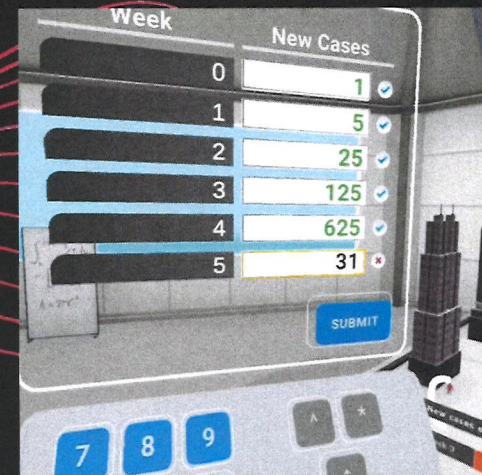
Students **physically experience** viral growth rate in a food hall.



They **visualize the mathematical pattern** underlying the spread.



And **touch and move** to physically internalize multiplicative growth.



To **develop fluency** grounded in deep structural understanding.

*\*Our 3D virtual assistant provides just-in-time feedback at key moments of struggle, and synchronous teacher dashboard allows teachers to monitor and make strategic interventions*



# A NEW WAY FORWARD

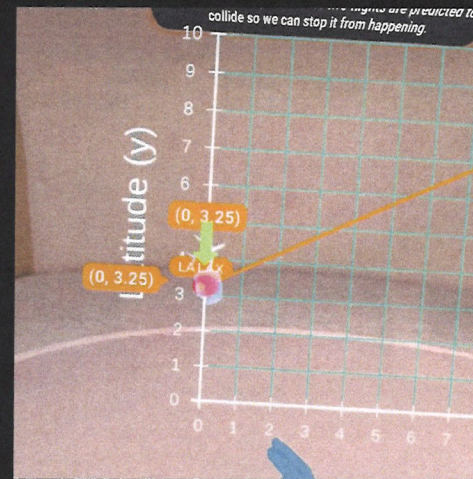
## Algebra I - Sample module: Systems of Linear Equations



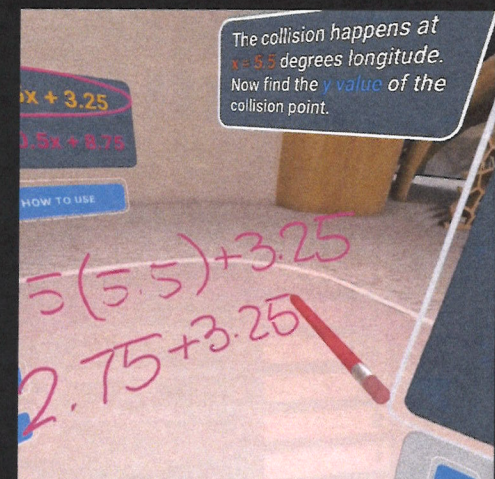
Students **physically experience** being a flight dispatcher



They **model** flights to discover the point of collision



And **visualize the mathematical pattern** of each flight path's rate of change



To **develop fluency** grounded in deep structural understanding

*\*Our 3D virtual assistant provides just-in-time feedback at key moments of struggle, and synchronous teacher dashboard allows teachers to monitor and make strategic interventions*

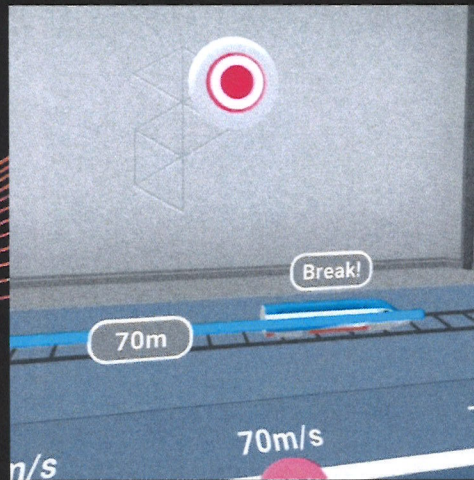


# A NEW WAY FORWARD

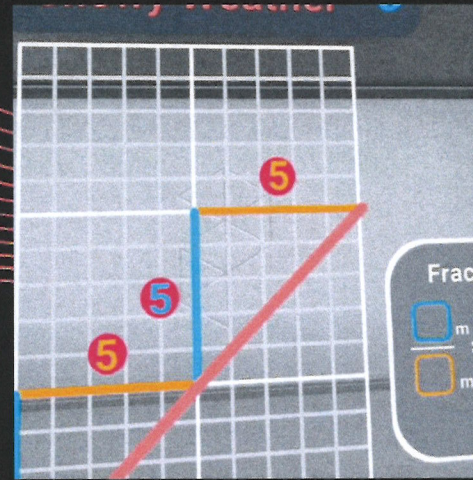
## Middle School Math - Sample module: Rates of Change



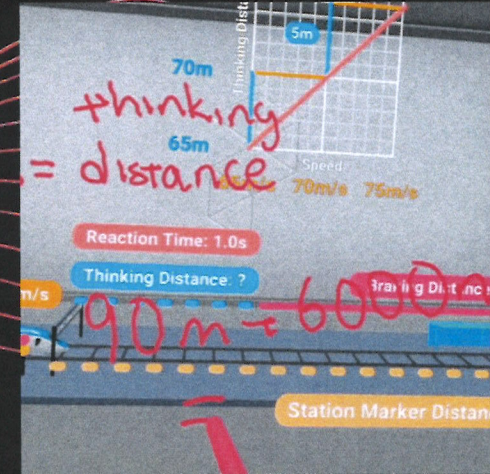
Students **physically experience** their reaction times operating a high speed train's braking system



They use **tactile graphs** to record the mathematical relationships they experienced



And **visualize different representations** of rates of change

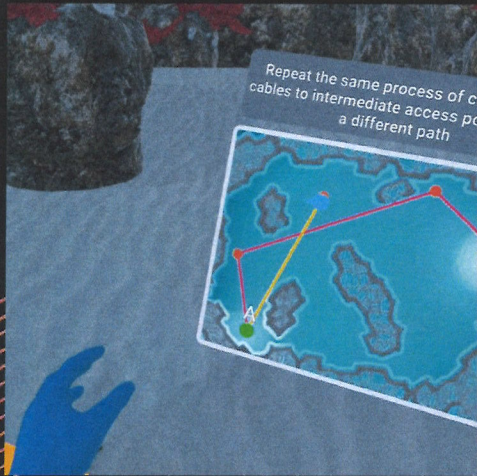


To **create and interpret equations** and solve problems in context

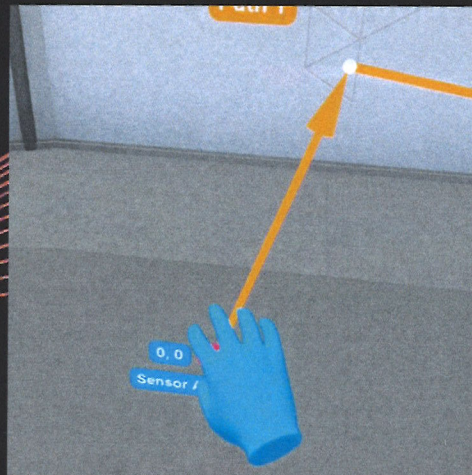


# A NEW WAY FORWARD

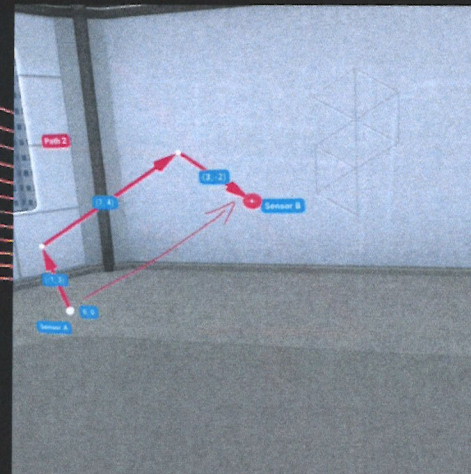
## Advanced Algebra - Sample module: Vectors



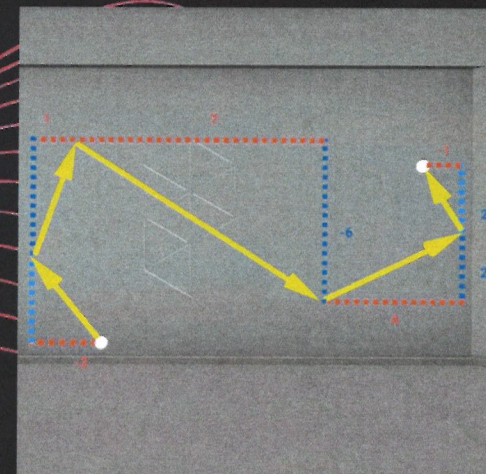
Students **physically create** an array of underwater cables



They **model** the array with vectors and visualize their x- and y-components



To identify key **math parameters** across representations






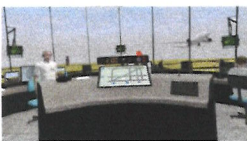

And **formally define** the algorithms they intuited through movement

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# ALGEBRA LIBRARY

Ten interactive, experiential learning Algebra I modules


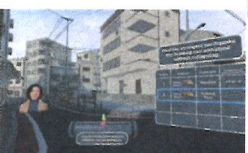

MODULE	MISSION	SNAPSHOT
<b>Linear Functions</b> <i>Withstanding Floods</i>	Work as a <b>Scientist</b> to determine when a <b>melting glacier</b> will cause sea levels to rise enough to impact businesses on Miami's shoreline so they can protect their livelihoods	
<b>Quadratics</b> <i>Urbanization</i>	Assume the role of an <b>Urban Landscape Architect</b> to find the dimensions of the <b>largest possible greenspace</b> , given spatial and budgetary constraints, to improve the quality of life in our dense urban spaces	
<b>Exponential Functions</b> <i>Pandemic</i>	Work as a <b>Public Health Policy Analyst</b> in a medium-sized US city to determine the number of weeks until the city's <b>hospitals reach capacity</b> as an unknown virus spreads across a city	
<b>Systems of Linear Equations</b> <i>Flight Control</i>	Step into the role of an <b>Air Traffic Controller</b> at O'Hare International Airport to <b>determine how to redirect the flight paths</b> of two planes headed for a collision.	
<b>Linear Regression</b> <i>Landfills</i>	Join a team of <b>Urban Planners</b> in a National Park to determine when the <b>amount of waste</b> produced by a city's growing population will overwhelm its existing waste management capabilities	

*Can be used as a  
enhancement /  
supplemental to your core  
curriculum, targeted  
intervention, after school  
tutoring, and summer school  
enrichment programs.*



# ALGEBRA LIBRARY

Nine interactive, experiential learning Algebra I modules

MODULE	MISSION	SNAPSHOT
<b>System of Linear Inequalities</b> <i>Treating Malaria</i>	Support a team of local <b>Medicinal Chemists in Nigeria</b> by finding the region of the forest where the most wormwood plant grows to <b>make medicine for Malaria patients</b> who need treatment immediately.	
<b>Roots and Rational Exponents</b> <i>AI Chips</i>	Work as a <b>Building Engineer</b> at an AI start-up to find the correct dimensions of a server room to host the <b>next generation of hardware that's training our AI systems</b> .	
<b>Absolute Value Functions</b> <i>Seismic Waves</i>	Step into the shoes of a <b>Geotechnical Engineer</b> to determine which types of buildings will <b>survive the next major earthquake</b> in Kyoto, Japan.	
<b>Factoring Quadratics</b> <i>Drone Deliveries</i>	Take on the role of an <b>Aviation Engineer</b> to determine the ideal distance between the time of release of a package and the landing spot for <b>light package drone deliveries</b> to reduce traffic in Newark, New Jersey.	

*Can be used as a  
enhancement /  
supplemental to your core  
curriculum, targeted  
intervention, after school  
tutoring, and summer school  
enrichment programs.*

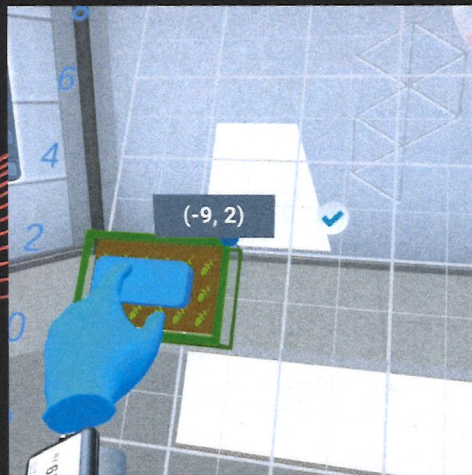


# A NEW WAY FORWARD

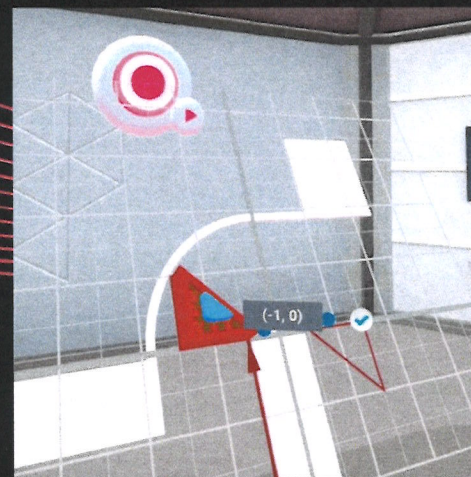
## Geometry - Sample module: Transformations



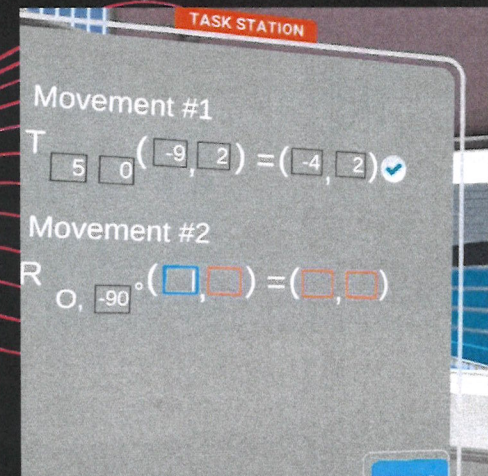
Students **physically experience** an urban rooftop farm.



They **spatially** perform **translations** and **rotations**.



And make connections between the movement and **math representations**



To **develop fluency**, they connect to formal notation for efficient communication

*\*Our 3D virtual assistant provides just-in-time feedback at key moments of struggle, and synchronous teacher dashboard allows teachers to monitor and make strategic interventions*

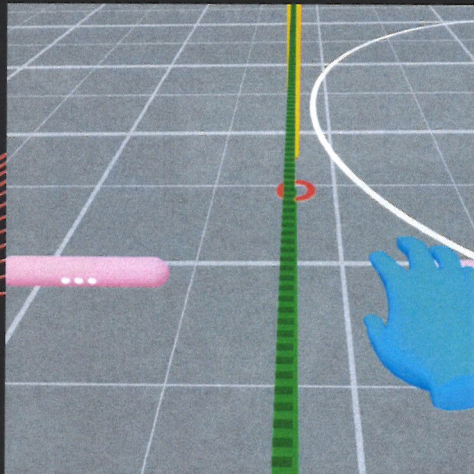


# A NEW WAY FORWARD

## Geometry - Sample module: Circle Equations



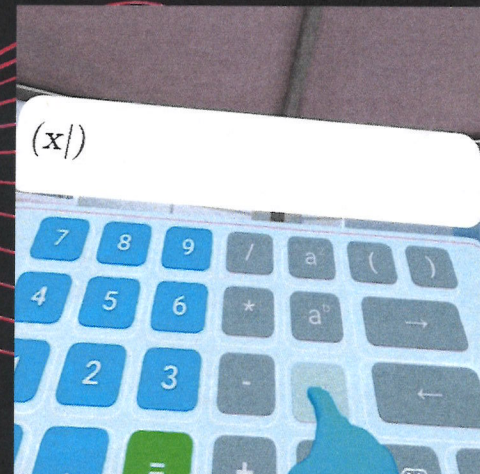
Students **physically build** a Yurt in the Himalayas



They **experience** the parameters that define a circle



And **make connections** to previous mathematical concepts




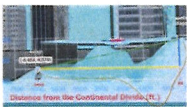

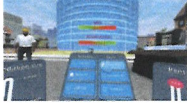


To **derive the equation for a circle** using right triangles

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# GEOMETRY LIBRARY

Six interactive, experiential learning Geometry modules

MODULE	MISSION	SNAPSHOT
<b>Trigonometry</b> <i>Shadows</i>	Determine the <b>minimum height of a new school building</b> that creates a 15.12 meter shadow over the playground during recess in the fall and spring seasons	
<b>Distance Formula</b> <i>Cable Cars</i>	Design a <b>cable car route</b> that travels between towns in less than 30 minutes	
<b>Circle Equations</b> <i>Yurts</i>	Design three <b>circular yurts</b> to sustainably and comfortably accommodate 10 people	
<b>Solids of Rotation</b> <i>Affordable Housing</i>	<b>Design a building</b> that is affordable to residents and worthwhile for real estate developers to build	
<b>Transformations</b> <i>Rooftop Gardens</i>	<b>Maximize produce yield</b> of an urban rooftop garden	
<b>Similarity and Congruence</b> <i>Restoring Mosaics</i>	<b>Restore ancient mosaics</b> by creating a math algorithm that quickly matches missing pieces	

*Can be used as a  
enhancement /  
supplemental to your core  
curriculum, targeted  
intervention, after school  
tutoring, and summer school  
enrichment programs.*

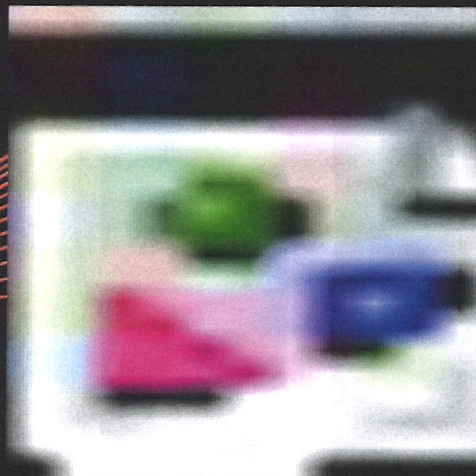


# A NEW WAY FORWARD

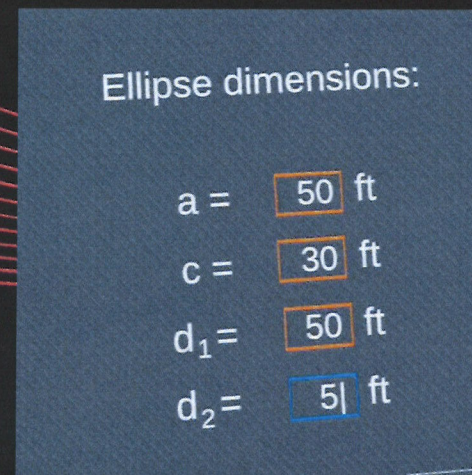
## Advanced Algebra - Sample module: Conic Sections



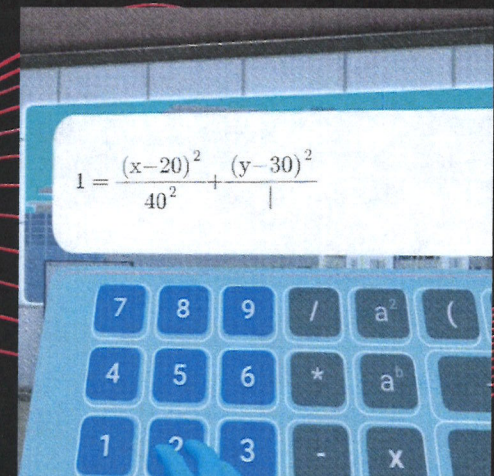
Students **physically experience** sound paths in a whispering gallery.



They use **3D hand models** to identify the foci of an ellipse.



And **derive elements of the equation** of an ellipse.



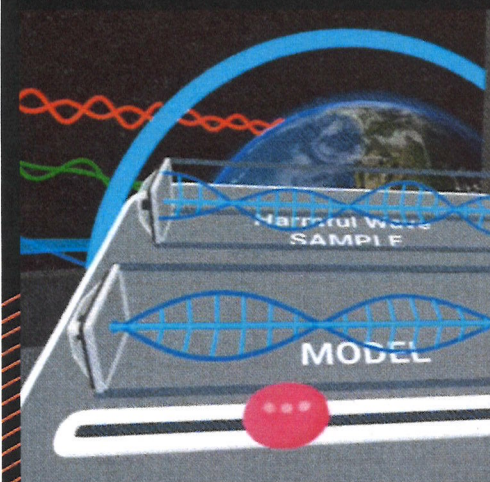
To **develop fluency** grounded in deep structural understanding.

*\*Our 3D virtual assistant provides just-in-time feedback at key moments of struggle, and synchronous teacher dashboard allows teachers to monitor and make strategic interventions*

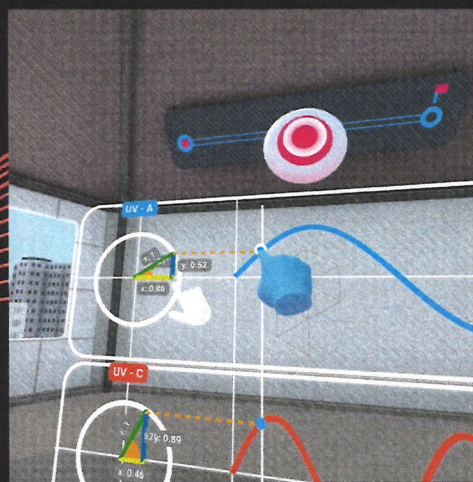


# A NEW WAY FORWARD

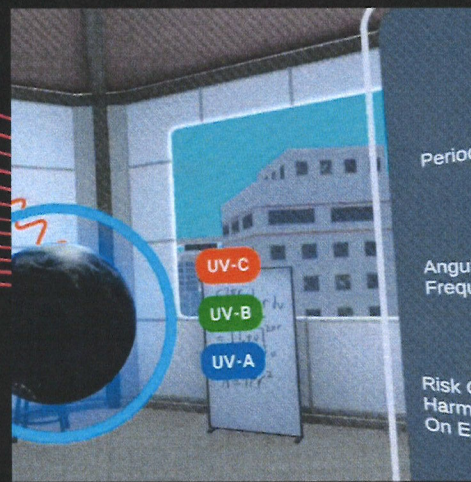
## Advanced Algebra - Sample module: Periodic Functions



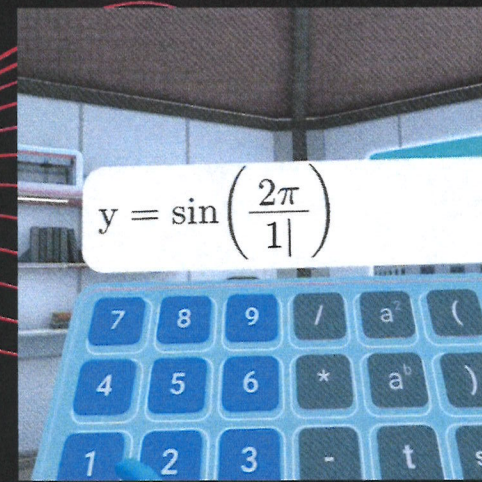
Students **physically experience** UV waves interacting with the ozone layer.



They **touch and move** to understand physical properties of sinusoids.



And **derive the definitions** for period and angular frequency.



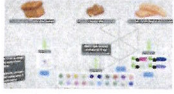







To **develop fluency** grounded in deep structural understanding.

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# BIOLOGY LIBRARY

Eight interactive, experiential learning Biology modules

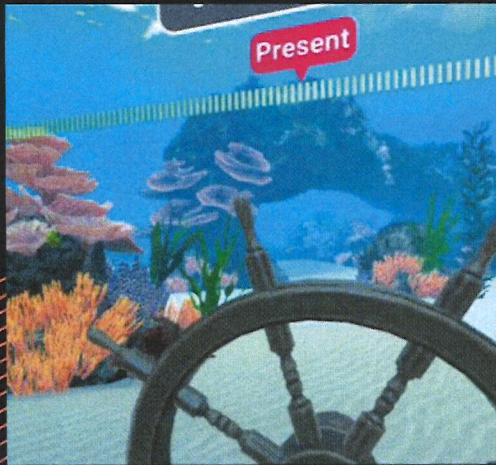
MODULE	MISSION	SNAPSHOT
<b>Biomolecules</b> <i>World Food Programme</i>	Join a team of <b>Humanitarian Nutritionists</b> to <b>build a food shipment plan</b> to send to South Sudan that will fulfill the nutritional requirements based on the underlying biochemistry of each substance and its use in the body	
<b>Cells</b> <i>Tissue Regeneration</i>	Work as a <b>Biomedical Researcher</b> to <b>prepare stem cells for tissue regeneration therapy</b> by ensuring they differentiate correctly and are able to reproduce effectively for burn victims who've been affected by wildfires in CA.	
<b>Cellular Energy</b> <i>Coral Bleaching</i>	Assume the role of a <b>Microbiologist</b> to <b>build a model showing the energetic chemical interactions between coral polyps and zooplankton</b> to inform an underground sensor system that maintains the health of the Great Barrier Reef.	
<b>Mitosis</b> <i>Lab Grown Meat</i>	Work as a <b>Food Scientist</b> to <b>help scale a local restaurant's lab-grown meat</b> operation so they can make a healthy, environmentally friendly burger.	
<b>DNA Structure &amp; Function</b> <i>Antibiotic-Resistant Bacteria</i>	Step into the shoes of a <b>Microbial Geneticist</b> to <b>program CRISPR technology</b> to remove the gene causing a bacteria's antibiotic resistance.	
<b>Genetics</b> <i>Dog Breeding Standards</i>	Work as a <b>Geneticist</b> to <b>create a breeding plan that will eliminate three harmful traits</b> from a population of pugs in four generations or fewer	
<b>Evolution</b> <i>Predict Species Changes</i>	Assume the role of an <b>Evolutionary Biologist</b> to <b>determine which species that Inuit populations depend on are at risk for extinction</b> as the environment experiences changes in the Arctic Circle.	
<b>Ecology</b> <i>Invasive Species</i>	Join a team of <b>Ecologists</b> to identify the most effective solution for <b>removing invasive feral hogs and restoring an Alabama ecosystem</b> and safety for their farmers and all citizens.	

*Can be used as a core curriculum or in informal learning for targeted intervention, after school tutoring, and summer school enrichment programs.*

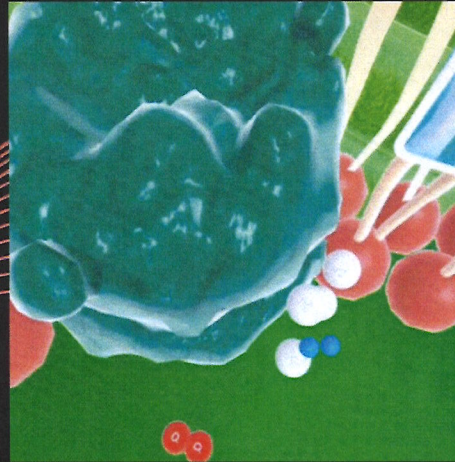


# A NEW WAY FORWARD

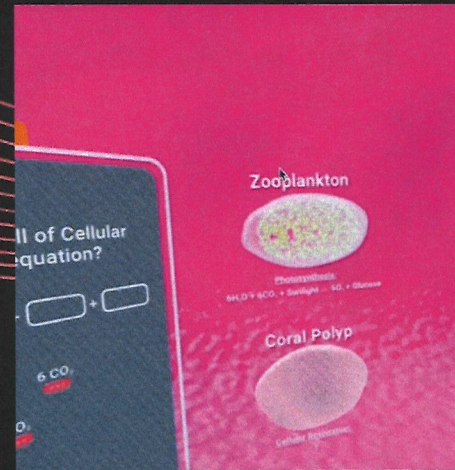
## Biology - Sample module: Cellular Energy



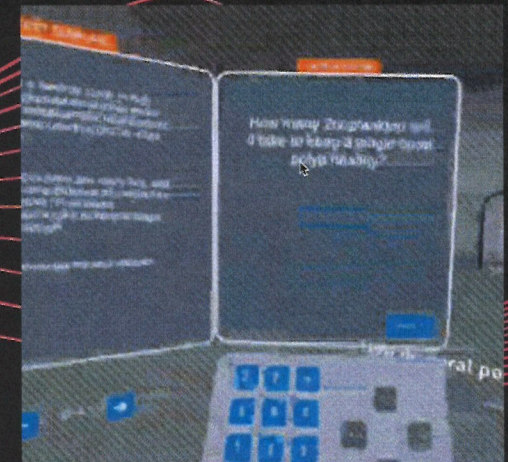
Students **explore** coral bleaching through time relate it to the symbiotic relationship between plankton and coral



They **physically build** the steps of photosynthesis and cellular respiration



So they can **derive the summary equations** for each, demystifying energy transfer and carbon transfer

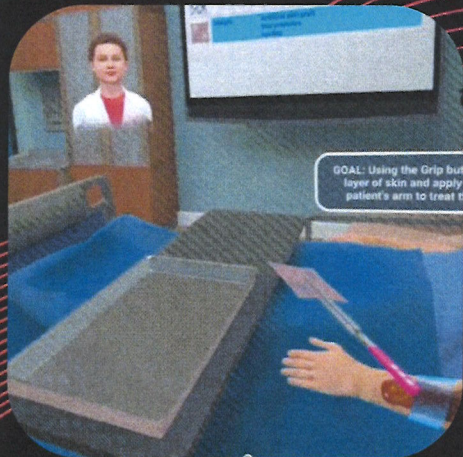


To **determine the precise number of plankton** each coral needs before becoming bleached

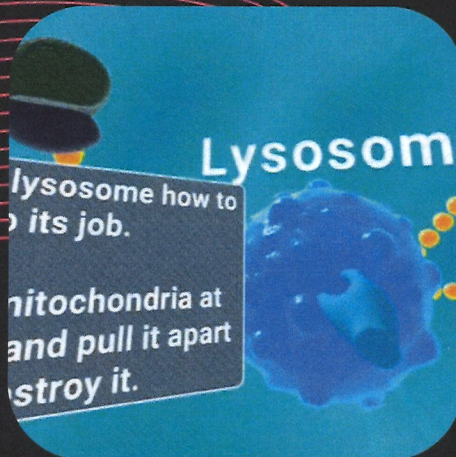


# A NEW WAY FORWARD

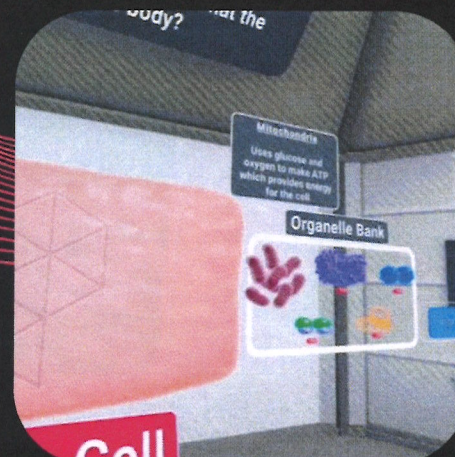
## Biology - Sample module: Cells



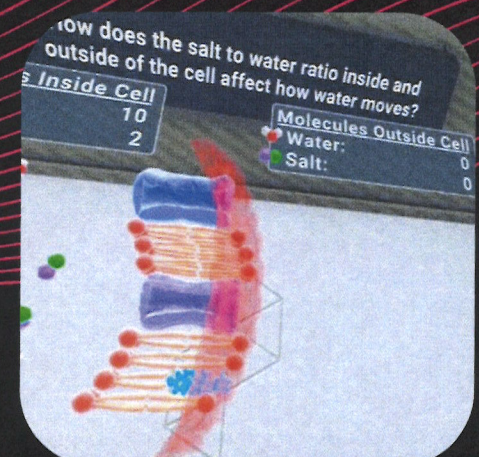
Students **apply** different skin tissue regeneration therapies to a burn wound on a firefighter, and observe them each fail to fully heal the burn.



They discover the function of organelles by **physically performing** the role of each inside of a cell.



So they can **build specialized skin cells** with the correct concentrations of organelles to make skin tissue.

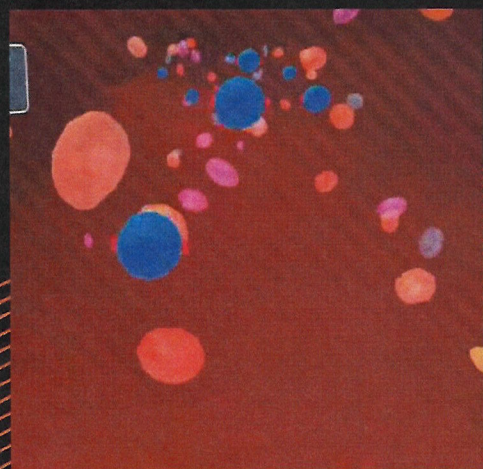


And then **design a treatment solution** that will control the movement of water into and out of the cells.

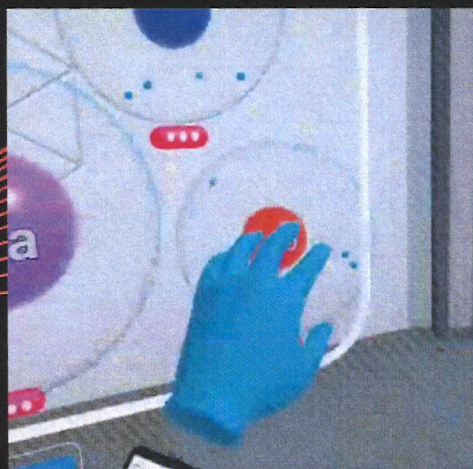


# A NEW WAY FORWARD

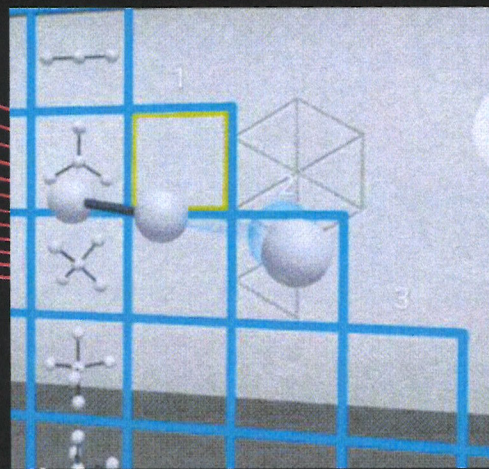
## Chemistry - Sample module: Intermolecular Forces and Bonds



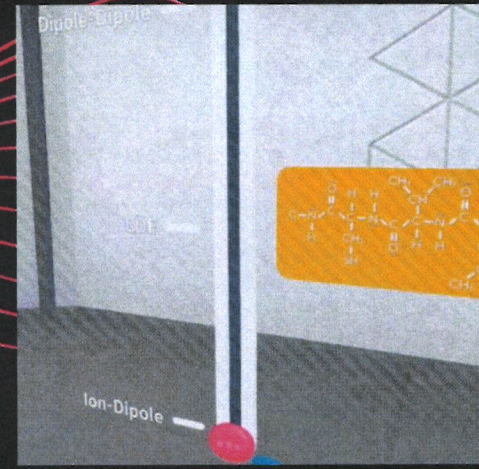
Students **physically experience** insulin binding to protein receptors in a blood vessel to reduce a Diabetes patient's blood sugar



They **tactically explore** the different types and strengths of chemical bonds that impact the molecular structure of insulin



They **construct molecules** with atoms and lone pairs to understand the molecular geometry of insulin.



To **create a 3D insulin molecule** using covalent bonds and dipole-dipole forces.



Frame



VR



Synthesis Activity

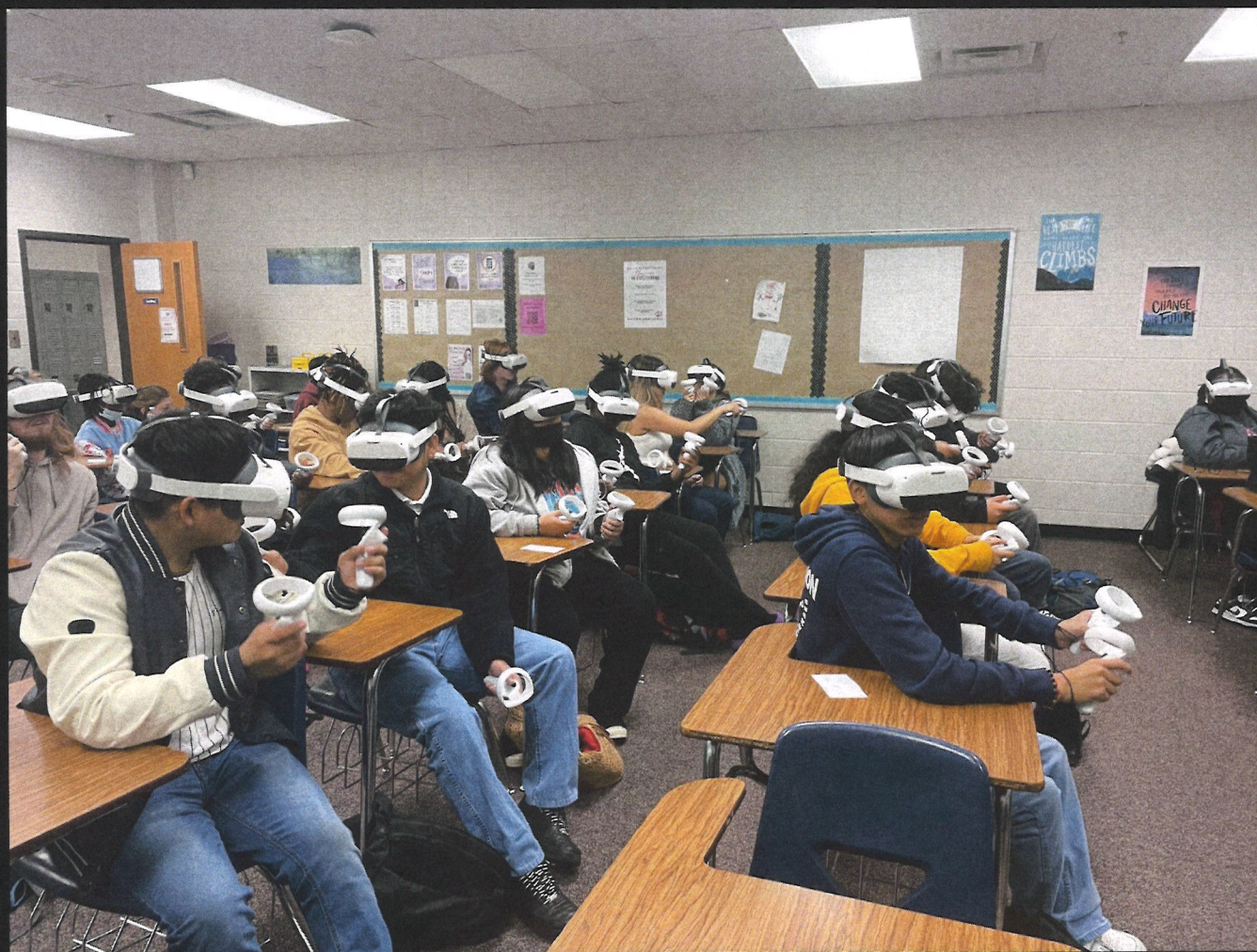


Debrief

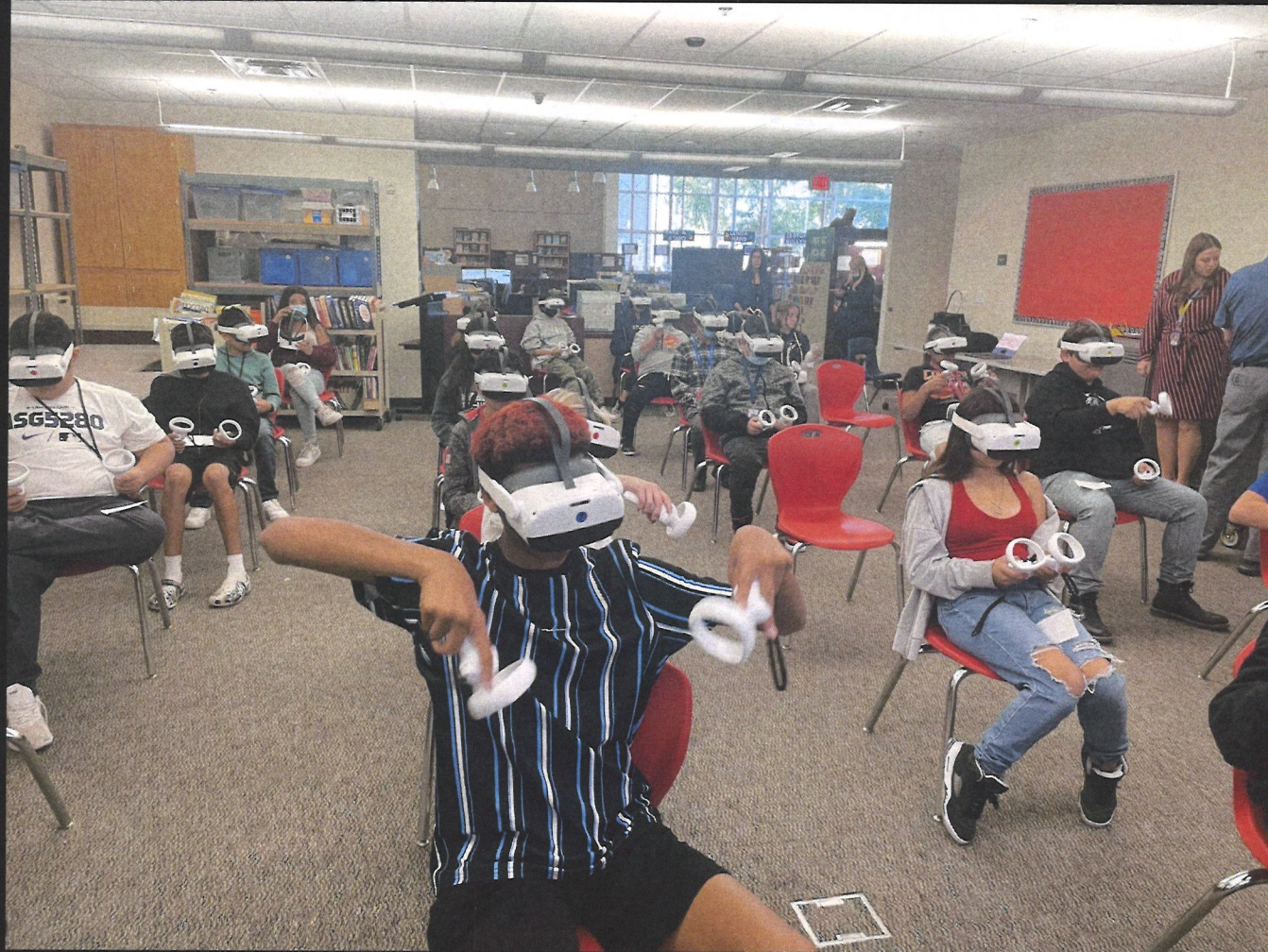


Instructional  
Design

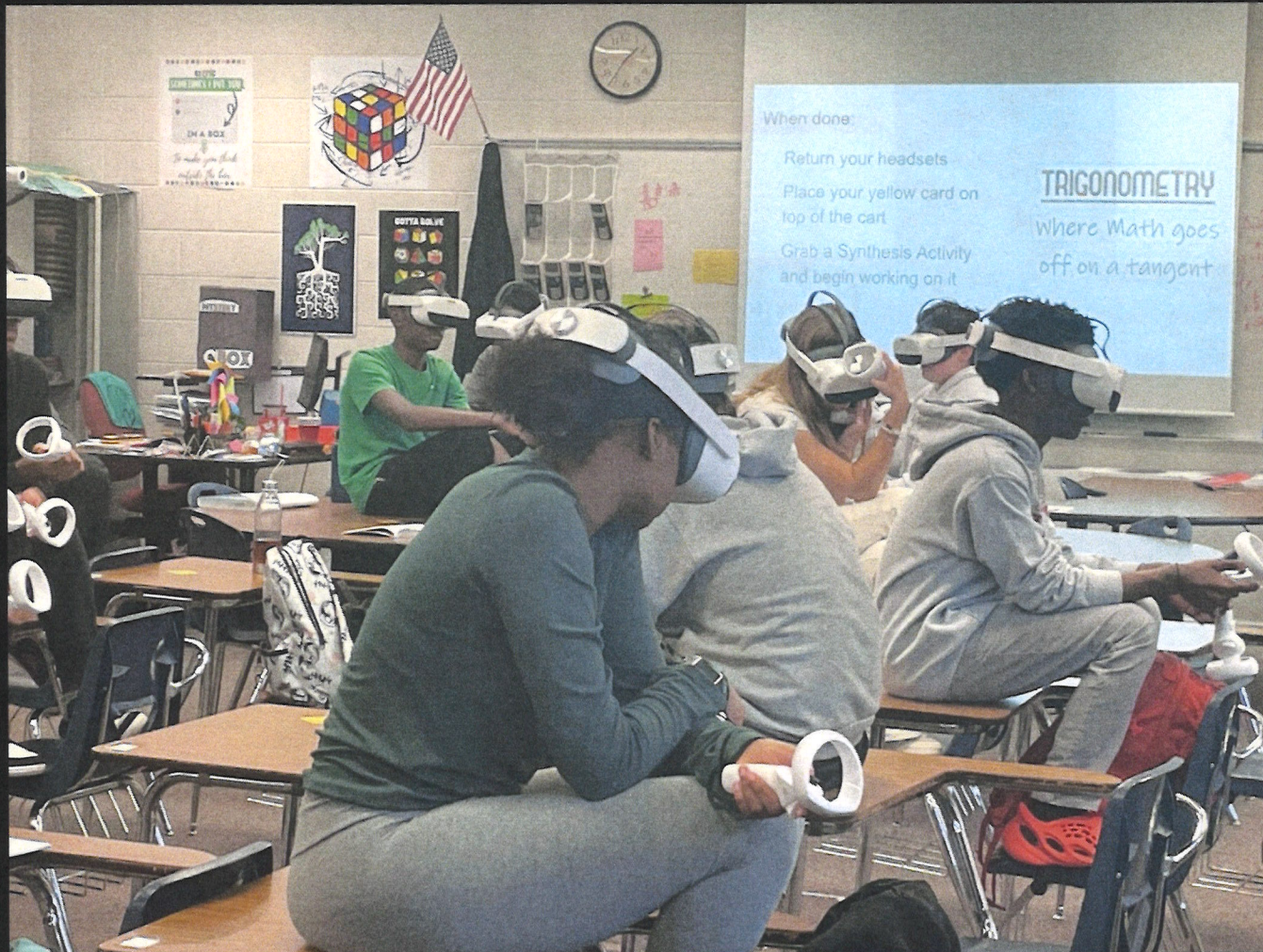












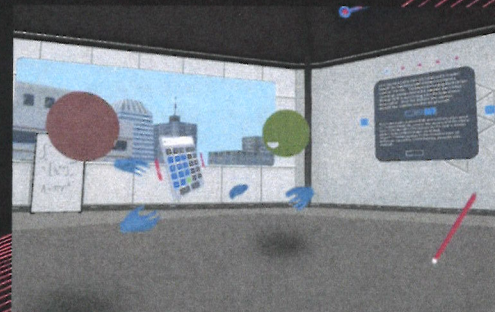


# A NEW SPATIAL CURRICULUM

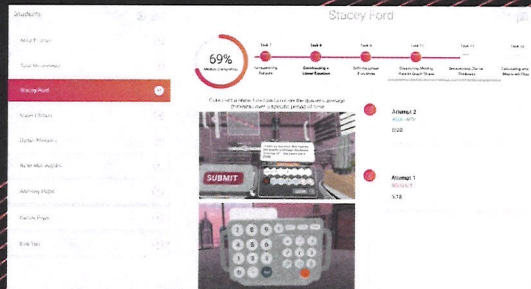
## 1 Virtual Reality Content Modules for learning



## 2 Kinesthetic Skill Building Modules



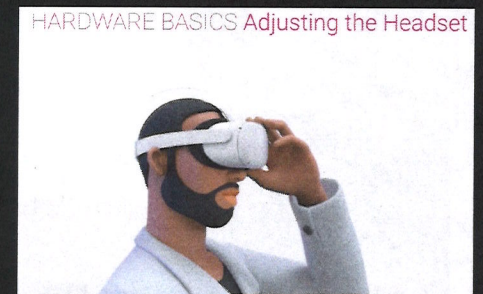
## 3 Real-time teacher feedback



## 4 Connection to paper / pencil

COMMON CORE STANDARDS	
Content	Practice
HS-EE.A.1. Identify the relationship between the variables in a function.	HS-EE.A.1. Identify the relationship between the variables in a function.
HS-EE.A.2. Understand the structure of an exponential function.	HS-EE.A.2. Understand the structure of an exponential function.
HS-EE.A.3. Understand the structure of a logarithmic function.	HS-EE.A.3. Understand the structure of a logarithmic function.
HS-EE.A.4. Understand the structure of a linear function.	HS-EE.A.4. Understand the structure of a linear function.
HS-EE.A.5. Understand the structure of a quadratic function.	HS-EE.A.5. Understand the structure of a quadratic function.
HS-EE.A.6. Understand the structure of a cubic function.	HS-EE.A.6. Understand the structure of a cubic function.
HS-EE.A.7. Understand the structure of a quartic function.	HS-EE.A.7. Understand the structure of a quartic function.
HS-EE.A.8. Understand the structure of a quintic function.	HS-EE.A.8. Understand the structure of a quintic function.
HS-EE.A.9. Understand the structure of a sextic function.	HS-EE.A.9. Understand the structure of a sextic function.
HS-EE.A.10. Understand the structure of a septic function.	HS-EE.A.10. Understand the structure of a septic function.
HS-EE.A.11. Understand the structure of an octic function.	HS-EE.A.11. Understand the structure of an octic function.
HS-EE.A.12. Understand the structure of a nonic function.	HS-EE.A.12. Understand the structure of a nonic function.
HS-EE.A.13. Understand the structure of a decic function.	HS-EE.A.13. Understand the structure of a decic function.
HS-EE.A.14. Understand the structure of an undecic function.	HS-EE.A.14. Understand the structure of an undecic function.
HS-EE.A.15. Understand the structure of a duodecic function.	HS-EE.A.15. Understand the structure of a duodecic function.
HS-EE.A.16. Understand the structure of a tridecic function.	HS-EE.A.16. Understand the structure of a tridecic function.
HS-EE.A.17. Understand the structure of a tetradecic function.	HS-EE.A.17. Understand the structure of a tetradecic function.
HS-EE.A.18. Understand the structure of a pentadecic function.	HS-EE.A.18. Understand the structure of a pentadecic function.
HS-EE.A.19. Understand the structure of a hexadecic function.	HS-EE.A.19. Understand the structure of a hexadecic function.
HS-EE.A.20. Understand the structure of a heptadecic function.	HS-EE.A.20. Understand the structure of a heptadecic function.
HS-EE.A.21. Understand the structure of an octadecic function.	HS-EE.A.21. Understand the structure of an octadecic function.
HS-EE.A.22. Understand the structure of a nonadecic function.	HS-EE.A.22. Understand the structure of a nonadecic function.
HS-EE.A.23. Understand the structure of a vigintic function.	HS-EE.A.23. Understand the structure of a vigintic function.
HS-EE.A.24. Understand the structure of a trigintic function.	HS-EE.A.24. Understand the structure of a trigintic function.
HS-EE.A.25. Understand the structure of a tetragintic function.	HS-EE.A.25. Understand the structure of a tetragintic function.
HS-EE.A.26. Understand the structure of a pentagintic function.	HS-EE.A.26. Understand the structure of a pentagintic function.
HS-EE.A.27. Understand the structure of a hexagintic function.	HS-EE.A.27. Understand the structure of a hexagintic function.
HS-EE.A.28. Understand the structure of a septagintic function.	HS-EE.A.28. Understand the structure of a septagintic function.
HS-EE.A.29. Understand the structure of an octogintic function.	HS-EE.A.29. Understand the structure of an octogintic function.
HS-EE.A.30. Understand the structure of a nonagintic function.	HS-EE.A.30. Understand the structure of a nonagintic function.
HS-EE.A.31. Understand the structure of a centic function.	HS-EE.A.31. Understand the structure of a centic function.
HS-EE.A.32. Understand the structure of a centic function.	HS-EE.A.32. Understand the structure of a centic function.
HS-EE.A.33. Understand the structure of a centic function.	HS-EE.A.33. Understand the structure of a centic function.
HS-EE.A.34. Understand the structure of a centic function.	HS-EE.A.34. Understand the structure of a centic function.
HS-EE.A.35. Understand the structure of a centic function.	HS-EE.A.35. Understand the structure of a centic function.
HS-EE.A.36. Understand the structure of a centic function.	HS-EE.A.36. Understand the structure of a centic function.
HS-EE.A.37. Understand the structure of a centic function.	HS-EE.A.37. Understand the structure of a centic function.
HS-EE.A.38. Understand the structure of a centic function.	HS-EE.A.38. Understand the structure of a centic function.
HS-EE.A.39. Understand the structure of a centic function.	HS-EE.A.39. Understand the structure of a centic function.
HS-EE.A.40. Understand the structure of a centic function.	HS-EE.A.40. Understand the structure of a centic function.
HS-EE.A.41. Understand the structure of a centic function.	HS-EE.A.41. Understand the structure of a centic function.
HS-EE.A.42. Understand the structure of a centic function.	HS-EE.A.42. Understand the structure of a centic function.
HS-EE.A.43. Understand the structure of a centic function.	HS-EE.A.43. Understand the structure of a centic function.
HS-EE.A.44. Understand the structure of a centic function.	HS-EE.A.44. Understand the structure of a centic function.
HS-EE.A.45. Understand the structure of a centic function.	HS-EE.A.45. Understand the structure of a centic function.
HS-EE.A.46. Understand the structure of a centic function.	HS-EE.A.46. Understand the structure of a centic function.
HS-EE.A.47. Understand the structure of a centic function.	HS-EE.A.47. Understand the structure of a centic function.
HS-EE.A.48. Understand the structure of a centic function.	HS-EE.A.48. Understand the structure of a centic function.
HS-EE.A.49. Understand the structure of a centic function.	HS-EE.A.49. Understand the structure of a centic function.
HS-EE.A.50. Understand the structure of a centic function.	HS-EE.A.50. Understand the structure of a centic function.

## 5 Teacher upskilling







... / California / Paffim Hill / Seacoast School / Class Name / Live Classroom

Class Name Period 1 ((o))

#### Tools

Organizations & Classes Live

My Classes

Analytics

Teacher Headset Login

#### Support

Help & Resources

Teacher Forum

Toolkit

All Modules Absolute Value Functions Linear Regression

#### Absolute Value Functions

Teachers: Faraz Azadi, Anna Park

Alisha Chen	✓	✗	✗
Sandra Apple Foster	3	✗	✗
Rebecca Dorsey	✓	✗	✗
Shane Durkan	✓	✗	✗
Joanna Kacey Smith	2	✗	✗
Kevin Martin	✓	✗	✗
Caroline Murphy	1	✗	✗
Sandra Apple Foster	✓	✗	✗
Rebecca Dorsey	3	✗	✗
Emilio Farrell	✓	✗	✗
Kimsean Pen	✓	✗	✗

Individual Student View, Screencasting, Controls and Messaging

Alice Value Functions

Teachers: Faraz Azadi, Anna Park

20% 50% 5%

3/10 5/20

Task Completed Class Rank

Task 1 Task 2 Task 3 Task 4 Task 5 Task 6

Timeline

Attempt 1 09:20AM

Used Physical Model 09:10PM

Used Pythagorean Interactive 08:20AM

Question

How can you use the periodic table to help you determine an atoms electron configuration?

Answer

Argon  
(Ar): 1s22s22p63s23p6

Summarize Physical Model

Messaging

#### Messaging

[Name]	[4:35 PM]
[Message]	
[Name]	[4:35 PM]
[Message]	
[Name]	[4:35 PM]
[Message]	2
[Name]	[4:35 PM]
[Message]	

#### Name

Today 4:35 PM

ullamco est sit aliqua dolor

Today 4:35 PM

Amet minim mollit non deserunt ullamco est sit

Today 4:35 PM

Amet minim mollit non de

Send Predefined Msg 1

Send Predefined Msg 2

Send Predefined Msg 3

Write something here









# Fractions

## CFU 2

Completed CFUs

New CFUs

Fractions

CFU 1

CFU 2

Linear Functions

Factoring Quadratics

Account Settings

Question 1

Question 2

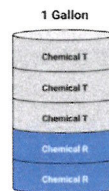
Question 3

Question 4

Question 5

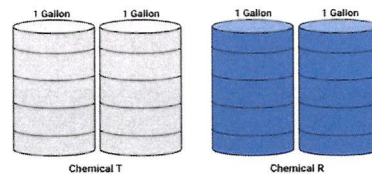
### Question 3

You are looking for another safe and effective natural pesticide mix, this time using the chemicals rotenone (Chemical R) and tea tree extract (Chemical T). The 1-gallon barrel provided shows the precise amounts of each chemical needed for the new pesticide.



1. There are 2 gallons each of Chemical T and Chemical R in a warehouse. How many full gallons of the pesticide mix can you create using the 4 total gallons available? Use the diagram to help you.

Gallons of pesticide mix: **XX**



2. If there are 20 gallons of Chemical R, how many gallons of pesticide mix can you create?

Gallons of pesticide mix: **XX**

Please explain how you got to the answer.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

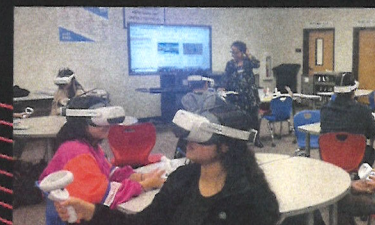
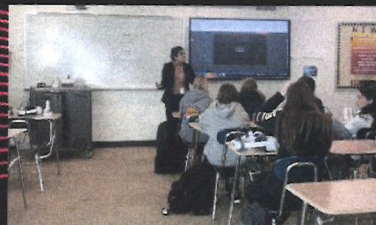
Previous Question

Next Question



# PRISMS PROFESSIONAL LEARNING TRAJECTORY

Module 10: Quantitative Functions	Module 11: Algebraic and Geometric Data
<ul style="list-style-type: none"> <li>Quantitative Functions (1 lesson)</li> <li>Complex Functions Part 1 (1 lesson)</li> <li>Complex Functions Part 2 (1 lesson)</li> </ul>	<ul style="list-style-type: none"> <li>Algebraic and Geometric Data (1 lesson)</li> <li>Linear Functions (1 lesson)</li> <li>Quadratic Functions (1 lesson)</li> <li>Exponential Functions (1 lesson)</li> </ul>



## 1. Goal-Setting and Curriculum Integration

District instructional leaders and Prisms staff collaboratively **set short- and long-term implementation goals** and seamlessly embed Prisms modules into teachers' year-long pacing calendars. Prisms modules are integrated to *teach* and re-engage on bottleneck topics, not only review.

## 2. Onboarding Institute

Prisms staff lead a **full-day professional development** session with teachers to fully internalize the mission and origin of Prisms, VR hardware, lesson cycle, supporting curriculum materials, Teacher Dashboard, and the culture and mindsets needed for successful adoption.

## 3. Coaching Cycle #1

Prisms Coaches conduct **lesson study** with teachers to intellectually prepare to facilitate a Prisms lesson **and model exemplary lesson** execution in the classroom.

## 4. Coaching Cycle #2

Prisms Coaches conduct **lesson study** with teachers to intellectually prepare to facilitate a Prisms lesson **and co-teach/observe/give feedback on teacher execution** in the classroom.

## 5. Ongoing Support

Between coaching cycles, Prisms teachers have round-the-clock access to coaches and tech support to answer any questions or plan lessons.



# Teachers and kids finally love Math class

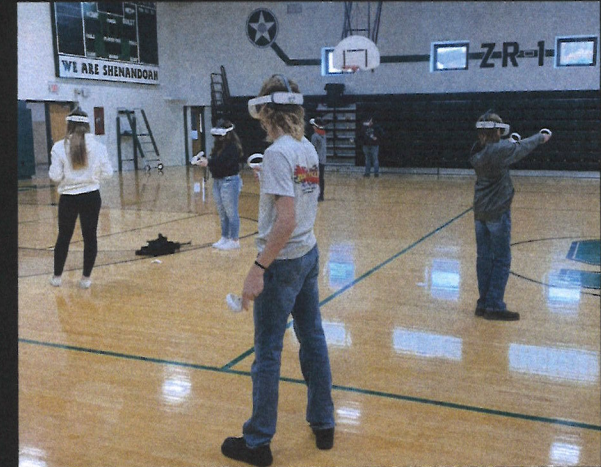
“ Just so you know - this is going to change lives. — 9th grade student

“ I would have passed Algebra if I had this. — 12th grade student

“ It was the first time he didn't want to leave Math. I spoke to his teacher after and she said that she hasn't been able to reach him, until now. — District leader, OH

“ The ability to rebuild relationships with my most disengaged kids is an unknown gift of the platform. — Math teacher, MA

More from our teachers and students [here](#).





# CURRENT RESULTS AND UPCOMING STUDIES

## Early Quantitative Results

11%

Increase between control and treatment groups on standards aligned assessments on Exponential Functions

80%+

The vast majority of students feel that Prisms lessons helped them understand math better

10%

In a 1-week study, student achievement increased 10%

92%

All beta-year district partners renewed, with most districts expanding student access to Prisms

## Early Qualitative Results

*"Graphing is an amazing thing in VR – I loved it...I could be in the graph and understand exactly how it works and relate it back to my 'real world' experiences in the first part of the module...This is really big for kids like me who have trouble visualizing things."*  
- 9<sup>th</sup> Grade Student

*"I can say that after one PD with Prisms, I have the enthusiasm and excitement of a green first-year teacher. It left me thinking and even saying at the end of the PD, 'Where have you been all my life?'"*  
- 30<sup>th</sup> year teacher

## Three WestEd Studies

1

### Feasibility

VR in any classroom setting

2

### Implementation

Best practices and use cases

3

### Randomized Control Trial

Efficacy and efficiencies achieved