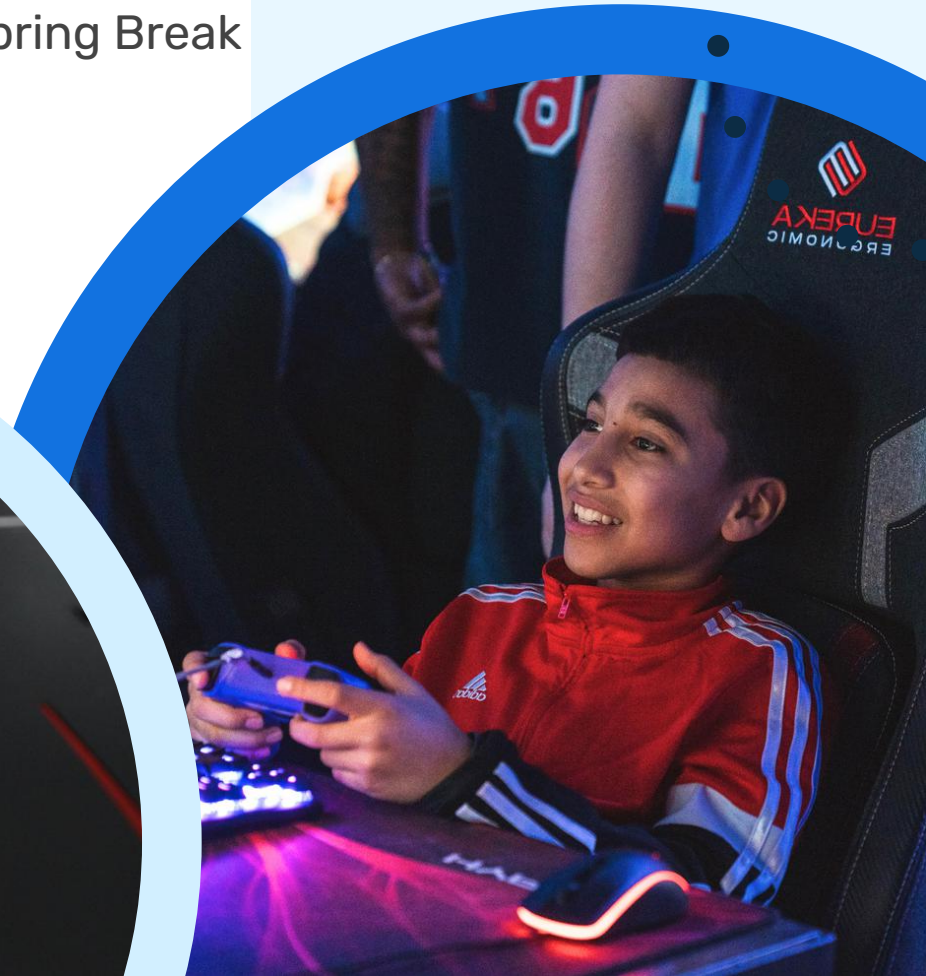
MASTERY
CODING

STEM.ORG ACCREDITED EDUCATIONAL PROGRAM

Academic Esports
CAMPS & CLUBS
CATALOG

- After-School
- Extended Learning
- Summer, Winter & Spring Break



MASTERY
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Award-Winning Extended Learning Programs

All of our Camps and Clubs:

- **Focus on interdisciplinary STEAM concepts while developing SEL skills**
- Have a balanced schedule with critical-thinking workshops and strategic gameplay
- Emphasize social-emotional learning to shape healthy students and gamers
- Can be facilitated by trusted Mastery Coding™ instructors (virtual)
- Integrate Game-and-Learn™ philosophy, using gaming as a tool for engagement and deep learning

Powered by Mastery Coding

Mastery Coding™ empowers students to meet the challenges of tomorrow through intelligent technology education.

Some of our Partners Include:

RIVERSIDE COUNTY OFFICE OF EDUCATION

WOODCRAFT RANGERS

NYC Department of Education

CCSD CLARK COUNTY SCHOOL DISTRICT

BOYS & GIRLS CLUBS OF AMERICA

FINALIST EdTech Cool Tool Awards 2024

FINALIST EdTech Trendsetter Awards 2023

STEM.ORG ACCREDITED EDUCATIONAL PROGRAM

TOP STEM SOLUTION PROVIDERS Education Technology Insights 2022

WINNER EdTech Trendsetter Awards 2021

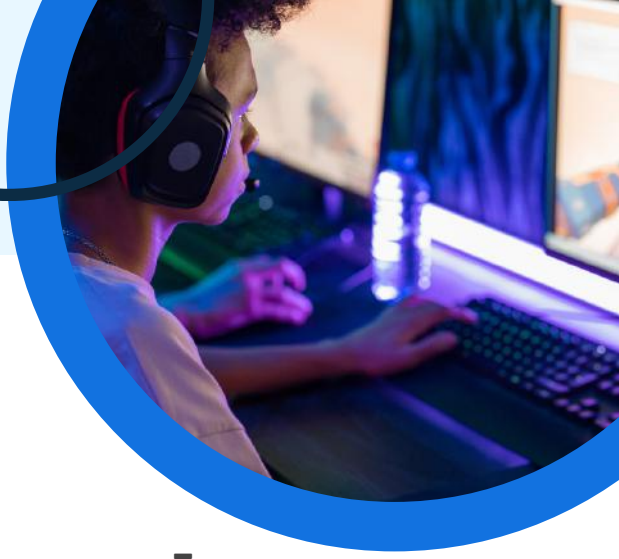

Table of Contents

MASTERY
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SocietyCraft: Minecraft

Camp and Club

Participate in the creation of a collaborative, functioning Minecraft society in order to develop computer literacy, problem-solving, and teamwork skills.

Grade Band: 3-8th **Skill Level: Beginner-Intermediate**

STEAM Connections

S Students gain insight into ideas of empirical testing, which they apply within their societies in-game and in real life

T Students learn the historical effects of technology on societies to better understand the potentials impacts of modern and future technologies

E Students learn about the great engineering feats and wonders of the world, inspiring them to create remarkable structures in their societies.

A Students understand forms of communication, creative expression, and cooperation so that they can create strong ties and a stable society

M Students constantly perform simple arithmetic and calculations as they build, travel, and organize throughout the world

SEL Competencies

Awareness of Self & Others

Students in SocietyCraft discover their strengths, preferences, and values, applying them in the real world to grow personally and contribute effectively to communities.

Self Management

Students enhance emotional intelligence by practicing in-game interactions, enabling them to develop strategies for handling emotions positively and constructively in real life.

Social Awareness

Students place themselves in the shoes of others who come from a myriad of backgrounds different from their society, and are able to act with empathy for others.

Responsible Decision Making

Students understand there being consequences for immoral actions, such as harming other player characters, and learn how to act accordingly based on ideas such as ethics, safety, and well-being of others.

Relationship Skills

Students build and maintain healthy relationships with other players through community, cooperation, trade, and peacefully resolving conflict.

Cross-Disciplinary Connections

- Students study the history of human societies and implement them into their gameplay to better understand cooperation and organization.
- Students learn new methods of overcoming challenges and displaying social awareness to become a better member of their in-game societies.
- Students discover the core fundamentals of science, technology, engineering, and mathematics to create awesome builds and contraptions for their game

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EngineeringCraft: Minecraft

Camp and Club

In this program, participants use advanced architectural and electrical engineering methods in-game while learning about different building styles and how to utilize their creative power.

Grade Band: 4-12th **Skill Level: Intermediate-Advanced**

STEAM Connections

S Students learn how electricity functions through lectures on electrons, resistors, and circuits. They use this knowledge to gain a stronger understanding of Redstone contraptions in Minecraft.

T Students look at machines in their basest forms such as levers, screws, and pulleys. Students then transcribe these simple machines into complex ones for use in Minecraft.

E Students create and read blueprints to design and/or build their buildings, civil constructions, and contraptions for use in Minecraft.

A Students develop their own artistic style of designing and building all the way from simple zen gardens to complex homes, castles, and whatever else they imagine.

M Students regularly perform arithmetic and learn about logic gates to better understand Boolean algebra for use in their complex Redstone builds.

SEL Competencies

Awareness of Self & Others

Students through trial and error begin to realize their strengths and employ them to the best of their ability. This understanding of focusing on your strengths will help students excel in topics they enjoy and leave them more confident, happy, and aware of who they are.

Self Management

Students build upon themselves by learning new skills and teaching others what they've learned. Through these interactions, students become more confident in topics they have studied and are eager to learn more.

Social Awareness

Students are shown varying styles and cultures through the use of foreign structures such as pagodas and werkhauses. Learning about different societies through their designs shows the beauty and reason behind such structures, thus giving them reverence and respect for other cultures.

Responsible Decision Making

Students learn the importance of preservation and personal property by not causing harm to the hard work of others within the game.

Relationship Skills

Students form healthy and constructive relationships with other EngineeringCraft members by compromising and working together on designs, builds, and complex contraptions.

Cross-Disciplinary Connections

- Students begin by identifying the usefulness of design and engineering within their builds to make them more aesthetic and/or functional.
- Students illustrate their understanding of these new ideas by either mimicking designs or creating their own original content.
- Students use design, engineering, mathematics, logic, and physics to enhance building, inventing, and programming skills in both real-world and Minecraft environments.

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Super Smash Bros

Camp and Club

Introduced in 1999, Super Smash Bros. has consistently been one of the most popular games in esports for over a decade. Participants will learn in-game strategy and skills while discovering how the game was made and what careers are available to avid esports players.

Grade Band: 4-12th **Skill Level: Beginner-Intermediate**

STEAM Connections

S Students learn about gravity calculation and its effects on characters, and leverage this knowledge for a competitive edge in-game.

T Students learn about the game's history and technological advancements on new consoles and game engines.

E Students collect data, develop strategies, and utilize various in-game characters to devise strategies for overcoming opponents.

A Students learn about the underlying mechanics of fighting games including animation keyframes, meshes, and hitboxes.

M Students constantly perform simple arithmetic and calculations as they play the game to gain an advantage over opponents.

SEL Competencies

Awareness of Self & Others

Students gradually recognize their own strengths, character preferences, and values in their playstyles when participating in this club. They can later translate the same mentality into the real world and serve as an effective participant in a community.

Self Management

Students enhance emotional recognition by linking in-game interactions with real-world actions, enabling them to analyze and respond effectively to challenging situations.

Social Awareness

Students place themselves in the shoes of others who come from a myriad of backgrounds different from their society, and are able to act with empathy for others.

Responsible Decision Making

Students understand that there are consequences for immoral actions such as being not sportsmanlike and learn how to act accordingly based on ideals such as ethics, safety, and the well-being of others.

Relationship Skills

Students build and maintain healthy relationships with other players through community, cooperation, and a healthy competitive atmosphere.

Cross-Disciplinary Connections

- Students discover the core fundamentals of science, technology, engineering, art and mathematics to increase their understanding outside of the classroom as well as in game.
- Students learn new methods and skills to improve their gameplay. Even skilled and experienced players will learn something new!
- Students will learn to understand the game from a coding perspective and use that knowledge to improve their gameplay.

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Rocket League

Camp and Club

The program combines gameplay with educational modules to teach students about improving game skills, exploring STEAM careers in gaming, and discovering workforce opportunities in emerging technology.

Grade Band: 6-12th **Skill Level: Beginner-Intermediate**

STEAM Connections

S Students will learn the principles of foundational physics and, through engaging gameplay, discover how to manipulate physics to their own advantage.

T Students will be taught a break-down of of how search-engines operate and how the skill of seeking out online information can be effectively streamlined.

E Students will learn about computer hardware and software components and their impact on playing esports like Rocket League.

A Students will learn about cyberbullying to protect themselves and create positive gaming environments.

M The program will teach students about core geometry concepts and how in-game knowledge of geometry makes them more effective players.

SEL Competencies

Awareness of Self & Others

Students will be given the chance to recognize where they can begin setting goals in order to successfully organize and reach objectives.

Self Management

Students will develop problem-solving tools in order to react properly to missteps and learn from previous errors.

Social Awareness

Students will identify and recognize their personal strengths while finding ways to elevate areas where they encounter personal challenges, in-game and in life.

Responsible Decision Making

Students will learn about making decisions and understanding that actions have consequences in real life and inside of the game when you're trying to win.

Relationship Skills

An essential skill set for anyone aiming to develop in a team-based environment, students will develop their interpersonal interactions.

Cross-Disciplinary Connections

- Students will learn step-by-step processes to advance in the game, showcasing how expertise is developed across disciplines.
- Students will learn how the impact of owning positive communication skills applies to college and career readiness.
- Students will critically review their own in-game performance as a means of understanding how earnest self-reflection is critical to successful achievement.

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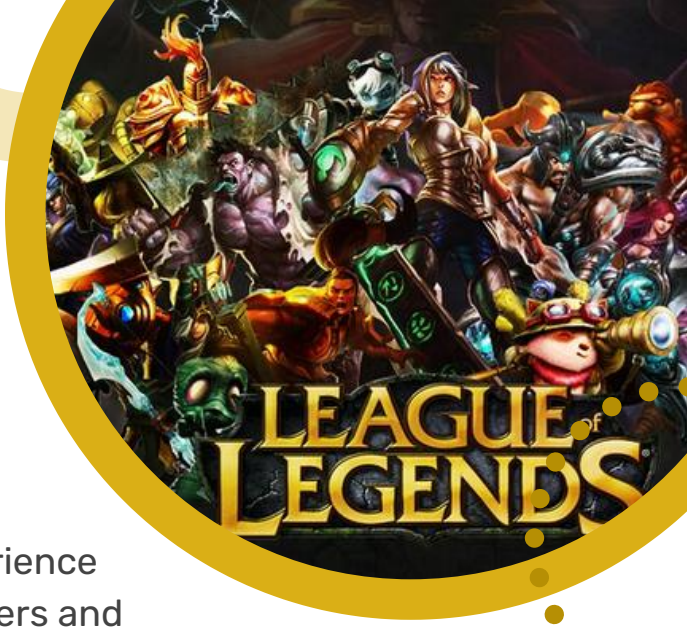
League of Legends



Camp and Club

Discover the world's top esport with an experience covering gameplay and strategies for beginners and experienced players, offering a low-floor, high-ceiling approach.

Grade Band: 6-12th **Skill Level: Beginner-Intermediate**

Cross-Disciplinary Connections

- Students analyze the symmetrical structure of the map in Summoners Rift and how that gives advantages to players on either side depending on which position they've chosen.
- Students evaluate the methods of obtaining gold within the game and how to maximize their efficiency at it to increase the power of their champions as quickly as possible.

SEL Competencies

Awareness of Self & Others

Students will analyze the roles of each of their teammates to fully understand the responsibilities each team member is responsible for, as well as their own.

Self Management

Students will identify the fundamental times that the phase of the game shifts and construct strategies for each one that will enable them to succeed.

Social Awareness

Students will compare and contrast different forms of communication to find which methods are the most effective to work with their teammates to thrive as a whole.

Responsible Decision Making

Students will devise plans for their team and then analyze the outcomes to find whether or not things went according to plan and methods for them to be optimized.

Relationship Skills

Students will understand the value of good competitive etiquette and how to respond appropriately to both victory and defeat.

Lesson Breakdown

- Phases of the Game: Students will learn about the three-game phases, what the player's responsibilities are during each phase, and strategies for winning each phase.
- Positions and Responsibilities: Students will define and understand the roles in League of Legends and identify the responsibilities each role faces at certain stages of the game.
- Gold and Items: Students will learn the many ways in which a player can earn gold, how best to spend gold, and define items and their value.
- Character Classes: Students will demonstrate an understanding of how champions are categorized based on strengths, weaknesses, and core objectives.

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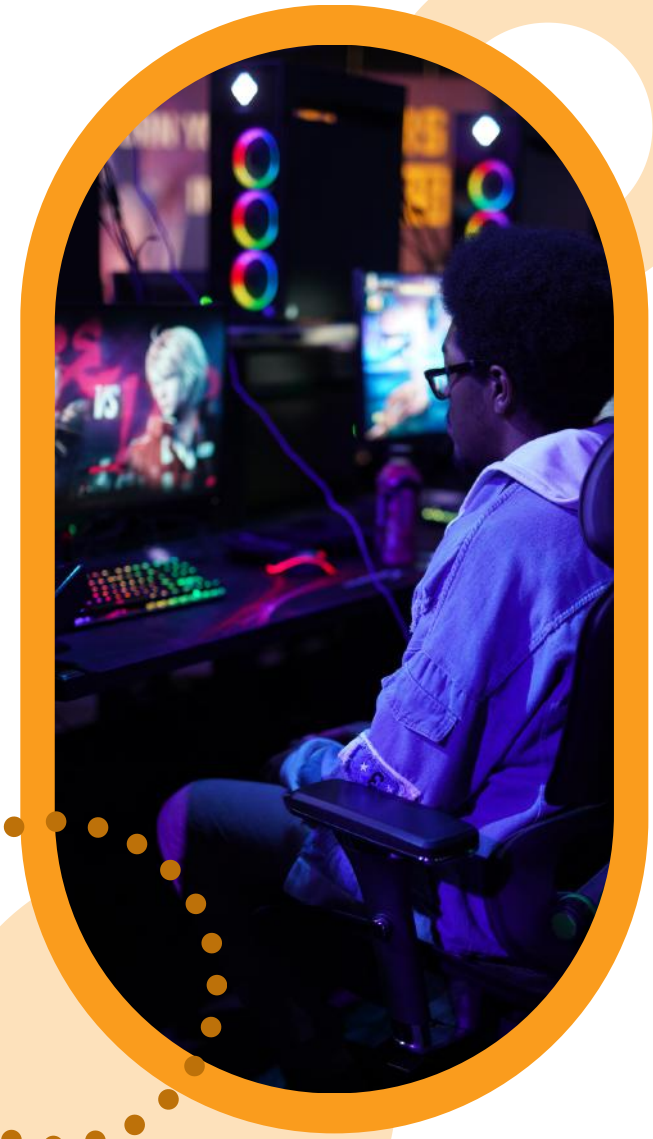
Overwatch

Camp and Club

This program combines gameplay with critical thinking workshops to teach students about STEAM careers in the gaming industry and opportunities in emerging technology.

Grade Band: 6-12th **Skill Level: Beginner-Intermediate**



STEAM Connections

S Students will begin to understand the rules of the game and how things function on a deeper level within the code.

T Students will explore software development concepts like level design and how that impacts the gameplay and players.

E Students will begin to understand how to manage their computer hardware and software and optimize it for their play.

A Students will develop their teamwork and communication skills by forming and maintaining teams that must work together to succeed.

M Students will understand how to analyze and calculate damage totals by finding ratios through numerical compare and contrast methodology.

SEL Competencies

Awareness of Self & Others

Students will develop their ability to advocate for themselves by being able to identify and express their emotions to each other in a positive manner.

Self Management

Students will develop their time management skills by having a mixture of “game time” and “practice time” where they will be required to learn and practice along with the instructor as they are taught new mechanics.

Social Awareness

Students will develop their social skills by working together with their teammates as they learn the core principles of teamwork, effective communication, and competitive etiquette.

Responsible Decision Making

Students will learn how each situation they are presented with has multiple, viable options and see the relationship between choosing wisely and choosing quickly.

Relationship Skills

Students will understand the value of good sportsmanship and how to be kind and considerate in both victory and defeat.

Cross-Disciplinary Connections

- Students will learn new game mechanics, understand their functions, and learn when to use them, reflecting the idea of continuous learning in today's world across all disciplines.
- Students will analyze gameplay to better understand how the art of reflection improves performance across all pursuits.

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FIFA

Camp and Club

Combining engaging gameplay with critical thinking workshops, this program teaches students how to improve their game mechanics, discover how STEAM careers power the gaming industry, and learn about workforce opportunities in emerging technology.

Grade Band: 6-12th **Skill Level: Beginner-Intermediate**

STEAM Connections

S Students will understand the connection between the in game player stats and their abilities in the real world.

T Students will learn about how computers simulate physics using game engines to improve the “game juice”.

E Students will be able to understand how variable outcome’s are calculated using a random number generator.

A Students will compare and contrast different player builds by their in-game stats & abilities to identify which ones provide an advantage.

M Students will learn how to optimize their collection of the in-game currency to assemble and maintain club value.

SEL Competencies

Awareness of Self & Others

Students will develop their ability to advocate for themselves by being able to identify and express their emotions to each other in a positive manner.

Self Management

Students will develop their time management skills by having a mixture of “game time” and “practice time” where they will be required to learn and practice along with the instructor as they are taught new mechanics.

Social Awareness

Students will develop their social skills by working together with their teammates as they learn the core principles of teamwork and effective communication by forming and maintaining relationships where they must work together to succeed.

Responsible Decision Making

Students will learn how each situation they are presented with has multiple, viable options and see the relationship between choosing wisely and choosing quickly.

Relationship Skills

Students will understand the value of good sportsmanship and how to be kind and considerate in both victory and defeat.

Cross-Disciplinary Connections

- Students will understand, study, and analyze the field of soccer and it’s digital counterpart - they will aim to understand how play has evolved over time.
- Students will analyze gameplay to better understand how the art of reflection improves performance across all pursuits.
- Students learn new game mechanics, understanding their operations and optimal usage to illustrate how we exist in a world where continuous learning is essential.

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Fortnite

Camp and Club

The program combines gameplay with critical thinking workshops to teach students about improving game mechanics, STEAM careers in the gaming industry, and emerging technology workforce opportunities.

Grade Band: 9-12th **Skill Level: Intermediate-Advanced**

STEAM Connections

S Students will understand the connection between Hz and FPS and what settings in their devices can help them optimize their gameplay experience.

T Students will learn about computer hardware and console peripherals as it relates to in-game performance and careers in IT.

E Students will be able to understand how physics and geometry are used to build in Fortnite (as well as principles such as momentum and acceleration)

A Students will develop their teamwork and communication skills by forming and maintaining teams that must work together to succeed.

M Students will understand how to analyze and calculate damage totals by finding ratios through numerical compare and contrast methodology.

SEL Competencies

Awareness of Self & Others

Students will develop their ability to advocate for themselves by being able to identify and express their emotions to each other in a positive manner.

Self Management

Students will develop their time management skills by having a mixture of “game time” and “practice time” where they will be required to learn and practice along with the instructor as they are taught new mechanics

Social Awareness

Students will develop their social skills by working together with their teammates as they learn the core principles of teamwork and effective communication.

Responsible Decision Making

Students will learn how each situation they are presented with has multiple, viable options and see the relationship between choosing wisely and choosing quickly

Relationship Skills

Students will understand the value of good sportsmanship and how to be kind and considerate in both victory and defeat.

Cross-Disciplinary Connections

- Students will understand, study, and analyze the map used in the game in order to better understand the value of maps across the spectrum of history
- Students will learn new game mechanics, how they work, and when to apply them, highlighting the continuous learning in today's world across all disciplines.
- Students will analyze gameplay to better understand how the art of reflection improves performance across all pursuits.

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Valorant

Camp and Club

Students learn strategies and new skills to improve their in-game mechanical and mental skills while discovering how the game was made and what possibilities await motivated and hard working Valorant players.

Grade Band: 9-12th **Skill Level: Intermediate-Advanced**

STEAM Connections

S Students gain insight into how physics are calculated for projectiles in the game and how to use that knowledge to gain a competitive advantage in defensive / offensive situations.

T Students learn the history of the game and how it has advanced technologically throughout updates and how it was modeled after a mod of an old game.

E Students gather data, learn to build strategies, and use different agents in game to engineer different ways to defeat the enemy team.

A Students gain insight into the art of FPS games to understand animation keyframes, meshes, hitboxes, and other underlying aspects of the game.

M Students constantly perform simple arithmetic and calculations as they play the game to develop strategies to gain an advantage over their opponent.

SEL Competencies

Awareness of Self & Others

Students gradually recognize their own strengths, character preferences, and values in their playstyles when playing. They can later translate the same mentality into the real world and serve as an effective participant in a community.

Self Management

Students improve their ability to recognize the emotions of others and themselves through interactions outside of the game while understanding that those emotions are a direct result of in-game actions. Thus, when in the real world, they're able to analyze a difficult situation and act accordingly.

Social Awareness

Students place themselves in the shoes of others who come from a myriad of backgrounds different from theirs and learn to act with empathy for others.

Responsible Decision Making

Students understand that there are consequences for immoral actions, such as being unsportsmanlike, and learn how to act accordingly based on ideas such as ethics, safety, and well-being of others.

Relationship Skills

Students build and maintain healthy relationships with other players through community, cooperation, and a healthy competitive atmosphere.

Cross-Disciplinary Connections

- Students will learn to understand the game from a coding perspective and use that knowledge to improve their gameplay.
- Students discover the core fundamentals of science, technology, engineering, and mathematics to increase their understanding outside of the classroom as well as in game.
- Students learn new methods and skills to improve their gameplay. Even skilled and experienced players will learn something new!

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GamerMath™

This supplemental math curriculum uses today's most popular video games as a vehicle for standards-based math instruction.

5 Core Principles of GamerMath™

Culturally responsive teaching

Increase engagement by incorporating relevant cultural examples and contexts into math lessons.

Teach conceptual understanding

Demonstrate why mathematical procedures work rather than relying on memorization.

Promote comprehension through visual representation

Use gaming visuals to make math more exciting and to help students "see" the math.

Scaffolded learning

Break down complex concepts into smaller, more manageable steps and gradually increase the complexity.

Incorporating real-world applications

Connect math to practical applications in everyday life to help students see the value of math.

Technical Requirements

Operating System

- Chromebook: Chrome OS 100.0 or later
- Windows: 7, 8, 8.1, 10 or later
- Mac: OS X El Capitan 10.11 or later
- Linux: 64-bit Ubuntu 18.04+, Debian 10+, openSUSE 15.2+, or Fedora Linux 32+

Software Installed

- Google Chrome

Program includes:

- 60 hours of content
- Self-grading assessments
- Video-based instruction
- Comprehensive data and reporting
- Professional development and ongoing support

Teach math using the games your students know and love

Elementary Aligned Topics

- Lines and Angles
- Multiplication
- Time and Money
- Addition and Subtraction
- Fractions

Middle School Aligned Topics

- Statistics & Probability
- Ratios
- Percentages
- The Number System
- Lines and Angles
- Geometry
- Fractions and Decimals

* GamerMath is not offered as a managed program.

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Camps and Clubs Implementation Options

Game and Learn™ Club

- 1 hour sessions
- Multi-week implementation

Game & Learn™ Camp

- 3 hour sessions
- Single week implementation

Technical Requirements

Peripheral Requirements

If using a computer:

- Monitors
- Keyboards
- Mice
- Mouse Pads
- Headphones
- Mics

If playing on a console:

- Monitors
- Controllers
- Headsets
  - Headphones and Microphones
- Subscription to participate in online play
  - PlayStation Plus
  - Xbox Live
  - Nintendo Switch Online

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Testimonials

"If we're talking about meeting our students where they are, Mastery Coding has cracked the "code" on how to capture a student's imagination and bring technology to them in a way that makes them want more."

Jason Askenaze

Teacher, Santiago M.S.

"The Among Us Camp was amazing! The kids had a great time! They mentioned that your team was super nice, informational, and encouraging. They learned a bunch of new tricks, and we would love to have more partnerships in the future."

Carolyn Encarnacion

Youth Program Director, NYC DFOY

"The students learned a lot—a considerable amount about teamwork, how to win and lose, and how to be respectful. From the parent side, I really liked the program. It is fun to watch them grow, make friends, and work as a team. Do it. It's fun!"

Justine

Parent

"It's a way of getting the kids to get a really excellent skill set, but doing it in a way that doesn't feel like work. That's what we really liked about it; on that score it's definitely delivered."

H.H. Garza

Principal, Bruni H.S.

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