Course Overview: *Gaming Concepts: Intro to Technology* - 3rd Grade

Gaming Concepts: Intro to Technology introduces third-grade students to essential digital literacy, computer science, and social-emotional skills through playful, hands-on experiences. Students begin by learning how to manage emotions, communicate respectfully, and stay safe online. Through storytelling and interactive games, they build foundational awareness of digital safety topics such as privacy, cyberbullying, and cybersecurity careers—skills that prepare them to be responsible digital citizens in both classroom and online environments.

Students build practical technology skills including typing, file management, and word processing, while exploring how computers function and solve problems. Lessons emphasize grit, organization, and collaboration as students troubleshoot issues, understand network systems, and consider how computers support everyday careers. Engaging topics like AI and accessibility in gaming help students think critically about technology's broader role in society.

The course culminates with a creative journey into coding. Students learn programming concepts such as sequences, loops, conditionals, variables, and debugging through unplugged games, block-based platforms, and real-world metaphors. They apply their knowledge to remix and design their own games, explore career pathways in computer science, and reflect on the importance of creativity, resilience, and teamwork in tech fields. Aligned to CSTA, ISTE, CASEL, and PERMA frameworks, this course equips students with the digital tools and mindsets needed for lifelong success in a connected world.

Grade Level: 3

Length: Over forty-five 40 minute lessons

National Standards

This comprehensive curriculum is guided by several nationally recognized knowledge and skill standards:

- **The International Society for Technology in Education 7 Standards (ISTE)** provide the competencies for learning, teaching and leading with technology, and are a comprehensive road map for the effective use of technology in schools worldwide.

- **The Collaborative for Academic, Social, and Emotional Learning Competencies (CASEL)** cover five broad and interrelated areas of competence for social and emotional learning.
- **Computer Science Teachers Association Standards (K12 CS)** are a core set of learning objectives designed to provide the foundation for a complete computer science curriculum and its implementation at the K-12 level.

Unit 1: Staying Safe in a Digital World

In this foundational unit, third-grade students begin their journey into technology by learning how to manage their emotions, make responsible choices, and recognize safe behaviors in digital spaces. They start with classroom-based activities that promote emotional regulation and respectful communication: skills that are essential for both online and real-life interactions. Students co-create a classroom code of conduct, explore how frustration affects the brain and body, and learn calming strategies that build a supportive learning environment.

As students move into digital topics, they meet engaging characters like Jax, Lexi, and Cyber-Kid, who help them identify online risks such as scams, phishing, cyberbullying, and unsafe sharing. Through storytelling, partner discussions, gesture-based learning, and interactive games, students develop key digital citizenship skills. They learn to protect personal information, build strong passwords, recognize safe sharing practices, and respond to online bullying with kindness and assertiveness. The unit's "Lock Box" and "Recycle Bin" metaphors make abstract digital concepts concrete and memorable.

The unit concludes with a career connection to cybersecurity, helping students see how their new skills apply to real-world roles that focus on helping others and protecting online communities. This unit strongly supports CASEL competencies (self-awareness, social awareness, relationship skills, and responsible decision-making) and PERMA elements (positive emotion, relationships, and meaning), while fully aligning to CSTA and ISTE standards around safety, security, and responsible digital participation.

Unit 2: Building Connections: Communication and Collaboration

In Unit 2, students begin to build fluency with digital tools and organizational habits while developing the perseverance needed for long-term success in technology. The unit starts by helping students understand that technology rules, like all rules, change based on the setting. Through group activities and discussions, they examine appropriate tech behaviors at school, home, and with friends' devices, setting the stage for responsible decision-making across multiple contexts.

Students then gain hands-on experience using word processors and input devices to produce and organize digital content. Typing skills, formatting basics, and keyboard shortcuts are taught alongside broader concepts like file types, folder creation, and naming conventions. Through scaffolded steps and engaging analogies, students learn to manage digital files with the same

care and strategy they might use to organize their backpacks or desks. These lessons not only teach technical literacy but also reinforce the value of persistence, decomposition, and self-management—especially as students tackle challenges like typing drills or multi-step file-saving tasks.

To bring these skills full circle, students apply their learning through creative writing activities and career exploration. Writing and editing a video game review encourages grammar, reflection, and peer feedback, while the final lesson introduces students to a variety of careers in game design. By identifying their own strengths and interests, students begin to see themselves as future contributors to the world of technology. This unit reinforces CASEL competencies in responsible decision-making, self-management, and relationship skills, while supporting PERMA elements of accomplishment, meaning, and engagement.

Unit 3: Behind the Screens

In Unit 3, students move beyond surface-level computer use to uncover the systems and structures that power everyday digital experiences. Through dynamic, hands-on learning, they explore how computers connect through wired and wireless networks to transmit different types of information. Using games and movement-based models, students simulate how websites and games are accessed across the globe and visualize how data travels through networks in packets. This real-world context makes abstract computing systems accessible and memorable.

Building on these concepts, students develop troubleshooting skills by diagnosing and solving common tech problems. Lessons emphasize grit and growth mindset through teamwork games, scenario-based practice, and creative activities. Students learn to try multiple strategies, seek help, and persevere through challenges, a mindset that translates to both technology use and everyday academic tasks. These experiences help build their confidence and resilience as budding digital problem-solvers.

The unit concludes with future-focused topics: accessibility in game design, the basics of Artificial Intelligence, and how computers support real-world careers. Students engage in empathetic design by imagining gaming solutions for differing needs, explore how AI learns from data, and reflect on the growing role of technology in the workplace. These culminating lessons empower students to think critically about technology's impact and consider their place in a tech-driven future. The unit reinforces CASEL skills like responsible decision-making, relationship skills, and social awareness while supporting PERMA elements of meaning, accomplishment, and engagement.

Unit 4: Making Sense of Data

In Unit 4, students dive into the world of digital information, learning how data, creativity, and critical thinking intersect. The unit begins with a focus on digital citizenship, as students explore copyright, public domain, Creative Commons, and digital remixing. Using relatable stories and interactive tools, they learn how to responsibly use and credit online content. These early

lessons emphasize empathy, ownership, and ethical participation in creative communities, skills essential for young digital artists and gamers.

From there, students transition into evaluating online information and collecting data. They develop media literacy by learning how to spot trustworthy versus tricky websites, cite online sources, and navigate safe research spaces. These skills set the stage for deeper data exploration, as students gather, organize, and analyze their own data sets using polls, class surveys, and engaging activities like the Jelly Bean Fun! and Fishing games. They learn the foundational concepts of tallying, graphing, and interpreting visual data in meaningful, real-world contexts.

The unit culminates in projects that give students ownership of their learning. They conduct class research about gaming preferences, track fictional weather patterns, and compare computer science careers using digital tables. These experiences reinforce how data helps us understand patterns, make predictions, and make informed decisions. With strong alignment to CSTA and ISTE standards, and CASEL competencies like responsible decision-making and self-awareness, this unit helps students build confidence as digital thinkers while supporting PERMA elements of meaning, accomplishment, and engagement.

Unit 5: From Code to Creation

In this culminating unit, students transition from understanding how computers work to becoming creators of code themselves. They begin by exploring how computers make decisions using “If-Then” logic, connecting these structures to both programming and real-life emotional regulation. Foundational concepts such as events, sequences, and algorithms are introduced through movement games, controller metaphors, and collaborative activities. Students apply these ideas by coding characters in guided games and designing their own movement sequences—laying a strong foundation for block-based programming.

As the unit progresses, students deepen their understanding of loops, debugging, and variables through interactive coding platforms like Kidlo Coding, Rodocodo, and Code.org. Unplugged games and relatable metaphors (like packing bags for a journey) make complex computer science ideas accessible, while reinforcing emotional and social learning themes like perseverance, flexible thinking, and self-awareness. Students practice remixing and giving credit, expanding their understanding of creative ownership while exploring digital tools.

The unit culminates in a student-led game design challenge where learners remix a Space Invader-style game, applying their knowledge of events, sequences, conditionals, variables, and debugging. Finally, students explore the career of a video game programmer through multimedia, roleplay, and hands-on coding using HatchXR. These experiences highlight the creativity, collaboration, and real-world relevance of computer science, while supporting CASEL competencies, PERMA elements (accomplishment, engagement, and meaning), and key CSTA and ISTE standards related to programming, collaboration, and digital creation.