

Computer Science teachers in Georgia use the **Georgia Standards of Excellence (GSE)** to connect computing skills with core academic content, ensuring students see computer science as a tool that strengthens learning across subjects. Here's how:

1. Mathematics

- **Logic and Algorithms:** Writing algorithms and debugging reinforces problem-solving, sequencing, and logical reasoning.
- **Data and Numbers:** Students use binary, Boolean logic, and variables, which connect directly to number systems, algebra, and probability.
- **Modeling:** Coding projects often involve graphing, geometry, and statistics when creating simulations or visual outputs.

2. Literacy and Language Arts

- **Technical Reading and Writing:** GSE standards require students to read instructions, documentation, and code, strengthening comprehension of technical texts.
- **Communication:** Students explain coding processes or write project documentation, supporting clarity, organization, and vocabulary development.
- **Storytelling with Code:** Creating animations or interactive stories with programming reinforces narrative structure and creativity.

3. Science

- **Scientific Inquiry:** Coding supports data collection, analysis, and modeling in biology, physics, and chemistry.
- **Systems Thinking:** Understanding networks and computational models parallels ecosystems, energy transfer, and cause-and-effect in science standards.

4. Social Studies

- **Digital Citizenship & Ethics:** Standards emphasize responsible computing, connecting with civics and government content about rights, responsibilities, and laws.
- **Global Awareness:** Exploring the history of computing and the impact of technology ties into economics, history, and geography.

5. Employability & CTAE Connections

- **Collaboration and Problem-Solving:** Students work in coding teams, mirroring workplace skills like project management and peer review.
- **Career Awareness:** Standards align with CTAE clusters (e.g., IT, engineering, business) by introducing programming, cybersecurity, and design thinking.

In practice, computer science teachers **use GSE standards to embed core academics into hands-on coding, robotics, and problem-solving projects**—helping students build both technical skills and academic mastery.