

Administrator Supplement

As leaders in their schools, administrators play a critical role in how computational thinking (CT) is implemented in curricula and instructional practices within their school. They help to articulate and communicate the school-wide vision and priorities, manage teaching and learning expectations, create and authorize the instructional schedules that allow for time dedicated to CT integration efforts, and take an active role in supporting the professional learning of their staff.

While there are a number of components that lead to school-wide integration, below are strategies that school leaders can use to increase the uptake of CT integration into instructional practice.

- **Explicitly share a commitment to the integration of CT within the school:** Often, with new initiatives such as CT integration at the elementary level, there are a few teachers who are enthusiastic and others who are more cautious. By communicating the rationale for a focus on CT integration and a commitment to sustained support, teachers who are cautious or hesitant will be more encouraged to attempt integration efforts if they understand how and why it is important, and know that administrators are committed to the effort.
- **Provide opportunities for ongoing professional development:** As with any new initiative, teachers will want to learn as much as they can before and during implementation efforts. Since CT is a new concept for most educators, they will most likely want to learn about it before and during implementation efforts. It is important that teachers are provided with ongoing, sustained opportunities for professional learning (PL) that includes the following:
 - Initial onboarding and an introduction to CT, tools and curricula, and examples of integration
 - Instructional coaching to help with co-planning and initial co-teaching that empowers teachers to take ownership of integrated lesson implementation
 - Co-planning with teachers in the same grade or grade band or subject area to create lessons that integrate CT into existing curricula
- **Create a plan for access to resources and technology support:** An early barrier to CT integration is often related to access to resources including technology tools (e.g., computers, robots, etc), curricula and books, stable WiFi, etc. Anticipating and planning for ways to overcome these barriers will help prevent them from derailing CT integration.
- **Begin small.** While school-wide integration is the primary goal, it is a process that takes time and sustained effort, and integration does not need to happen all at once. Many

successful models of CT integration start off by taking small steps, especially in very large schools. Developing a short-, mid-, and long-term plan will help teachers understand their role in integration

- Begin with a small group of enthusiastic teachers
- Consider small commitments (one integration activity each quarter)
- **Encourage teacher experimentation with integrating CT into instruction.**
Emphasize and encourage teachers to experiment and attempt new instructional models for integrating CT into the content areas. Explicitly acknowledge that teaching integrated CT is difficult and it will likely take time for teachers to become comfortable with these pedagogical approaches.
- **Communication about how integrated CT will be approached in teacher evaluation:** Provide clear communication about how integrated instruction will be assessed in the teacher evaluation system. Many teachers may be hesitant to take a chance with this new pedagogical approach due to fear of how a change in instructional delivery may influence their standing in teacher evaluation rubrics. Identify and share examples of classroom practices that involve CT integration that get high ratings in the evaluation system.
- **Amplify teacher and student successes:** Share teacher successes both within the school building, with parents, and in the community. One of the best ways to sustain initiatives is by showcasing what teachers are doing and what students are learning as a result of it.
- **Develop mechanisms for promoting sustainability:** All schools experience teacher turnover. When teachers with deep expertise and experience in integrated CT transition away from the school, it can leave a gap in knowledge and experience. Therefore, it is important to:
 - Document procedures for technology problem-solving, keep records of lessons that teachers have taught across the grades, and ...
 - Onboard new teachers
 - Continue to promote teacher leadership