Greetings! Welcome to our March ARCS newsletter. We have several important updates for you!

**Pedagogy Pointers**

For lower elementary on GoOpenVA: Grid Challenge is an available lesson plan involving a hands-on approach to algorithms. Students will engage in an entertaining quest where they will be challenged to find the four-leaf clover and make it into their own platformer. Aligns with CS3.2, CS4.2, and CS5.2.

For upper elementary on St. Patrick’s Day: Tynker offers a fun coding project where students can build and command a monster or leprechaun that collects four leaf clovers. The lesson walks students through how to create the game and make it into their own platformer. Aligns with CSK.1, CSK.2., CS1.1, CS1.3, CS2.1, & CS2.3.

**Concept Corner**

St. Patrick’s Day and its respective festivities are coming up; traditions of wearing green, shaking shamrocks, and sitting out all the parades are an enviable fun. A fun fact is that, somewhere, a leprechaun is out fulfilling the folklore. Yes, it’s odd to think algorithms and programming are tied to a holiday from the 4th century. To some, these words sound intimidating, but what’s not realized is, as we live and learn through daily experiences, our brains “program” itself to complete tasks with our very own “algorithms” every day!

An algorithm is a step-by-step process to complete a procedure. A “machine” (like a computer, or your brain) is programmed “to run.” It’s that simple! There’s an algorithm for every task. When leprechaunes look for gold, they look for rainbows—if they find one, they stop searching and run to it. If there’s a pot of gold, they grab it. When looking for a four-leaf clover, we use a familiar algorithm: if we find one, go and check each clover. If it has three leaves, keep looking— if it has four, keep it and stop looking. Enjoy the lucky charm!

How do you brush your teeth? What part of your suds do you find first? Our brains form these algorithms subconsciously, following many “if this, then that” steps. Over time, algorithms are programmed for repeated tasks. However, unlike brains, we use code to program algorithms into computers (a different language than the brain’s). This is where computer science comes into play.

Pedagogical Practices

When we think of computer science, often the first topic that comes to mind is programming—a concept that can be both exciting and daunting. Educators and researchers agree that the lack of diversity in computer science education is largely due to insufficient access to quality education in computer science combined with an absence of role models in computer science (including coding and programming) fields. Noting this deficiency, code.org, a non-profit agency whose mission is to expand access to and participation in computer science among females and students of color, developed a series of videos which feature a diverse range of individuals working in computer science and technology. As such, the series offers a window into the daily lives of people from diverse backgrounds working in the field of computer science.

VDOE has hired a dedicated Computer Science Coordinator. Keisha Tennessee Karoke was the Computer Science Technology Specialist at Old Dominion Regional High School and was formerly in Henrico County at Hermitage High School’s ACE Center. She has been extremely active with CTE and FBLA over the years with other groups, and has worked closely with CodeVA. We are so excited to have her join the team!