ARCS NEWS

Advancing Rural Computer Science

Announcements

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

School year CS assessment and surveys. If you have not already done so, please consider participating in our school year effort to pilot a performance assessment for students in grades 3 through 5 that incorporates SOL skills in literacy, mathematics, science AND computer science! Links to the assessment and a fascinating survey that asks your students about their attitudes towards computer science have been sent to you by ARCS external evaluator, Dr. Jennifer Maeng. Please check your messages for more information about this important activity! If you cannot find your link, please email us at TCEP@odu.edu with the subject line ARCS SCHOOL YEAR SURVEYS.

Summer PD. Thank you to those of you who completed the brief poll about your preferred PD format. This summer, we will be offering a mostly self-paced PD session with periodic live facilitation to help orient and guide you through particular topics. It will be hosted through ODU's School of Continuing Education and will culminate in you being able to earn new microcredentials in CS Integration! A registration link for this PD will be coming to you in the next month.

This month's theme is **Algorithms and Programming**. We hope you enjoy a thought-provoking Concept Corner that aligns with this theme—you may never view your morning routine the same way ever again!

Finally, a note about taxes. We have had a few questions about tax forms resulting from last year's summer stipends. The MISC 1099's are only sent out for $600.00 or more. You won't be receiving any paperwork from us for the 2020 tax year but you may still have to report the stipend you received last summer. The Tax ID number to use is EIN: 54-6068198.

As always, don't hesitate to reach out if you have comments or questions.

The ARCS team.

Concept Corner
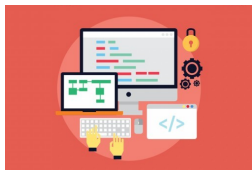
St. Patrick's Day and its respective festivities are coming up; traditions of wearing green, seeking shamrocks, and embracing the spirit that, somewhere, a leprechaun is out fulfilling the folklore emerges. Yes, it's odd to think algorithms and programming are tied to a holiday from the 4th century. To some, these words sound intimidating, but what's not realized is, as we live and learn through daily experiences, our brain "programs" 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. It's that simple! There's an algorithm for every task. When leprechauns 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 clovers, go and check each one. If it has three leaves, keep looking - if it has four, keep it and stop looking. Enjoy the lucky charm!

How do you wake up? Some folks sit up then cut the alarm; some turn it off first (highly inadvisable!). How do you brush your teeth? What part of your outfit do you first put on? Our brains form these algorithms subconsciously, following mental "flow charts" that split with each decision. 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.

Pedagogy Pointers

For lower elementary on GoOpenVA: Grid Challenge is an available lesson plan involving a hands-on approach to algorithms and sequencing. Students can do this activity unplugged or with programmable robots. The lesson includes suggestions for modifying and making the lesson fun, as well as provides the grid needed to conduct the lesson. Aligns with CSK.1, CSK.2., CS1.1, CS1.3, CS2.1, & CS2.3.

Access the Lesson Plan
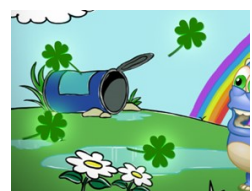
For upper elementary on St. Patrick's Day: Tynker offers a fun coding project where students can build and command a monster or leprechaun that collects four leaf clovers. The lesson walks students through how to create the game and make it into their own platformer. Aligns with CS3.2, CS4.2, and CS5.2.

Tynker St. Patrick's Day Project

Computer Science in the Commonwealth

Good news from VDOE!

VDOE has hired a dedicated Computer Science Coordinator, Keisha Tennessee! Keisha was the Computer Science Technology Specialist at CodeRVA 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 - among other groups, and has worked closely with CodeVA. We are so excited to have her join the team!

Engaging All Learners

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 pathways and careers 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 group of celebrities and everyday people undertaking computers science tasks and/or sharing their experiences in computer science careers to promote the reality that computer science is truly for all learners. Click here to access code.org's brief and informative videos, most of which are under five minutes, with many clocking in under two minutes.

Old Dominion University

The Center for Educational Partnerships

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