

## What is it?

“Computer Science Education Week (CSEdWeek) is an annual program dedicated to inspiring K-12 students to take interest in computer science.

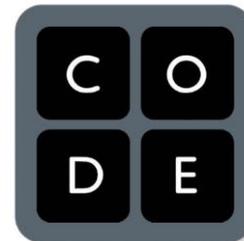
Originally conceived by the Computing in the Core coalition, Code.org® organizes CSEdWeek as a grassroots campaign supported by 350 partners and 100,000 educators worldwide.

CSEdWeek is held in recognition of the birthday of computing pioneer Admiral Grace Murray Hopper (December 9, 1906).

In July of 2013, the Computing in the Core coalition members agreed to allow Code.org to organize that year’s CSEdWeek week around a new idea and theme, the “Hour of Code.” That year, the first “Hour of Code” themed CSEdWeek reached over 15 million students and over 35,000 events across 167 countries.

In January of 2015, the Hour of Code reached 100 million “hours served,” making the Hour of Code and CS Education Week the largest education campaign in history.”

- Computer Science Education (<https://csedweek.org/about>)



## Why is it important?

“Industry trends indicate that by 2020, there will be 1.4 *million* computing jobs available.” – Jeremy Brown, “1.4M Computing Jobs in America By 2020, But Fewer Computer Graduates”, TECH.CO, March 13, 2014.

“No matter how technology transforms the jobs market, computer science expertise will be crucial.”

- Lisette Partelow, “Computer Science Is Future-Proof”, U.S. News & World Report, June 29, 2016.

“Every student should have the opportunity to learn computer science. It helps nurture problem-solving skills, logic and creativity. By starting early, students will have a foundation for success in any 21st-century career path.” - Hour of Code (<https://hourofcode.com/us#faq>)

“In 2017, more than 37.8 million Hours of Code events occurred across the world...more than 59% of the programming events held outside the United States.” - “The Hour of Code around the World” (<https://medium.com/@codeorg/the-hour-of-code-around-the-world-2b939e6c9540>), January 4, 2018.

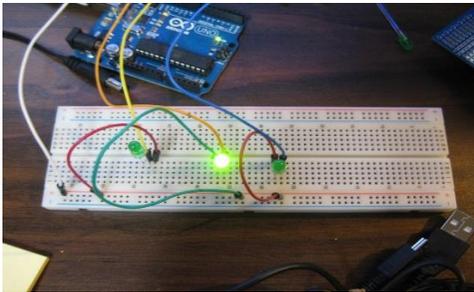
How many will participate in 2018?



## What are we doing at Belle Heth?



During this week, we are planning activities to give the students more exposure to computer science and its possible uses and their futures. Each grade level will be focusing on a different aspect of computer science during STEAM this week.

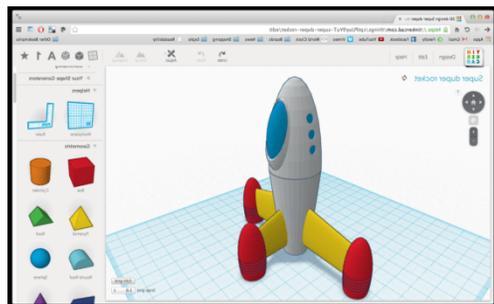


Sixth graders will begin their unit on Arduinos. Arduinos consist of “both a physical programmable circuit board (often referred to as a microcontroller) and a piece of software, or IDE (Integrated Development Environment) that runs on your computer, used to write and upload computer code to the physical board.”

(<https://learn.sparkfun.com/tutorials/what-is-an-arduino/all>)

Fifth graders will start to learn programming concepts using GameChangineer. GameChangineer offers “a platform for writing your video game plan in simple, logical English. As you write your game plan, you will apply logical reasoning, problem-solving, algorithmic design, critical and computational thinking skills in the process!”

(<https://gc.ece.vt.edu/k2c/>)



Fourth graders will be using Tinkercad. Tinkercad is a “free online collection of software tools that help people all over the world think, create and make. It is an ideal introduction to Autodesk, the leader in 3D design, engineering and entertainment software.”

(<https://www.tinkercad.com/learn/#/>)

Third graders will learn more about the basics of programming using the Code Studio programming applications. These applications are designed to “demystify ‘code’, to show that anybody can learn the basics, and to broaden participation in the field of computer science” through the use of popular and child friendly problems and characters such as Ana and Elsa, Star Wars, Snoopy, Minecraft, and many others.

(<https://support.code.org/hc/en-us/articles/203524386-What-is-the-Hour-of-Code->)



Additionally, other activities will be occurring throughout the week:

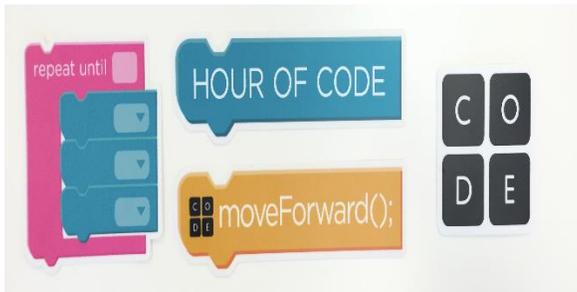
Dr. Joe Chase, professor in the Information Technology department at Radford University, will be visiting on Wednesday, December 5, to talk with our sixth graders about cybersecurity.



Dr. Michael Hsiao, professor in the Bradley Department of Electrical and Computer Engineering at Virginia Tech and creator of GameChangeeper, will join us on Tuesday, December 4, to work with our fifth graders as they learn about GameChangeeper.

All students and teachers will be learning the basics of binary code, the “language” used by computers, with a classroom activity.

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01010100 01101000 01101001 01110011
00100000 01101001 01110011 00100000
01110100 01101000 01100101 00100000
01110100 01110101 01110100 01101111
01110010 01101001 01100001 01101100
00100000 01110100 01101111 00100000
01101100 01100101 01100001 01110010
01101110 00100000 01100010 01101001
01101110 01100001 01110010 01111001
00101110 00100000 01001001 00100000
01101000 01101111 01110000 01100101
00100000 01111001 01101111 01110101
00100000 01100101 01101110 01101010
01101111 01111001 00100000 01101001
01110100 00100001
```



Students and teachers will be asked to dedicate some time each day during the week to use the Code Studio software to develop and enhance their programming skills. This software is sometimes referenced as Code Studio, Code.org, or Hour of Code, depending on how you launch the software and which components you want to use. Regardless of your usage of the applications, it is a lot of fun!

Classrooms will be participating in a problem based learning activity to develop a seasonal sorting algorithm. In computer science, “efficient sorting is important for optimizing the efficiency of other algorithms (such as search and merge algorithms) which require input data.”

[https://en.wikipedia.org/wiki/Sorting\\_algorithm](https://en.wikipedia.org/wiki/Sorting_algorithm)



Plus more.....

# What can you do at home?

All you need is:

- 1) A computer, tablet, or mobile device
- 2) Internet access
- 3) 1 hour or more with your child or the whole family
- 4) Go to “Hour of Code” (<https://hourofcode.com/us>)



For more ideas, watch the video “How to do an Hour of Code with your child” (<https://hourofcode.com/us/how-to/parents>).

The screenshot shows the Hour of Code website. At the top, there is a navigation bar with the 'HOURL OF CODE' logo on the left and links for 'ACTIVITIES', 'HOW-TO', 'PROMOTE', and 'FAQ' on the right, along with a language dropdown menu set to 'English'. Below the navigation bar, the main heading reads 'How to do an Hour of Code with your child' with a 'Host an hour' button. A sub-heading says 'Complete an Hour of Code at home or volunteer to bring it to your child's classroom!'. The first step is '1) Watch this how-to video', featuring a video player with the title 'How to Run an Hour of Code' and a thumbnail showing two children. The second step is '2) Choose a tutorial', which includes a paragraph stating that tutorials are self-guided and suitable for all ages. Below this, there are six tutorial cards: 'Star Wars: Building a Galaxy ...' (All ages | Blocks, JavaScript), 'Make Music' (Grades 2-8 | Blocks, Scratch), 'Gumball's Coding Adventure' (Grades 6-8 | Blocks), 'Minecraft Hour of Code' (Grades 2+ | Blocks), 'Code the News' (Grades 6+ | Python), and 'Kodable' (Pre-reader - Grade 5 | Blocks | Unplugged, iPad app). On the right side of the page, there are three vertical sections: 'How-to guides' (listing various settings like 'For educators', 'For after-school educators', etc.), 'Resources' (showing a book titled 'Don't just play on your phone program it'), and 'Try the tutorials' (a colorful graphic with various characters). At the bottom right, there is a 'How to get involved' section with a grid of small images and the text '183 Communities'.

**Thank you for helping us to reach your and our students!**