College & Career Awareness
Sept. 28 – Oct 2

Comic by Bill Watterson

Overview: "It all started with Sputnik. What seemed at the time like a major defeat in the Cold War, turned out to be the catalyst for one of the most important technologies of the 20th century, and maybe the 21st.
It was October 4th, 1957. Scientists at MIT noticed that the frequency of the radio signals transmitted by the small Russian satellite increased as it approached and decreased as it moved away. This was caused by the Doppler Effect, the same thing that makes the timbre of a car horn change as the car rushes by. The Russians launched the Sputnik satellite in 1957, surprising the world.This gave the scientists a grand idea. Satellites could be tracked from the ground by measuring the frequency of the radio signals they emitted, and conversely, the locations of receivers on the ground could be tracked by their distance from the satellites. That, in a nutshell, is the conceptual foundation of modern GPS. That GPS receiver in your phone or on the dash of your car learns its location, rate of speed, and elevation by measuring the time it takes to receive radio signals from four or more satellites floating overhead. GPS has come a long way since Sputnik." *Mark Sullivan Senior Editor, Tech Hive*

Essential Questions: What is the difference in GPS and GIS and how do these tools support our agricultural food production?

Terms:

GPS	Global positioning system
GIS	Geographical Information System

Checklist:

___ Record input on the right side of your journal

___ Watch 'How GPS Works'

___ Watch Modern Marvels – Harvesting and & fill out entry level and advanced level jobs

___Get a computer for yourself, if you want to work solo, or for you and your partner and complete the Where in the World Activity

___If you get done with everything, use the start button to search 'Google Earth' on your lap top and see if you can find you house. Further, see if you figure out how to view your house over the past 5 years.

___We are wrapping up the Ag unit with a game of Jeopardy! This is an open journal game, so if you took good notes, it will pay off.

Exploration Cycle
Information Technology
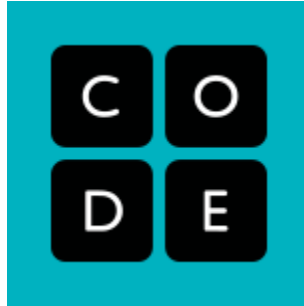
Overview: It's time for our first change in pathways. We are moving into the ever changing world of Information Technology. We will look at digital media, software development and more! In this lesson you will be introduced to Code.org

Essential question: How many computers do you have in your home? What language does a computer speak?

Terms: coding, computer science, conditional, debug, else, if-block, loop, problem solving, repeat times, repeat until, sequence, workspace

Checklist:

___Watch an introduction to Information Technology https://code.org/

___Using the link posted in the blog (blogs.mariamontessoriacademy.org/msemily) go to the link and enter in the log in information provided by the card Ms. Emily hands out to you.

___The website will ask you your age and then take you to 'Hour of Code'. Press the orange 'try now' button and it will give you a task.

     ___Sequence – Video for puzzles 1, 2, 3, 4, and 5. Bill Gates and others introduce the concept of coding (computer science). Students are shown how to place a block in a sequence to solve the maze puzzles.

     ___Loops – Video for puzzles 6, 7, 8, and 9. Mark Zuckerberg, founder of Facebook, introduces the Repeat Times block. The repeat number block is used to solve the Angry Bird and Evil Pig puzzles.

     ___Loops – Video for puzzles 10, 11, 12, and 13. Chris from the NBA introduces the Repeat Until block. It is used to solve puzzles for the Zombie to find sunflower seeds to eat.

     ___Decisions – Video for puzzles 14, 15, 16, and 17. Bill Gates introduces decisions using the If block.

     ___Decisions – Video for puzzles 18, 19, and 20. Saloni a health care researcher introduces the If Else block.