Cool Careers for Girls in CyberSecurity
Radar

Duration: Each student session last for 20 minutes. Students will need a five minutes to travel to their next session.

Session Overview:
Students will discover different types of radar using fruit and a snack bag.

Objectives:
Investigate diverse types of radar
Perform the functions of radar

Materials/Supplies (include AV needs):
Banana, orange, grapefruit, tangerine
Snack bag with marshmallows, popcorn, and a single Hershey kiss for each team of participants
Timer

Introduction:
Explain that there are different types of radar. There are types of radar that can identify ships – show the banana. Then there are types of radar that can tell the difference between planes. Show the orange, grapefruit, and tangerine. Radar uses waves to do one of three things:
- Detect the presence of an object
- Detect the speed of an object
- Create topographic maps

Lesson:
Explain that one type of radar, like the one on the ship, can find very small thing among a sea of other very small things. Give students a snack bag and set a timer for 15 seconds. Ask the students to find the Hershey kiss in the bag. Radar could find the Hershey kiss!

Final Thoughts:
Computers can do things faster and more efficiently than humans can. However it takes a human to program the computer. Remind students that radar is able to identify objects when a human has been programmed to recognize a set of characteristics. This group of characteristics is like a person's identity. We identify

people by what they look like; or if we have never met them by the information they know—for example their address, phone number, and social security number. It takes a long time for the scientists to develop programs to identify objects using radar so they are very careful to protect this information from theft. A person's identiy information is also valuable, so they also need to protect their identity information from theft.