What is a Network?

TOPIC: NETWORKING

GRADES: 3-5

LESSON DURATION: 45 MINUTES

SOFT SKILLS: COMMUNICATION, COLLABORATION

Learning Outcomes:

- Students will define networking.
- Students will demonstrate a basic knowledge of the workings of the internet as a means of mass communication and a network of connected users.
- Students will define the term “IP address” and understand its importance in networking.

Materials:

- Teacher Notes
- Presentation with activity included
- Instructions and materials for activity

Activities:

1. The teacher should begin by asking students to define the term network.
2. The teacher can then introduce an activity so that students understand the term network.
3. The teacher should have all students stand. Students will need room to move around the classroom. The teacher should explain that they are going to take part in a networking activity. Each time the teacher states a hobby, students should move if they like to do the activity. If not, the student should remain standing quietly at their chair.
4. The teacher should then list a wide variety of hobbies (playing sports, watching TV, reading, walking the dog, going to movies, etc.) Students who like the activity should move to a predetermined location in the room. Allow the students 15-20 seconds to talk about the topic. After each topic, allow the students to return to their seats.
5. After the activity is over, explain that each of those groups was a network. Networks of people are those that interact around a common interest. The teacher should then explain that computer networks are the same thing: 2 or more computers that are linked together in communication to share resources.
6. The teacher should then ask for examples of different types of computer networks (home network, school networks, work networks, the internet, etc).
7. The teacher can then begin a very basic discussion on IP addresses.
8. Just like each person has a unique home address, each computer has a unique address. This address is called an “IP address” and it is how computers know what other computers they are “talking” to.

9. Note: More information can be found at http://whatismyipaddress.com/ip/ including the ability to locate and monitor an IP address. The teacher can model the way in which one can find an IP address but it is not a necessary skill for this age group.
10. The teacher should lead a very basic discussion of the components of a network. The presentation linked above can be used to explain basic networking. An activity is contained at the end of the presentation. This activity requires baskets, bean bags of different colors, photos, and plenty of room in which tape has been placed to show data path movements.

Assessment/Enrichment:

1. Students can complete an activity at home. Have students determine how many computer networks they use during a day. For some it may just be two, home and school. However, some may go to church, get on the Wifi, go to the public library to work, or go to the babysitters house after school.
2. Have students go for a walk around the neighborhood with an adult and notice how the houses are numbered. Have them record the patterns that they notice. The next day, the teacher can lead a discussion on the fact that houses and IP addresses both have a systematic, non random numbering system.
3. As a fun unplugged activity, students can write their IP address and decorate it as they wish (For example, someone may want to draw theirs within a flower, butterfly, football, dragon, etc) making the address officially theirs (although it will change often). This activity can be done by the teacher assigning each student a fake IP address that follows the proper pattern.