

# Unit 1

## Introduction to Wireless Communication

### Lesson 1.1

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**Lesson Title** Introduction to Wireless Communication

**Curriculum Area(s)** Technology  
Social Studies

**Grade(s)** 6 – 8

**Duration:** 3 class periods

**Content Standard(s)** T-2, SS-1

**Benchmark(s)** T-2.1, SS-1.1

#### Goals

- Develop the students understanding of the history of wireless communication and the context in which it took place.
- Develop the students understanding of the impact wireless technology had on the history of the US and the industrialized world.

#### Objectives

- To identify the context in which wireless technology was introduced to the world.
- To identify the stages of evolution wireless technology passed from its beginning to present day.
- To identify the impact wireless technology has had on the development of society in the US and around the world
- Introduce Amateur Radio as a hobby and vital communication service.

#### Resource Materials

*Now You're Talking*

*Operating Your Amateur Station*

*ARRL Operating Manual*

*ARRL 200 Meters and Down*

#### Content

What is Wireless Communication?

The Early Years

The War Years

Post WWII

#### Suggested Activities

1. AM DXing Project – Activity Sheet #1.1
2. Amateur Radio Demonstration from a local Amateur Radio Club
3. FRS Radio Play – Have students make up call signs using the school and student initials. Practice saying their calls and names using the phonetic alphabet.

# Activity Sheet #1.1

## AM Radio DXing

What's your favorite radio station? How do you know how to find it? Can you tell by the kind of music they play? Do you recognize the DJ's voice? Do you know the "Call Letters" of the station? Do you know the station's frequency? Is it an AM or FM station? In the following activity, you will learn how to identify different radio stations, locate them on a map and place them in a log.

We call this AM radio DXing. What does DX mean? The letters DX stand for long distance. So, DXing means listening to stations far away. We won't start far away, however. We would like to start with radio stations close to your school, or where you live. You will be asked to log down the stations "call letters" and locate the station on a local map.

### **Materials:**

1. AM radio. It can be just about any kind of radio that has AM capabilities. The dial can be analog or digital, as long as it works. Even inexpensive battery operated radios work great.
2. Map of the local area. This should cover a radius of approximately 50 to 100 miles.
3. Log sheet. This can be a formal log with divisions for each bit of information, or a simple piece of paper with divisions written in. You will need to log such information as: Date, Time, Call Letters, Frequency, Power, Location etc.

### **Procedure:**

1. With the volume set at a medium setting, scan through the AM radio band 530 kHz through 1700 kHz. Find the first station up from 530 kHz
2. On your log sheet put today's Date, Time of day (local time), Call Letters of the station, station Frequency and station Power.
3. Where is the station located? Stations will identify themselves and often give their locations, however, you can also locate them by the following URL on the Internet: <http://www.fcc.gov/mb/audio/amq.html> . List the location of the station. You might also want to include what type of programming they have: news, rock music, country music, talk radio etc.
4. How strong is the station? Using a numbering system from 1 (weak) to 9 (strong), how strong would you say the station is?
5. Now continue up the band to the next station. Repeat the procedure until you have logged in all the AM stations you can hear.

Now you have completed the AM DXing activity, repeat the same activity at night. See what stations you find after dark. You might be surprised at what you find.

