Mission 9
Separating a Radio Signal from "Noise"

Finding a Signal on the Radio–Worksheet

Name: _____ Date:_____

1. What is the cause of static on any radio or television set?

2. Listen to the two radios that the teacher is playing.

   What is the volume of the radio that is "tuned" to static?

   What is the volume of the other radio when you could first detect a signal?

   What is the volume when you could understand what the person was saying?

   What is the signal-to-noise ratio for each of these?

   First detected?
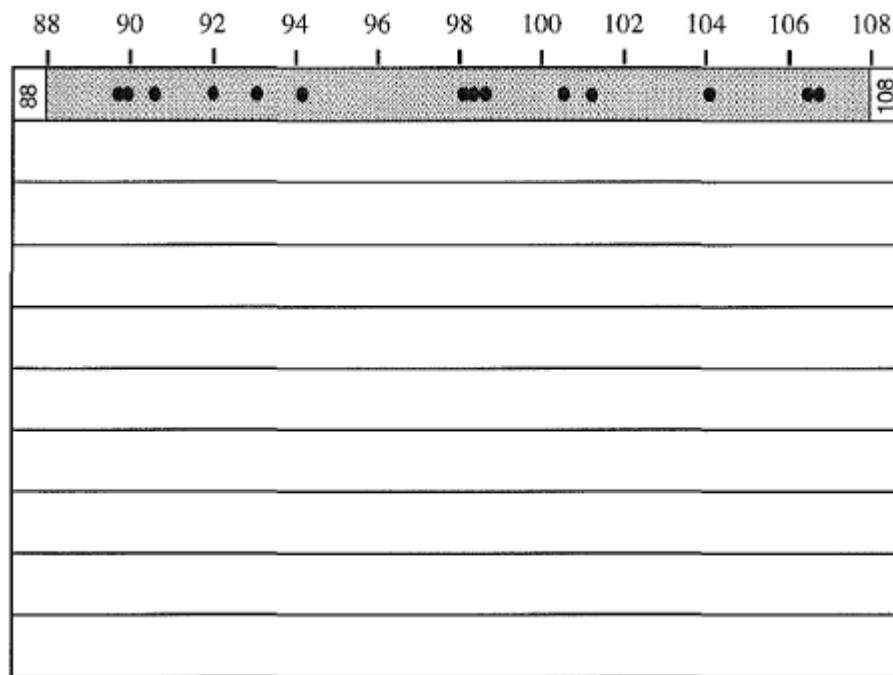
   When you can figure out what the person is saying?

3. What does this have to do with what SETI scientists are doing?

Where Are the Radio Stations?

Each strip in your envelope (like the one shown below) shows what you would see on a computer screen that displays a spot of light wherever your radio detects a sound as you tune across a radio dial. You will sometimes see a spot between stations, where natural radio static comes in, but you will always see a spot at each radio station, where a transmitter is broadcasting.

Pull the strips out of your team's envelope, and line them up on the grid found below. There are nine strips. Each strip corresponds to a scan across the full range of the radio frequencies. Each strip represents a one-minute scan, and the strips may be placed in any order on the grid. However, be sure that the frequencies (the stations) are correctly aligned with "88" on the left and "108" on the right like the first strip on the grid.

Figure 9.6–Radio Dial.

4. The six radio stations are located at the following places on the AM dial:

    _____   _____   _____   _____   _____   _____

5. How do you think this activity relates to what SETI scientists are doing in their search for signals from space that may be of extraterrestrial origin?
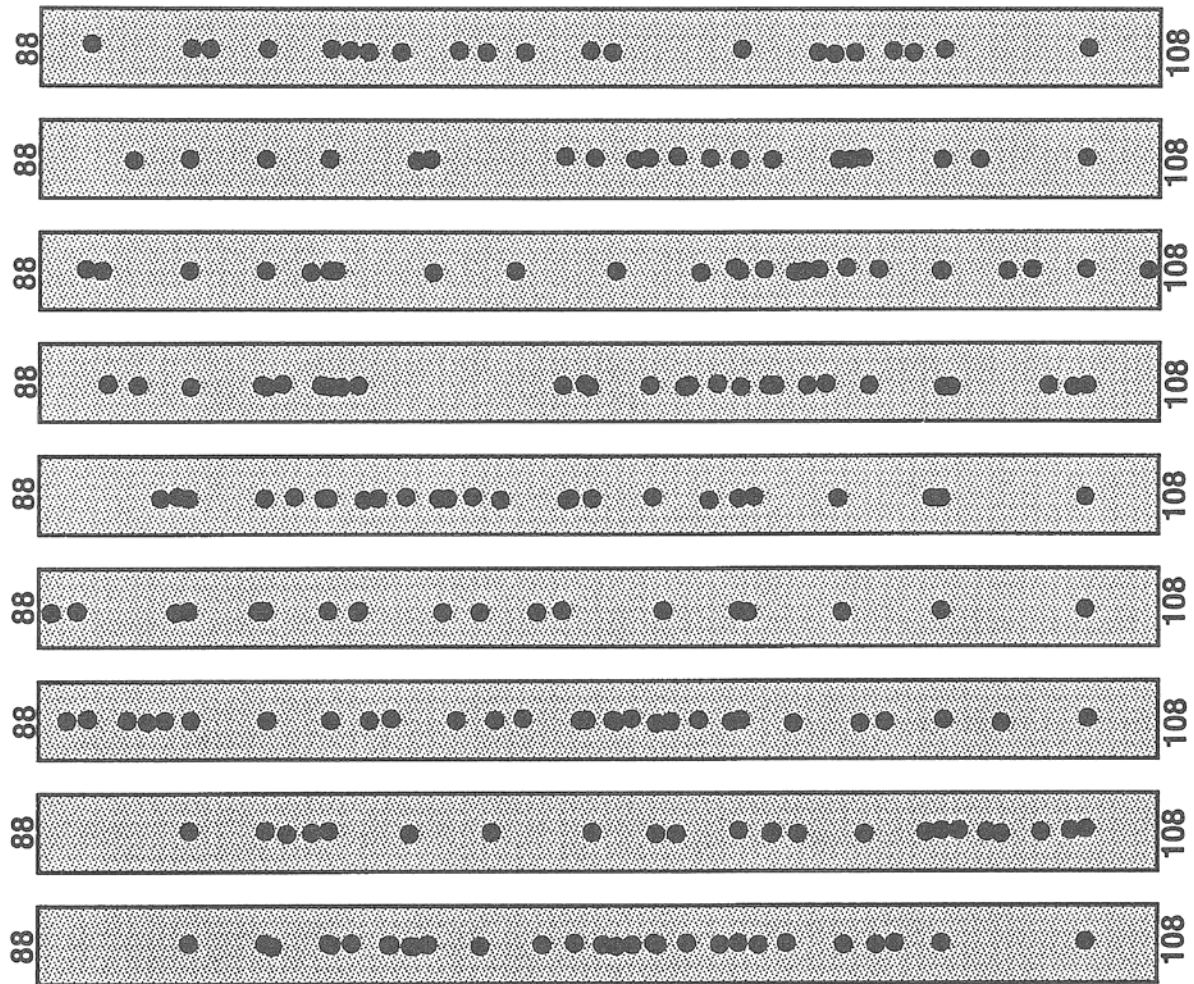
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Data Strips

Figure 9.7.

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Figure 9.8.