

Fox Hunting for Hands-on Fun while Learning

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After the fox! The hunt is on for students from Rock Canyon High School. (Photo by Cindy Powell, KEØFGH)

Students at Rock Canyon High School in Douglas County, Colorado, recently discovered Amateur Radio Direction Finding (ARDF), sometimes called fox hunting. They prepared for this by learning how to read topo-graphical maps and how to use compasses. They also learned about the 2 meter Yagi antenna, the attenuator, and how radio waves travel. They watched two videos in a flipped classroom (a model in which the typical lecture and homework elements of a course are reversed) that asked questions about ARDF.

On the day prior to the fox hunt, students went through an orienteering course that was set up outside with 50 different colored flags. Each of 10 student groups had a different orienteering course for which they had to read clues, such as number of paces and degrees, to find the next flag. Each flag also had questions for which they had to find a correct number. At the end of each course, students had a codex that allowed them to match up the numbers to letters. If done correctly, the words spelled out names of Colorado mountains.

The following class day, groups of six to seven students were each given a Yaesu FT-60R radio, a 2 meter Yagi (the students built these), and an attenuator. I hid five Byonics Fox transmitters (146.565 MHz) in different locations around the campus each hour so they could not tell fellow classmates their locations. I had maps printed out of the campus and they had to listen to the different signals coded in each transmitter to find the foxes. They had to show their

triangulation drawings on their maps as part of the activity. The group that found all five transmitters first received bonus points, which is a strong motivator for these students.

All five of my freshmen earth science students and two other classes taught by another teacher participated. This allowed approximately 230 students to learn about this application of wireless technology. The students really enjoyed the hunt, and it was fun watching them run and look for the foxes. I am grateful to the ARRL Education & Technology Program for providing the grant for the equipment that made it possible to teach this in the classroom!

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