

Unit 7

Safety

Lesson 7.1

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Lesson Title Safety: General, Electrical & RF

Curriculum Area Science

Duration 2 class periods

Content Standard SC – 3

Benchmarks SC – 3.2, SC – 3.3

Goals

- Reinforce student awareness of safety issues
- Develop student understanding of the types of safety issues faced in Amateur Radio

Objectives

- Students will discuss general safety issues
- Students will identify basic safety rules pertaining to electrical safety
- Students will identify safety procedures related to RF exposure and exposure standards

Resource Materials

Now You're Talking

ARRL Handbook Chapter 9

RF Exposure and You, Chapter 3

Instructional Content

General Safety

Electrical Safety

RF Radiation and Electromagnet Field Safety

Thermal Effects of RF Energy

Safe Exposure Levels

Low-Frequency Fields

General Safety Recommendations

Suggested Activities

1. Field trip to the local power company / or safety demonstration by power company safety engineer.
2. Use a H-T and a short fluorescent tube, to demonstrate RF energy by lighting the tube using H-T emissions.
3. Divide the class into small groups. Give each group an article about RF radiation/safety. Groups should analyze their article and prepare an argument for that position. Each group presents their findings.
4. Students design an advertising campaign to alert the public about safety issues pertaining to wireless communications (cell phones, etc). The final product could take the form of an information packet, *Power Point* presentation or video commercial.