

RADIO

REQUIREMENT #1:

Explain what radio is. Then discuss the following:

- a. The differences between broadcast radio and hobby radio.
- b. The differences between broadcasting and two-way communications.
- c. Radio station call signs and how they are used in broadcast radio and amateur radio.

REQUIREMENT #2:

Do the following:

- a. Sketch a diagram showing how radio waves travel locally and around the world. Explain how the broadcast radio stations WWV and WWVH can be used to help determine what you will hear when you listen to a short wave radio.

- b. Explain the difference between a DX and a local station. Discuss what the Federal Communications Commission (FCC) does and how it is different from the International Telecommunication Union.

Amplifier: _____

Antenna: _____

REQUIREMENT #5:

Do the following:

- a. Explain the differences between a block diagram and a schematic diagram.

- b. Draw a block diagram for a radio station that includes a transceiver, amplifier, microphone, antenna, and feed line.

- c. Explain the differences between an open circuit, a closed circuit, and a short circuit.

- d. Draw eight schematic symbols. Explain what three of the represented parts do. Find three electrical components to match to three of these symbols.

REQUIREMENT #6:

Explain the safety precautions for working with radio gear, including the concept of grounding for direct current circuits, power outlets, and antenna systems.

REQUIREMENT #7: (Pre-Requisite)

Visit a radio installation (an amateur radio station, broadcast station, or public service communications center, for example, approved in advance by your counselor. Discuss what types of equipment you saw in use, how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station.

REQUIREMENT #8:

Find out about three career opportunities in radio. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.

REQUIREMENT #9:

Do ONE of the following (a OR b OR c):

a. Amateur Radio

1. Tell why the FCC has an amateur radio service. Describe some of the activities that amateur radio operators can do on the air, once they have earned an amateur radio license.

- Using proper call signs, Q signals, and abbreviations, carry on a 10-minute real or simulated amateur radio contact using voice, Morse code, or digital mode. (Licensed amateur radio operators may substitute five QSL cards as evidence of contacts with amateur radio operators from at least three different call districts.) Properly log the real or simulated ham radio contact and record the signal report.

- Explain at least five Q signals or amateur radio terms you hear while listening.

- Explain some of the differences between the Technician, General, and Extra Class License requirements and privileges. Explain who administers amateur radio exams.

- Explain how you would make an emergency call on voice or Morse code.

6. Explain the differences between handheld transceivers and home “base” transceivers. Explain the uses of mobile amateur radio transceivers and amateur radio repeaters.
