

MAY 15th and May 16th 2020
VIRTUAL COMPUTER SESSION VIA ZOOM
RADIO MERIT BADGE SESSION
SCOUT'S PERSONAL CHECK LIST

Scout's Name _____

MAKE SURE YOU CHECK OFF THE REQUIREMENTS FOR YOURSELF
(PLACE A CHECK MARK IN THE BOX WHEN YOU HAVE COMPLETED THE
REQUIREMENT DURING THE SESSION.)

INSTRUCTOR -OR- YOUR PARENT WILL INITIAL SUCCESSFUL COMPLETION OF REQUIREMENT

REQUIREMENTS:

1. Explain what radio is:

Then discuss

- A. The difference between broadcast radio and hobby radio
- B. The differences between broadcasting and two-way radio
- C. Radio Station call signs and how they are used in broadcast radio amateur radio
- D. The phonetic alphabet and how it is used to communicate clearly

Your Check Box

INSTRUCTOR OR
PARENTS INITIALS

2. Do the following:

- A. Sketch a diagram showing how the radio waves travel locally and around the world. Be able to explain how the broadcast radio stations WWV and WWVH can be used to help determine what you will hear when you listen to shortwave radio.

B. Explain the differences between DX and a local station.

Discuss what the FCC does and how it is different from the ITU

Your Check Box

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3. Do the following:

- A. Draw a chart of the electromagnetic spectrum covering 100 kHz to 1,000 MHz
- B. Label the MF, HF, VHF, UHF and microwave portions of the spectrum on your diagram.
- C. Locate on your chart at least eight radio services, such as AM and FM commercial broadcast, citizens band (CB), television, amateur radio (at least four amateur radio bands), and public service (police and fire).

Your Check Box

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4. Explain how radio waves carry information. Include **in** your explanation: transmitter, receiver, amplifier, and antenna.

Your Check Box

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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 microphone, transmitter or transceiver, amplifier, tuner, feed line and antenna
- 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 part do. (Counselor will show you pictures of schematic symbols - you identify it - there will be enough for every Scout.

Your Check Box

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

Your Check Box

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7. Visit a radio installation (an amateur radio station, broadcast station, or public service communications center). Discuss how it was used, what types of licenses are required to operate and maintain the equipment, and the purpose of the station.

Your Check Box

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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.

Your Check Box

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9. a.

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

- (2.) Using proper call signs. Q signals and abbreviations, carry on a 10 minute simulated 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.

If you are simulating the QSO, then log it correctly on your log sheet that you print printed out from the Zoom page.

- (3.) Explain at least one Q signal or amateur radio terms you are presented by your Counselor during this session
- (4.) Explain some of the differences between the Technician, General and Extra Class license requirements and the privileges. Explain who administers amateur radio exams.
- (5.) 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.

Your Check Box

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Questions: