

Name: _____ Troop: _____ Campsite: _____

Introduction to Radio
Module 1 of the Radio Merit Badge Class

1-1. What is radio?

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1-2. What is broadcast radio?

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1-3. What kind of information is transmitted out over broadcast radio?

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1-4. What is hobby radio?

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1-5. What is 2-way communication?

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1-6. What is Amateur Radio?

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1-7. What are three important uses for Amateur Radio?

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1-8. What is a call sign?

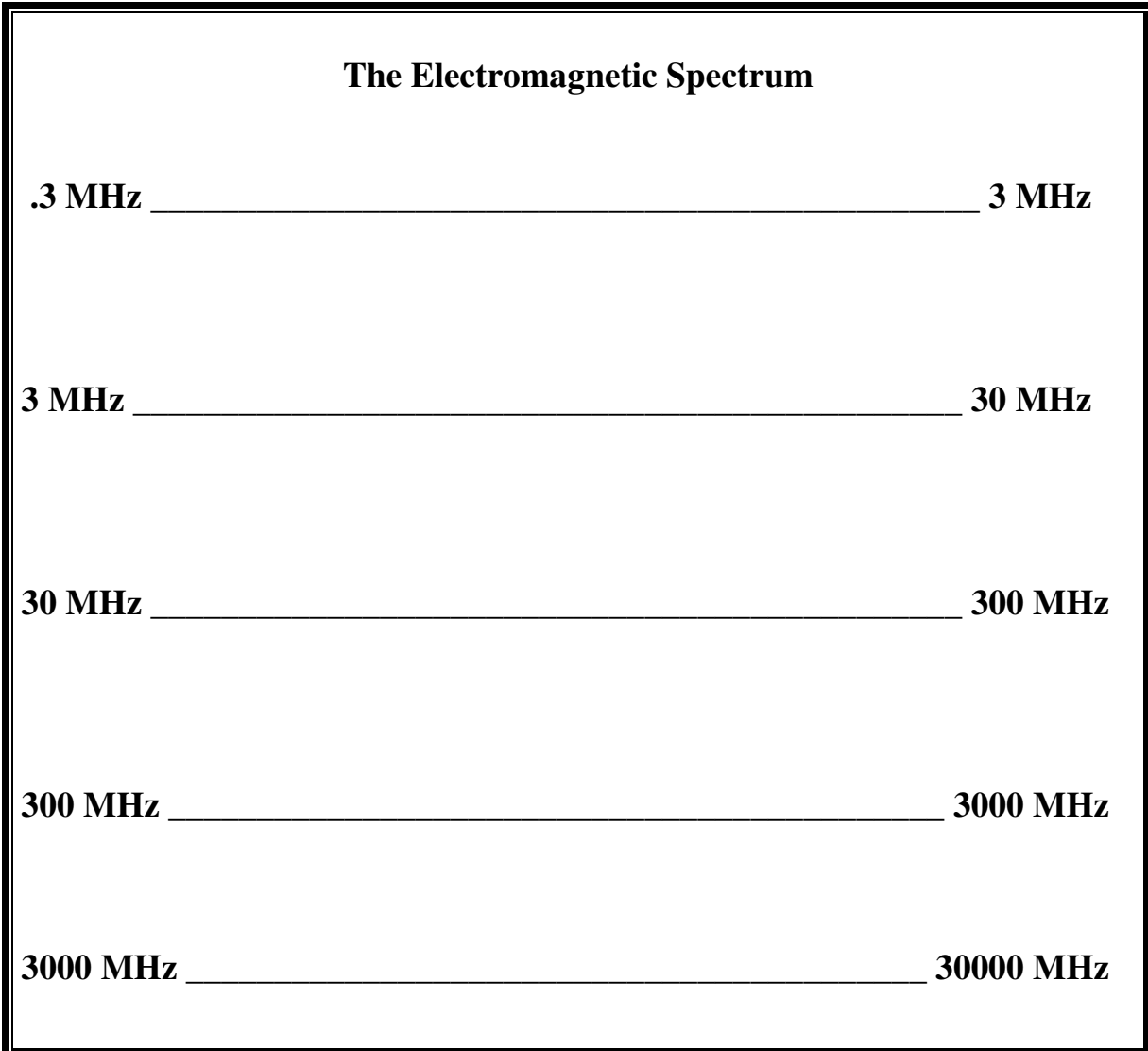
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1-9. What are the FCC and ITU?

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1-10. What is the phonetic alphabet?

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1-11. In the space below, draw a diagram of the ELECTROMAGNETIC SPECTRUM from 100 Kilohertz to 1000 Megahertz. Include the following in your drawing:

- Label the MF, HF, VHF, and UHF portions of the spectrum.
- Mark at least 8 radio services such as AM and FM broadcast bands, CB, television, at least 4 ham radio bands, and a police / fire band.



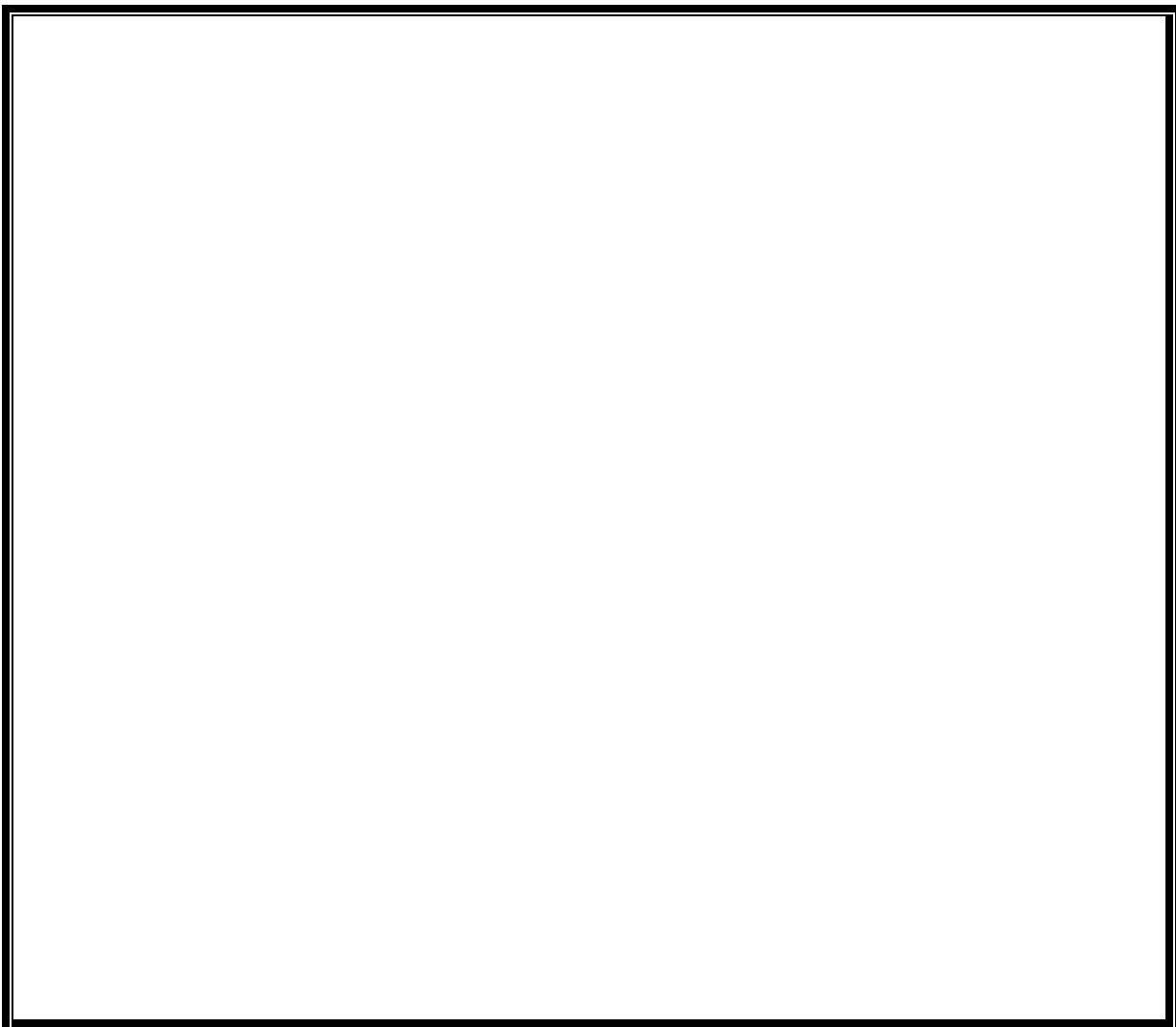
1-12. Explain you might use WWV to learn how what you might hear on the short-wave radio bands.

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.....2

1-13. In the space below, illustrate how radio waves travel locally and around the world.

2



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Components, Safety and Careers
Module 2 of the Radio Merit Badge Class

2-1. In the space below, draw a block diagram of an Amateur Radio station. Include the following: Microphone, transceiver, amplifier, feedline, and antenna.

6b



2-2. In the blocks below, draw and label schematic symbols for 8 electronic components:

6d

2-3. Explain the electrical properties of three of the components you drew:

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-6d

2-4. Explain the difference between a block diagram and a schematic diagram.

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.....6a

2-5. What is a CLOSED CIRCUIT?

.....6c

2-6. What is an OPEN CIRCUIT?

.....6c.

2-7. What is a SHORT CIRCUIT?

.....6c

2-8. In the spaces below, list the some radio safety rules:

5

1.
2.
3.
4.
5.
6.
7.

2-9 List three careers in radio and how you would train for them:

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Amateur Radio & Emergency Communications
Module 3 of the Radio Merit Badge Class

3-1. List and explain the three classes of Amateur Radio License.

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3-2. List some activities hams can do once they've earned a license.

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3-3. Who gives ham radio exams?

3-4. Discuss the differences between mobile and base units.

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3-5. List and explain five Q signals:

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3-6. Explain why the FCC has established the Amateur Radio Service.

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3-7. Explain what a repeater is and what it's used for.

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3-8. Explain how you would make an emergency call using voice and Morse code.

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3-9 With the help of a licensed ham operator, carry on a 10-minute contact using proper Q signals. On the next page log pertinent details of that contact.

