

## Nuclear Science Merit Badge - Basics Worksheet

Name \_\_\_\_\_ Troop Number \_\_\_\_\_

Grade \_\_\_\_\_ Workshop Date \_\_\_\_\_

Note: Please complete this worksheet using the Nuclear Science Basics slide show and bring it with you to the Merit Badge Workshop. If you have any questions, please let your Merit Badge Counselor, Parent, or Scout Leader know!

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Questions:

1. What are the basic building blocks of all matter?

\_\_\_\_\_.

2. What are the three parts of an atom?

\_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

3. What charge do neutrons have?

\_\_\_\_\_.

4. What table would I look on if I wanted to find information on the element carbon?

The \_\_\_\_\_ table.

5. What are atoms called that are the same element, but contain different numbers of neutrons in their nucleus?

\_\_\_\_\_.

6. When molecules, crystals, and compounds interact, they can form new compounds. What is this change from old to new compounds called?

\_\_\_\_\_ reactions.

7. What does the field of nuclear science concern?

Nuclear Science concerns the interactions between \_\_\_\_\_.

8. List three commonly found radioactive objects.

\_\_\_\_\_.

\_\_\_\_\_.

\_\_\_\_\_.

9. What are the two types of radioactive decay?

\_\_\_\_\_ decay.

\_\_\_\_\_ decay.

10. What nuclear process do nuclear power plants use to produce most of their power?

Nuclear \_\_\_\_\_.

11. BONUS! Sketch what a nuclear fission chain reaction looks like.