

**LESSON****15**

## ACTIVITY

# Nuclear Quest

## Nuclear Reactions

Name \_\_\_\_\_

Date \_\_\_\_\_ Period \_\_\_\_\_

**Purpose**

To explore nuclear reactions.

**Part 1: Play Nuclear Quest**

Play the game. You will need a game board, a pair of dice, Nuclear Quest cards, Gamma Radiation cards, and a game piece for each player. See the handout for instructions.

**Part 2: Nuclear Chemistry**

Work in your groups to answer these questions.

1. Describe the particle that is emitted during alpha decay. How do you think an atom changes when it undergoes alpha decay?
2. Examine the beta decay card. If the letter n on the card represents a neutron, describe what you think is going on.
3. When does gamma radiation occur?
4. Name four things you can learn about nuclear fission from this game.
5. Name four things you can learn about nuclear fusion from this game.
6. What is your group's new name for element 112? Do you think your element is radioactive? Explain your reasoning.
9. **Making Sense** Describe what a nuclear reaction is.