

## The “Rutherford” Atom

In Section 4.1 you were told that if the Houston Astrodome were a model for an atom, then a marble could represent its nucleus.

1. Think of another physical analogy for a “Rutherford” atom other than the astrodome.
2. Identify what represents the atom and what represents the nucleus in your analogy.
3. How good a match is your analogy for an actual atom? In what ways is it misleading?

### ANSWERS

1. and 2. Sample answers: a fruit with a seed representing the nucleus; a small object embedded in the center of a transparent glass or plastic sphere; a chocolate-covered cherry or nut; the smallest object in a set of nested objects of increasing size.

3. The main flaws in most physical analogies are the relative sizes of the “nucleus” and “atom,” and the lack of unfilled space surrounding the nucleus.