

**Chapter 4 Guided Reading**  
**ATOMIC STRUCTURE Section 4.1 and 4.2**

Read pages 101-110 in your chemistry books and answer the questions in complete sentences.

1. How did Democritus characterize atoms?

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2. How did Dalton advance the atomic philosophy proposed by Democritus?

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3. In your own words, state the main ideas of Dalton's atomic theory

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4. According to Dalton's theory, is it possible to convert atoms of one element into atoms of another? Explain

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5. What are three types of subatomic particles? What are the charges and relative masses of the three main subatomic particles?

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6. How does the Rutherford model describe the structure of atoms?

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7. Compare Rutherford's expected outcome of the gold-foil experiment with the actual outcome.

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8. What experimental evidence led Rutherford to conclude that an atom is mostly empty space?

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9. How did Rutherford's model of the atom differ from Thomson's?

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