**Physics Revision: Atomic Physics**

Mastery Matrix Points

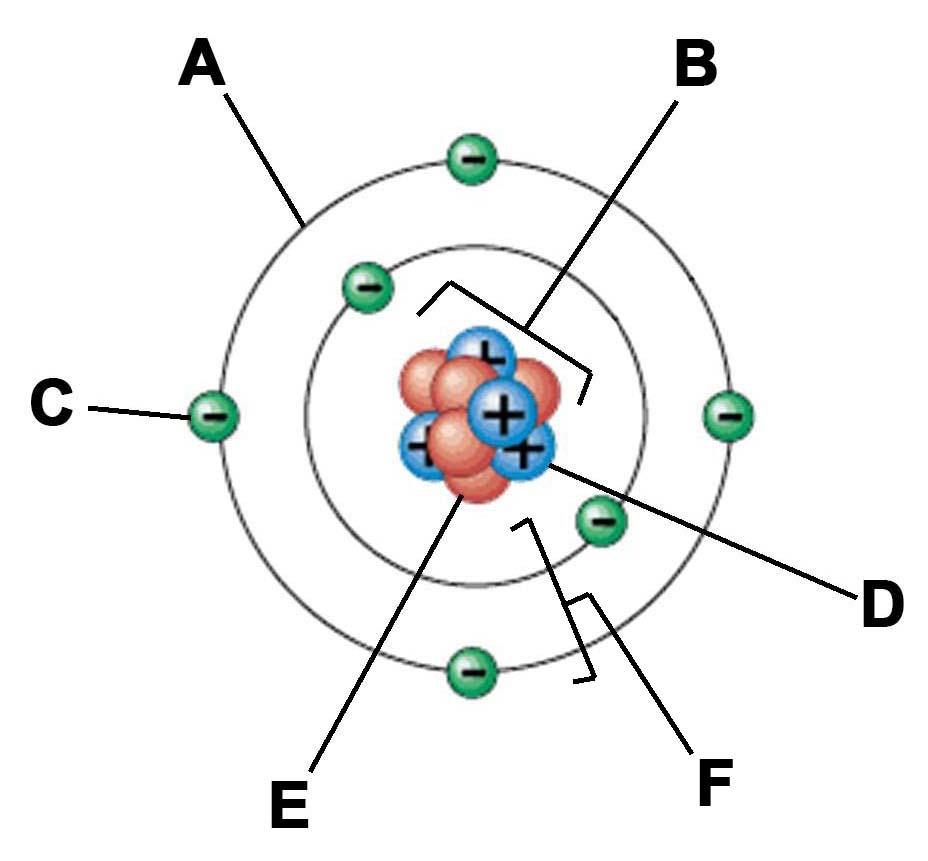
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| --- |
| Describe the structure and size of an atom |
| Calculate the number of protons, neutrons and electrons in an atom |
| Describe how electrons can change energy level |
| Describe isotopes |
| Describe what an ion is |
| Describe the development of the model of the atom (Plum-pudding, Rutherford, Neils Bohr and Chadwick). |

Key Knowledge

Radius of an atom =

Radius of a nucleus is \_\_\_\_\_\_\_\_\_\_ times smaller than the atomic radius.

Label the parts of an atom:



What order were the parts of the atom discovered?

Using the periodic table:

*To find the number of protons…*

*To find the number of electrons…*

*To find the number of neutrons…*

Definitions:

Isotope

Ion

Plum pudding model

Nuclear model

Understanding and Explaining

1. **Explain what would make an electron jump to a higher energy level.**
2. **Explain what would make an electron fall to a lower energy level.**
3. **Why might scientists make changes to an existing theory?**
4. **Describe the alpha scattering experiment, its results and why the results led to a change in the theory of the atom.**
5. **Explain the role of Niels Bohr in atomic theory.**
6. **Describe the contribution of James Chadwick to atomic theory.**