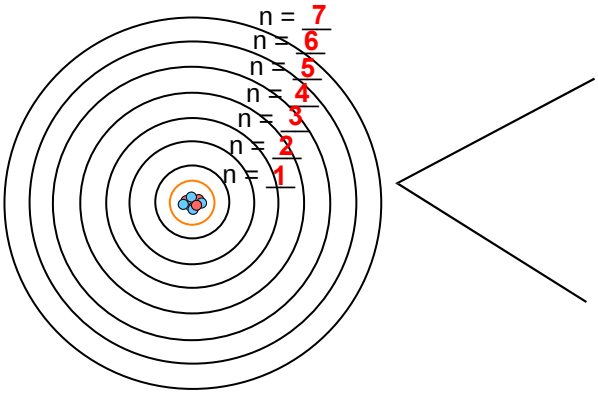
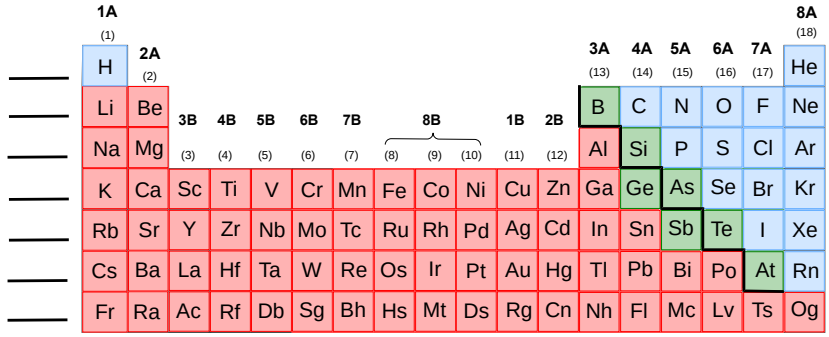
**CONCEPT:** QUANTUM NUMBERS: PRINCIPAL QUANTUM NUMBER

- The **Principal Quantum Number (*n*):** _____ = _____ level of a shell.
  - □ As the value for *n* increases then both the size and energy level of an atomic orbital will ____.
  - □ The energy levels (shell numbers) of an atom can be tied to the _____ or rows of the Periodic Table.



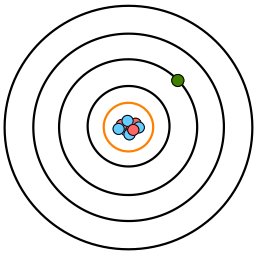




- □ **Limitation**: The principal quantum number *n* must be an integer from _____ to _____.

**EXAMPLE:** Which of the following is a possible value for a principal quantum number shell?

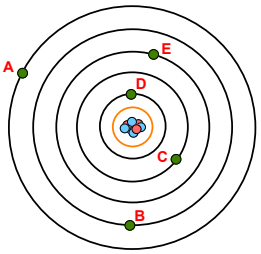
a) n = –3 b) n = – 4 c) n = 0 d) n = 11 e) n = –

**PRACTICE:** What is the value of *n* for the electron based on the image of the atom provided?



a) n = 3 b) n = 5 c) n = 1 d) n = 2 e) n = 6

**PRACTICE:** Which electron possesses the lowest possible energy from the image provided?




a) A b) B c) C d) D e) E