

QUANTUM NUMBERS
Interactive worksheet
General Chemistry I

Directions:

- Fill in the four quantum numbers for one electron in that orbital.
- Match the orbital's appearance
 1. In the last column, drag and drop the picture of the orbital shape from the set of images provided below into the space for that row.
 2. To determine the correct illustration of the orbital, access this [link](#).
 3. Change the display mode and choose isosurface. Input the set of quantum numbers of each orbital then click "update orbital".
 4. Compare the illustration of the orbital presented on the website from the set of images below.

Orbital	n value	l value	m_l value	m_s value	shape illustration
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1) $3p^4$

2) $2s^1$

3) $5f^9$

4) $5d^8$

5) $3d^4$

6) $2p^3$

