

Quantum Numbers

- _____
- Used to _____ an _____ in an _____

n

- _____
- Represents _____ energy level of _____

_____ # of _____ in an _____ = _____

Example: What is the maximum number of electrons that can be in the _____ main energy level?

l

- The _____
- Describes the _____ within an _____
- _____ of orbital _____ possible in _____ = _____

Orbital Shapes

designated _____

- level 1: _____
- level 2: _____
- level 3: _____
- level 4: _____

How many electrons can each sublevel hold?

$s = 1 \text{ orbital} \times 2 \text{ e}^-/\text{orbital} = \text{_____} \text{ e}^-$

$p = 3 \text{ orbitals} \times 2 \text{ e}^-/\text{orbital} = \text{_____} \text{ e}^-$

$d = 5 \text{ orbitals} \times 2 \text{ e}^-/\text{orbital} = \text{_____} \text{ e}^-$

$f = 7 \text{ orbitals} \times 2 \text{ e}^-/\text{orbital} = \text{_____} \text{ e}^-$

m

- The _____
- describes _____ of _____ in _____

s

- The _____
- describes _____ of _____ in _____

Ground State: _____ energy arrangement of _____

Diagonal Rule

Examples—

hydrogen _____ *lithium* _____

nitrogen _____

Orbital Notation

Examples—

hydrogen

nitrogen

Hund's Rule:

_____ of _____ are each _____ by one
_____ before any _____ is occupied by a _____
_____.

Pauli Exclusion Principle:

No two _____ in the _____ can have the _____
_____ of _____.

The Chemistry Quiz

CR1. _____ CR2. _____ 1. _____ 2. _____
3. _____ 4. _____ 5. _____