

CONCEPT: ELECTRONIC STRUCTURE: SUBSHELLS

- The shell of an atom can be further divided into subshells (sublevels), with each one assigned a variable letter.

Subshell Designations				
Shell Number (n)	1	2	3	4
Subshell				

EXAMPLE: What are the possible values for n and subshell letter for an electron found in the 3rd energy level and d sublevel?

a) $n = 2$, subshell = f

b) $n = 3$, subshell = d

c) $n = 1$, subshell = d

d) $n = 3$, subshell = p

PRACTICE: Provide all the possible values of l for a 2 energy level.

a) 0

b) 0, 1

c) 0, 1, 2

d) 0, 1, 2, 3

e) 1

PRACTICE: How many sublevels are contained in the third shell ($n = 3$) for a given atom?

a) 1

b) 2

c) 3

d) 4

e) 5