

Solutions Lab-session 4

1)

	A	B	C	D	E	F	G	H
1		Quality						
2	ppm	50	60	80	100			
3	grade	low	medium	high	very high			
4								
5	site	ppm	grade			site	ppm	grade
6	A	55	=HLOOKUP(B6;\$B\$2:\$E\$3;2)			A	55	=IF(TYPE(C6)=16;"";C6)
7	D	111	=HLOOKUP(B7;\$B\$2:\$E\$3;2)			D	111	=IF(TYPE(C7)=16;"";C7)
8	C	60	=HLOOKUP(B8;\$B\$2:\$E\$3;2)			C	60	=IF(TYPE(C8)=16;"";C8)
9	B	77	=HLOOKUP(B9;\$B\$2:\$E\$3;2)			B	77	=IF(TYPE(C9)=16;"";C9)
10	A	44	=HLOOKUP(B10;\$B\$2:\$E\$3;2)			A	44	=IF(TYPE(C10)=16;"";C10)
11	B	88	=HLOOKUP(B11;\$B\$2:\$E\$3;2)			B	88	=IF(TYPE(C11)=16;"";C11)
12	C	99	=HLOOKUP(B12;\$B\$2:\$E\$3;2)			C	99	=IF(TYPE(C12)=16;"";C12)
13	C	56	=HLOOKUP(B13;\$B\$2:\$E\$3;2)			C	56	=IF(TYPE(C13)=16;"";C13)
14	D	102	=HLOOKUP(B14;\$B\$2:\$E\$3;2)			D	102	=IF(TYPE(C14)=16;"";C14)
15								

2) If the periodic table is located in range A2:D110, then you need to write:

Although this table works, you will notice that if you for example look for the element

	F	G	H	I	J	K
3	Symbol	Number	Name	Atomic Weight		
4	Ba	=VLOOKUP(F4;\$A\$2:\$D\$110;4)	=VLOOKUP(F4;\$A\$2:\$D\$110;3)	=VLOOKUP(F4;\$A\$2:\$D\$110;2)		
5	Xe	=VLOOKUP(F5;\$A\$2:\$D\$110;4)	=VLOOKUP(F5;\$A\$2:\$D\$110;3)	=VLOOKUP(F5;\$A\$2:\$D\$110;2)		
6	At	=VLOOKUP(F6;\$A\$2:\$D\$110;4)	=VLOOKUP(F6;\$A\$2:\$D\$110;3)	=VLOOKUP(F6;\$A\$2:\$D\$110;2)		

“Bi” it will instead give you the data of the element “Ba”. This is because the function does not look for an exact match, so it picks the first element with name starting with B. In order to avoid such kind of problems, you should always write a fourth argument in your VLOOKUP functions, with the value FALSE, which indicates that you are looking for an exact match!

3) For example for H_2O and $NaCl$ see figure in page 2.

4) The function would be:

=IF(A1=1,ADDRESS(1,1,1),IF(A1=2,ADDRESS(1,1,3),IF(A1=3,ADDRESS(1,1,2),IF(A1=4,ADDRESS(1,1,4),"please choose a value in the set 1,2,3,4"))))

	F	G	H
9	Symbol:	H	O
10	Times:	2	1
11	Partial Mass:	=VLOOKUP(G9;\$A\$2:\$D\$110;2;FALSE)	=VLOOKUP(H9;\$A\$2:\$D\$110;2;FALSE)
12	Molecular Weigh	=G11*G10+H11*H10	
13			
14	Symbol:	Na	Cl
15	Times:	1	1
16	Partial Mass:	=VLOOKUP(G14;\$A\$2:\$D\$110;2;FALSE)	=VLOOKUP(H14;\$A\$2:\$D\$110;2;FALSE)
17	Molecular Weigh	=G16*G15+H16*H15	
18			