Announcements – Lecture VI– Thursday, Sep 18th

Unassigned iClickers

80489B53
80B5CDF8
8FA3B894
91C29DCE
9638923C

No iClicker Registered

SID	Last	First
24766907	Johnsen	Carl
26036657	O'Dea	Derek
28803233	Hebert	Alexis
29286876	Weil	Alexandra

Announcements – Lecture VI– Thursday, Sep 18th

1. **First Lab – Saturday, September 20th … 1-4pm … ISB 155/160 (A-E)**

   a) Read the Lab Policy prior to the this lab.

   b) Print lab prior to coming to lab -- use the 'Print Friendly Version' located on the top left hand side of the page – this is the version that contains the 'Data Sheet' that you will hand in upon completing the lab.

   c) Review the sample quiz on class web site – a short 6 question quiz will be administered at the start of the lab – questions taken from the sample questions.

2. **Exam I – Tuesday, September 30th – In Class**

Example 1

Balance the following chemical equation:

$$2\ Fe_2O_3(s) + 3\ C(s) = 4\ Fe(s) + 3\ CO_2(g)$$

Reactants					✓
Fe	2	2	4	4	4
O	3	3	6	6	6
C	1	1	1	1	3

Products					✓
Fe	1	2	2	4	4
O	2	2	6	6	6
C	1	1	3	3	3

$$2\ Fe_2O_3(s) + 3\ C(s) = 4\ Fe(s) + 3\ CO_2(g)$$

Example 2

Balance the following chemical equation:

$$\_\_C_2H_6(g) + \frac{7}{2}O_2(g) = \underline{2}\,CO_2(g) + \underline{3}\,H_2O(l)$$

Reactants				✓	
C	2	2	2	2	
H	6	6	6	6	
O	2	2	2	7	

Products				✓	
C	1	2	2	2	
H	2	2	6	6	
O	3	5	7	7	

$$C_2H_6(g) + \frac{7}{2}O_2(g) = 2\,CO_2(g) + 3\,H_2O(l)$$

$\times 2$

$$2\,C_2H_6(g) + 7\,O_2(g) = 4\,CO_2(g) + 6\,H_2O(l) \quad ✓$$

4.4 How Do We Balance Chemical Equations?

Example 3

a) 1
b) 2
c) 3
d) 4
e) 5

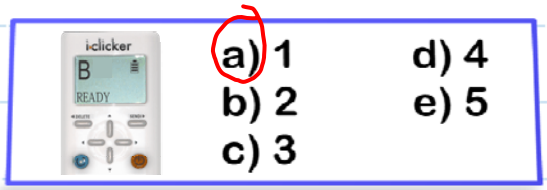
Balance the following chemical equation:

$$\_\_AgNO_3(aq) + \_\_K_2CrO_4(aq) = \_\_?\_\_Ag_2CrO_4(s) + \_\_KNO_3(aq)$$

? What is taking you so long !!

4.4 How Do We Balance Chemical Equations?

Example 3



Balance the following chemical equation:

$$\underline{2}\ AgNO_3(aq) + \underline{\ \ }\ K_2CrO_4(aq) = \underline{?}\ Ag_2CrO_4(s) + \underline{2}\ KNO_3(aq)$$

Reactants			✓		
Ag	1	2	2		
NO_3	1	2	2		
K	2	2	2		
CrO_4	1	1	1		

Products			✓		
Ag	2	2	2		
NO_3	1	1	2		
K	1	1	2		
CrO_4	1	1	1		

$$2\ AgNO_3(aq) + K_2CrO_4(aq) = Ag_2CrO_4(s) + 2\ KNO_3(aq)$$

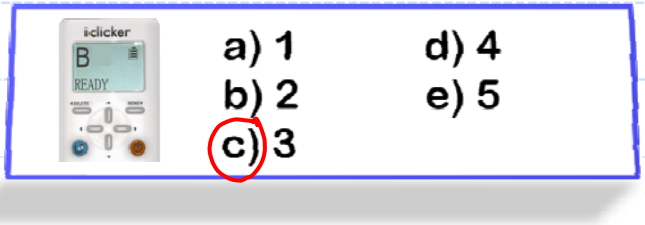
Polyatomic ions ... when remaining intact ... treat as a single entity.

4.4 How Do We Balance Chemical Equations?

Example 4

When the following chemical equation is balanced, the coefficient in front of the oxygen is:

$$\_\_\ C_2H_4(g) + \underline{3}\ O_2(g) = \underline{2}\ CO_2(g) + \underline{2}\ H_2O(g)$$



C	2	2	2	2
H	4	4	4	4
O	2	2	2	6

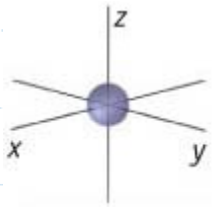
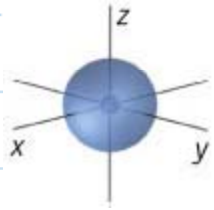
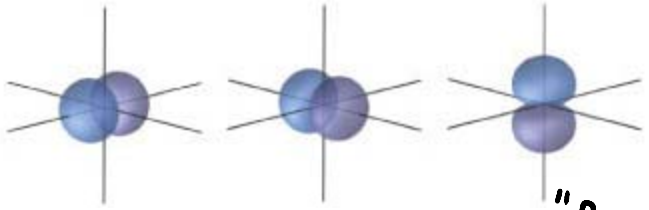
✓

C	1	2	2	2
H	2	2	4	4
O	3	5	6	6

✓

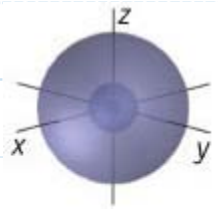
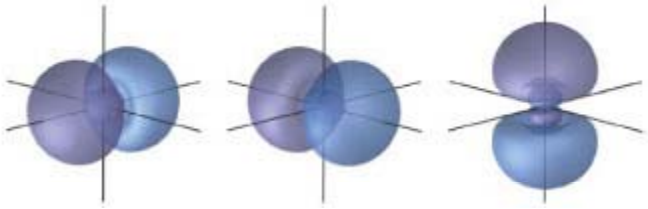
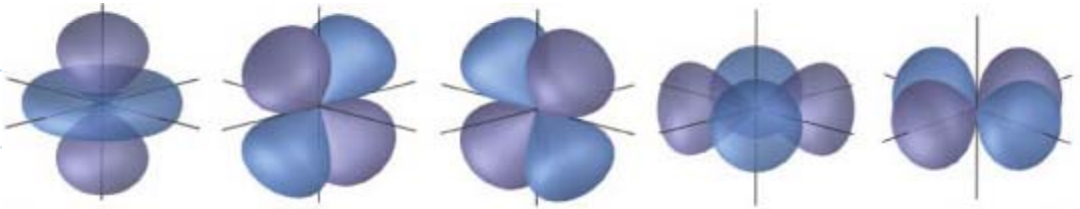
2.6 How Are the Electrons in an Atom Arranged?

A Orbital Shapes

n	Orbitals		#	Label
1	1	 Sphere	1	1s
2	4	 Sphere (larger)	1	2s
		 "egg timer"	3	2p

2.6 How Are the Electrons in an Atom Arranged?

A Orbital Shapes

n	Orbitals		#	Label
		 Sphere	1	3s
3	9	 'Egg timer'	3	3p
		 ! '4 leafed clover'	5	3d