

Announcements – Lecture VI– Thursday, Sep 24th

1. First Lab – Saturday, September 26th ... 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, October 6th – In Class

3. iClicker:

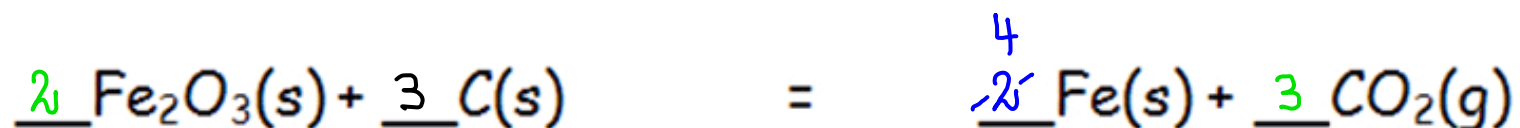


Choose any letter: A-E

4.4 How Do We Balance Chemical Equations?

Example 1

Balance the following chemical equation:



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

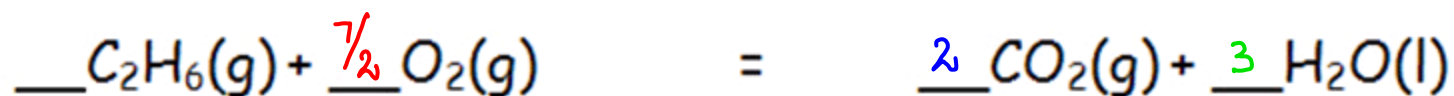
Products					✓
Fe	1	2	2	4	4
O	2	2	6	6	6
C	1	1	3	3	3



4.4 How Do We Balance Chemical Equations?

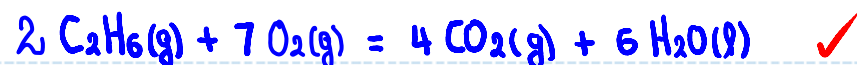
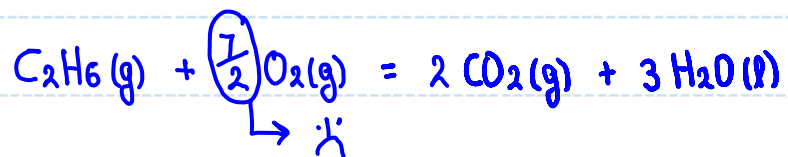
Example 2

Balance the following chemical equation:



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	



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:



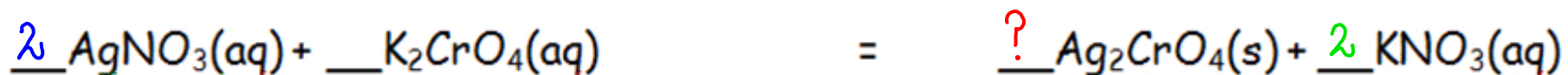
? What is taking so long !!

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:



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	



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:



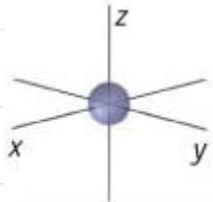
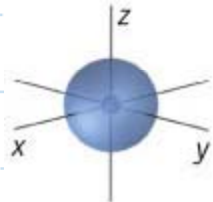
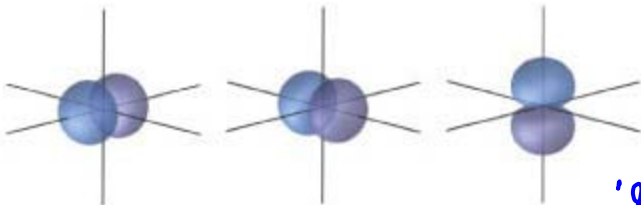
- a) 1
- b) 2
- c) 3 ✓
- d) 4
- e) 5

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
					✓

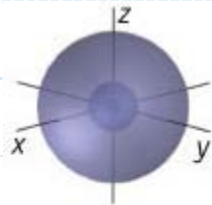
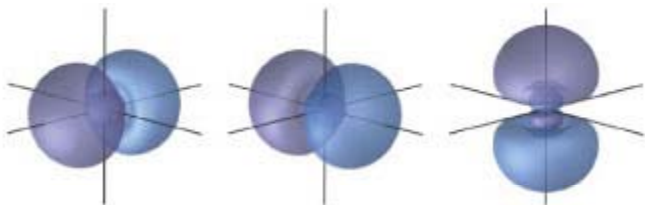
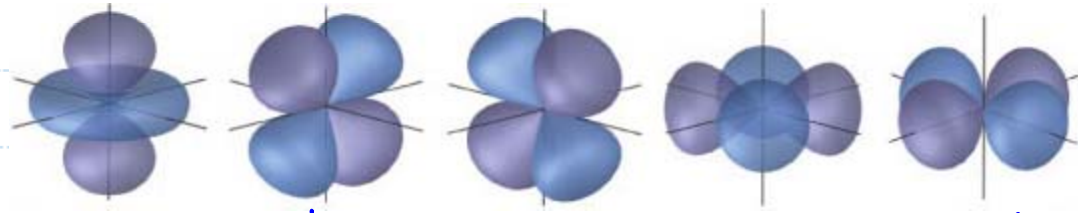
2.6 How Are the Electrons in an Atom Arranged?

A Orbital Shapes

n	Orbitals		#	Label
1	1		1	1s
2	4		1	2s
			3	2p

2.6 How Are the Electrons in an Atom Arranged?

A Orbital Shapes

n	Orbitals		#	Label
		 <p data-bbox="1228 495 1375 560">Sphere</p>	1	3s
3	9	 <p data-bbox="1375 795 1543 876">'egg timer'</p>	3	3p
		 <p data-bbox="987 1331 1249 1396">4 leafed clover</p>	5	3d

2.6 How Are the Electrons in an Atom Arranged? A Summary

n	TOTAL	TYPE	NUMBER
1	1	1s	1
2	4	2s	1
		2p	3
3	9	3s	1
		3p	3
		3d	5
4	16	4s	1
		4p	3
		4d	5
		4f	7