

Cube of 1 quadrillion pennies, 700 of these cubes would equal a mole.

Chemistry is the study of matter and the changes it undergoes. All courses will challenge the students to learn conceptual information about the building blocks of matter. The college prep and the honors courses involve much more algebraic concepts than the chemistry course. As result students are expected to have a scientific calculator. The honors chemistry requires more student responsibility and progresses at a more accelerated pace than the college prep class.

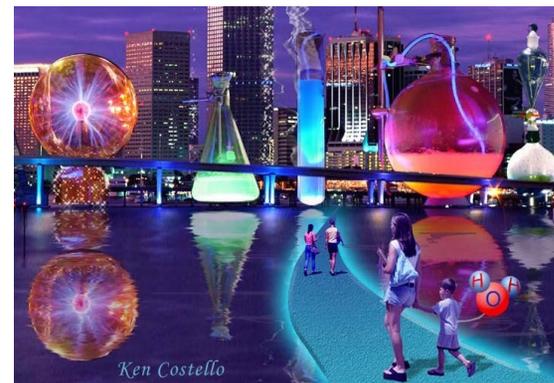
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A Guide to Chemistry

PERIODIC TABLE OF THE ELEMENTS
http://www.kj-putz.de/periodic/

GROUP	1	2	3-10										11	12	13	14	15	16	17	18
PERIOD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
1	H																		He	
2	Li	Be											B	C	N	O	F	Ne		
3	Na	Mg											Al	Si	P	S	Cl	Ar		
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr		
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe		
6	Cs	Ba	La-Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn		
7	Fr	Ra	Ac-Lr	Rf	Db	Sg	Bh	Hs	Mt	Uun	Uub	Uuq								

LEGEND:
 Metal Semimetal Nonmetal
 Alkali metal Chalcogen element
 Alkaline earth metal Halogen element
 Transition metals Noble gas
 Lanthanide Actinide
STANDARD STATE (25 °C, 101 kPa):
 No - gas Fe - solid
 Br - liquid Hg - liquid
 * - synthetic

LANTHANIDES: La Ce Pr Nd Pm Sm Eu Gd Tb Dy Ho Er Tm Yb Lu
ACTINIDES: Ac Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr

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 Relative atomic mass is shown with the significant figures known to the best available accuracy. The value enclosed in brackets indicates the relative atomic mass of the longest-lived isotope of the element.
 * - synthetic element, or element whose existence is predicted, and whose relative atomic mass is unknown.
 Editor: Aditya Nath (adnath@rediffmail.com)

**Chemistry
411**

- Will be graded and assigned homework daily. Some algebraic and difficult concepts will be completed in class and assigned homework.

- Yes, will help students who want to pursue a non-scientific field of work.

- Time allotted during class for individual questions and additional assistance.

- Necessary for success
- The students must keep a chemistry binder containing daily notes, handouts, lab reports and warm-ups.
- Students should utilize agendas daily.

- Prentice Hall
- *Chemistry: Connections to Our Changing World*

- Time restrictions permit approximately 5-6 labs a year. Students will be responsible for procedures, collection of data and calculations.

* Web Page usage

**Honors Chemistry (Lab)
412**

- Assigned daily, students will be expected to complete the assignments even though many will not be graded or checked. Students will be able to review any of the homework in class or even through Blackboard.

- Yes, will be geared for students who plan on pursuing a medical or engineering-related field.

- The students must complete all work individually. However, during class the students work cooperatively on laboratory experiments and activities.
- Students are required to read and interpret passages from the textbook.

- Essential for success
- The students must keep a three-ring binder containing daily notes, handouts, homework, lab reports and warm-ups.
- The students may be asked to complete other assignments or projects in addition to their daily homework.

- Holt, Rinehart and Winston
- *Modern Chemistry*
(Online version available)

- There is an allotted time given for laboratory content which should cover 14-16 experiments. Students will be responsible for lab write up and will be graded according to their procedure and data results.

- Web Page usage
- Online textbook
- my.hrw.com

Chemistry Electives (Post 411/412)

Organic Chemistry (H): 416

Description:

This is a full year honors course on the subject of organic chemistry. Organic chemistry is a branch of chemistry devoted to the study of carbon-containing molecules, including their structure and reactions. Organic chemistry is important because all forms of life on earth are carbon-based. Our understanding of organic chemistry has led to a plethora of useful materials; including plastics, fuels, synthetic oils, medicines, solvents, and much more. The following is a list of topics covered in this course.

Prerequisite: Chem 411/412 (85% or Higher)

AP Chemistry: 415

Description:

With the ever-increasing need for innovators, problem finders, and designers of materials, pharmaceuticals, and even new fuels, comes the need for individuals skilled in the science practices and knowledgeable about chemistry. The redesigned Advanced Placement (AP) Chemistry course provides students with training for such knowledge and skills through guided inquiry labs, a more focused curriculum on content relevant to today's problems, and an exam that assesses students' mental models of the particulate nature of matter instead of memorization of rules to understand chemistry.

For more information: www.collegeboard.org

Prerequisite: Chem 412 (85% or Higher)