

Chemistry Playlist

Pre-Test:

Atomic Numbers - <https://www.youtube.com/watch?v=7qrZti505B4>

Balancing part 1: https://www.youtube.com/watch?v=UGf60kq_ZDI

Balancing part 2: <https://www.youtube.com/watch?v=kjiB8Amic9I>

Ch 2

2.1 Physical vs Chemical changes: <https://www.youtube.com/watch?v=ARB2fZHutas>

2.2 Accuracy Precision : https://www.youtube.com/watch?v=PMv69Gne_Bw

2.2a Unit Conversions - <https://www.youtube.com/watch?v=lbEn0G-7S4M>

2.2a1 – Powers of Ten - <https://www.youtube.com/watch?v=44cv416bKP4>

2.2b – Scale of units - <https://www.youtube.com/watch?v=-aYat9357mE>

2.2c – Scientific notation TI-84 - <https://www.youtube.com/watch?v=Hr6APFR1qpo>

2.3 Sig Figs: https://www.youtube.com/watch?v=LEBSq_oC9Jk

2.4 Density: <https://www.youtube.com/watch?v=REtBibhIqfo>

Lab – vernier caliper - <https://www.youtube.com/watch?v=PfFUuUeLQa4>

Lab – Vernier caliper part 2 - <https://www.youtube.com/watch?v=UiPfVdymjAE>

Lab – buret part 1 – https://www.youtube.com/watch?v=spxFG_xQjhE

Lab – buret part 2 - <https://www.youtube.com/watch?v=DOqP5Zd4WMY>

Ch 3

3.2a History of the atom part 1: <https://www.youtube.com/watch?v=sG6QoLxwIw4>

3.2b History of the atom part 2: <https://www.youtube.com/watch?v=GhAn8xZQ-d8>

3.3a Atomic number, p_ne, isotopes: <https://www.youtube.com/watch?v=7qrZti505B4>

3.3b Average atomic mass (isotopes): <https://www.youtube.com/watch?v=G6A4UQX7QRw>

3.3c Interconverting masses, moles and number particles :

<https://www.youtube.com/watch?v=tBbCX6dQZPo>

3.3d – Mass spectrometer:

<https://www.youtube.com/watch?v=mBT73Pesiog&list=PLlIVwaZQkS2op2kDuFifhStNsS49LAXkZ&index=10&t=0s>

3.3e – Avogadro's Number - https://www.youtube.com/watch?v=TSQIM72_MiU

3.3f – Brownian motion - https://www.youtube.com/watch?v=ZNzoTGv_XiQ

3.4a Nuclear decay – general – <https://www.youtube.com/watch?v=c9WfZJYUWv0>

3.4b Nuclear decay – balanced equations – <https://www.youtube.com/watch?v=CaYoDxWxww8>

3.4c Nuclear power - <https://www.youtube.com/watch?v=rcOFV4y5z8c>

3.4d Nuclear bombs: - https://www.youtube.com/watch?v=fYuVzbIu_8o

3.5 Helium reserve - https://www.youtube.com/watch?v=mOy8Xjaa_o8

3.6 Soviet nuclear weapons used - https://www.youtube.com/watch?v=QlVmo_jvBQE

Ch 4 – Electron configuration and theory

4.1 Emission Spectra - <https://www.youtube.com/watch?v=1uPyq63aRvg>

- 4.1a. Light - problems $c = \lambda\nu$ - <https://www.youtube.com/watch?v=goJl54Y1hio>
 4.1b. Quantized and Energy – Photons : <https://www.youtube.com/watch?v=VLc20TF9jZw>
 4.2a - Heisenberg - https://www.youtube.com/watch?v=t8mMN2X5_Vw
 4.2b – Schrodinger equation - <https://www.youtube.com/watch?v=O6g-7rUgrdg>
 4.2c Quantum numbers - <https://www.youtube.com/watch?v=Aoi4j8es4gQ>
 4.3a Electron Configuration part 1 : <https://www.youtube.com/watch?v=8n2CXyEZlIE>
 4.3b Electron Configuration part 2 : <https://www.youtube.com/watch?v=diCGRJskeDA>
 4.4 Rydberg equation : Preview of APChem <https://www.youtube.com/watch?v=au2HCVn9lJI>
 Schrodinger's Cat - <https://www.youtube.com/watch?v=UjaAxUO6-Uw&t=61s>
 4.5 Speed of light - <https://www.youtube.com/watch?v=pTn6Ewhb27k>
 4.6 Quantum – multiverse - <https://www.youtube.com/watch?v=h6OoaNPSZeM>
 4.7 – Big Bang evidence - <https://www.youtube.com/watch?v=zmrbjp-GDfk>

Mysteries of the Universe : <https://www.youtube.com/watch?v=Jn7VcOU3x2g>
 Watch 00:00 – 60:00 and 1:20:00 – 1:50:00 (or all of it ☺)

Neil DeGrasse Tyson – Aliens - <https://www.youtube.com/watch?v=Dkjkh3OrjeA>

Ch 5 – Periodicity and electrons

- 5.1 – History of Periodic Table – <https://www.youtube.com/watch?v=fPnwBITSmgU&t=20s>
 5.2 – Groups and Group Properties – <https://www.youtube.com/watch?v=fLSfgNxoVGk&t=1s>
 5.3 – 4 Trends Atomic radius, EN, IE, Ionic radius ☺ -
 5.3a - <https://www.youtube.com/watch?v=hePb00CqvP0>
 5.3b - <https://www.youtube.com/watch?v=XK-WTYncldA>
 5.3c - ionic radius - <https://www.youtube.com/watch?v=IzKJWwTdu34>
 5.3d ☺ https://www.youtube.com/watch?v=qc02d3G_wb4
 5.e3 – Ionic radius trick - <https://www.youtube.com/watch?v=9PzMiy4Mt-Q>
 5.5 – PES diagram - <https://www.youtube.com/watch?v=gyKD6QULa0A>

Ch 6 – Bonding

- 6.1 – Types of bonds – <https://www.youtube.com/watch?v=PoQjsnQmxok>
 6.2 - Covalent – bond energy - <https://www.youtube.com/watch?v=Mo4Vfgt5v2A>
 6.2- Covalent – Lewis intro - <https://www.youtube.com/watch?v=cluXl7o6mAw>
 6.2 – Covalent – Lewis part 1 – <https://www.youtube.com/watch?v=qCOkHYyc4mE>
 6.2 – Covalent – Lewis part 2 - <https://www.youtube.com/watch?v=zEQeVvdjkBc>
 6.3 – Ionic vs covalent - <https://www.youtube.com/watch?v=7DjsD7Hcd9U>
 6.3 – Ionic bonding (lattice energy) - https://www.youtube.com/watch?v=hiyTfhjeF_U
 6.4 – Metallic bonding - <https://www.youtube.com/watch?v=eVv3TpaQ2-A>
 6.4 – metal properties - <https://www.youtube.com/watch?v=vOuFTuvf4gk>
 6.5b - VSEPR part 1 : <https://www.youtube.com/watch?v=nxebQZUVvTg>
 6.5c – VSEPR part 2- <https://www.youtube.com/watch?v=Moj85zwdULg>
 6.5d - VSEPR part 3- <https://www.youtube.com/watch?v=Q9-JjyAEqnU>

6.5e – polar nonpolar - https://www.youtube.com/watch?v=OHFGXfWB_r4
Also <https://www.youtube.com/watch?v=72CQe-PJU4>

6.5d IMF - <https://www.youtube.com/watch?v=08kGgrqaZXA>
Also <https://www.youtube.com/watch?v=-QqTwJzi7Wo>
Also https://www.youtube.com/watch?v=S8QsLUO_tgQ

Lewis Structures (MM) part x : <https://www.youtube.com/watch?v=XbSW2x35OeU>
6.2 – Covalent – Lewis part 0 - <https://www.youtube.com/watch?v=ulyopnxjAZ8>
6.6 – Gecko – LDF - <https://www.youtube.com/watch?v=gzm7yD-JuyM>
6.6 – Gecko 2 – LDF -- <https://www.youtube.com/watch?v=TlyvS1ckDZM>
6.6 – Gecko 3 – LDF -- https://www.youtube.com/watch?v=lkV1zMh_GQk
6.6 – Snowflake bonding - <https://www.youtube.com/watch?v=ao2Jfm35XeE>

Ch 7 Compounds

7-1a: Polyatomic ions: <https://www.youtube.com/watch?v=p9iQ5Qn42DM>
7-1b: Naming ionic – part 1: <https://www.youtube.com/watch?v=G3PNjgeKhoM>
7-1c: Naming ionic – part 2: <https://www.youtube.com/watch?v=KKAh8oamp94>
7-1d: covalent/ionic mixed: <https://www.youtube.com/watch?v=0CT0MoBmT3w>
7-2a: Oxidation State part 1 - <https://www.youtube.com/watch?v=w0RfMRDy34w>
7-2b: Oxidation State part 2 - <https://www.youtube.com/watch?v=-a2ckxhfDjQ>
7-3a: Percent Composition part 1- <https://www.youtube.com/watch?v=lywmGCfiUIA>
7-3b: Percent Composition part 2 - <https://www.youtube.com/watch?v=L8lmtVPQDDQ>
7-3c: HOOD-Program 20 -
<https://www.youtube.com/watch?v=pdavlrUncOs&feature=youtu.be>

7-4a: Empirical Formula part 1 - <https://www.youtube.com/watch?v=AFqwtY7m2PI>
7-4b: Empirical Formula part 2- <https://www.youtube.com/watch?v=wnRaBWvhYKY>
7-4c: HOOD-Program 21 -
<https://www.youtube.com/watch?v=WuUDjSSZ0Rk&feature=youtu.be>

Lab – Hydration number - <https://www.youtube.com/watch?v=UwJ75hfQiXY>

Ch 8 Chemical Reactions

8-1: Balancing Reactions - <https://www.youtube.com/watch?v=eNsVaUCzvLA>
Balancing part 1: https://www.youtube.com/watch?v=UGf60kq_ZDI
Balancing part 2: <https://www.youtube.com/watch?v=kjiB8Amic9I>
8-2: 5 types - <https://www.youtube.com/watch?v=aMU1RaRuLSo>
8-2 – Double replacement - <https://www.youtube.com/watch?v=BV2dmSwmGpQ>
8-3 Activity Series - <https://www.youtube.com/watch?v=AU2c-9D-Cj8>

8-3b. - <https://www.youtube.com/watch?v=A94EJfPaCf8>

8-3c: - <https://www.youtube.com/watch?v=Vl950rSnYos>

Catalytic converter 1 - <https://www.youtube.com/watch?v=HADOCrcMikA>

Catalytic converter 2 - <https://www.youtube.com/watch?v=R9G2erJMmmQ>

Catalytic converter 3 - <https://www.youtube.com/watch?v=rmtFp-SV0tY>

Catalytic converter 4 - https://www.youtube.com/watch?v=W6dlsC_eGBI

Haber Process - <https://www.youtube.com/watch?v=EvknN89JoWo>

Lead toxicity - <https://www.youtube.com/watch?v=IV3dnLzthDA>

Biofuels - <https://www.youtube.com/watch?v=OpEB6hCpIGM>

Anode Rod – oxidation - <https://www.youtube.com/watch?v=2IUNIUZz4Os>

Ozone layer reforming - <https://www.youtube.com/watch?v=CaLOiGEDPJQ>

Ch 9 Stoichiometry – FUN!

9-1: mole ratios-

9-2a: mole-mole problems- Program 24

<https://www.youtube.com/watch?v=G9z89uFtGRY&feature=youtu.be>

9-2b: mass-mass problems (gram-gram). – Program 25

<https://www.youtube.com/watch?v=JZALxSIYFZ8>

//old <https://www.youtube.com/watch?v=V6gbMFxEHAg&feature=youtu.be>

9-3: Limiting/excess/%Yield problems ---

9.3a – intro - <https://www.youtube.com/watch?v=nNhzyqNVI>

9.3b – 2 more problems - <https://www.youtube.com/watch?v=q0M1ZTSYac0>

Ch 10 Heat

10.1a – Heat - $Q=mcT$ - <https://www.youtube.com/watch?v=eIBVimdYnDI>

10.1b – Heat part 2 - <https://www.youtube.com/watch?v=yhNHJ7WdT8A>

10.2 – phase diagram - <https://www.youtube.com/watch?v=oc0ypeDELb0>

16.1 – Enthalpy intro endo vs exo - <https://www.youtube.com/watch?v=KCQALFuAZOc>

16.1a – Enthalpy Heat of Reaction part 1 - https://www.youtube.com/watch?v=PJweE3F_mPY

16.1b – Heat of Reaction part 2 - <https://www.youtube.com/watch?v=61fKkCwWu4s>

Lab – Heat of Reaction : <https://www.youtube.com/watch?v=pjFV-A7wVJI>

Ch 11 – Gases

11.1a – Gas Pressure Units - <https://www.youtube.com/watch?v=YQ0ib6XISyk>

11.1b – Reading Barometer – <https://www.youtube.com/watch?v=OeCvgRbbY1Q>

11.2a – Gas Laws part 1 KMT – https://www.youtube.com/watch?v=o3f_VJ87Df0

11.2b – Gas Laws part 2 –

11.2c – Gas Law problems - <https://www.youtube.com/watch?v=xL9KclCmC1k>
11.2d – Gas law problems part 2 - <https://www.youtube.com/watch?v=o8dMAWfM1Ag>

11.2e – Avogadro's Number - https://www.youtube.com/watch?v=TSQIM72_MiU
11.3a – Ideal Gas law intro – R - <https://www.youtube.com/watch?v=kBgzzwCTddc>
11.3b – Ideal gas law part 2 - <https://www.youtube.com/watch?v=WhP6zJbSxec>
11.3b – Ideal Gas law problems – <https://www.youtube.com/watch?v=yn7kmeD47Zc>
11.3c – Ideal Gas Law more problems – <https://www.youtube.com/watch?v=TqLlfHBFY08>
11.4 – Graham's Law of Effusion/Diffusion - <https://www.youtube.com/watch?v=NniisV69jYk>
11.4 – Graham's Law of Diffusion – <https://www.youtube.com/watch?v=LWZYh-tSYgw>

Lab – Gas production - https://www.youtube.com/watch?v=QKMJpTG_YIs

Ch 12 – Solutions

12.aa – Molarity – <https://www.youtube.com/watch?v=yb4FW6E1HKE>
12.bb – Molarity – dilution – <https://www.youtube.com/watch?v=v6dnEp58mVk>
12.xx – molality - https://www.youtube.com/watch?v=Dc-seqQg_as

Ch 13 –

13-1a – Dissociation ionic - https://www.youtube.com/watch?v=6APgDoZ_qJY

13-1b – Precipitates – Ionic, Net Ionic and Spectator Ions -
<https://www.youtube.com/watch?v=MJy5CNzd6sY>

13-2 – Colligative properties (BP, FP, osmotic pressure)

13-2a – <https://www.youtube.com/watch?v=hOhgXRukRDg>
13-2b – <https://www.youtube.com/watch?v=c8dDLe37ONg>
13-2c - <https://www.youtube.com/watch?v=wzAToPL8Src>

14 Acid base

14.1 – Acid Base Properties - https://www.youtube.com/watch?v=b-n2_QxX8po
14.1a- Naming acids 1 - <https://www.youtube.com/watch?v=qSbNlne-5P0>
14.1b – Naming acids 2 - <https://www.youtube.com/watch?v=Dqdo0gT5yG0>
14.2 – Neutralization - <https://www.youtube.com/watch?v=0cwh40YAtcg>
14.3 – Acid Base Definitions - <https://www.youtube.com/watch?v=EyBkPwsRY2E>

Ch 15 – pH and Titrations

15.1 Strong-weak acids- <https://www.youtube.com/watch?v=gYBbzqrmE>
15.1a – Strong acids (trick) - <https://www.youtube.com/watch?v=jPilrd7b1B8>

15.2 Acid base-pH-pOH : <https://www.youtube.com/watch?v=NNXvokAcSuE>
15.2a – pH pOH problems: <https://www.youtube.com/watch?v=usk4SI2Jw9M>
15.3 – Weak acid Ka : https://www.youtube.com/watch?v=7C_HsfB_6PQ
15.4 – Titration problems : <https://www.youtube.com/watch?v=70vIWskHfc4>

Lab – titration - <https://www.youtube.com/watch?v=Ecy2FafmKI4>

10.4 Another phase diagram - <https://www.youtube.com/watch?v=QrHlwgmMTq4>

Electron microscopes - <https://www.youtube.com/watch?v=9DnnxvS6BBQ>

ChemAP Playlist

Ch 01-02 – Intro

AP Chem Playlist:

Ch 1 – Sig figs:

1.5 Sig Figs: https://www.youtube.com/watch?v=LEBSq_oC9Jk

1.8 Density: <https://www.youtube.com/watch?v=REtBibhIqfo>

1.9a Unit Conversions - <https://www.youtube.com/watch?v=lbEn0G-7S4M>

1.9b Units – scale - <https://www.youtube.com/watch?v=-aYat9357mE>

Ch 2 – History of the Atom and Naming Compounds:

2.3 History of the atom part 1: <https://www.youtube.com/watch?v=sG6QoLxwIw4>

2.4 History of the atom part 2: <https://www.youtube.com/watch?v=GhAn8xZQ-d8>

2.5 - Atomic Numbers - <https://www.youtube.com/watch?v=7qrZti505B4>

2.5a – Avogadro’s Number - https://www.youtube.com/watch?v=TSQIM72_MiU

2.8a Naming ionic – part 1: <https://www.youtube.com/watch?v=G3PNjgeKhoM>

2.8b Naming ionic – part 2: <https://www.youtube.com/watch?v=KKAh8oamp94>

2.8c Naming covalent - <https://www.youtube.com/watch?v=OCT0MoBmT3w>

2.8d. Naming acids - https://www.youtube.com/watch?v=AaYQ_ZiE7AY

2.8e – Strong acids - <https://www.youtube.com/watch?v=jPilrd7b1B8>

2.8f – Strong acids <https://www.youtube.com/watch?v=-M5xuzSJCjs>

Ch 3 – Stoichiometry...

3.1a Average atomic mass (isotopes): <https://www.youtube.com/watch?v=G6A4UQX7QRw>

3.1b Mass Spectrometry : Bozeman Sci 09 -

<https://www.youtube.com/watch?v=mBT73Pesio&list=PLlIVwaZQkS2op2kDuFifhStNsS49LaxkZ&index=10&t=0s>

3.2 Interconverting masses, moles and number particles :

<https://www.youtube.com/watch?v=tBbCX6dQZPo>

3.2 The Mole : Bozeman Sci 03 :

<https://www.youtube.com/watch?v=Pft2CASI0M0&list=PLlIVwaZQkS2op2kDuFifhStNsS49LaxkZ&index=3>

3.4 – Percent Composition from Formulas : <https://www.youtube.com/watch?v=L8lmtVPQDDQ>

3.5 – Empirical and Molecular Formulas : <https://www.youtube.com/watch?v=AFqwtY7m2PI>

3.5a – Emp and Mol. Formula - <https://www.youtube.com/watch?v=eHR9saDmeYk>

3.9a – Limiting Reagent - <https://www.youtube.com/watch?v=lvCPLCQ-YK0>

3.9b - Introduction to Limiting/Excess Reactant -

<https://www.youtube.com/watch?v=nZOVr8EMwRU>

3.9c - theoretical actual and percent yield practice problems -

<https://www.youtube.com/watch?v=mmsKDK9WXdE>

3.5b Bozeman Sci 02 – Chemical Analysis :

<https://www.youtube.com/watch?v=QcC4OsSxWYU&list=PLlIVwaZQkS2op2kDuFifhStNsS49LAXkZ&index=2>

Ch 4 Solutions:

4.1 Dilution - <https://www.youtube.com/watch?v=v6dnEp58mVk>

4.2a Ionic solutions - <https://www.youtube.com/watch?v=7fHA17DOrBg>

4.2b Ionic solutions (more) - https://www.youtube.com/watch?v=6APgDoZ_qJY

4.5 a – Ionic, Net Ionic and Spectator Ions - <https://www.youtube.com/watch?v=MJy5CNzd6sY>

4.5 b – Molecular, Ionic and Net Ionic Equations :

<https://www.youtube.com/watch?v=dvupBubB-HQ>

4.8 a – Acid base neutralization –

<https://www.youtube.com/watch?v=HdmCagtasYg&list=PLlIVwaZQkS2op2kDuFifhStNsS49LAXkZ&index=30>

4.8 b – Basic titrations – <https://www.youtube.com/watch?v=dLNsPqDGzms>

4.9 a – Redox – oxidation numbers: <https://www.youtube.com/watch?v=w0RfMRDy34w>

4.9 b – Redox – oxidation numbers part 2:

<https://www.youtube.com/watch?v=VXvtkwubQQg>

4.9 c – Redox – reactions -- <https://www.youtube.com/watch?v=RX6rh-eeFlM>

4.10a – Redox – Balance in Acidic solutions: <https://www.youtube.com/watch?v=IZ1tKxsqV74>

4.10b – Redox – another. https://www.youtube.com/watch?v=HGzy_pRyej8

4.10c – Redox – yet another: <https://www.youtube.com/watch?v=N6ivvu6xlog>

4.11 – Anode Rod - <https://www.youtube.com/watch?v=2IUNIUZz4Os>

Redox online lab – part 1. -- <https://www.youtube.com/watch?v=th6UI2SKIXU>

Redox online lab – part 2-- <https://www.youtube.com/watch?v=TQlgiD8qOFU>

Ch 5 Gases:

5.1 Gases - Pressures - <https://www.youtube.com/watch?v=qv81QCGNnVo>

5.1 Gases – reading barometer - <https://www.youtube.com/watch?v=OeCvgRbbY1Q>

5.2 Pressure, V, T relationships: <https://www.youtube.com/watch?v=ir64EcRkf5Q>

5.3 Idea gas law - <https://www.youtube.com/watch?v=gmN2fRIQFp4>

5.3a PVT problems - <https://www.youtube.com/watch?v=xL9KclCmC1k>

5.3b PV-nRT problems -- <https://www.youtube.com/watch?v=TqLIhBFY08>

5.3c – R derived - <https://www.youtube.com/watch?v=kBgzzwCTddc>

5.5 Dalton's Law (go to 9:00 min) - <https://www.youtube.com/watch?v=JbqtqCunYzA>

5.7 Graham's Law Effusion/Diffusion. <https://www.youtube.com/watch?v=J2LNU9hGsHc>

5.7 Graham's Law another problem. <https://www.youtube.com/watch?v=NniisV69jYk>

5.8 Real gas (non-ideal). <https://www.youtube.com/watch?v=8zJrjEV9n8o&t=90s>

5.9 Brownian motion - https://www.youtube.com/watch?v=ZNzoTGv_XiQ

Virtual lab – Mg and HCl react.... -- https://www.youtube.com/watch?v=QKMJpTG_YIs

Ch 6 – Heat:

6. 2 – $Q=mcT$ - <https://www.youtube.com/watch?v=eIBVimdYnDI>

6.3a Hess' Law - <https://www.youtube.com/watch?v=2q2u5sj4V00>

6.3b Hess law 2 - <https://www.youtube.com/watch?v=Z4ntAj7Gclo>

6.3c Hess law 3 - <https://www.youtube.com/watch?v=iETCSFit-zA>

6.3d Hess Law 4 - <https://www.youtube.com/watch?v=xkDkYX6eRbE>

6.4a Heat formation - https://www.youtube.com/watch?v=PJweE3F_mPY

6.4b Heat reaction - https://www.youtube.com/watch?v=61fKkCwWu4s&list=PLp52f0A-IsC6yMHsGLejBroZ_6FUqJUNI&index=1

6.7 heating curve of water: Q1-Q5. --

https://www.youtube.com/watch?v=NfIMkAkJUWI&list=PLp52f0A-IsC6yMHsGLejBroZ_6FUqJUNI&index=2

Lab - heat of reaction –

Part 1 – calibrate cup – later tater

Part 2 - heat of reaction of Mg + HCl -- <https://www.youtube.com/watch?v=pjFV-A7wVJI>

Biofuels - <https://www.youtube.com/watch?v=OpEB6hCpIGM>

Ch 7 The electron, periodicity.

7.1-7.3 Light, freq, wavelength, energy –

Light - problems $c = \lambda\nu$ - <https://www.youtube.com/watch?v=goJI54Y1hio>

Quantized Energy $E = h\nu$: <https://www.youtube.com/watch?v=VLc20TF9jZw>

Microwaves - <https://www.youtube.com/watch?v=kp33ZprO0Ck>

7.4 Bohr model – <https://www.youtube.com/watch?v=au2HCVn9IJI>

7.5 -7.11 Quantum Mechanics, Quantum numbers, electron configuration

A - <https://www.youtube.com/watch?v=Aoi4j8es4gQ>

B - <https://www.youtube.com/watch?v=diCGRJskeDA>

Schrodinger equation - <https://www.youtube.com/watch?v=O6g-7rUgrdg>

Schrodinger's cat - <https://www.youtube.com/watch?v=UjaAxUO6-Uw&t=61s>

7.12 Periodic Trends:

a - <https://www.youtube.com/watch?v=hePb00CqvP0>

b - <https://www.youtube.com/watch?v=XK-WTYncldA>

c - ionic radius - <https://www.youtube.com/watch?v=lzKJWwTDU34>

d ☺ https://www.youtube.com/watch?v=qc02d3G_wb4

7.12 – Speed of light - <https://www.youtube.com/watch?v=pTn6Ewhb27k>

7.13 – PES diagrams – AP test - <https://www.youtube.com/watch?v=gyKD6QULa0A>

7.13a – another PES -

Ch 8 Bonding, Lewis structures, molecular shapes, VSEPR

8.1 – Ionic bonding (lattice energy) - https://www.youtube.com/watch?v=hiyTfhjeF_U
8-10

Lewis Structures -single bonds: <https://www.youtube.com/watch?v=qCOKHYYc4mE>

Lewis Structures – double/triple bonds : <https://www.youtube.com/watch?v=zEQeVvdjkBc>
8-9

Sigma-pi <https://www.youtube.com/watch?v=nTujP4jCbsg>

VSEPR

a - <https://www.youtube.com/watch?v=Q9-JiyAEqnU&t=290s>

b <https://www.youtube.com/watch?v=nxebQZUVvTg&t=645s>

C. - <https://www.youtube.com/watch?v=Moj85zwdULg&t=2s>

D. <https://www.youtube.com/watch?v=umwN74a0A2g>

E. <https://www.youtube.com/watch?v=nLhmgF81Kqo>

Snowflake bonding - <https://www.youtube.com/watch?v=ao2Jfm35XeE>

8.8 Bond Energy

BOND ENERGIES - <https://www.youtube.com/watch?v=jr11SKQxBgc>

BOND ENERGIES ex 1 - <https://www.youtube.com/watch?v=eL6IS7uw7rc>

BOND ENERGIES ex 2 - <https://www.youtube.com/watch?v=HxWQOOBHcus>

Ch 11 Colligative Properties – Solutions

11.1

11.2

11.3

Colligative Props 1

<https://www.youtube.com/watch?v=hOhgXRukRDg>

Colligative Props 2

<https://www.youtube.com/watch?v=c8dDLe37ONg>

Colligative Props 3

<https://www.youtube.com/watch?v=wzAToPL8Src>

Ch 12 – Rate of Reaction –

12.1 – Intro to Rate Laws.... - <https://www.youtube.com/watch?v=WDXzVI8SmfE>
12.1a – Rate Constant (k) - <https://www.youtube.com/watch?v=eOSRn0jPbTk>
12.1b – Integrated Rate Laws - <https://www.youtube.com/watch?v=wYqQCojggyM>
12.6a – Elementary Reactions - <https://www.youtube.com/watch?v=0g1YwEbwwfw>
12.6b – Multistep Reactions - <https://www.youtube.com/watch?v=l64dUjEzrcw>
12.6c – Rate Limiting Step - <https://www.youtube.com/watch?v=MEEg7aHqk6A>
12.6d – Reaction Intermediate - <https://www.youtube.com/watch?v=tzpStGaLjSE>
12.7a – Activation Energy - <https://www.youtube.com/watch?v=YacsIU97Ofc>
12.7b – Lab Ea – The Reaction Pathway – <https://www.youtube.com/watch?v=0LjOXV4b-nk>
12.8a – Catalyst classes – <https://www.youtube.com/watch?v=OfP5h1T2KJI>
12.8b – Catalysts - <https://www.youtube.com/watch?v=KYD5LNVWne8>
12.9 – Derivation of Integrated Rate Laws - <https://www.youtube.com/watch?v=BXSa-el0CkA>
12.10 - Beer's Law for rate law lab - <https://www.youtube.com/watch?v=zuUvQN8KXOk>

Ch 13 – Equilibrium

13.1 – Equilibrium - <https://www.youtube.com/watch?v=cHAjhM3y3ds>
13.2 – Equilibrium Constant - <https://www.youtube.com/watch?v=xfGlEXWDRZE>
13.3 – Equilibrium Disturbances - <https://www.youtube.com/watch?v=dd5p0VZ-MZg>
13.7 – Le Chatelier's Principle - https://www.youtube.com/watch?v=PciV_Wuh9V8
13.7a – ditto -- <https://www.youtube.com/watch?v=XmgRRmxS3is>
Haber Process - <https://www.youtube.com/watch?v=EvknN89JoWo>

Acid Base

14.1 – Acid base pH pOH intro - <https://www.youtube.com/watch?v=NNXvokAcSuE>
14.2 – pH pKa - <https://www.youtube.com/watch?v=2zhvaGNJiJ8>
14.2a – another - <https://www.youtube.com/watch?v=kJTCuRSeh6g>
14.2b – yet another - <https://www.youtube.com/watch?v=XAmMGNPYVZM>

Ch 15 Ksp

15.1 – Ksp first - <https://www.youtube.com/watch?v=WjiXbemBXkE>
15.2 – Common Ion - <https://www.youtube.com/watch?v=qawipem0LwA>
15.3 – Selective Precipitation - <https://www.youtube.com/watch?v=6kAAXXHc4w8>
15.4 – Problems PPT - <https://www.youtube.com/watch?v=TBtaeyKkykU>

Ch 16 Free Energy Entropy Thermodynamics $G=H-TS$

16.1 Entropy - <https://www.youtube.com/watch?v=MALZTPsHSoo>
16.1a – Spontaneity - <https://www.youtube.com/watch?v=hNSD0YDsPsE>
16.2. Gibbs free energy - <https://www.youtube.com/watch?v=huKBuShAa1w>

16.3 – Gibbs again - <https://www.youtube.com/watch?v=8N1BxHgsoOw>
16.3a – Gibbs problems - <https://www.youtube.com/watch?v=flCs5vjBuX0>
16.4 – Thermo 0th Law - <https://www.youtube.com/watch?v=S2hsaTO0bO8>
16.5 – Thermo 3 Laws - <https://www.youtube.com/watch?v=O7HwhkYt6YU>
16.6 – Thermo problems worked - <https://www.youtube.com/watch?v=FmYVHN6IHdg>
16.7 - Entropy explained... <https://www.youtube.com/watch?v=DxL2HoqLbyA>
16.2.
16.3.

Electrochem

Lots problems - <https://www.youtube.com/watch?v=O1EKjTi8pA>

17.1 – Intro electrochem - <https://www.youtube.com/watch?v=2VT5rl8P84M>
17.1a – dewitt intro elect - <https://www.youtube.com/watch?v=teTkvUtW4SA>

17.2 – aaa
17.3 – bbb

<https://www.youtube.com/watch?v=tUJDbj9Vp5w>
neil Armstrong lander

neil 2
<https://www.youtube.com/watch?v=dNIZXso0-I4>

Colligative Props 1
<https://www.youtube.com/watch?v=hOhgXRukRDg>

Colligative Props 2
<https://www.youtube.com/watch?v=c8dDLe37ONg>

Colligative Props 3
<https://www.youtube.com/watch?v=wzAToPL8Src>

alloys _ AP Chem
<https://www.youtube.com/watch?v=PaGJwOPg2kU>

physics – fluids drag

<https://www.youtube.com/watch?v=GMmNKUIXXDs>

In p2p1 video 1

<https://www.youtube.com/watch?v=5HzCXAfKA8c>

In p2p1 video 2

<https://www.youtube.com/watch?v=xSHDawWK30s>