**Chemistry YouTube Videos**

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| **Lesson**  | **Topic** | **Lesson Video Link** | **Sample Problem Video Link** |
| **Unit 1: Atomic Concepts** |
| 1 | Atomic Theory Timeline | <https://youtu.be/jpytUms3CLc>  |  |
| 2 | Subatomic Particles  | <https://youtu.be/CZMG7BmxNS0>  | Sample problem at minute **17:05** in lesson video. |
| 3.1 | Ions | <https://youtu.be/I6bly2pXgGE>  | Sample problem at minute **16:00** in lesson video. |
| 3.2 | Isotopes and Average Atomic Mass  | <https://youtu.be/WTij5tm7Ujc>  | Sample problem at minute **7:30** in lesson video. |
| 4 | Valence E- and Lewis Dot Structures (no audio re-record!) | <https://youtu.be/iiEgRxERtkE>  | Sample problem at minute **17:20** in lesson video. |
| 5 | Bohr Models | <https://youtu.be/FACZV9EfKV8>  | Sample problem at minute **4:00** in lesson video. |
| 6.1 | Ground and Excited State | <https://youtu.be/hIyvTGaZOU8>  | Sample problem at minute **6:30** in lesson video. |
| 6.2 | Emission Spectra | <https://youtu.be/M3tIthEptsg>  | Sample problem at minute **10:30** in lesson video. |
| **Unit 2: The Periodic Table** |
| 1 | Metals, Nonmetals, Metalloids (rerecord!!!) | <https://youtu.be/QucZh_jRAXs>  | Sample problem at minute **8:40** in lesson video. |
| 2 | Groups of the PT | <https://youtu.be/tFZQYTDvzUs>  | Sample problem at minute **13:00** in lesson video. |
| 3.1 | Atomic Radius | <https://youtu.be/ClKoEqeyqqc>  | Sample problem at minute **5:45** in lesson video. |
| 3.2 | Ionization Energy  | <https://youtu.be/XQ3kUIwNuj0>  | Sample problem at minute **4:00** in lesson video. |
| 3.3 | Electronegativity | <https://youtu.be/BJHrJJIpFpI>  | Sample problem at minute **6:25** in lesson video. |
| **Unit 3: Physical Behavior of Matter**  |
| 1.1 | Elements, Compounds, Mixtures | <https://youtu.be/oqfsohyxBt4>  |  |
| 1.2 | Heterogenous and Homogenous Mixtures | <https://youtu.be/xD2K5C4j52c>  | Sample problem at minute **12:40** in lesson video. |
| 2.1 | Physical and Chemical Properties | <https://youtu.be/bCmHrMCKgtA>  | Sample problem at minute **5:00** in lesson video. |
| 2.2 | Physical and Chemical Changes | <https://youtu.be/JVGXHOtaqZo>  | Sample problem at minute **2:55** in lesson video. |
| 3 | Gas Properties and Kinetic Molecular Theory | <https://youtu.be/Vw-4mxlr3MM>  | Sample problem at minute **13:35** in lesson video. |
| 4 | Combined Gas Law | <https://youtu.be/RICu_T-kPFE>  | <https://youtu.be/D56qyXaC5vw>  |
| **Unit 4: Thermochemistry**  |
| 1 | Heat and Temperature | <https://youtu.be/yLaH91oTmJc>  | Sample problem at minute **8:10** in lesson video. |
| 2 | Endothermic and Exothermic Reactions | <https://youtu.be/LXKXpVTPRnI>  |  |
| 3 | Heat Formula | <https://youtu.be/0Cwtysyr6PY>  | <https://youtu.be/dVuAb8-BNkc>  |
| 4 | Heat of Fusion  |  |  |
| 5 | Heat of Vaporization  |  |  |
| **Unit 5: The Mathematics of Formulas and Equations** |
| 1 |  Chemical Symbols and Formulas |  |  |
| 2 | The Mole |  |  |
| 3 | Balancing Equations |  |  |
| 4 | Stoichiometry  |  |  |
| 5 | Types of Reactions |  |  |
| **Unit 6: Bonding** |
| 1 | Ionic Bonds  |  |  |
| 2 | Covalent Bonds |  |  |
| 3 | IMFs |  |  |
| **Unit 7: Kinetics** |
| 1 | Reaction Rates | <https://youtu.be/EVeiomEHoAo>  | Sample problem at minute **15:00** in lesson video. |
| 2.1 | Potential Energy Diagrams | <https://youtu.be/HfZNt3MMx3c>  |  |
| 2.2 | Illustrating Potential Energy Diagrams | <https://youtu.be/2w8NTgO2vXw>  | <https://youtu.be/qexrN1dLVyQ>  |
| 3 | Table I: Heats of Reaction  | <https://youtu.be/So_q3RFadHY>  | <https://youtu.be/t-kB7ih-hF4>  |
| 4.1 | Le Chatelier’s Principle: Concentration  | <https://youtu.be/0dFzZd9sG2s>  | Sample problem at minute **11:00** in lesson video. |
| 4.2 | Le Chatelier’s Principle: Temperature | <https://youtu.be/TVEjM-0IOvg>  | Sample problem at minute **2:50** in lesson video. |
| 4.3 | Le Chatelier’s Principle: Pressure | <https://youtu.be/eqVneImXtiI>  | Sample problem at minute **9:10** in lesson video. |
| 4.1-4.3 | Sample Problems | <https://youtu.be/SheHmvQzt6M>  |  |
| **Unit 8: Properties of Solutions** |
| 1 | Table G Solubility Curves | <https://www.youtube.com/watch?v=ncWkg_7WJjg&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=29>  | Sample problem at minute **12:20** in lesson video. |
| 2 | Table F Solubility Guidelines  | <https://www.youtube.com/watch?v=Qvyitlv2U40&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=30>  | Sample problem at minute **5:30** in lesson video. |

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| **Unit 9: Oxidation and Reduction** |
| 1 | Assigning Oxidation Numbers  | <https://www.youtube.com/watch?v=IDzRGahF594&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=31>  | Sample problem at minute **19:50** in lesson video. |
| 2 | Oxidation and Reduction  | <https://www.youtube.com/watch?v=K6Xc3G5E18k&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=32>  | Sample problem at minute **7:05** in lesson video. |
| 3 | Half Reactions  |  |  |
| **Unit 10: Acids and Bases** |
| 1 | Properties of Acids and Bases | <https://www.youtube.com/watch?v=GGS6d5d3gRU&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=33>  | Sample problem at minute **9:50** in lesson video. |
| 2 | pH Scale and pH Indicators (Table M)  | <https://www.youtube.com/watch?v=NNgf4B3hqW4&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=34>  | Sample problem at minute **10:30** in lesson video. |
|  3  | Titration | <https://www.youtube.com/watch?v=AQvqgtk76ro&list=PLizMVAbpaIIN1vXGAvCu8u0mK3q6BPTUz&index=35>  | Sample problem at minute **4:20** in lesson video. |