**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** | | | |
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| **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 |  | Sample problem at minute **5:55** in lesson video. |
| 4.1 | Le Chatelier’s Principle: Concentration |  | Sample problem at minute **11:00** in lesson video. |
| 4.2 | Le Chatelier’s Principle: Temperature |  | Sample problem at minute **2:50** in lesson video. |
| 4.3 | Le Chatelier’s Principle: Pressure |  | Sample problem at minute **9:10** in lesson video. |
| **Unit 8: Properties of Solutions** | | | |
| 1 | Table G Solubility Curves |  | Sample problem at minute **12:20** in lesson video. |
| 2 | Table F Solubility Guidelines |  | Sample problem at minute **5:30** in lesson video. |

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| **Unit 9: Oxidation and Reduction** | | | |
| 1 | Assigning Oxidation Numbers |  | Sample problem at minute **19:50** in lesson video. |
| 2 | Oxidation and Reduction |  | Sample problem at minute **7:05** in lesson video. |
| 3 | Half Reactions |  |  |
| **Unit 10: Acids and Bases** | | | |
| 1 | Properties of Acids and Bases |  | Sample problem at minute **9:50** in lesson video. |
| 2 | pH Scale and pH Indicators (Table M) |  | Sample problem at minute **10:30** in lesson video. |
| 3 | Titration |  | Sample problem at minute **4:20** in lesson video. |