

TPS-DRC/JTC

Class 9 – Syllabus & Learning Resource

Subject	Chemistry	Syllabus Till : June	
Syllabus: Unit# 1: Fundamentals of Chemistry Unit# 2: Structure of Atom Unit# 3: Periodic Table and Periodicity of Properties Unit # 5: Physical States of Matter			
Fundamentals of Chemistry			
Unit/ Question Title	Topic	Availability of Learning Resource	
		Video Tutorial Link	Reading Material Reference
1	Introduction to Chemistry	https://www.youtube.com/watch?v=H64nsHVoaxs&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=12&t=0s	Chemistry Textbook (Pg#2)
	1.1.1 Physical Chemistry	https://www.youtube.com/watch?v=hZPfUBQVXqo&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=13&t=0s	Chemistry Textbook (Pg#2)
	1.1.2 Organic Chemistry	https://www.youtube.com/watch?v=J5SXAR7XRwQ&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=14&t=0s	Chemistry Textbook (Pg#2)
	1.1.3 Inorganic Chemistry	https://www.youtube.com/watch?v=J5SXAR7XRwQ&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=14&t=0s	Chemistry Textbook (Pg#2)
	1.1.4 Biochemistry	https://www.youtube.com/watch?v=91JzfY1T7a4&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=15&t=0s	Chemistry Textbook (Pg#3)
	1.1.5 Industrial Chemistry	https://www.youtube.com/watch?v=_ijJCxgidTU&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=16&t=0s	Chemistry Textbook (Pg#3)
	1.1.6 Nuclear Chemistry	https://www.youtube.com/watch?v=_ijJCxgidTU&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=16&t=0s	Chemistry Textbook (Pg#3)
	1.1.7 Environmental Chemistry	https://www.youtube.com/watch?v=nlokxQS0Jfc&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=17&t=0s	Chemistry Textbook (Pg#3)
	1.1.8 Analytical Chemistry	https://www.youtube.com/watch?v=91JzfY1T7a4&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=15&t=0s	Chemistry Textbook (Pg#3)
	1.2 Basic Definitions		Chemistry Textbook (Pg#4)
		Matter	https://www.youtube.com/watch?v=ueNFro8Vwo&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=11&t=0s
	Substance	https://www.youtube.com/watch?v=pL-Sajwj46I&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=6&t=0s	Chemistry Textbook (Pg#4)
	Mixture	https://www.youtube.com/watch?v=kKxhCtpbBDM&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=4&t=0s	Chemistry Textbook (Pg#4,8)

		RSezyEbOU_9pIJfkK&index=9&t=0s	
Physical and Chemical Properties		https://www.youtube.com/watch?v=bHctDk2dDP8	Chemistry Textbook (Pg#4)
Elements		https://www.youtube.com/watch?v=Cf0iWPCuz-U&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=5&t=0s	Chemistry Textbook (Pg#5)
Valency		https://www.youtube.com/watch?v=HgZKoJdvyRo	Chemistry Textbook (Pg#6)
Compound		https://www.youtube.com/watch?v=iXWbL_EAvJQ&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=7&t=0s	Chemistry Textbook (Pg#7)
Difference between compound and mixture		https://www.youtube.com/watch?v=Yqbrx-tivy0&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=10&t=0s	Chemistry Textbook (Pg#9)
1.2.1 Atomic Number and Mass Number		https://www.youtube.com/watch?v=C0qQLyqFQWw&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=24&t=0s	Chemistry Textbook (Pg#9,10)
1.2.3 Relative Atomic Mass and Atomic Mass Unit		https://www.youtube.com/watch?v=AK7mw13Stt0&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=25&t=0s	Chemistry Textbook (Pg#11)
1.2.4 Chemical Formula		https://www.youtube.com/watch?v=2ieYInaA5Gk&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=26&t=0s	Chemistry Textbook (Pg#11)
1.2.4.1 Empirical Formula		https://www.youtube.com/watch?v=B7SP8ruiWh0&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=28&t=0s	Chemistry Textbook (Pg#12)
1.2.4.1 Empirical Formula of covalent and ionic compound		https://www.youtube.com/watch?v=TnbMJE3wEH8&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=29&t=0s	Chemistry Textbook (Pg#12)
1.2.4.2 Molecular Formula		https://www.youtube.com/watch?v=CW_Wa1Z-PG0&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=30&t=0s	Chemistry Textbook (Pg#13)
1.2.4.2 Determining the Molar Mass and Empirical Formula of compounds		https://www.youtube.com/watch?v=tPhdNywH35o&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=33&t=0s	Chemistry Textbook (Pg#13)
1.2.5 Molecular Mass		https://www.youtube.com/watch?v=ef_8zruO7Ho&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=31&t=0s	Chemistry Textbook (Pg#13)
1.2.5 Formula Mass		https://www.youtube.com/watch?v=ef_8zruO7Ho&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=31&t=0s	Chemistry Textbook (Pg#13)
1.3.1 Chemical Species Ions (Cations and Anions)		https://www.youtube.com/watch?v=MIOG5YKk_Gs&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=34&t=0s	Chemistry Textbook (Pg#14)
Difference b/w atom and ion		https://www.youtube.com/watch?v=Abp-xtcKzrM	Chemistry Textbook (Pg#15)
1.3.1 Molecular Ions		https://www.youtube.com/watch?v=z87mik5rZfQ&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=35&t=0s	Chemistry Textbook (Pg#15)
1.3.1 Free Radicals		https://www.youtube.com/watch?v=c0_yF8i9yLc&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=36&t=0s	Chemistry Textbook (Pg#16)

	1.3.2 Types of Molecules	https://www.youtube.com/watch?v=nz5vNZs76OY&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=37&t=0s	Chemistry Textbook (Pg#16)
	1.4 Gram Atomic Mass, Gram Molecular Mass and Gram Formula Mass	https://www.youtube.com/watch?v=9H-tHatO0TQ&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=38&t=0s	Chemistry Textbook (Pg#17)
	1.5.1 Avogadro's Number	https://www.youtube.com/watch?v=Mf94hXQSSAA&list=PLPH7GpQi8xATDSE RSezyEbOU_9pIJfkK&index=39&t=0s	Chemistry Textbook (Pg#17)
	1.5.2 Mole	https://www.youtube.com/watch?v=UvuQ-g9IBok&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=40&t=0s	Chemistry Textbook (Pg#17)
	Calculating moles from mass	https://www.youtube.com/watch?v=WffWEkRypTU&list=PLPH7GpQi8xATDSE RSezyEbOU_9pIJfkK&index=41&t=0s	Chemistry Textbook (Pg#19)
	Calculating mass from moles	https://www.youtube.com/watch?v=iN8BiIM6sEU&list=PLPH7GpQi8xATDSER SezyEbOU_9pIJfkK&index=42&t=0s	Chemistry Textbook (Pg#20)
	Calculating mass in grams and moles	https://www.youtube.com/watch?v=jfrqhXeo7yo&list=PLPH7GpQi8xATDSERSe zyEbOU_9pIJfkK&index=43&t=0s	Chemistry Textbook (Pg#20)
	1.6.1 Mole-Mass Calculations	https://www.youtube.com/watch?v=SZm7HxfJCx4&list=PLPH7GpQi8xATDSER SezyEbOU_9pIJfkK&index=44&t=0s	Chemistry Textbook (Pg#20)
	1.6.2 Mole Particle Calculations	https://www.youtube.com/watch?v=Kt0762RP7fk&list=PLPH7GpQi8xATDSERS ezyEbOU_9pIJfkK&index=45&t=0s	Chemistry Textbook (Pg#21)
2	2.1 Dalton's Atomic Theory	https://www.youtube.com/watch?v=hmWhH7ITGHE&list=PLPH7GpQi8xATDS ERSezyEbOU_9pIJfkK&index=50&t=0s	Chemistry Textbook (Pg#28)
	Cathode rays and Discovery of Electrons	https://www.youtube.com/watch?v=XDvQajWE8Y8&list=PLPH7GpQi8xATDSE RSezyEbOU_9pIJfkK&index=51&t=0s	Chemistry Textbook (Pg#28)
	Properties of Cathode Rays	https://www.youtube.com/watch?v=4whh_9NBtl8&list=PLPH7GpQi8xATDSER SezyEbOU_9pIJfkK&index=52&t=0s	Chemistry Textbook (Pg#29)
	Discovery of Proton	https://www.youtube.com/watch?v=-6kZc_R4-8M&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=53&t=0s	Chemistry Textbook (Pg#29)
	Properties of Positive Rays	https://www.youtube.com/watch?v=sx0QGvAoeu4&list=PLPH7GpQi8xATDSER SezyEbOU_9pIJfkK&index=54&t=0s	Chemistry Textbook (Pg#30)
	Discovery Of Neutron	https://www.youtube.com/watch?v=ICaizzOFkoo&list=PLPH7GpQi8xATDSERS ezyEbOU_9pIJfkK&index=55&t=0s	Chemistry Textbook (Pg#30)
	Properties Of Neutrons	https://www.youtube.com/watch?v=PpZrghoc7T0&list=PLPH7GpQi8xATDSERS ezyEbOU_9pIJfkK&index=56&t=0s	Chemistry Textbook (Pg#30)
	2.1.1 Rutherford's Atomic Model	https://www.youtube.com/watch?v=fnABdg0tp_s&list=PLPH7GpQi8xATDSERS ezyEbOU_9pIJfkK&index=57&t=0s	Chemistry Textbook (Pg#31)

	Defects in Rutherford's Atomic Model	https://www.youtube.com/watch?v=dYKVP5CVUMU&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=58&t=0s	Chemistry Textbook (Pg#32)
	Bohr's Atomic Theory	https://www.youtube.com/watch?v=yIgNKLlzSAG&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=59&t=0s	Chemistry Textbook (Pg#33)
	2.2 Electronic Configuration	https://www.youtube.com/watch?v=qWSnL2-CXy4&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=60&t=0s	Chemistry Textbook (Pg#35)
	2.2.1 More on Electronic Configuration of Elements	https://www.youtube.com/watch?v=mD36O48UsGY&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=61&t=0s	Chemistry Textbook (Pg#35)
	Names and Symbols Of Elements	https://www.youtube.com/watch?v=4O_NjDnxNxx&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=62&t=0s	
	Electronic Configuration Of Different Species	https://www.youtube.com/watch?v=AIjN1guVMS8&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=63&t=0s	Chemistry Textbook (Pg#36)
	2.3.1 Isotopes	https://www.youtube.com/watch?v=AqYm6ft-ULY&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=64&t=0s	Chemistry Textbook (Pg#38)
	2.3.2 Examples Of Isotopes	https://www.youtube.com/watch?v=rwtAa8LwCx8&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=65&t=0s	Chemistry Textbook (Pg#38,39)
	2.3.3 Uses and Applications of Isotopes	https://www.youtube.com/watch?v=CkBzt1I6wYk&list=PLPH7GpQi8xATDSERSezyEbOU_9pIJfkK&index=66&t=0s	Chemistry Textbook (Pg#40)
3	3.1: Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-1	Chemistry Textbook (Page # 44)
	Introduction to Periodic Law And Periodic Table		
	3.1 Dobereiner's Triads Classification	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-2	Chemistry Textbook (Page # 45)
	3.1 Newland's Octaves Law	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-3	Chemistry Textbook (Page # 45)
	3.1 Lothar Meyer's Classification	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-4	Chemistry Textbook (Page # 45)
	3.1 Mendeleev's Periodic table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-5	Chemistry Textbook (Page # 45)
	3.1 Advantages of Mendeleev's Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-6	Chemistry Textbook (Page # 45)
	3.1 Defects in Mendeleev's Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-7	Chemistry Textbook (Page # 45)
	3.1 Modern Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-8	Chemistry Textbook (Page # 46, 47, 48)

	3.1.1 Periods in Modern Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-10	Chemistry Textbook (Page # 49)
	3.1.2 Groups in Modern Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-9	Chemistry Textbook (Page # 50)
	Comparison Between Mendeleev's and Modern Periodic Tables	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.1&v=c-9-10-per-tab-11	Chemistry Textbook (Page #50)
	3.2: Periodicity of Properties	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-12	Chemistry Textbook (Page # 51)
	3.2.1 Atomic Size and Atomic Radius		
	3.2.1 Trend of Atomic Size and Atomic Radius in Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-13	Chemistry Textbook (Page # 52)
	3.2.2 Shielding Effect	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-14	Chemistry Textbook (Page # 52)
	3.2.2 Trend of Shielding Effect in Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-15	Chemistry Textbook (Page # 52)
	3.2.3 Ionization Energy	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-16	Chemistry Textbook (Page # 53)
	3.2.3 Trend of Ionization Energy in Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-17	Chemistry Textbook (Page # 53)
	3.2.4 Electron Affinity	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-18	Chemistry Textbook (Page # 53, 54)
	3.2.4 Trend of Electron Affinity in Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-19	Chemistry Textbook (Page # 54)
	3.2.5 Electronegativity	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-20	Chemistry Textbook (Page # 54)
	3.2.5 Trend of Electronegativity in Periodic Table	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-3.2&v=c-9-10-per-tab-21	Chemistry Textbook (Page # 55)
	Unit: 3 Summary	https://drive.google.com/file/d/1XUR5bq7zGSpJ_hEKlq_aQwcv-qNnbl0M/view?usp=sharing	
5	5.1: Gaseous State and Typical Properties Common States of Matter(solid, liquid ,gas plasma)	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.1&v=c-9-10-phy-sta-1	Chemistry Textbook (Page # 76)
	5.1.1 Diffusion	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.1&v=c-9-10-phy-sta-3	Chemistry Textbook (Page # 76)
	5.1.2 Effusion in Gases		
	5.1.1 Pressure and Standard	https://sabaq.pk/video-page.php?sid=punjab-	Chemistry Textbook (Page

	Atmospheric Pressure	chemistry-9th-5.1&v=c-9-10-phy-sta-4	# 76, 77)
	5.1.4 Compressibility, 5.1.5 Mobility 5.1.6 Density of Gases	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.1&v=c-9-10-phy-sta-5	Chemistry Textbook (Page # 77)
	5.2: Laws Related to Gases 5.2.1 Boyle's Law of Gases	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.2&v=c-9-10-phy-sta-6	Chemistry Textbook (Page # 78)
	5.2.1 Experimental Verification of Boyle's Law	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.2&v=c-9-10-phy-sta-7	Chemistry Textbook (Page # 78, 79)
	5.2.2 Charles's Law	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.2&v=c-9-10-phy-sta-8	Chemistry Textbook (Page # 81)
	5.2.2 Experimental Verification of Charles's Law	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.2&v=c-9-10-phy-sta-9	Chemistry Textbook (Page # 82)
	Intermolecular Forces	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.2&v=c-9-10-che-bon-14	Chemistry Textbook (Page # 84)
	Liquid State and Typical Properties Evaporation in Liquids and its Uses	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.3&v=c-9-10-phy-sta-10	Chemistry Textbook (Page # 84, 85)
	Vapour Pressure	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.3&v=c-9-10-phy-sta-11	Chemistry Textbook (Page # 85, 86)
	Boiling Points of Liquids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.3&v=c-9-10-phy-sta-12	Chemistry Textbook (Page 86, 87)
	Diffusion in Liquids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.3&v=c-9-10-phy-sta-13	Chemistry Textbook (Page # 88)
	Density Freezing points of Liquids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.3&v=c-9-10-phy-sta-14	Chemistry Textbook (Page # 88,89)
	Solid State and Typical Properties Melting point of Solids Rigidity	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.4&v=c-9-10-phy-sta-15	Chemistry Textbook (Page # 89)
	Density in Solids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.4&v=c-9-10-phy-sta-17	Chemistry Textbook (Page # 90)
	Types of Solids Amorphous Solids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.5&v=c-9-10-phy-sta-18	Chemistry Textbook (Page # 90)
	Crystalline Solids	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.5&v=c-9-10-phy-sta-19	Chemistry Textbook (Page # 90)
	Allotropy Concept of Allotropy	https://sabaq.pk/video-page.php?sid=punjab-chemistry-9th-5.6&v=c-9-10-phy-sta-20	Chemistry Textbook (Page # 90, 91)