

## IBDP 2 Year Planner: Chemistry

(~80 classes)

		YEAR ONE				YEAR TWO	
Month	Ch.	Topic	Assess		Ch.	Topic	Assess
Sep	1	Quantitative chemistry	Lab Activity		IA	Individual Investigation	
Sep	1	Stoichiometric relationships	Topic Quiz			Review of Year One	
Oct	11.1/11.2	Measurement and data processing	Lab Activity		7/17	Equilibrium	Lab
Oct	2/12	Atomic Structure (SL/AHL)	Unit Exam		7/17	Equilibrium (HL) + catch up or IA or CH 8	Unit Exam
Nov	3/13	Periodicity	Element Hero Project		8/18	Acids and Bases	Lab
Nov	4/14	Bonding	Lab Activity		8/18	Acids and Bases (HL)	Unit Exam
Dec	4/14	Bonding			9/19	Oxidation and Reduction	First nations perspective project
Dec	4/14	Chemical bonding and structure(HL)	Unit Exam		9/19	Redox Processes	Unit Exam
Jan	5/15	Energetics	Lab		10/20	Organic Chemistry	Traditional dyeing technique project
Jan	5/15	Energetics	Quiz		10/20	Organic Chemistry: Synthesis + Stereoisomerism	Test
Feb	5/15	Energetics				Flex	
Feb	6	Chemical Kinetics	Project			Catch up + IA or Options	
Mar	16	Chemical Kinetics (HL)	Unit Exam			Options	
Mar	10	Organic Chemistry	Lab			Options	
Apr	10	Organic Chemistry	Project			Review	Mock Exam
Apr	21	Measurement and Data Analysis	Lab (Measurement olympics)			IB Practice Exams	
May	11.3	Spectroscopic identification	Assignments			IB Exams	

## IBDP 2 Year Planner: Chemistry

May		Unit Review (catch up)	Concept map			IB Exams	
Jun		Unit Review	Research Project				
Jun		Internal Assessment	Final Exam				

### Core

**95 hours**

#### *Topic 1: Stoichiometric relationships*

**13.5**

1.1 Introduction to the particulate nature of matter and chemical change

1.2 The mole concept

1.3 Reacting masses and volumes

#### *Topic 2: Atomic structure*

**6**

2.1 The nuclear atom

2.2 Electron configuration

#### *Topic 3: Periodicity*

**6**

3.1 Periodic table

3.2 Periodic trends

#### *Topic 4: Chemical bonding and structure*

**13.5**

4.1 Ionic bonding and structure

4.2 Covalent bonding

4.3 Covalent structures

4.4 Intermolecular forces

4.5 Metallic bonding

#### *Topic 5: Energetics/thermochemistry*

**9**

5.1 Measuring energy changes

5.2 Hess's Law

5.3 Bond enthalpies

#### *Topic 6: Chemical kinetics*

**7**

6.1 Collision theory and rates of reaction

#### *Topic 7: Equilibrium*

**4.5**

7.1 Equilibrium

#### *Topic 8: Acids and bases*

**6.5**

8.1 Theories of acids and bases

8.2 Properties of acids and bases

8.3 The pH scale

8.4 Strong and weak acids and bases

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8.5 Acid deposition

*Topic 9: Redox processes* 8

9.1 Oxidation and reduction

9.2 Electrochemical cells

*Topic 10: Organic chemistry* 11

10.1 Fundamentals of organic chemistry

10.2 Functional group chemistry

*Topic 11: Measurement and data processing* 10

11.1 Uncertainties and errors in measurement and results

11.2 Graphical techniques

11.3 Spectroscopic identification of organic compounds

**Additional higher level (AHL)** 60 hours

*Topic 12: Atomic structure* 2

12.1 Electrons in atoms

*Topic 13: The periodic table—the transition metals* 4

13.1 First-row d-block elements

13.2 Coloured complexes

Topic 14: Chemical bonding and structure 7

14.1 Covalent bonding and electron domain and molecular geometries

14.2 Hybridization

*Topic 15: Energetics/thermochemistry* 7

15.1 Energy cycles

15.2 Entropy and spontaneity

*Topic 16: Chemical kinetics* 6

16.1 Rate expression and reaction mechanism

16.2 Activation energy

*Topic 17: Equilibrium* 4

17.1 The equilibrium law

Topic 18: Acids and bases 10

18.1 Lewis acids and bases

18.2 Calculations involving acids and bases

18.3 pH curves

*Topic 19: Redox processes* 6

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19.1 Electrochemical cells

Topic 20: Organic chemistry 12

20.1 Types of organic reactions

20.2 Synthetic routes

20.3 Stereoisomerism

*Topic 21: Measurement and analysis* 2

21.1 Spectroscopic identification of organic compounds