# Course at a Glance

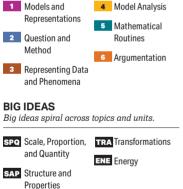
## Plan

The Course at a Glance provides a useful visual organization of the AP Chemistry curricular components, including:

- Sequence of units, along with approximate weighting and suggested pacing.
  Please note, pacing is based on 45-minute class periods, meeting five days each week for a full academic year.
- Progression of topics within each unit.
- Spiraling of the big ideas and science practices across units.

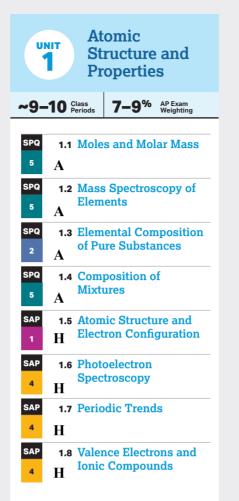
# Teach

SCIENCE PRACTICES Science practices spiral throughout the course.



### Assess

Assign the Personal Progress Checks—either as homework or in class—for each unit. Each Personal Progress Check contains formative multiplechoice and free-response questions. The feedback from the Personal Progress Checks shows students the areas where they need to focus.



Molecular and Ionic Compound Structure and Properties				
~12	-13	Class Periods	<b>7–9</b> %	AP Exam Weighting
SAP 6 SAP 3 SAP 4	J 2.2 J 2.3 J	Bond Intran and F Struc Solid	molecular Potential F eture of Io s	Force Energy nic
SAP	2.4 J	Struc Alloy	ture of M s	etals and
SAP 3	2.5 J	Lewi	s Diagran	ns
SAP 6	2.6 J		nance an al Charge	
SAP 6	2.7 J		PR and Bo idization	ond

Generally Biggs' order is A, D, B, F, C, E, G, H, J (no unit I)

# For 2020 - The AP Exam will only cover units 1-7

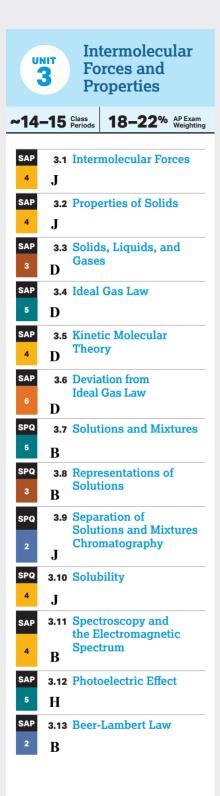
#### Personal Progress Check 1

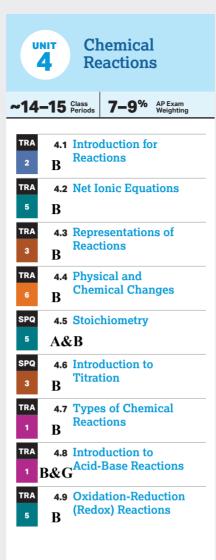
Multiple-choice: ~20 questions Free-response: 2 questions • Short-answer • Short-answer

### Personal Progress Check 2

Multiple-choice: ~15 questions Free-response: 1 question • Long-answer

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5 Kinetics			
~13·	-14 Class 7-9% AP Exam Weighting		
TRA	5.1 Reaction Rates		
6	E		
TRA	5.2 Introduction to Rate Law		
5	Е		
TRA 5	5.3 Concentration Changes Over Time E		
TRA	5.4 Elementary Reactions		
5	Е		
TRA 6	5.5 Collision Model		
TRA	E		
3	5.6 Reaction Energy Profile E		
TRA 1	5.7 Introduction to Reaction Mechanisms E		
TRA 5	5.8 Reaction Mechanism and Rate Law E		
TRA 5	5.9 Steady-State Approximation E		
TRA 3	5.10 Multistep Reaction Energy Profile E		
ENE 6	5.11 Catalysis E		

#### Personal Progress Check 3

Multiple-choice: ~30 questions Free-response: 2 questions

Short-answer

Short-answer

#### **Personal Progress Check 4**

Multiple-choice: ~20 questions Free-response: 1 question • Long-answer

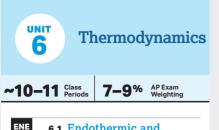
#### Personal Progress Check 5

Multiple-choice: ~25 questions Free-response: 2 questions • Short-answer

Long-answer

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6.1 Endothermic and
C Exothermic Processes
6.2 Energy Diagrams
С
6.3 Heat Transfer and
C Thermal Equilibrium
6.4 Heat Capacity and
C Calorimetry
6.5 Energy of Phase
C Changes
6.6 Introduction to Enthalpy
C of Reaction
6.7 Bond Enthalpies
С
6.8 Enthalpy of Formation
С
6.9 Hess's Law
С

U	<b>7</b>	Eq	uilib	riı	ım
~14	-16	Class Periods	7–9	%	AP Exam Weighting
TRA 6	7.1 F		luction ibrium	to	
TRA	7.2	Direc	tion of	Re	versible
4	F	React	ions		
TRA	7.3		-		ent and
3	F&B	Equil	ibrium	Co	onstant
TRA	7.4		lating		
5	F	Equil	ibrium	Co	onstant
TRA	7.5	Magn	itude o	of t	he
6	F		ibrium		
TRA	7.6	Prope	erties o	f tł	ne
5	F	Equil	ibrium	Co	onstant
TRA	7.7		_		uilibrium
3	F	Conc	entratio	ons	
TRA	7.8		sentat	ion	is of
3	F		ibrium		
TRA	7.9		duction		
6	F	Chate	elier's F	'rır	iciple
TRA	7.10				ent and
5	F	Le Ch	lâtelier	's I	Principle
SPQ	7.11		duction		
5	F	Soluk	oility Eo	qui	libria
SPQ	7.12	Comr	non-Io	n E	ffect
2	F				
SPQ	7.13	pH ar	nd Solu	bil	ity
2	F				
SPQ	7.14		Energy	of	
4	F	Disso	olution		

	Acids and Bases
~14·	-15 Class Periods 11-15 <sup>%</sup> AP Exam Weighting
SAP 5	8.1 Introduction to Acids and Bases G
SAP 5	8.2 pH and pOH of Strong Acids and Bases G
SAP 5	8.3 Weak Acid and Base Equilibria G
SAP 5	8.4 Acid-Base Reactions and Buffers G
SAP 5	8.5 Acid-Base Titrations G
SAP 6	8.6 Molecular Structure of Acids and Bases G
SAP 2	8.7 pH and pK <sub>a</sub> G
SAP 6	8.8 Properties of Buffers G
SAP 5	8.9 Henderson-Hasselbalch Equation G
SAP 6	8.10 Buffer Capacity G

#### Personal Progress Check 6

Multiple-choice: ~20 questions Free-response: 2 questions

- Short-answer
- Short-answer

#### Personal Progress Check 7

Multiple-choice: ~30 questions Free-response: 2 questions • Short-answer

Long-answer

#### Personal Progress Check 8

Multiple-choice: ~30 questions Free-response: 1 question • Long-answer

	U	<b>9</b>	-	oplications of nermodynamics		
-	-10	-13	Class Periods	7–9% AP Exam Weighting		
	ENE	9.1	Intro	duction to Entropy		
	6	С				
	ENE	9.2		lute Entropy and		
	5	С	Entro	py Change		
	ENE	9.3	Gibbs	s Free Energy and		
				modynamic		
	6	С	Favorability			
	ENE	9.4	Thermodynamic and			
	6	C&I	Kinetic Control			
	ENE	9.5	·			
	6	С	Equil	librium		
	ENE	9.6	Coup	led Reactions		
	4	C&				
	ENE	9.7		anic (Voltaic) and rolytic Cells		
	2	B	Licct			
	ENE	9.8		Potential and Free		
	5	В	Energ	ду		
	ENE	9.9		Potential		
				r Nonstandard litions		
	6	В	CONO	nuons		
	ENE	9.10		rolysis and		
	5	В	Farac	lay's Law		

### Personal Progress Check 9

Multiple-choice: ~30 questions Free-response: 2 questions • Short-answer

- Long-answer