

Features and Benefits Brochure

Benefits & Features



Content to Enhance Your Teaching

Each Achieve course comes with a BFW e-book uniquely developed for the course it serves. These e-books include highlighting, note-taking, and search functionality and can be accessed online or downloaded for to multiple devices. Our e-books also prioritize accessibility, offering a read aloud feature, open dyslexic font, and translation into multiple languages if supported on the device.



Adaptive Quizzing for Personalized Learning

Some Achieve courses include LearningCurve, our adaptive quizzing engine with personalized question sets and clear feedback based on each student's correct and incorrect answers. LearningCurve offers an easy way for students to prepare for class by reviewing the e-book and then assessing their understanding of the key concepts.



Targeted Feedback to Build Understanding

The Achieve STEM courses include homework assessments that target specific misconceptions or misunderstandings. These formative assessments offer real-time, answer-specific feedback to help students build understanding of complex concepts.



Resources at Your Virtual Fingertips

A robust repository of teacher and student resources are easily accessible and assignable. Your resources include the TE-book, pacing guides, handouts, graphic organizers, PD videos, and more. Your students will benefit from the flashcards, simulations, videos, and tutorials.



Analytics Reveal Insights on Student Performance

Achieve's Insights and Reporting feature provides powerful but user-friendly analytics at the individual student or whole class level. This elegant dashboard gives you and your administrators a window into student progress so lessons can be specifically tailored to students' needs.



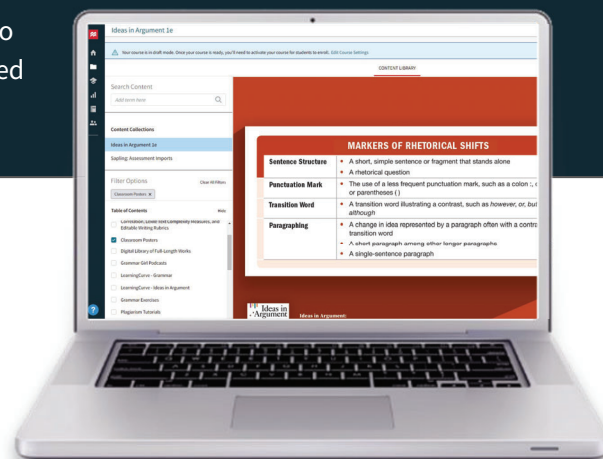
Integration with Your LMS or Rostering System

Your great content and resources + your LMS and rostering systems = a match made in...integration. Achieve integrates with most of the common systems.

bfwpub.com/achieve

bfwpub.com/achieve-demo

bfwpub.com/achieve-request-access



Free with Order Brochure

BFW Achieve Teacher Resources

Free With Purchase of 25 Student Editions

Teacher's Edition

The wrap-around Teacher's Edition is an invaluable resource for new and experienced instructors. In true BFW style, this TE is written by long-time instructors and includes thoughtful instruction for planning, pacing, and differentiating your course, as well as strategies for developing skills and teaching course content.

Teacher's Resource Materials

The Teacher's Resource Materials are designed to help you structure and navigate your course. Materials are referenced at point-of-use in the TE and include:

- Pacing Guides
- Lecture Slides
- Worksheets/Handouts
- Answer Keys/Suggested Responses
- Overview Videos
- Animations
- + More

Macmillan Learning Test Bank

The Macmillan Learning Test Bank is an online assessment system that allows you to create and deliver tests through a secure online test center.

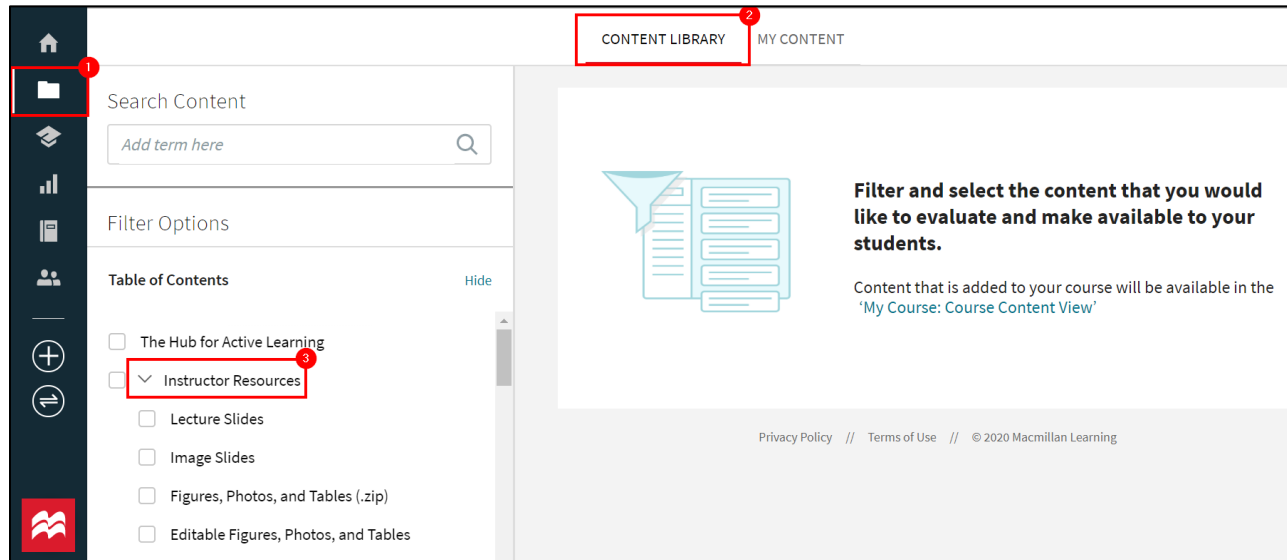
You can:

- Create paper or online tests that you can export to your LMS using your web browser
- Drag and drop questions to create tests
- Create and edit your own questions and edit publisher-created question sets

Some key features include:

- Support for many questions types including true/false, multiple choice, multiple response, matching, numeric response, completion, multi-blank, drag-and-drop, bin sort, short answer, ordering, essay, and Likert scale
- Rich word processing features including support for equations, images, and tables
- Algorithm engine to create dynamic questions
- Support for a wide variety of question metadata including local, state, and national standards
- Support for many standard import and export methods including IMS QTI and XML

Content Collections



Publisher-Provided Content

Use the provided course collection if you want to add publisher-provided content to your course. This collection allows you to search for resources by title, as well as filter by:

- Table of Contents
- Resource Type
- Recommended Use

My Custom Content

Use the My Custom Content Collection if you want to create your own resources and add them to your course. Any time you create a new resource, it will be available here to add into any of your courses, as long as that course uses that type of resource. For example, Writing can currently only be added to English courses.

Here are the types of content you can create. Remember, not all of these are available in all courses:

- Files
- Links (URLs)
- Assessments
- Writing Assignments
- GoReact Video Assignments

Curriculum Scope and Sequence

Environmental Science for the AP® Course

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
1.1 Introduction to Ecosystems	ERT-1.A	ERT-1.A.1	Module 1: Introduction to Ecosystems	1	0.5
		ERT-1.A.2			
		ERT-1.A.3			
1.2 Terrestrial Biomes	ERT-1.B	ERT-1.B.1	Module 2: Terrestrial Biomes	2	1
		ERT-1.B.2			
		ERT-1.B.3			
		ERT-1.B.4			
1.3 Aquatic Biomes	ERT-1.C	ERT-1.C.1	Module 3: Aquatic Biomes	2	1
		ERT-1.C.2			
		ERT-1.C.3			
1.4 The Carbon Cycle	ERT-1.D	ERT-1.D.1	Module 4: The Carbon and Nitrogen Cycles	2	1
		ERT-1.D.2			
		ERT-1.D.3			
		ERT-1.D.4			
1.5 The Nitrogen Cycle	ERT-1.E	ERT-1.E.1	Module 4: The Carbon and Nitrogen Cycles	2	1
		ERT-1.E.2			
		ERT-1.E.3			
		ERT-1.E.4			
1.6 The Phosphorous Cycle	ERT-1.F	ERT-1.F.1	Module 5: The Phosphorous and Hydrologic (Water) Cycles	1	0.5
		ERT-1.F.2			
		ERT-1.F.3			
1.7 The Hydrologic (Water) Cycle	ERT-1.G	ERT-1.G.1	Module 5: The Phosphorous and Hydrologic (Water) Cycles	1	0.5
		ERT-1.G.2			

1.8 Primary Productivity	ENG-1.A	ENG-1.A.1	Module 6: Primary Productivity	1	0.5
		ENG-1.A.2			
		ENG-1.A.3			
		ENG-1.A.4			
		ENG-1.A.5			
1.9 Trophic Levels	ENG-1.B	ENG-1.B.1	Module 7: Trophic Levels, Energy Flow and the 10% Rule, Food Chains, and Food Webs	2	1
		ENG-1.B.2			
		ENG-1.B.3			
1.10 Energy Flow and the 10% Rule	ENG-1.C	ENG-1.C.1	Module 7: Trophic Levels, Energy Flow and the 10% Rule, Food Chains, and Food Webs	2	1
		ENG-1.C.2			
1.11 Food Chains and Food Webs	ENG-1.D	ENG-1.D.1	Module 7: Trophic Levels, Energy Flow and the 10% Rule, Food Chains, and Food Webs	2	1
		ENG-1.D.2			

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
2.1 Introduction to Biodiversity	ERT-2.A	ERT-2.A.1	Module 8: Introduction to Ecosystems	1	0.5
		ERT-2.A.2			
		ERT-2.A.3			
		ERT-2.A.4			
		ERT-2.A.5			
2.2. Ecosystem Services	ERT-2.B	ERT-2.B.1	Module 9: Ecosystem Services	1	0.5
	ERT-2.C	ERT-2.C.1			
2.3 Island Biogeography	ERT-2.D	ERT-2.D.1	Module 10: Island Biogeography	2	1
		ERT-2.D.2			
	ERT-2.E	ERT-2.E.1			
2.4 Ecological Tolerance	ERT-2.F	ERT-2.F.1	Module 11: Ecological Tolerance	2	1
		ERT-2.F.2			
2.5 Natural Disruptions to Ecosystems	ERT-2.G	ERT-2.G.1	Module 12: Natural Disruptions to Ecosystems	2	1
		ERT-2.G.2			
		ERT-2.G.3			
		ERT-2.G.4			
		ERT-2.G.5			
		ERT-2.G.6			
2.6 Adaptations	ERT-2.H	ERT-2.H.1	Module 13: Adaptations	1	0.5
		ERT-2.H.2			
2.7 Ecological Succession	ERT-2.I	ERT-2.I.1	Module 14: Ecological Succession	2	1
		ERT-2.I.2			
		ERT-2.I.3			
	ERT-2.J	ERT-2.J.1			
		ERT-2.J.2			

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
3.1 Generalist and Specialist Species	ERT-3.A	ERT-3.A.1	Module 15: Generalist and Specialist Species, K-Selected and r-Selected Species, and Survivorship Curves	2	1
	ERT-3.B	ERT-3.B.1	Module 15: Generalist and Specialist Species, K-Selected and r-Selected Species, and Survivorship Curves	2	1
		ERT-3.B.2			
		ERT-3.B.3			
		ERT-3.B.4			
3.2 K-Selected r-Selected Species		ERT-3.B.5			
			Module 15: Generalist and Specialist Species, K-Selected and r-Selected Species, and Survivorship Curves	2	1
	ERT-3.C	ERT-3.C.1			
		ERT-3.C.2			
			Module 16: Carrying Capacity, Population Growth, and Resource Availability	3	1.5
3.3 Survivorship Curves	ERT-3.D	ERT-3.D.1			
	ERT-3.E	ERT-3.E.1			
			Module 16: Carrying Capacity, Population Growth, and Resource Availability	3	1.5
3.4 Carrying Capacity	ERT-3.F	ERT-3.F.1			
		ERT-3.F.2			
		ERT-3.F.3			
		ERT-3.F.5			
	EIN-1.A	EIN-1.A.1	Module 17: Age Structure Diagrams and Total Fertility Rates	3	1.5
3.5 Population Growth and Resource Availability		EIN-1.A.2			
			Module 17: Age Structure Diagrams and Total Fertility Rates	3	1.5
3.6 Age Structure Diagrams					
3.7 Total Fertility Rate					

3.8 Human Population Dynamics	EIN-1.C.1	EIN-1.C.1	Module 18: Human Population Dynamics and the Demographic Transition	3	1.5
		EIN-1.C.2			
		EIN-1.C.3			
		EIN-1.C.4			
3.9 Demographic Transition	EIN-1.D	EIN-1.D.1	Module 18: Human Population Dynamics and the Demographic Transition	3	1.5
		EIN-1.D.2			

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
4.1 Plate Tectonics	ERT-4.A	ERT-4.A.1	Module 19: Plate Tectonics	2	1
		ERT-4.A.2			
		ERT-4.A.3			
		ERT-4.A.4			
		ERT-4.A.5			
4.2 Soil Formation and Erosion	ERT-4.B	ERT-4.B.1	Module 20: Soil Formation, Erosion, Composition, and Its Properties	3	1.5
		ERT-4.B.2			
		ERT-4.B.3			
4.3 Soil Composition and Properties	ERT-4.C	ERT-4.C.1	Module 20: Soil Formation, Erosion, Composition, and Its Properties	3	1.5
		ERT-4.C.2			
		ERT-4.C.3			
		ERT-4.C.4			
4.4 Earth's Atmosphere	ERT-4.D	ERT-4.D.1	Module 22: Earth's Atmosphere, Global Wind Patterns, Solar Radiation, and Earth's Seasons	2	1
		ERT-4.D.2			
4.5 Global Wind Patterns	ERT-4.E	ERT-4.E.1	Module 22: Earth's Atmosphere, Global Wind Patterns, Solar Radiation, and Earth's Seasons	2	1
4.6 Watersheds	ERT-4.F	ERT-4.F.1	Module 21: Watersheds	1	0.5
4.7 Solar Radiation and Earth's Seasons	ENG-2.A	ENG-2.A.1	Module 22: Earth's Atmosphere, Global Wind Patterns, Solar Radiation, and Earth's Seasons	2	1
		ENG-2.A.2			
		ENG-2.A.3			
		ENG-2.A.4			
		ENG-2.A.5			
4.8 Earth's Geography and Climate	ENG-2.B	ENG-2.B.1	Module 23: Earth's Geography and Climate, El Nino, and La Nina	1	0.5

		ENG-2.B.2				
4.9 El Nino and La Nina	ENG-2.C		Module 23: Earth's Geography and Climate, El Nino, and La Nina	1	0.5	
		ENG-2.C.1				
		ENG-2.C.2				

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
5.1 The Tragedy of Commons	EIN-2.A	EIN-2.A.1	Module 24: The Tragedy of the Commons; Clear-cutting	2	1
5.2 Clearcutting	EIN-2.B	EIN-2.B.1	Module 24: The Tragedy of the Commons; Clear-cutting	2	1
		EIN-2.B.2			
5.3 The Green Revolution	EIN-2.C	EIN-2.C.1	Module 25: The Green Revolution	2	1
		EIN-2.C.2			
5.4 Impacts of Agricultural Practices	EIN-2.D	LOR-2.D.1	Module 26: Impacts of Agricultural Practices	1	0.5
5.5 Irrigation Methods	EIN-2.E	EIN-2.E.1	Module 27: Irrigation and Pest Control Methods	2	1
		EIN-2.E.2			
	EIN-2.F	EIN-2.F.1			
		EIN-2.F.2			
		EIN-2.F.3			
		EIN-2.F.4			
		EIN-2.F.5			
		EIN-2.F.6			
		EIN-2.F.7			
5.6 Pest Control Methods	EIN-2.G	EIN-2.G.1	Module 27: Irrigation and Pest Control Methods	2	1
		EIN-2.G.2			
5.7 Meat Production Methods	EIN-2.H	EIN-2.H.1	Module 28: Meat Production Methods and the Impacts of Overfishing	2	1
	EIN-2.I	EIN-2.I.1			
		EIN-2.I.2			
		EIN-2.I.3			
		EIN-2.I.4			
		EIN-2.I.5			
		EIN-2.I.6			

5.8 Impacts of Overfishing	EIN-2.J	EIN-2.J.1	Module 28: Meat Production Methods and the Impacts of Overfishing	2	1
5.9 Impacts of Mining	EIN-2.K	EIN-2.K.1	Module 29: Impacts of Mining	1	0.5
		EIN-2.K.2			
	EIN-2.L	EIN-2.L.1			
		EIN-2.L.2			
5.10 Impacts of Urbanization	EIN-2.M	EIN-2.M.1	Module 30: Impacts of Urbanization and the Methods to Reduce Urban Runoff	1	0.5
		EIN-2.M.2			
		EIN-2.M.3			
		EIN-2.M.4			
5.11 Ecological Footprints	EIN-2.N	EIN-2.N.1	Module 31: Ecological Footprints	1	0.5
5.12 Introduction to Sustainability	STB-1.A	STB-1.A.1	Module 32: Introduction to Sustainability	1	0.5
		STB-1.A.2			
5.13 Methods to Reduce Urban Runoff	STB-1.B	STB-1.B.1	Module 30: Impacts of Urbanization and the Methods to Reduce Urban Runoff	1	0.5
5.14 Integrated Pest Management	STB-1.C	STB-1.C.1	Module 33: Integrated Pest Management and Sustainable Agriculture	2	1
	STB-1.D	STB-1.D.1			
		STB-1.D.2			
5.15 Sustainable Agriculture	STB-1.E	STB-1.E.1	Module 33: Integrated Pest Management and Sustainable Agriculture	2	1
		STB-1.E.2			
		STB-1.E.3			
5.16 Aquaculture	STB-1.F	STB-1.F.1	Module 34: Aquaculture and Sustainable Forestry	2	1
		STB-1.F.2			
5.17 Sustainable Forestry	STB-1.G	STB-1.G.1	Module 34: Aquaculture and Sustainable Forestry	2	1
		STB-1.G.2			
		STB-1.G.3			

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
6.1 Renewable and Nonrenewable Resources	ENG-3.A	ENG-3.A.1	Module 35: Renewable and Nonrenewable Resources and Global Energy Consumption	1	0.5
		ENG-3.A.2			
6.2 Global Energy Consumption	ENG-3.B	ENG-3.B.1	Module 35: Renewable and Nonrenewable Resources and Global Energy Consumption	1	0.5
		ENG-3.B.2			
		ENG-3.B.3			
		ENG-3.B.4			
		ENG-3.B.5			
6.3 Fuel Type and Uses	ENG-3.C	ENG-3.C.1	Module 36: Fuel Types and Uses	2	1
		ENG-3.C.2			
		ENG-3.C.3			
		ENG-3.C.4			
		ENG-3.C.5			
		ENG-3.C.6			
		ENG-3.C.7			
6.4 Distribution of Natural Energy Resources	ENG-3.D	ENG-3.D.1	Module 37: Distribution of Natural Energy Resources: Fossil Fuels	2	1
6.5 Fossil Fuels	ENG-3.E	ENG-3.E.1	Module 37: Distribution of Natural Energy Resources: Fossil Fuels	2	1
		ENG-3.E.2			
		ENG-3.E.3			
		ENG-3.E.4			
6.6 Nuclear Power	ENG-3.F	ENG-3.F.1	Model 38: Nuclear Power	2	1
	ENG-3.G	ENG-3.G.1			
		ENG-3.G.2			
		ENG-3.G.3			
		ENG-3.G.4			
6.7 Energy from Biomass	ENG-3.H	ENG-3.H.1	Module 39: Biomass and Solar Energies and Hydroelectric Power	2	1
		ENG-3.H.2			
		ENG-3.H.3			

6.8 Solar Energy	ENG-3.J	ENG-3.J.1	Module 39: Biomass and Solar Energies and Hydroelectric Power	2	1
		ENG-3.J.2			
		ENG-3.J.3			
	ENG-3.K	ENG-3.K.1			
6.9 Hydroelectric Power	ENG-3.L	ENG-3.L.1	Module 39: Biomass and Solar Energies and Hydroelectric Power	2	1
		ENG-3.L.2			
	ENG-3.M	ENG-3.M.1			
6.10 Geothermal Energy	ENG-3.N	ENG-3.N.1	Module 40: Geothermal Energy and Hydrogen Fuel Cells	2	1
	ENG-3.O	ENG-3.O.1			
6.11 Hydrogen Fuel Cell	ENG-3.P	ENG-3.P.1	Module 40: Geothermal Energy and Hydrogen Fuel Cells	2	1
	ENG-3.Q	ENG-3.Q.1			
6.12 Wind Energy	ENG-3.R	ENG-3.R.1	Module 41: Wind Energy and Energy Conservation	2	1
	ENG-3.S	ENG-3.S.1			
6.13 Energy Conservation	ENG-3.T	ENG-3.T.1	Module 41: Wind Energy and Energy Conservation	2	1
		ENG-3.T.2			

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
7.1 Introduction to Air Pollution	STB-2.A	STB-2.A.1	Module 42: Introduction to Air Pollution	2	1
		STB-2.A.2			
		STB-2.A.3			
		STB-2.A.4			
		STB-2.A.5			
7.2 Photochemical Smog	STB-2.B	STB-2.B.1	Module 43: Photochemical Smog, Thermal Inversions, Atmospheric CO ₂ , and Oarticulates	3	1.5
		STB-2.B.2			
		STB-2.B.3			
		STB-2.B.4			
		STB-2.B.5			
		STB-2.B.6			
		STB-2.B.7			
7.3 Thermal Inversion	STB-2.C	STB-2.C.1	Module 43: Photochemical Smog, Thermal Inversions, Atmospheric CO ₂ , and Oarticulates	3	1.5
		STB-2.C.2			
7.4 Atmospheric CO ₂ and Particulates	STB-2.D	STB-2.D.1	Module 43: Photochemical Smog, Thermal Inversions, Atmospheric CO ₂ , and Oarticulates	3	1.5
		STB-2.D.2			
7.5 Indoor Air Pollutants	STB-2.E	STB-2.E.1	Module 44: Indoor Air Pollutants	1.5	1
		STB-2.E.2			
		STB-2.E.3			
		STB-2.E.4			
		STB-2.E.5			
		STB-2.E.6			

		STB-2.E.7			
	STB-2.F	STB-2.F.1			
		STB-2.F.2			
7.6 Reduction of Air Pollutants	STB-2.G	STB-2.G.1	Module 45: Reduction of Air Pollutants	1.5	0.5
		STB-2.G.2			
		STB-2.G.3			
		STB-2.G.4			
		STB-2.G.5			
7.7 Acid Rain	STB-2.H	STB-2.H.1	Module 46: Acid Rain and Noise Pollution	2	1
		STB-2.H.2			
	STB-2.I	STB-2.I.1			
		STB-2.I.2			
		STB-2.I.3			
7.8 Noise Pollution	STB-2.J	STB-2.J.1	Module 46: Acid Rain and Noise Pollution	2	1
		STB-2.J.2			
		STB-2.J.3			

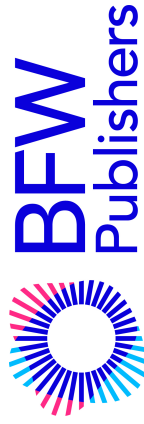
College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
8.1 Sources of Pollution	STB-3.A	STB-3.A.1	Module 47: Sources of Pollution, Human Impacts on Ecosystems, and Endocrine Disruptors	2	1
		STB-3.A.2			
8.2 Human Impacts on Ecosystems	STB-3.B	STB-3.B.1	Module 47: Sources of Pollution, Human Impacts on Ecosystems, and Endocrine Disruptors	2	1
		STB-3.B.2			
		STB-3.B.3			
		STB-3.B.4			
		STB-3.B.5			
		STB-3.B.6			
		STB-3.B.7			
		STB-3.B.8			
		STB-3.B.9			
		STB-3.B.10			
8.3 Endocrine Disruptors	STB-3.C	STB-3.C.1	Module 47: Sources of Pollution, Human Impacts on Ecosystems, and Endocrine Disruptors	2	1
	STB-3.D	STB-3.D.1			
8.4 Human Impacts on Wetlands and Mangroves	STB-3.E	STB-3.E.1	Module 48: Human Impacts on Wetlands and Mangroves, Eutrophication, and Thermal Pollution	1	0.5
		STB-3.E.2			
		STB-3.E.3			
8.5 Eutrophication	STB-3.F	STB-3.F.1	Module 48: Human Impacts on Wetlands and Mangroves, Eutrophication, and Thermal Pollution	1	0.5
		STB-3.F.2			
		STB-3.F.3			
		STB-3.F.4			

			STB-3.F.5		Module 48: Human Impacts on Wetlands and Mangroves, Eutrophication, and Thermal Pollution			
8.6 Thermal Pollution		STB-3.G	STB-3.G.1 STB-3.G.2			1		0.5
8.7 Persistent Organic Pollutants (POPs)		STB-3.H	STB-3.H.1 STB-3.H.2 STB-3.H.3		Module 49: Persistent Organic Pollutants (POPs), Bioaccumulation, and Biomagnification	2		1
					Module 49: Persistent Organic Pollutants (POPs), Bioaccumulation, and Biomagnification			
8.8 Bioaccumulation and Biomagnification		STB-3.I	STB-3.I.1 STB-3.I.2			2		1
		STB-3.J	STB-3.J.1 STB-3.J.2 STB-3.J.3					
8.9 Solid Waste Disposal		STB-3.K	STB-3.K.1 STB-3.K.2 STB-3.K.3 STB-3.K.4		Module 50: Solid Waste Disposal	1		0.5
		STB-3.L	STB-3.L.1 STB-3.L.2 STB-3.L.3 STB-3.L.4					
8.10 Waste Reduction Methods		STB-3.M	STB-3.M.1 STB-3.M.2 STB-3.M.3 STB-3.M.4 STB-3.M.5 STB-3.M.6		Module 51: Waste Reduction Methods	1		0.5
8.11 Sewage Treatment		STB-3.N	STB-3.N.1		Module 52: Sewage Treatment	2		1

		STB-3.N.2				
		STB-3.N.3				
		STB-3.N.4				
8.12 Lethal Dose 50% (LD50)	EIN-3.A	EIN-3.A.1	Module 53: Lethal Dose 50% (LD 50) and Dose-Response Curves	2	1	
8.13 Dose Response Curve	EIN-3.B	EIN-3.B.1	Module 53: Lethal Dose 50% (LD 50) and Dose-Response Curves	2	1	
8.14 Pollution and Human Health	EIN-3.C	EIN-3.C.1	Module 54: Pollution, Human Health, Pathogens, and Infectious Diseases	2	1	
		EIN-3.C.2				
		EIN-3.C.3				
		EIN-3.C.4				
8.15 Pathogens and Infectious Diseases	EIN-3.D	EIN-3.D.1	Module 54: Pollution, Human Health, Pathogens, and Infectious Diseases	2	1	
		EIN-3.D.2				
		EIN-3.D.3				
		EIN-3.D.4				
		EIN-3.D.5				
		EIN-3.D.6				
		EIN-3.D.7				
		EIN-3.D.8				
		EIN-3.D.9				
		EIN-3.D.10				
		EIN-3.D.11				
		EIN-3.D.12				

College Board Course and Exam Description Topic	Learning Objective	Essential Knowledge	Location in Text	Suggested Pacing (Standard Schedule)*days	Suggested Pacing (Block Schedule)*days
9.1 Stratospheric Ozone Depletion	STB-4.A	STB-4.A.1	Module 55: Stratospheric Ozone Depletion and Its Reduction	2.5	1
		STB-4.A.2			
		STB-4.A.3			
9.2 Reducing Ozone Depletion	STB-4.B	STB-4.B.1	Module 55: Stratospheric Ozone Depletion and Its Reduction	2.5	1
	STB-4.C	STB-4.C.1	Module 56: The Greenhouse Effect	2.5	1.5
		STB-4.C.2			
		STB-4.C.3			
	STB-4.D	STB-4.D.1			
9.4 Increases in the Greenhouse Gases	STB-4.E	STB-4.E.1	Module 57: Increases in the Greenhouse Gases and Global Climate Change	3	1.5
	STB-4.F	STB-4.F.1	Module 57: Increases in the Greenhouse Gases and Global Climate Change	3	1.5
		STB-4.F.2			
		STB-4.F.3			
		STB-4.F.4			
		STB-4.F.5			
		STB-4.F.6			
		STB-4.F.7			
		STB-4.F.8			
		STB-4.F.9			
		STB-4.F.10			
9.6 Ocean Warming	STB-4.G	STB-4.G.1	Module 58: Ocean Warming and Ocean Acidification	3	1.5
		STB-4.G.2			
		STB-4.G.3			
9.7 Ocean Acidification	STB-4.H	STB-4.H.1	Module 58: Ocean Warming and Ocean Acidification	3	1.5
		STB-4.H.2			
		STB-4.H.3			

		STB-4.H.4			
9.8 Invasive Species	EIN-4.A	EIN-4.A.1 EIN-4.A.2 EIN-4.A.3	Module 59: Invasive Species, Endangered Species, and Human Impacts on Biodiversity	4	2
9.9 Endangered Species	EIN-4.B	EIN-4.B.1 EIN-4.B.2 EIN-4.B.3 EIN-4.B.4 EIN-4.B.5	Module 59: Invasive Species, Endangered Species, and Human Impacts on Biodiversity	4	2
9.10 Human Impacts on Biodiversity	EIN-4.C	EIN-4.C.1 EIN-4.C.2 EIN-4.C.3 EIN-4.C.4 EIN-4.C.5 EIN-4.C.6	Module 59: Invasive Species, Endangered Species, and Human Impacts on Biodiversity	4	2



AP® Environmental Science Course and Exam Description* (CED)

Alignment to

Environmental Science for the AP® Course, 4e (By Unit)

Friedland | Relyea

AP® Environmental Science CED Unit	Environmental Science for the AP® Course, 4e	Recommendations
Unit 1: The Living World: Ecosystems	Unit 1: The Living World: Ecosystems	Assign Personal Progress Check 1
Unit 2: The Living World: Biodiversity	Unit 2: The Living World: Biodiversity	Assign Personal Progress Check 2
Unit 3: Populations	Unit 3: Populations	Assign Personal Progress Check 3
Unit 4: Earth Systems and Resources	Unit 4: Earth Systems and Resources	Assign Personal Progress Check 4
Unit 5: Land and Water Use	Unit 5: Land and Water Use	Assign Personal Progress Check 5
Unit 6: Energy Resources and Consumption	Unit 6: Energy Resources and Consumption	Assign Personal Progress Check 6
Unit 7: Atmospheric Pollution	Unit 7: Atmospheric Pollution	Assign Personal Progress Check 7
Unit 8: Aquatic and Terrestrial Pollution	Unit 8: Aquatic and Terrestrial Pollution	Assign Personal Progress Check 8
Unit 9: Global Change	Unit 9: Global Change	Assign Personal Progress Check 9

*AP® Environmental Science Course and Exam Description Effective Fall 2020

AP® Environmental Science Course and Exam Description* (CED)

Alignment to

Environmental Science for the AP® Course, 4e (By Topic)

Friedland | Relyea



AP® Environmental Science Unit	CED Topic	Environmental Science for the AP® Course, 4e Module
Unit 1: The Living World: Ecosystems (Weight 6-8%)	1.1 Introduction to Ecosystems	Module 0 What Is Environmental Science?
	1.2 Terrestrial Biomes	Module 1 Introduction to Ecosystems
	1.3 Aquatic Biomes	Module 2 Terrestrial Biomes
	1.4 The Carbon Cycle	Module 3 Aquatic Biomes
	1.5 The Nitrogen Cycle	Module 4 The Carbon and Nitrogen Cycles
	1.6 The Phosphorus Cycle	Module 5 The Phosphorus and Hydrologic (Water) Cycles
	1.7 The Hydrologic (Water) Cycle	Module 6 Primary Productivity
	1.8 Primary Productivity	Module 7 Trophic Levels, Energy Flow and the 10% Rule, Food Chains, and Food Webs
	1.9 Trophic Levels	
	1.10 Energy Flow and the 10% Rule	
	1.11 Food Chains and Food Webs	

Unit 2: The Living World: Biodiversity (Weight 6-8%)	2.1 Introduction to Biodiversity	Module 8 Introduction to Biodiversity
	2.2 Ecosystem Services	Module 9 Ecosystem Services
	2.3 Island Biogeography	Module 10 Island Biogeography
	2.4 Ecological Tolerance	Module 11 Ecological Tolerance
	2.5 Natural Disruptions to Ecosystems	Module 12 Natural Disruptions to Ecosystems
	2.6 Adaptations	Module 13 Adaptations
	2.7 Ecological Succession	Module 14 Ecological Succession
Unit 3: Populations (Weight 10-15%)	3.1 Generalist and Specialist Species	Module 15 Generalist and Specialist Species, <i>K</i> - and <i>r</i> -selected Species, and Survivorship Curves
	3.2 <i>K</i> -Selected <i>r</i> -Selected Species	
	3.3 Survivorship Curves	
	3.4 Carrying Capacity	Module 16 Carrying Capacity, Population Growth, and Resource Availability
	3.5 Population Growth and Resource Availability	
	3.6 Age Structure Diagrams	Module 17 Age Structure Diagrams and Total Fertility Rates
	3.7 Total Fertility Rate	
Unit 4: Earth Systems and Resources (Weight 10-15%)	3.8 Human Population Dynamics	Module 18 Human Population Dynamics and the Demographic Transition
	3.9 Demographic Transition	
	4.1 Plate Tectonics	Module 19 Plate Tectonics
	4.2 Soil Formation and Erosion	Module 20 Soil Formation, Erosion, Composition, and Its Properties
	4.3 Soil Composition and Properties	
	4.6 Watersheds ¹	Module 21 Watersheds
	4.4 Earth's Atmosphere	Module 22 Earth's Atmosphere, Global Wind Patterns, Solar Radiation, and Earth's Seasons
	4.5 Global Wind Patterns	
	4.7 Solar Radiation and Earth's Seasons	

	4.8 Earth's Geography and Climate	Module 23 Earth's Geography and Climate, El Niño, and La Niña
	4.9 El Niño and La Niña	
Unit 5: Land and Water Use (Weight 10-15%)	5.1 The Tragedy of the Commons	Module 24 The Tragedy of the Commons; Clear-cutting
	5.2 Clearcutting	
	5.3 The Green Revolution	Module 25 The Green Revolution
	5.4 Impacts of Agricultural Practices	Module 26 Impacts of Agricultural Practices
	5.5 Irrigation Methods	Module 27 Irrigation and Pest Control Methods
	5.6 Pest Control Methods	
	5.7 Meat Production Methods	Module 28 Meat Production Methods and the Impacts of Overfishing
	5.8 Impacts of Overfishing	
	5.9 Impacts of Mining	Module 29 Impacts of Mining
	5.10 Impacts of Urbanization	Module 30 Impacts of Urbanization and the Methods to Reduce Urban Runoff
	5.13 Methods to Reduce Urban Runoff ²	
	5.11 Ecological Footprints	Module 31 Ecological Footprints
	5.12 Introduction to Sustainability	Module 32 Introduction to Sustainability
	5.14 Integrated Pest Management	Module 33 Integrated Pest Management and Sustainable Agriculture
	5.15 Sustainable Agriculture	
	5.16 Aquaculture	Module 34 Aquaculture and Sustainable Forestry
	5.17 Sustainable Forestry	
Unit 6: Energy Resources and Consumption (Weight 10-15%)	6.1 Renewable and Nonrenewable Resources	Module 35 Renewable and Nonrenewable Resources and Global Energy Consumption
	6.2 Global Energy Consumption	
	6.3 Fuel Types and Uses	Module 36 Fuel Types and Uses
	6.4 Distribution of Natural Energy Resources	Module 37 Distribution of Natural Energy Resources: Fossil Fuels
	6.5 Fossil Fuels	

	6.6 Nuclear Power	Module 38 Nuclear Power
	6.7 Energy from Biomass	Module 39 Biomass and Solar Energies and Hydroelectric Power
	6.8 Solar Energy	
	6.9 Hydroelectric Power	
	6.10 Geothermal Energy	Module 40 Geothermal Energy and Hydrogen Fuel Cells
	6.11 Hydrogen Fuel Cell	
	6.12 Wind Energy	Module 41 Wind Energy and Energy Conservation
	6.13 Energy Conservation	
Unit 7: Atmospheric Pollution (Weight 7-10%)	7.1 Introduction to Air Pollution	Module 42 Introduction to Air Pollution
	7.2 Photochemical Smog	Module 43 Photochemical Smog, Thermal Inversions, Atmospheric CO ₂ and Particulates
	7.3 Thermal Inversion	
	7.4 Atmospheric CO ₂ and Particulates	
	7.5 Indoor Air Pollutants	Module 44 Indoor Air Pollutants
	7.6 Reduction of Air Pollutants	Module 45 Reduction of Air Pollutants
	7.7 Acid Rain	Module 46 Acid Rain and Noise Pollution
	7.8 Noise Pollution	
Unit 8: Aquatic and Terrestrial Pollution (Weight 7-10%)	8.1 Sources of Pollution	Module 47 Sources of Pollution, Human Impacts on Ecosystems, and Endocrine Disruptors
	8.2 Human Impacts on Ecosystems	
	8.3 Endocrine Disruptors	
	8.4 Human Impacts on Wetlands and Mangroves	Module 48 Human Impacts on Wetlands and Mangroves, Eutrophication, and Thermal Pollution
	8.5 Eutrophication	
	8.6 Thermal Pollution	
	8.7 Persistent Organic Pollutants (POPs)	Module 49 Persistent Organic Pollutants (POPs), Bioaccumulation, and Biomagnification
	8.8 Bioaccumulation and Biomagnification	

Unit 9: Global Change (Weight 15-20%)	8.9 Solid Waste Disposal	Module 50 Solid Waste Disposal
	8.10 Waste Reduction Methods	Module 51 Waste Reduction Methods
	8.11 Sewage Treatment	Module 52 Sewage Treatment
	8.12 Lethal Dose 50% (LD ₅₀)	Module 53 Lethal Dose 50% (LD ₅₀) and Dose-Response Curves
	8.13 Dose Response Curve	
	8.14 Pollution and Human Health	Module 54 Pollution, Human Health, Pathogens, and Infectious Diseases
	8.15 Pathogens and Infectious Diseases	
	9.1 Stratospheric Ozone Depletion	Module 55 Stratospheric Ozone Depletion and Its Reduction
	9.2 Reducing Ozone Depletion	
	9.3 The Greenhouse Effect	Module 56 The Greenhouse Effect
	9.4 Increases in the Greenhouse Gases	Module 57 Increases in the Greenhouse Gases and Global Climate Change
	9.5 Global Climate Change	
	9.6 Ocean Warming	Module 58 Ocean Warming and Ocean Acidification
	9.7 Ocean Acidification	
	9.8 Invasive Species	Module 59 Invasive Species, Endangered Species, and Human Impacts on Biodiversity
	9.9 Endangered Species	
	9.10 Human Impacts on Biodiversity	

*AP® Environmental Science Course and Exam Description Effective Fall 2020

¹ We cover watersheds earlier to allow a smoother transition in describing how the atmosphere, wind patterns, solar radiation, seasons, and geography all come together to determine climates. This avoids having the topic of watersheds interrupt the flow of teaching the major drivers of climates around the world.

² We describe methods to reduce urban runoff after impacts of urbanization because urban runoff is one of the immediate impacts of urbanization. This avoids addressing new topics (ecological footprint and sustainability) before concluding our coverage on reducing one of the impacts of urbanization.

Technology Supporting Document

Technology Supporting Document

1.1. i. Thin Common Cartridge 1.3 – IEDTECH Global Standards

We are not certified for Thin Common Cartridge (TCC) 1.3, as it is not an ideal delivery mechanism for our course materials. Users do not access content via Thin Common Cartridge. Instead, we deploy content via APIs and are certified for LTI 1.3 (Advantage), which includes content deployment and deep linking via IMS LTI standards.

1.2. ii. School rostering

We provide automated rostering for schools through multiple methods, including auto-provisioned user accounts and courses via Learning Tools Interoperability (LTI) connection with Learning Object Repository (LOR) and/or Learning Management System (LMS), automated import using OneRoster CSV and Secure FTP, as well as integration with Clever and ClassLink. We are certified for OneRoster.CSV and LTI Advantage Complete, and support rostering for students and teachers through OneRoster CSV, Clever, and ClassLink. Integration is also available with Google Classroom, Canvas, Schoology, D2L, Blackboard, and Moodle. Roster data is required for system operation.

1.3. iii. PDF and/or ePUB format

Our materials are available in both PDF and EPUB formats. PDF versions are accessible and can be provided at no additional cost, while e-books are produced in EPUB3 format with comprehensive accessibility features. All eBooks are certified by NIMAC.

1.4. iv. Alternative text (image), captions and subtitles (videos), read-alouds, and other accessibility functions

We provide alternative text for all images in our e-books, slides, and other resources, with both short and long descriptions depending on image complexity. All videos include closed captioning and, since 2019, audio descriptions. Subtitles are also available. Our eBooks feature a read-aloud (text-to-speech) function, and students can personalize background color, font size, and type. Accessibility features include compatibility with assistive technologies such as screen readers, keyboard navigation, and navigation methods like page and heading navigation. Transcripts for videos are available upon request.

1.5. v. 508 compliant platform

Yes, our platform is 508-compliant to the extent indicated in our Voluntary Product Accessibility Templates (VPATs), which we are happy to provide upon request. Accessibility is measured using guidelines set forth by Section 508 and the World Wide Web Consortium (W3C). We have mapped our solutions to the WCAG 2.1 standard at Level AA compliance and are regularly audited by third-party accessibility experts. We are committed to continually improving accessibility to meet user needs and expectations.

1.6. vi. Privacy-data security specifications

We comply with SOC 2 Type II and base our Information Security program on ISO/IEC 27001/02, ISO 27017, and NIST 800-37 frameworks. Our environment is cloud-based, and we implement security best practices, including a DMZ and Web Application Firewalls. We maintain strong administrative, technical, and physical safeguards to protect systems and data, including personally identifiable information, against unlawful or unauthorized destruction, loss, alteration, access, disclosure, or use. Data transferred to us, including registration information, quiz results, grades, and assessments, is encrypted in transit using TLS encryption. Sensitive data stored locally or at rest is encrypted using AES-256 encryption. We enforce a policy of 'Least Privilege' for staff access to customer personal and sensitive data, with access granted only to the minimum number of individuals required to support and maintain system functionality, and access is revoked upon termination. We routinely run vulnerability scans covering OWASP Top 10 and SANS Top 25 and integrate these into our development process.

For more information, please see our Privacy Notice:

<https://www.bfwpub.com/high-school/us/legal/privacy-notice>

1.7. vii. Browser and OS support

We support the following browsers and operating systems:

Browsers

- Chrome: 126.0.6478.126 plus two previous versions
- Firefox: 127.0.2 plus two previous versions
- Safari: 17.5 plus two previous versions
- Edge: 126.0.2592.87 plus two previous versions

Operating Systems

- Compatible with ChromeOS, Windows (including Windows 11), and MacOS
- The platform is device agnostic and may be used on PC, Mac, Chromebook, and mobile devices using supported browsers

No plugins are required, and the platform supports HTML5 web standards across all browsers.

Implementation Guide

Implementation Training plan

At Bedford, Freeman and Worth, we have built our reputation on producing the highest quality materials for AP® courses and a variety of electives, and are proud to offer resources for a range of high school courses. With BFW, you will find what you need for class today including classroom tools that work; extensive resources for teachers; media that adds value to your classes; and the support that you need – when you need it. Our groundbreaking digital content (and books) are based on changes in education, in student populations and on accepted best practices for the classroom.

Our mission is to support the people teaching in the increasingly complex environment of high school education. We aspire to be a community that connects teachers with other teachers, scholars, authors, and editors, as well as with a library of resources for teaching and learning. Our online High School Teaching Community provides free access to premium content including course tours, professional development, webinars on demand, valuable teaching resources, and curriculum and state-focused sub-communities.

We follow a critical path method (CPM) of project management for the length of the contract term with all implementation and maintenance steps well-documented and reviewed prior to completion. All milestones receive a sign-off and are communicated to all project owners promptly. Our goal is to thoroughly transfer knowledge through a well-tested and standardized onboarding model designed specifically for the high school market. Implementation and ongoing support are managed by a dedicated team that includes product, sales, finance and client support team members. We use a combination of Salesforce, Desk, Service Cloud, and Google Suite to manage our projects.

Our BFW High School support portal provides 24/7 help to teachers, parents and students via a Knowledge Base (searchable by role, products, topic and features) as well as real-time email and phone support options. These support options are included at no additional cost for the length of your commitment.

Through our professional development series, we offer a variety of professional development opportunities for teachers to increase classroom success, be fully prepared, and have the training needed to increase their teaching effectiveness. Upon award, we would create a custom professional development plan based on your district and teachers' needs that covers our entire resource program for your classroom, onboarding and implementation training, and professional development workshops as needed.

Upon receipt of purchase order, we guarantee to ship within five business days and to deliver within ten business days upon receipt of purchase order for in-stock print items. Shipping is calculated at 5% of the total purchase order.

For more information, please visit

<https://go.bfwpub.com/BFW-Achieve-Implementation-Site.html>.

We have also provided a sample implementation timeline with this submission.

Please see the following page for details.



BFW Implementation Plan for Spring 2025

This implementation plan is based on an anticipated vendor selection in May 2025 for a Fall 2025 implementation. Dates are approximate and will be adjusted based on selection/ purchase date. BFW will also work to customize any implementation period or tasks required. All implementation costs are included in the adoption fee so there would be no additional associated costs (excepting some PD courses; please refer to our PD brochure for further details).

✓	Activity / Task / Milestone	District	BFW	Start Date	Additional Information	Scope
Initial Rollout						
	Vendor selection/purchase order issuance.	District	BFW Contract & Sales Teams	May 2025	TBD by District.	1 occurrence
	BFW will set up an initial onboarding meeting to ascertain project needs including training and integration; and finalize timeline and corresponding plan.	District	Account Manager	May 2025	Remote meeting anticipated (1 hour).	1 occurrence
	BFW will work on Achieve integration.	District	BFW Customer Experience Team	June 2025	Approximate total hours required (8 hours).	1 week
	Training for District central office (as required).	District Staff	BFW Customer Experience Team	June 2025	Remote meeting anticipated (1 hour).	1 occurrence
	Delivery of materials	N/A	BFW Warehouse	June 2025	For teachers and students.	1 occurrence
	Begin BFW Courseware Training and BFW Course Tours (gratis, self-scheduled by teachers/staff); and synchronous BFW Implementation Training (as required).	District Teachers/Staff	BFW Customer Experience Team	June 2025 - August 2025	Our implementation training and onboarding provides teachers with an overview of how to use and implement digital technology in the classroom as well as an overview of teacher and student resources. It does not include any in-depth discipline content coverage. Please refer to the provided PD brochure for further information. Hours required - TBD based on number of teachers.	3 months

Post Rollout						
	Assessment meeting to determine areas of success and improvement prior to Spring term start.	District	Account Manager	November 2025	Remote meeting anticipated (1 hour).	1 occurrence
	BFW will schedule any further professional development or follow-up training.	District Teachers/Staff	BFW Customer Experience Team	January 2026	Hours required - TBD based on number of teachers.	1 month

	BFW will monitor progress throughout Year 2-6 implementation.	District	Account Manager & BFW Customer Experience Team	Ongoing	Remote meeting anticipated (1 hour).	Ongoing
	BFW will schedule annual meetings with stakeholders to review progress to date, share product updates, and plan implementation for the subsequent years.	District	Account Manager	Ongoing	Spring and Fall Terms - Remote meeting anticipated (1 hour).	Ongoing

Video Presentation

Video Presentation

You can find a full video presentation overview of our AP and on-level Science texts at the following link:

Biology for the AP® Course (1e)

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Print edition ISBN: 9781319113315

Environmental Science for the AP® Course (4e)

Copyright 2023

Print edition ISBN: 9781319409289

***College Physics for the AP® Physics
1 & 2 Courses (3e)***

Copyright 2023

Print edition ISBN: 9781319486211

Living by Chemistry (3e)

Copyright 2022

Print edition ISBN: 9781319333355

<https://go.screenpal.com/watch/cTjFqsn2Zwa>

