

Scottsdale Unified School District

Engaging all students in world-class, future-focused learning

Science Adoption Committee: AP Biology, AP Chemistry, IB Biology, IB Chemistry Additional Resources for October 23, 2024 Meeting

Additional Resources for:

Agenda Item 10: Vendor Criteria Communication

DRAFT CRITERIA for 2024-2025 Science Curriculum Adoption Committee - AP Biology, AP Chemistry, IB Biology, IB Chemistry

• Alignment with Framework:

- AP: The curriculum must align with the AP science course framework and learning objectives as outlined by the College Board for AP Biology and/or AP Chemistry.
- **IB:** The curriculum must align with the IB science standards and practices, including the IB Learner Profile and covers the specific IB science content for IB SL/HL Biology and/or IB SL/HL Chemistry.
- o AZSS: The curriculum alings with Arizona Science Standards

• Rigorous Scientific Content:

- AP: Include college-level scientific content and skills, ensuring students are prepared for the AP science exam.
- IB: Ensure the curriculum promotes holistic scientific education, integrating academic, personal, and social development.

Laboratory Work:

- AP: Incorporate hands-on laboratory experiments and activities that align with the AP science course descriptions.
- IB: Incorporate hands-on laboratory experiments and activities that align with the IB science course subject briefs.

Assessment Methods:

- AP: Include various assessment methods such as formative and summative assessments, practice
 exams, lab reports, and performance tasks that prepare students for success on the AP Exams.
- o **IB:** Include clear assessment criteria and methods, ensuring alignment with IB science assessment standards.

Interdisciplinary Learning and Global Scientific Contexts:

- AP: Promote interdisciplinary learning and connections between science domains and with other subjects.
- **IB:** Promote interdisciplinary learning and connections between science and other subjects.Integrate global scientific contexts and perspectives into the curriculum.

• Teacher Training:

- AP: Provides professional development that ensures that teachers are prepared to teach the course successfully using the curriculum.
- o **IB:** Provides professional development that ensures that teachers are prepared to teach the course successfully using the curriculum.

Equity and Access:

- AP: Promote equity and access, ensuring all students have the opportunity to succeed in AP science courses.
- o IB: Promote equity and access, ensuring all students have the opportunity to succeed in IB DP science courses.

Teacher Resources:

- AP: Provide a detailed course syllabus that includes a timeline, unit plans, lab schedules, and instructional strategies. Specifies the necessary lab equipment, safety materials, and other resources needed to effectively teach the science course.
- IB: Specify the necessary resources, including textbooks, lab equipment, safety materials, and digital tools.

• Student Support:

- AP: Include strategies for supporting diverse learners.
- o **IB:** Provide strategies for supporting diverse learners.

Technology Integration:

- AP: Incorporate technology to enhance scientific learning and provide access to digital resources and simulations.
- **IB:** Incorporate technology to enhance scientific learning and provide access to digital resources and simulations.



Scottsdale Unified School District

Engaging all students in world-class, future-focused learning

Secondary Science Adoption Criteria

2023-2024 SECONDARY SCIENCE CURRICULUM ADOPTION COMMITTEE

SUSD's VISION: Engaging all students in world-class, future-focused learning. SUSD's MISSION: We inspire, motivate, and empower all to think critically, act collaboratively, and embrace diversity for a life of intellectual exploration, community engagement, and personal growth.

Criteria for determining the quality of instructional materials include: Accuracy and Alignment:

- Aligned to Arizona Science Standards (must provide an explicit Arizona Science Standards alignment document).
- Aligned to course and exam content of AP courses (if applicable).
- Uses scientifically accurate and grade appropriate scientific information, phenomena, and representations to support students' three-dimensional learning.
- Curriculum is research-based with supporting evidence.
- Designed so students make sense of phenomena and/or design solutions to problems by actively
 engaging students in three-dimensional learning (Science and Engineering Practices,
 Crosscutting Concepts, and Core Ideas).
- When appropriate, links are made to Arizona Science Standards in all the domains (life science, physical science, and Earth and space science). Core ideas from different disciplines are used together to explain phenomena.
- Curriculum is consistently laboratory/investigation-based (devoted to providing an opportunity for students to manipulate equipment, materials, or specimens to develop skills in observation and analysis, and to discover, demonstrate, illustrate, or test scientific principles or concepts).
- Appropriate lessons, investigations, and assessments that prepare students for high stakes assessments, performance-based tasks, and advanced coursework.
- Evidence of the efficacy of your science curriculum in improving student learning outcomes.

Engagement and the Ability to Meet Student Needs

- Engages students in authentic and meaningful scenarios that reflect the practice of science and engineering as experienced in the real world.
- Provides guidance and resources for teachers to differentiate instruction and assessment (both support and extensions).
- Questions and learning tasks encourage the development and application of collaboration, communication, creativity and critical thinking.
- Problem-based learning and simulations relevant to the lives of students.
- Differentiation in each unit (content, process, product for readiness, language ability, learning style, etc.).
- Resources spark student interest and include interdisciplinary, real world connections.

Ease of Use and Support

- Layout and organization of curriculum materials contribute to ease of use.
- Resources are available in multiple formats for both students and teachers (hard-copy, digital, etc.). Digital resources can be accessed by teachers and students through SUSD's learning management systems (Clever, Google Classroom, Synergy, etc.).
- Curriculum is designed to link student engagement and knowledge across lessons and units and is arranged in a logical sequence.
- Curriculum provides support to teachers that buttress student academic honesty.
- Scoring guidelines and rubrics are provided for assessments.
- Professional development is provided to support implementation of curriculum.

Scottsdale Unified School District aspires to engage all students in world-class, future-focused learning. As articulated in the district strategic plan, core value of excellence, we strive to nurture a growth-minded culture of high expectations, creativity, persistence and self-discipline.

Criteria for determining the quality of instructional materials include:

Accuracy and Alignment:

- Approved by AP/IB
- Aligned to standards, scope & sequence, and disciplinary practices of the AP/IB courses
- Curriculum is accurate, current and research-based with supporting evidence
- Pedagogy fosters culturally responsive teaching
- Ensures differentiated learning opportunities
- Supports essential questions, understandings and objectives
- Appropriate Depth of Knowledge to prepare students for high stakes assessment and performance-based tasks

Ease of Use and Support:

- Layout and organization contribute to ease of use
- Resources in multiple formats: hard-copy, digital and are varied (articles, videos, speeches, novels etc)
- Curriculum and lessons are available digitally, in one place
- Ability to arrange units digitally to be posted into school/district LMS
- Digital tools for collaboration and remote sharing opportunities
- Teacher edition provides options for methods of instruction and choice for differentiated learning (instruction and assessment)
- Real-time technology support (help desk)

Engagement, Ability to Meet Students Needs

- Questions and learning tasks encourage the development and application of critical and creative thinking
- Problem-based learning and simulations relevant to the lives of students
- Differentiation in each unit (content, process, product for readiness, language ability, learning style, etc.)
- Resources spark student interest, are relevant to today, and include interdisciplinary, real world connections.
- Resources are culturally relevant for students from diverse backgrounds and provide multiple perspectives.
- Interactive use for collaborative learning and discourse
- Differentiated assessments
- Ability to modify instructional materials and assessments to support students with disabilities



Additional Resources for:

Agenda Item 11: Rubric Review

Secondary Science Curriculum Adoption Curriculum Evaluation Rubric



Committee Member ID	
Material Number	
Grade/Course Alignment	
Publisher/Vendor	
Material/Text Name	

Category I: 3D Design The lesson/unit is designed so students make sense of phenomena and/or design solutions to problems by engaging in student performances that integrate the three dimensions of the AZSS.	Evidence of Quality	Comments
1A. Explaining Phenomena/Designing Solutions: Making sense of phenomena and/or designing solutions to a problem drive student learning. i. Student questions and prior experiences related to the phenomenon or problem motivate sense-making and/or problem solving. ii. The focus of the lesson is to support students in making sense of phenomena and/or designing solutions to problems. iii. When engineering is a learning focus, it is integrated with developing disciplinary core ideas from physical, life, and/or earth and space sciences.	0 1 2 3	
1B. Three Dimensions : Builds understanding of multiple grade-appropriate elements of the SEF to aid student sense-making of phenomena and/or designing of solutions.	s, DCIs, and CCC	Cs that are deliberately selected
i. Provides opportunities to <i>develop and use</i> specific elements of the Science and Engineering Practices, SEP(s). Curriculum is consistently laboratory/investigation-based.	0 1 2 3	
ii. Provides opportunities to <i>develop and use</i> specific elements of the Core Ideas, DCI(s). Core Ideas align to grade level/course Arizona Science Standards. If applicable, core ideas align to AP CollegeBoard, Dual Enrollment, and/or International Baccalaureate competencies.	0 1 2 3	
iii. Provides opportunities to develop and use specific elements of the CCC(s).	0 1 2 3	
1C. Integrating the Three Dimensions: Student sense-making of phenomena and/or designing of solutions requires student performances that integrate elements of the SEPs, CCCs, and DCIs	0 1 2 3	
1D. Scientific Accuracy: Uses scientifically accurate and grade-appropriate scientific information, phenomena, and representations to support students' three-dimensional learning.	0 1 2 3	
1E. Multiple Science Domains: When appropriate, links are made across the science domains of life science, physical science and Earth and space science. i. Disciplinary core ideas from different disciplines are used together to explain phenomena.	0 1 2 3	
1F. Interdisciplinary: Provides grade-appropriate connections to other contents (Mathematics, English Language Arts, History/Social Sciences, Technical Subjects, etc.).	0 1 2 3	
Rating for Category I: 3D Design 14-24 points: Move on to Categories II and III as long as there are no 0s or 1s in criteria A-D 0-13 points: The review should stop.		/24

Category II: Instructional Supports The lesson/unit supports three-dimensional teaching and learning for ALL students by placing the lesson in a sequence of learning for all three dimensions and providing support for teachers to engage all students.	Evidence of Quality	Comments
2A. Relevance and Authenticity: Engages students in authentic and meaningful scenarios that reflect the practice of science and engineering as experienced in the real world. i. Students experience phenomena or design problems as directly as possible (firsthand or through media representations). ii. Includes suggestions for how to connect instruction to the students' home, neighborhood, community and/or culture as appropriate. iii. Provides opportunities for students to connect their explanation of a phenomenon and/or their design solution to a problem to questions from their own experience. iv. Resources spark student interest.	0123	
2B. Student Ideas : Provides opportunities for students to express, clarify, justify, interpret, and represent their ideas and respond to peer and teacher feedback orally and/or in written form as appropriate.	0 1 2 3	ï
2C. Building Progressions: Identifies and builds on students' prior learning in all three dimensions, including providing the following support to teachers: i. Explicitly identifying prior student learning expected for all three dimensions ii. Clearly explaining how the prior learning will be built upon.	0 1 2 3	
2D. Unit Coherence: Lessons fit together to target a set of performance expectations. i. Each lesson builds on prior lessons by addressing questions raised in those lessons, cultivating new questions that build on what students figured out, or cultivating new questions from related phenomena, problems, and prior student experiences. ii. The lessons help students develop toward proficiency in a targeted set of performance expectations.	0 1 2 3	
2E. Differentiated Instruction: Provides guidance for teachers to support differentiated instruction by including: i. Supportive ways to access instruction, including appropriate linguistic, visual, and kinesthetic engagement opportunities that are essential for effective science and engineering learning and particularly beneficial for multilingual learners and students with disabilities. ii. Extra support (e.g., phenomena, representations, tasks) for students who are struggling to meet the targeted expectations. iii. Extensions for students with high interest or who have already met the performance expectations to develop deeper understanding of the practices, disciplinary core ideas, and crosscutting concepts.	0 1 2 3	
2F. Teacher Support for Unit Coherence: Supports teachers in facilitating coherent student learning experiences over time by: i. Providing strategies for linking student engagement across lessons (e.g. cultivating new student questions at the end of a lesson in a way that leads to future lessons, helping students connect related problems and phenomena across lessons, etc.). ii. Providing strategies for ensuring student sense-making and/or problem-solving is linked to learning in all three dimensions. iii. Resources are available in multiple formats for both students and teachers.	0 1 2 3	
2G. Scaffolded differentiation over time: Provides supports to help students engage in the practices as needed and gradually adjusts supports over time so that students are increasingly responsible for making sense of phenomena and/or designing solutions to problems. Supports collaboration, communication, creativity and critical thinking.	0 1 2 3	
Rating for Category II: Instructional Supports		/21

1 = Inadequate/Developing

2 = Adequate 3 = Extensive

Category III: Monitoring Student Progress The lesson/unit supports monitoring student progress in all three dimensions of the NGSS as students make sense of phenomena and/or design solutions to problems.	Evidence of Quality	Comments
3A. Monitoring 3D student performances: Elicits direct, observable evidence of three-dimensional learning; students are using practices with core ideas and crosscutting concepts to make sense of phenomena and/or to design solutions.	0 1 2 3	
3B. Formative : Embeds formative assessment processes throughout that evaluate student learning to inform instruction.	0 1 2 3	
3C. Scoring guidance: Includes aligned rubrics and scoring guidelines that provide guidance for interpreting student performance along the three dimensions to support teachers in (a) planning instruction and (b) providing ongoing feedback to students.	0 1 2 3	
3D. Unbiased tasks/items: Assesses student proficiency using methods, vocabulary, representations, and examples that are accessible and unbiased for all students.	0 1 2 3	
3E. Coherent Assessment system: Includes pre-, formative, summative, and self-assessment measures that assess three-dimensional learning.	0 1 2 3	
3F. Opportunity to learn : Provides multiple opportunities for students to demonstrate performance of practices connected with their understanding of disciplinary core ideas and crosscutting concepts and receive feedback	0 1 2 3	
Rating for Section III: Monitoring Student Progress		/18

	Category Ratings		TOTAL	
Category I: 3D Design	Category II: Instructional Supports	Category III: Monitoring Student Progress	SCORE	
/24	/21	/18	/63	

Notes			
	*		

2022-2023 SUSD AP European History Textbook Adoption Review Rubric



Course Title: AP European History Your Role (Teacher/Admin/Parent) Publisher/Author: ______ Member ID # Text Name: _____ Alignment to Standards Depth of Knowledge None Some All Comment(s) Text is designed for AP (For example: see TE acknowledgment 0 1 2 page) Aligned to standards, scope & sequence, and disciplinary practices of the AP course 0 1 2 (For example: In TE alignment seen in the table of contents/chapter openings) Pedagogy fosters culturally responsive teaching (For example: Activate students' prior knowledge, many & varied resources & view 0 1 2 points, open-ended student responses, personal and cultural expression & helps build community) Appropriate Depth of Knowledge to prepare students for high stakes assessment and performance-based tasks (For example: students must demonstrate Level 3 strategic thinking such as, Critique 0 1 2 & Draw Conclusions & Level 4 such as, Analysis & Synthesis - project based learning or authentic assessment such as simulations or discussions, and expectations of the AP exam) Supports essential questions, understanding, and objectives (For example: overarching or topical 2 0 1 questions that guide the lesson found in the TE/Student Edition in student friendly language that are reinforced throughout the unit)

2022-2023 SUSD AP European History Textbook Adoption Review Rubric



Curriculum is accurate & current with supporting evidence. (For example: dates, events, people, places, visuals are up to date)	0	1	2	
---	---	---	---	--

Alignment to Standards Depth of Knowledge Subtotal: _____/12

Ease of Use & Support None Some	All			Comment(s)
The resource layout and organization contribute to ease of use for teachers, students, and parents. (For example: TE/Student edition should be easy to navigate)	0	1	2	
The resource has multiple formats: hard-copy, digital and ancillaries consist of primary & secondary sources, professional articles, & media. (For example: digital and hard copies of all materials)	0	1	2	
The resource has digital tools for collaboration and remote sharing opportunities. (For example: Learning Management System - Google Classroom, Canvas, Schoology)	0	1	2	
The teacher edition provides options for methods of instruction and choice for differentiated learning. (For example: In TE margins for teaching strategies and ways of supporting different learners).	0	1	2	
The resource is fully supported by the vendor, including: professional development, web-based training, and customer service/help desk. (For example: In TE/Website includes contact information for support, teacher tips or links to instructional strategies)	0	1	2	

2022-2023 SUSD AP European History Textbook Adoption Review Rubric



Engagement & Ability

to Meet Student Needs:	None	Some	All	Comment(s)
The resource has questions and learning tasks that encourage the development and application of critical and creative thinking. (For example - In TE/Supplemental materials for examples of problem based learning and simulations relevant to the discipline)	0	1	2	
The resources provide options for leveled learning to meet student interest and ability. (For example: teaching strategies to meet learner needs, ideas and resources for advanced to struggling learners and recommendations for different learning styles.	0	1	2	
The resource is culturally relevant for students from diverse backgrounds and provides multiple perspectives. (For example: TE shows various viewpoints, builds classroom community, & allows students to draw on different backgrounds)	0	1	2	
The resource sparks student interest, is relevant to today, and includes interdisciplinary and real world connections. (For example: engages students in current events and exposes them to the work habits of experts within different fields of study)	0	1	2	
The resource provides the ability to altar instructional materials and assessments to accomodate students.	0	1	2	

2022-2023 SUSD AP European History Textbook Adoption Review Rubric



(For example: Digital TE can be used to assign assignments & assessments for personalized learning, including use of assistive technology)				
The resource has interactive activities for collaborative learning and discourse. (For example: Activities centered around student to student interaction)	0	1	2	

Engagement & Ability to Meet Student Needs Subtotal:	/12
---	-----



Course Title: IB Diploma Program Economics/AP Macroeconomics & AP United States Government & Politics

Your Role (Teacher/Admin/Parent)				
Publisher/Author:				Member ID #
Text Name:				
Alignment to Standards Depth of Knowledge	None	Some	All	Comment(s)
Text is designed for AP/IB (For example: see TE acknowledgment page)	0	1	2	
Aligned to standards, scope & sequence, and disciplinary practices of the AP/IB courses (For example: In TE alignment seen in the table of contents/chapter openings)	0	1	2	
Pedagogy fosters culturally responsive teaching (For example: Activate students' prior knowledge, many & varied resources & view points, open-end student responses, personal and cultural expression & helps build community)	0	1	2	
Appropriate Depth of Knowledge to prepare students for high stakes assessment and performance-based tasks (For example: students must demonstrate Level 3 strategic thinking such as, Critique & Draw Conclusions & Level 4 such as, Analysis & Synthesis - project based learning or authentic assessment such as simulations or discussions, and expectations of the AP/IB exams)	0	1	2	
Supports essential questions, understanding, and objectives	0	1	2	



(For example: overarching or topical questions that guide the lesson found in the TE/Student Edition in student friendly language that are reinforced throughout the unit)				
Curriculum is accurate & current with supporting evidence. (For example: dates, events, people, places, visuals are up to date)	0	1	2	

Alignment to Standards Depth of Knowledge Subtotal: _____/12

Ease of Use & Support	None	Some	All	Comment(s)
The resource layout and organization contribute to ease of use for teachers, students, and parents. (For example: TE/Student edition should be easy to navigate)	0	1	2	
The resource has multiple formats: hard-copy, digital and ancillaries consist of primary & secondary sources, professional articles, & media. (For example: digital and hard copies of all materials)	0	1	2	
The resource has digital tools for collaboration and remote sharing opportunities. (For example: Learning Management System - Google Classroom, Canvas, Schoology)	0	1.	2	
The teacher edition provides options for methods of	0	1	2	



instruction and choice for differentiated learning. (For example: In TE margins for teaching strategies and ways of supporting different learners).				
The resource is fully supported by the vendor, including: professional development, web-based training, and customer service/help desk. (For example: In TE/Website includes contact information for support, teacher tips or links to instructional strategies)	0	1	2	

Ease of Use & Support Subtotal _____/10

Engagement & Ability

to Meet Student Needs:	None	Some	All	Comment(s)
The resource has questions and learning tasks that encourage the development and application of critical and creative thinking. (For example - In TE/Supplemental materials for examples of problem based learning and simulations relevant to the discipline)	0	1	2	
The resources provide options for leveled learning to meet student interest and ability. (For example: teaching strategies to meet learner needs, ideas and resources for advanced to struggling learners and recommendations for different learning styles.	0	1	2	



The resource is culturally relevant for students from diverse backgrounds and provides multiple perspectives. (For example: TE shows various viewpoints, builds classroom community, & allows students to draw on different backgrounds)	0	1	2	
The resource sparks student interest, is relevant to today, and includes interdisciplinary and real world connections. (For example: engages students in current events and exposes them to the work habits of experts within different fields of study)	0	1	2	
The resource provides the ability to altar instructional materials and assessments to accomodate students. (For example: Digital TE can be used to assign assignments & assessments for personalized learning, including use of assistive technology)	0	1	2	
The resource has interactive activities for collaborative learning and discourse. (For example: Activities centered around student to student interaction)	0	1	2	

Engagement & Ability to Meet Student Needs Subtotal: _____/12