Curriculum Overview

ACES at Chase is a premier interdistrict magnet school where our mission is to prepare students for success through innovative Science, Technology, Engineering, Arts and Mathematics (STEAM). Our vision is to empower students to engineer their futures. We are a "Project Lead the Way School of Distinction " as we offer engineering and computer science programs to all of our students.

The curriculum allows both students and teachers to be inquiry-based learners and instructors in a constructivist setting. Technology is an integral part of every aspect of the school. Administration and staff are professionally committed to providing the highest level of instruction to students. ACES at Chase is dedicated to fostering an educational atmosphere that connects with a diverse community of learners where each member is recognized as an important piece of the whole.

ADVISORY	STEAM EXPEDITIONS
Essential Understandings of the Course: All ACES at Chase students participate in our Advisory program. Small groups of students are formed and assigned a staff leader. These Advisory groups meet weekly to work on forming peer-peer and student-adult relationships, building community, promoting open communication, fostering academic awareness and goal setting, and increasing family connectedness to our school community.	Essential Understandings of the Course: ACES at Chase offers a unique opportunity for all students to participate in a project based learning (PBL) class where students conduct extended interdisciplinary STEAM inquiry investigations. Students experience PBL through topics such as the Connecticut Invention Convention, the Connecticut Science and Engineering Fair, Water Safety and Security, Forensics, Alternative Renewable Energy, and Migratory Birds.

A Public STEAM Academy on a Private Campus
WWW.ACES.ORG/CHASE

Have More Questions? Contact Our Administrators: chaseadmin@aces.org

Get Social With Us! @ACESatChase @aces_at_chase

LANGUAGE ARTS	MATHEMATICS
Reading Units of Study: ● *Fiction: A Deep Study of Character, Investigating Characterization, Critical Literacy* ● Nonfiction: *Tapping the Power of Nonfiction, Essential Research Skills, Literary Nonfiction* ● Book Clubs: *Social Issues, Fantasy, Historical Fiction, Dystopia* Writing Units of Study: ● Narrative Writing: *Crafting Powerful Life Stories, Realistic Fiction, Memoir* ● Information Writing: *Research-based Information Writing, Writing About Reading* ● Argument Writing: *Literary Essay: From Character to Compare/Contrast, The Art of Argument, Position Papers, The Literary Essay: Analyzing Craft & Theme*	Standards of Math Practice: 1. *Make Sense of Mathematics* 2. *Add or Remove Context to Solve Problems* 3. *Explain & Defend Your Reasoning* 4. *Ask & Answer Questions About the World* 5. *Use Tools to Make Sense of Mathematics* 6. *Communicate Precisely* 7. *Simplify Problems by Using Their Structure* 8. *Simplify Problems by Noticing Patterns* *Adapted from Robert Kaplinsky's "Revised Common Core Math Practice Standards"*
Essential Understandings of Course: The Reader's and Writer's Workshop approach helps students become avid and skilled readers, writers, and inquirers by aligning with natural literacy development. This allows students to be active learners with individual choices and decisions. Students engage in mini lessons, study mentor texts, read independently, and lean heavily on discussion and writing about reading to deepen their understanding. Targeted instruction at students' zone of proximal development occurs in small groups and individual conferences to promote skill development. Students learn to become critical consumers of information and social activists, with high interest, accessible, and diverse texts available. This equips and empowers students with the skills and strategies needed to navigate their own literacy, not just at school, but in their lives.	Essential Understandings of Course: In a problem-based curriculum, students spend most of their time in class working on carefully crafted & sequenced problems. Teachers help students understand the problems, ask questions to push their thinking, and orchestrate discussions to be sure that the math takeaways are clear. Learners gain a rich & lasting understanding of math concepts and procedures and experience applying this knowledge to new situations. Students frequently collaborate with classmates—they talk about math, listen to each other's ideas, justify their thinking, & critique the reasoning of others. They gain experience communicating their ideas both verbally and in writing, developing skills that will serve them well throughout their lives.

Skills that will be developed: ● *Thinking within text skills:* solve words, monitor fluency & making needed adjustments while reading, search for & use information, summarize. ● *Thinking about the text:* Synthesize, critique, analyze, and evaluate the text & author's purpose. ● *Thinking beyond the text:* Make connections across texts, trace ideas and themes, analyze relevance & impact on our world. ● *Progressing purposefully in writing:* Build writing fluency, set goals, create coherent structure, develop craft moves, critique & refine work for clarity and purpose.	Units of Study			

	Grade 6	Grade 7	Grade 8	Algebra
	● Area & Surface Area ● Intro to Ratios ● Unit Rates & Percentages ● Dividing Fractions ● Arithmetic in Base Ten ● Expressions & Equations ● Rational Numbers ● Data Sets & Distributions	● Scale Drawings ● Intro to Proportional Relationships ● Measuring Circles ● Proportional Relationships & Percentages ● Rational Number Arithmetic ● Expressions, Equations & Inequalities ● Angles, Triangles & Prisms ● Probability & Sampling	● Rigid Transformations & Congruence ● Dilations, Similarity and Intro to Slope ● Linear Relationships ● Linear Equations & Linear Systems ● Functions & Volume ● Associations in Data ● Exponents & Scientific Notation ● Pythagorean Theorem & Irrational Numbers	● One-Variable Statistics ● Linear Equations, Inequalities & Systems ● Functions ● Introduction to Exponential Functions ● Introduction to Quadratic Functions ● Quadratic Equations

aces at Chase

A Public STEAM Academy on a Private Campus
WWW.ACES.ORG/CHASE

Have More Questions? Contact Our Administrators: chaseadmin@aces.org

Get Social With Us!   @ACESatChase   @aces_at_chase

SCIENCE	SOCIAL STUDIES		
Next Generation Science Standards (NGSS) are K–12 research-based science content standards. There are three distinct and equally important dimensions to learning science. These dimensions are combined to form each standard—or performance expectation—and each dimension works with the other two to help students build a cohesive understanding of science over time. Students experience a high-quality science education where they develop an in-depth understanding of content and key skills—communication, collaboration, inquiry, problem solving, and flexibility—that will serve them throughout their educational and professional lives.	"World Regional Studies is a two-year course for Grades 6 and 7. Students study at least eight world regions, and, through the lens of geography, they explore and learn about economies, history, and civics throughout the world. Relevant global issues provide opportunities for addressing multiple standards through focused inquiry, inviting students to generate and research compelling questions" (Connecticut State Department of Education, 2015, p. 70). "In eighth grade, students engage in the study of events, documents, movements, and people emphasizing 18th/19th century America with a focus on inquiry into the development of the United States as a nation." (Connecticut State Department of Education, 2015, p. 91).		
Essential Understandings of Courses: "What causes changes in matter?" "What affects weather and climate?" "How do organisms and ecosystems interact?" How do waves transfer energy and information? "How has the Earth Changed?" "What has the history of Earth looked like?" "How do the structures of organisms enable life's functions?" How do organisms grow and reproduce? What makes organisms different from one another? How can we measure the flow of energy in a system? How do objects affect other objects?	**6th Grade Regions** ● Northern Africa ● Sub-Saharan Africa ● Middle East ● Asia	**7th Grade Regions** ● Eastern Europe ● Western Europe ● Central America ● South America	**8th Grade Units** ● American Revolution ● US Constitution ● US Bill of Rights ● Reform Movements ● Westward Expansion ● Slavery in the Republic ● American Civil War ● Reconstruction Era
What to expect in a Science Classroom: ● Study Earth, Life and Physical Sciences ● Lots of hands on activities ● Lab experience ● Collect, analyze and interpret data ● Use literacy strategies to interact with scientific texts ● Ask questions to clarify evidence ● Create arguments from evidence and research o C.E.R. (Claim, Evidence, Reasoning) ● Create models ● Practice Inquiry ● Explore real-world problems	Skills that will be Developed: ● Content literacy ● Note-taking ● Writing ● Communication ● Problem-solving ● Questioning ● Historical analysis		

aces at Chase

A Public STEAM Academy on a Private Campus
WWW.ACES.ORG/CHASE

Have More Questions? Contact Our Administrators: chaseadmin@aces.org

Get Social With Us! @ACESatChase @aces_at_chase

WORLD LANGUAGE	PROJECT LEAD THE WAY
Essential Understandings of Course: Students will be able to communicate through reading, writing, speaking, and listening in Spanish. They will also develop an understanding of Hispanic culture.	Units of Study: ● Computer Science for Innovators & Makers ● Design & Modeling ● Automation and Robotics ● App Creators
Units of Study: 8th Grade: ● Food, Restaurant & Nutrition ● The House ● The City ● Clothing ● Cinco de mayo	Essential Understandings of Course: PLTW units empower students to lead their own discovery. The hands-on program boosts classroom engagement and excitement, drives collaboration, and inspires "aha! moments" and deep comprehension. As students engage in PLTW's activities in computer science, engineering, and biomedical science, they see a range of paths and possibilities they can look forward to in high school and beyond. Students learn about programming, robotics and 3D printing both in the digital and physical world by blending hardware design and software development. They design and develop physical computing devices, interactive art installations, build robots or create apps, with a focus on real world application.
Standards addressed throughout all units: ● Reading Spanish ● Writing Spanish ● Listening and understanding spoken Spanish ● Speaking Spanish ● Understanding Spanish culture ● Identifying cultural differences	Skills that will be developed: ● Problem-solving ● Critical thinking ● Creativity ● Communication ● Collaboration ● Perseverance

HEALTHY LIVING: Physical Education and Health
Units of Study: ● Health: Personal Hygiene, Nutrition, Addiction, Disease Prevention ● PE: Fitness, Ultimate Games, Basketball, Football, Cooperative Games, Tag Games, Floor Hockey, Team Building Activities, Volleyball, Racquet Sports, Team Games, Soccer
Essential Understanding of Course: ● Health: What do I need to be able to do in order to live a balanced life? ● PE/PA: Demonstrate competency in motor skills and movement patterns needed to perform a variety of physical activities. Demonstrate understanding of movement concepts, principles, strategies and tactics as they apply to the learning and performance of physical activities.
Skills that will be developed: ● Health: Students will make plans and take actions that lead to healthy and balanced living for themselves and the world around them. ● PE/PA: Flexibility, Muscular Endurance, Muscular Strength, Cardiovascular Endurance, Throwing, Catching, Offensive and Defensive Strategy, Teamwork, Sportsmanship, Striking, Kicking

THE ARTS: Art, Band, Modern Band, Orchestra, Chorus and General Music	
Units of Study: Varies based on course	
Essential Understanding of Course:	
● Reading & understanding the structure of music ● Dynamics, articulation and musical expression ● Rhythm/beat and pitch/tone/timbre ● Science behind clay and its geological components	● Instruments for General Music: Drumming, Keyboard (Piano), Ukulele, Guitar ● Elements of Art ● Explore movement within drawing machines
Skills that will be developed:	
● Multisensory skills and coordination ● Memory and reading skills ● Listening skills ● Auditory skills	● Self-expression ● Color theory & color mixing using ratios with paint ● Focus the brain with observational drawings of still life objects ● Creativity

aces at Chase

A Public STEAM Academy on a Private Campus
WWW.ACES.ORG/CHASE

Have More Questions? Contact Our Administrators: chaseadmin@aces.org

Get Social With Us!   @ACESatChase   @aces_at_chase