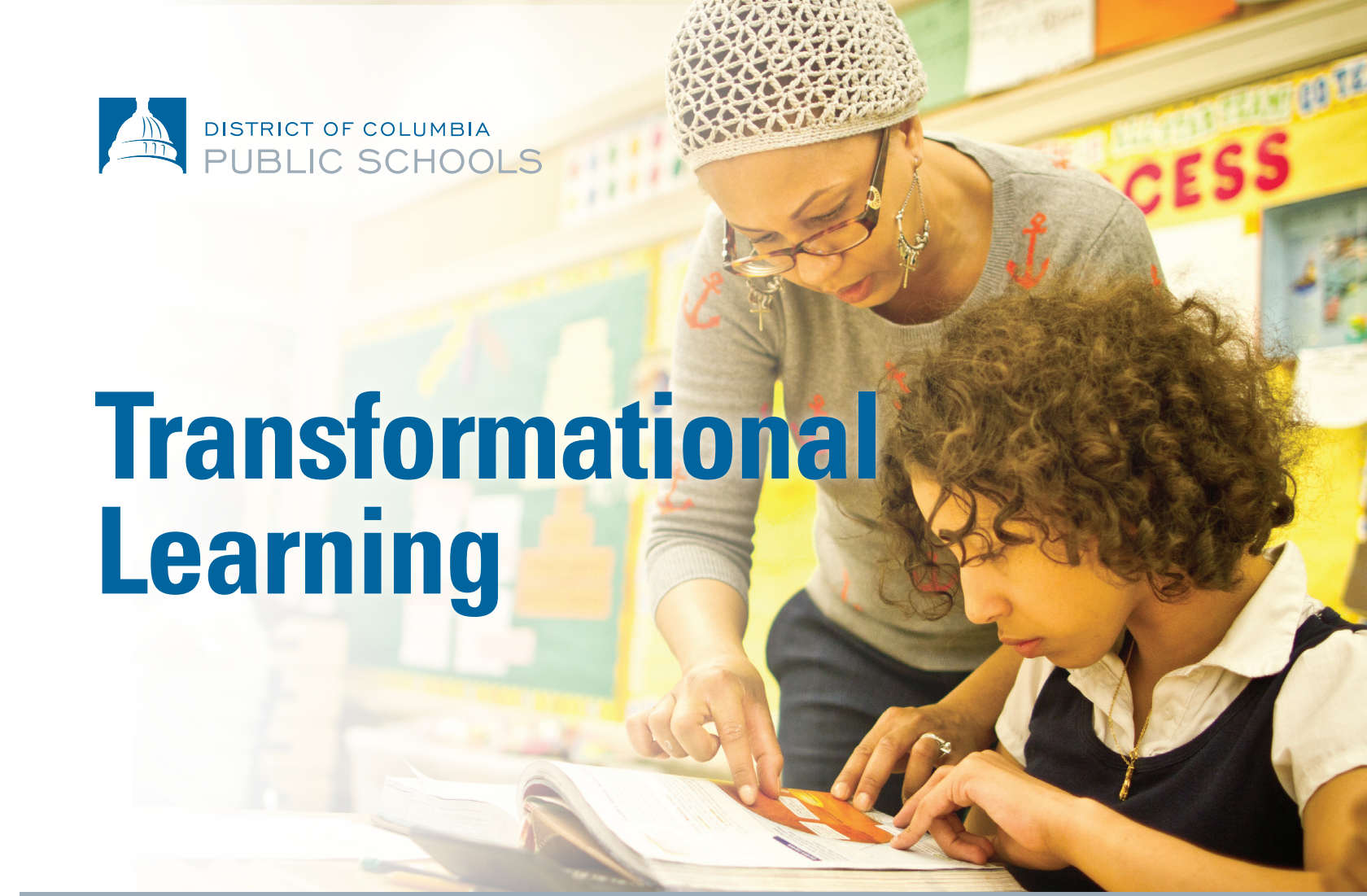
DISTRICT OF COLUMBIA
PUBLIC SCHOOLS



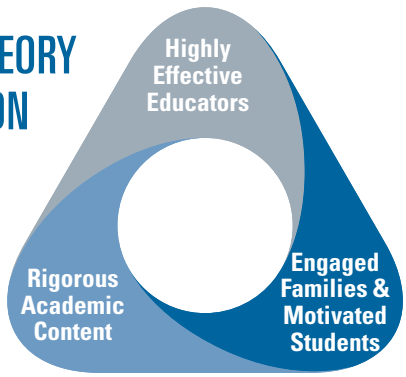
Transformational Learning

Curriculum at DCPS

The DC Public Schools (DCPS) curriculum is designed for discovery and delight. Developed by, for, and with DCPS teachers, our units of study contain high-quality resources that teachers can adapt to meet their students' individual needs.

Our student-centered lessons focus on inquiry and investigation. They harness the power of well-crafted questions to build students' knowledge and skills. From pre-K through graduation, lessons engage students and develop their ability to think critically and make sense of their community and the world.

DCPS THEORY OF ACTION



In recent years, DCPS has focused on three levers of change to improve student achievement: highly effective educators, rigorous academic content, and engaged families and motivated students. As each element grows stronger, it supports growth in the other areas.

DCPS' efforts in these three areas—and the interactions among them—have made it the fastest-improving urban school district in the country.*

**Based on data from the National Assessment of Educational Progress (NAEP) Trial Urban District Assessment (TUDA), DCPS has been the nation's fastest-improving urban school district since 2013.*

Curriculum Matters

The DCPS curriculum is focused on providing a world-class educational experience for every DCPS student.

Curriculum Matters for Students

The DCPS curriculum is built around four core principles. It is consistent across all grades and schools.

- **Rigor.** When we hold students to high standards, students rise to meet our expectations. The DCPS curriculum is designed and improved each year by DCPS teachers and is aligned to the Common Core State Standards and to all district assessments.
- **Joy.** Students should love learning. Teachers designed the DCPS curriculum with rich content that connects to students' lives and communities. Lessons have built-in flexibility for students to explore their passions, whatever they may be.
- **Equity.** Every student should receive high-quality instruction, no matter where in the city they live or attend school. A consistent curriculum—along with consistent structures, supports, and resources—ensures that all students have access to outstanding learning opportunities.
- **Access.** All students deserve access to challenging, grade-level work. The DCPS curriculum gives teachers the tools they need to clear the many types of barriers students experience, including special learning needs, still-developing English language proficiency, background knowledge, cultural differences, and gaps in prior learning. These tools are designed using a neuroscience-based framework called Universal Designs for Learning so that students with diverse strengths and challenges can all learn the same rigorous content together. In addition, DCPS partners with *Teaching Tolerance* and DC-based *Teaching for Change* to ensure that the curriculum is bias-free and culturally relevant.

Curriculum Matters for Teachers

Teachers are behind every aspect of the DCPS curriculum, from developing each course's scope and sequence to writing the DCPS Cornerstones, which are anchor assignments for each grade and subject.

A strong curriculum also helps teachers improve. Eighty-three percent of DCPS teachers reported that teaching Cornerstones improved their practice.

In school year 2016–17, DCPS redesigned its professional learning program, LEAP (LEarning together to Advance our Practice). With LEAP, professional learning is embedded in the school and aligned with what is happening in the curriculum. Teams of same-grade or same-subject teachers—such as 2nd grade teachers or chemistry teachers—spend at least 90 minutes each week planning and reflecting on how and what they teach.

Curriculum Matters for Families

DCPS' curriculum and the rich experiences within it ensure that students are prepared for college, career, and life. DCPS provides a Parent Curriculum Guide for each grade level to help parents better understand what their children are learning. Each curriculum guide outlines the year's academic content with a month-by-month summary of what will happen in each subject as well as detailed descriptions of the year's Cornerstones. The guides also include tips to support learning at home and month-by-month family activities that are aligned to the year's curriculum.

Curriculum Designed by Teachers, for Teachers

DCPS adopted the Common Core State Standards in July 2010, and at that time, there was no off-the-shelf curriculum for the Common Core. DCPS leadership partnered with DCPS teachers to design a high-quality, Common Core-aligned curriculum.

Undertaking this effort was an unusual step in 2010, and it remains so today. A 2016 RAND Corporation study found that nearly all teachers in Common Core states are using materials they developed or selected themselves through, for example, Google or Pinterest.*

Today, DCPS has a robust curriculum with content that inspires deep learning. It is aligned across subjects and grades so what students learn in one class is connected to what they learn in other classes, and each year's work builds on the previous year's learning. The curriculum includes high-quality materials that teachers can use as they see fit. Many teachers adapt lessons for their students or bring in supplemental resources that connect lessons to their students' daily lives or neighborhoods.

Each year, teams of staff and teachers review and improve the curriculum so that it continues to be a powerful tool and the backbone of an excellent educational experience. This ongoing improvement led to the introduction of Cornerstones in school year 2015–16 and of LEAP—professional learning that is directly tied to the curriculum—in school year 2016–17.

**http://bit.ly/2006Rand*

KEY TERMS

CURRICULUM
Everything a teacher uses to teach, including tools, resources, materials, and guidance about what to teach as well as when and how to teach it.

SCOPE AND SEQUENCE
A guide to the content that is covered in an academic year. DCPS has a comprehensive scope and sequence for each grade and subject.

BENCHMARK AND GROWTH ASSESSMENTS
An assessment that measures whether a student has mastered a specific set of content (benchmark assessment) or the student's growth during a course (growth assessment).

UNIT OF STUDY
The organizing principle of the curriculum. Units of study are thoughtfully organized collections of topics to be studied in each course. Depending on the subject and grade level, a course typically includes between four and 10 units.

DCPS CORNERSTONES
Rigorous, in-depth activities that are tied to DCPS units of study. They are the anchor assignments for each grade and subject, and they are required for all students in every school. Cornerstones were developed by top DCPS teachers, and they provide continuity and consistency throughout the district.

DCPS CURRICULUM: A Closer Look

The DCPS curriculum has a detailed structure that explains what students should know and be able to do, accompanied by a broad range of tools and resources that teachers can use and adapt for their students.

The *scope and sequence* is the curriculum's overarching framework. DCPS has a comprehensive scope and sequence for each grade and subject.

Within each scope and sequence, content is organized into *units of study*, each of which is designed to help students master specific Common Core standards.

The unit may be further explained through big ideas students will learn or essential questions they will explore.

Each unit of study also has:

- A DCPS Cornerstone, which is an in-depth activity designed to help students master the Common Core standards associated with the unit.
- Guidance on what skills teachers should assess (student performance expectations).
- A collection of teacher tools and resources.

CURRICULUM SPOTLIGHT: ELEMENTARY ENGLISH LANGUAGE ARTS 2016–17 SCOPE AND SEQUENCE

KINDERGARTEN THROUGH 2ND GRADE

UNIT	KINDERGARTEN	1ST GRADE	2ND GRADE
1	Being a Good Friend and Citizen	Inspiring People: Spotlight on People Who Persevere	Plants Everywhere!
2	Community Workers	Taking Flight	Extreme Weather
3	Up in the Sky: Weather and Water	Astronomy: Sun, Moon, and Stars	Then and Now
4	Who Tells a Good Story?	Animal Survival	The Earth: Geology
5	Conversation	All About Money	Activism
6	Family Traditions: Around the World	American Symbols	Exploring Our Neighbors: Canada and Mexico
7	Chances in Nature and Life Cycles	Human Body: What Makes Me, Me?	Got the Message: Fables and Folktales

3RD GRADE THROUGH 5TH GRADE

UNIT	3RD GRADE	4TH GRADE	5TH GRADE
1	People, Laws, and Democracy	Heroic Adventures	The Process of Discovery and the Development of Inventions
2	The Living World: Animal Habitats	Early America	Westward Expansion, Was It Worth It?
3	Overcoming Adversity: Powerful Characters, Powerful Words	My Story	Civil War and Reconstruction
4	Forces and Magnetism	Revolution and Independence	The Universe: The Solar System and Beyond
5	Washington, DC: It's Right Outside My Door	Rocks and Minerals	Civil Rights Movement: Equal Education for All

CURRICULUM SPOTLIGHT

HIGH SCHOOL PHYSICS

SCOPE AND SEQUENCE: The physics curriculum has four units of study.

UNIT 1: Forces and Momentum	**UNIT 2: Energy**	UNIT 3: Waves	UNIT 4: Electrostatics and Fields

FALL SEMESTER *SPRING SEMESTER*

EXAMPLES OF ESSENTIAL QUESTIONS

- Why are some physical systems more stable than others?
- How is energy transferred and conserved?
- How are forces related to energy?

EXAMPLES OF BIG IDEAS

- Energy is a quantitative property of a system that depends on the motion and interactions of matter and radiation within that system.
- There is a single quantity called energy due to the fact that a system's total energy is conserved.
- At the macroscopic scale, energy manifests itself in multiple ways, such as in motion, sound, light, and thermal energy.

ENERGY CORNERSTONE: MAKE A SOLAR COOKER

People all over the world cook using electricity, gas, coal, and wood as heating sources. With decreasing access to fuels, many people are now turning to solar power. In this activity, students are challenged to engage in an engineering design process to create a solar oven. They use data collected from a computational model to inform their design.

STANDARDS

The energy unit of study helps students master a number of standards, including 10 Common Core English langage arts and math standards. Examples of relevant standards include:

COMMON CORE STANDARDS

- RST.11-12.1. Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.
- MP.2. Reason abstractly and quantitatively.
- MP.4. Model with mathematics.

NEXT GENERATION SCIENCE STANDARD

- HS-PS3-1. Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

EXAMPLE OF A PERFORMANCE EXPECTATION

Students who demonstrate understanding can create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

TEACHER RESOURCES

- Textbook/print resources
- Online resources
- Exemplar lesson plans
- Suggested activities
- Other activities, such as field trips

EXAMPLE OF A SUGGESTED ACTIVITY

Experiments performed with a pendulum to gain an understanding of energy conservation

DCPS CORNERSTONES are designed by DCPS teachers and aligned to the Common Core State Standards, Next Generation Science Standards, and DC Educational Standards. DCPS gives classroom teachers everything they need to teach the lessons effectively, including lessons plans, graphic organizers, and lab materials. See page 8 for examples of Cornerstones for each grade.

"My daughter and I had a great experience visiting the monuments, and it never would have happened without Cornerstones. It was so much fun to engage with her, to go to these new places, and to have conversations that wouldn't have come up if it hadn't been for that activity."

— Tara Brown, Parent, Leckie Education Campus

A Day in the Life of DCPS Students

DCPS has a curriculum like no other district. It offers teachers a broad range of high-quality resources that they can adapt to meet their students' particular needs.

The DCPS curriculum is developed by, for, and with DCPS teachers. In every subject and every grade, DCPS lessons are creative and interactive so students are engaged with learning and discovery.

As a result, every day in DCPS classrooms, student are thinking critically about real-world topics, solving worthy problems, and engaging in hands-on projects.

Throughout DCPS schools, students are reading, debating, discussing, reasoning, and exploring. They are writing, editing, fine-tuning, and publishing. They are moving. They are trying something new.

DCPS STUDENTS IN ACTION

ELEMENTARY SCHOOL

ELA (English Language Arts). In 2nd grade language arts classrooms, students are becoming experts on plants. Second graders are planting rapid-growing mustard plants, observing their growth, and recording the process through scientific journaling. They are comparing their experiences with informational text that they carefully read and analyze, adding to their bank of knowledge on the life cycle of plants.

Math. In 3rd grade mathematics, students take on the role of architects and designers. Using an inquiry and design model, students harness their understanding of multiplication and area to calculate, analyze, and redesign a floor plan while meeting the needs of their clients.

Health and PE. In DCPS elementary health and PE classrooms, students learn about health concepts and motor skill development so they become lifetime movers. For example, in first grade students learn how to exit a fire safely by moving through an obstacle course practicing both *stay low* and *stop, drop, and roll.*

MIDDLE SCHOOL

ELA. In DCPS 7th grade English classrooms, students stand on the shoulders of the giants who came before them. They develop powerful ideas about how their writing can change the world, and they think critically about their roles in their communities. Students debate texts that challenge them to have thoughtful conversations about what is going on in the world around them, investigate what it means to be a warrior by interviewing civil rights heroes in their communities, and publish what they learn on their personal blogs using Kidblogs.org.

Social Studies. In DCPS middle school classrooms, students become historians. They examine complex texts to determine the extent to which Enlightenment philosophers, such as John Locke, influenced the writing of the Declaration of Independence.

Art. In middle school visual art, students develop more technical skills while building on the thematic investigations from elementary school. Deepening their understanding of themselves and others, students work with digital cameras and concepts of photojournalism to capture their own visual narrative of their city.

HIGH SCHOOL

Physics. In high school physics, students apply kinematics to understand the factors that affect a car's stopping distance. Students analyze stopping scenarios by timing lights at actual intersections and taking measurements of the intersections using Google Maps. Students then use the data to create a presentation to the DC Department of Transportation with recommendations for light times.

World Language. DCPS students studying a world language are eligible to spend time abroad through DCPS Study Abroad! All Level 2 world language students prepare for this experience by virtually exploring cities where their target language is spoken. Using maps, videos, and articles, students draw comparisons between the foreign cities and their hometown. Students also investigate the use of public spaces in foreign cities and discuss how the cities' layouts contribute to or detract from the formation of communities.

Music. In secondary ensemble classes, students focus on building a performance community as they develop and perfect their ability to play an instrument or use their voice. Coursework builds from 6th to 12th grade as students' skill and ability grows. Classwork culminates in performance opportunities both in the school and around the city.

Curriculum-Focused Professional Learning Helps Teachers LEAP Forward

In recent years, DCPS has taken great strides in improving teacher quality. The percentage of teachers receiving the top performance rating grew from 16 percent in 2009 to 37 percent in 2016. To push even further, DCPS is reimagining professional development to ensure that all teachers have the support they need.

Based on teacher input and the best research on adult learning, DCPS introduced a curriculum-based professional learning approach called LEAP (LEarning together to Advance our Practice) in school year 2016–17. At its core, LEAP is about helping teachers become truly expert at teaching the DCPS curriculum—so that every student across the city experiences rich, engaging, and challenging instruction every day. To do this, teachers engage in a weekly cycle of development in small, content-specific professional learning communities (LEAP Teams) at their schools.

DCPS believes that this type of school-based, curriculum-aligned professional learning is significantly more valuable than the typical professional development that is disconnected from the content and context of daily lessons.

The LEAP model grew out of DCPS teachers' experience developing Cornerstones. First, teachers worked in content teams to write the Cornerstones. Then, throughout the year, they met regularly to review actual student work and to reflect on how implementation of Cornerstones played out in classrooms, and they debriefed using actual student work. LEAP allows all teachers to follow a similar process for their day-to-day work.

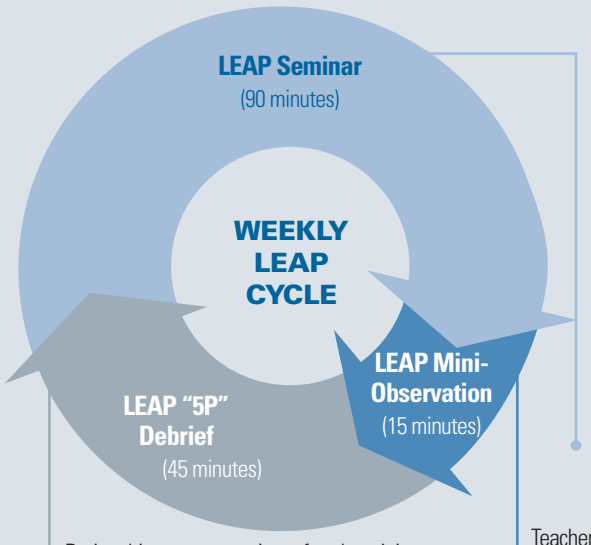
Leap
learning together
to advance our practice

What is LEAP?

LEAP is content-based professional development. Small, subject-based teacher teams—for example, math teachers for grades 3–5—participate in a *weekly* cycle of professional learning together, all focused on the curriculum they are teaching.

LEAP IS GROUNDED IN THREE IDEAS:

1. **Content comes first.** As DCPS raises curricular expectations, teachers need deep content knowledge, as well as deep expertise on how to teach that content.
2. **School communities are the lever for change.** Professional development has to happen at schools, led by school-based staff.
3. **Adults need a learning curriculum, too.** School leaders and coaches should not have to figure out how to support their teachers on their own. Just as DCPS provides a detailed curriculum for students, the district should provide a detailed curriculum for educators.



Seminars are facilitated by a content expert at the school called a LEAP Leader. During this time, teachers will deepen their content knowledge and hone skills essential for the Common Core-aligned teaching practices that are most important for their particular content area. For example, elementary math teachers will deepen their understanding of how the Common Core approaches the teaching of fractions and will become more adept at helping students explain their mathematical thinking.

Teachers and LEAP Leaders hone in on key instructional practices and showcase the learning from the weekly seminar. As a result of LEAP, DCPS teachers will now receive more than 30 observations per year.

During this one-on-one time after the mini-observation, the teacher and LEAP Leader will have the opportunity to share **praise** for what's working, **process** the lesson to identify where improvements could be made, **prioritize** one skill to focus on during the coming week, **plan** an upcoming lesson with that skill in mind, and then actually **practice** the skill.

Get to Know Cornerstones

Cornerstones are powerful, memorable, experiential lessons taught as part of the DCPS curriculum. They provide access to the same rigorous content for every student. All include meaningful, engaging content; a high-impact instructional method; and a student work product.

DPCS has more than 250 Cornerstones across more than 70 courses. Below are sample Cornerstones for kindergarten through high school.

reading

KINDERGARTEN | *Conservation*
Kindergartners become environmental advocates by organizing, promoting, and carrying out a school clean-up day. Students research recycling, reducing, reusing, and how they can take care of their environment.

science

1ST GRADE | *Just Passing Through: Designing Model Membranes*
In this hands-on engineering challenge, students design a membrane for a frog habitat so that it delivers just the right amount of water for the frog. Students solve the problem by learning how membranes function and applying their understanding of the basic needs of living organisms.

physical education

2ND GRADE | *Biking in the Park*
Students learn how to ride a bicycle and practice their skills during a group ride to the park. To prepare, they learn basic bike safety, including the ability to correctly fit their helmet; perform a standard bicycle check; use hand signals; and identify road signs.

math

3RD GRADE | *Area Architects*
Students play the role of architects redesigning national landmark structures for clients. They redesign the room sizes in the structure to meet client needs while preserving the total floor area. Students create new floor plans and justify their design mathematically and in terms of meeting the client's requirements.

science

4TH GRADE | *Designing Windmills*
Students read the storybook *Leif Catches the Wind* and learn how wind turbines generate renewable energy. They also study the workings of common machines such as mechanical pencils and egg beaters. They then use their mechanical engineering skills to design sailboats and windmills that catch the wind.

world languages

5TH GRADE | *My Family Vacation*
Students are presented with the scenario of winning the lottery and spending their winnings on world travel with their families. They research attractions and activities in a destination where their target language is spoken. Then, using their target language skills and their research, they create a family vacation plan.

social studies

6TH GRADE | *United Nations Simulation*
Students participate in a United Nations simulation, investigating the impact of the 2013 Typhoon Haiyan on the Philippines and engaging in writing and speaking exercises to simulate how the United Nations responds to natural disasters.

math

7TH GRADE | *Why-Fi?*
Students use the mathematics of scale and area to make recommendations about the placement of Wi-Fi hotspots in a city. In a role play, students act as consultants to create a presentation for a client. The presentation includes a 3-D model of key buildings in the city and a mathematical analysis supporting the recommended hot spot placement.

reading

8TH GRADE | *Talking About the American Dream*
Students write, practice, and deliver a TED-style talk answering the question, "What is the American Dream, and how is it achievable for all Americans?" Students begin by studying effective narratives and analyzing structural and language techniques used by powerful TED speakers. They present their own talks to peers and the community.

math

HIGH SCHOOL | *The Bungee Company* (Algebra)
Acting as owners of a fictional bungee jump company, students craft a thrilling-but-safe bungee jump experience for their customers. Students test different objects, such as small plastic dinosaurs. They collect data about the weight of the objects, the length of the bungee cord, and other variables as they simulate their jumps. Students also create graphs, mappings, and other models of their data.

science

HIGH SCHOOL | *What Is Your Carbon Footprint?* (Biology)
Students use the International Student Carbon Footprint Challenge website to track their carbon footprints and compare them to those of other students throughout the world. As part of this work, they interact with international students through online discussion forums.

reading

HIGH SCHOOL | *Editing Gender* (English IV)
Students design and pitch a special issue of a magazine on the topic of gender and, in doing so, develop a more sophisticated understanding of how gender is mediated and constructed within popular media. Students demonstrate their understanding of gender through the article titles they feature, their magazine's curated photos and visual layout, and the rationale they write for their pitch.

health

HIGH SCHOOL | *I Am the Difference*
Students become advocates for an increase in mental health resources in their community. Through analysis of internal and external influences on mental health and evaluation of strategies to improve and maintain positive mental health, students create public service announcements that educate community members on the importance of positive mental health and the impact that untreated mental illness can have on a community.

For students who cannot fully participate in certain Cornerstones, DCPS makes accommodations. For example, students who physically cannot ride bicycles learn about safety and ride in bike trailers.

DC PUBLIC SCHOOLS | Office of Teaching and Learning
1200 First Street, NE, Washington, DC 20002 (202) 442-5885 otl.dcps@dc.gov | Cornerstones@dc.gov @LeapDCPS | @DCPSCornerstone