Providence Creek Academy
Science Curriculum Overview
2020 - 2021

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At Providence Creek Academy, we strive to educate the whole child on a foundation of academics, athletics, and the arts. Our science curriculum reflects those beliefs. We continue to partner with the Delaware Science Coalition. That collaboration provides the bulk of our science materials for scientific exploration.

Promoting Scientific Literacy for all Students

Delaware Science Coalition Memorandum of Agreement

The Providence Creek Academy Charter School agrees to abide by the Delaware Science Coalition's bylaws and join the Delaware Science Coalition partnership. The Delaware Science Coalition program is sustained by local district/charter school fees in combination with state allocations. Professional development; materials acquisitions; distribution, collection and refurbishment of science curricular units; and any other associated costs are supported by these funding sources. The Coalition's bylaws and fee schedule for school year 2020-2021 are attached to this Memorandum of Agreement.

Signed:

Director CIPD Curriculum Instruction & Professional Development		Date 7/1/20
Associate Secretary Academic Sueeort Team		Date 7/22/2020
Associate Secretary, Operations Support (or Designee)		Date 7/27/2020
LEA Official, Title Head of School		Date 7/31/2020
DE Science Coalition Co-Chair		Date 07/10/2020

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Membership Fees 2020 - 2021

Providencc Creek Academy Charter School
273 West Duck Creek Road
Clayton, DE 19938-0265

SLC - N511

Date: July 10, 2020

Rep: Tonyea Mead / John Moyer

Quantity	Description	Unit Price	Student Count	Total
I	DE Science Coalition Membei'ship Fees	$1 6.00	703	$11,248.00

An IV will be generated upon receipt of the signed MIIA.

Providence Creek Academy
Scope & Sequence, K – 8
*Sequence may change if the Coalition requires

Tri-mester	**Unit Topic (Using Coalition Kits)**	**Performance Expectations**	**Unit Phenomenon**	**Sample Student Activities & Assessments**
Kindergarten				
1	Trees (FOSS)	K-LS1-1 K-PS3-1	How are the leaves of trees the same and different?	Campus Walk Art collaboration (leaves) Science journal
2	Push, Pull, Go	K-PS2-1 K-PS2-2	What happens when we push an object on strings? What happens when we use different strengths and directions of pushes and pulls on the motion of an object? The harder we push a toy car, the further it goes.	Investigate the swing-set. Explore a sand garden to see what happens to the sand. Push a toy car to a line that is close and a line that is far away. Bumper cars! Push, Pull, Go Unit. Science Journal
3	Weather & Me (STC)	K-ESS2-1 K-ESS3-2	Why do sunflowers follow the sun? What happens to a snowman on a warm day? Why? What are some differences between clouds? What is the weather like today, and how is it different from yesterday?	Snowman in weather (in winter). Campus walk to observe sunflowers (in June). Cloud watching discussion (class activity). Science Journal

Tri-mester	Unit Topic (Using Coalition Kits)	Performance Expectations	Unit Phenomenon	Sample Student Activities & Assessments
First Grade				
1, 2, 3	Bright Days/Dark Nights – NGSS	1-ESS1-1 1-ESS1-2	What is the shadow illusion? Describe seasonal patterns of sunrise and sunset. What can we predict using those observations?	Science Journals: Students create ad carry out an investigation on the position of the sun. This long term project leads them to make predictions. Included leading questions: Can we log the length of the day on the same day each month? Can we compare the patterns of daylight in Delaware to those in Alaska? How? What do we notice? What conclusions can we draw? Summative assessment.
2	Solids & Liquids	2-PS1-1 2-PS1-2	What properties do solids and liquids have? How can we classify them? What can testing tell us about these properties that our senses do not?	Students observe/test/sort a set of 20 solids based on physical properties. Students define the properties. Students observe/test/sort liquids. Students design and complete a race to order liquids from most viscous to most fluid. Student Journals. Summative assessment.
3	Organisms (STC)	K-LS1-1 1-LS3-1	What happens to a seed when we plant it? How can we define the life of an organism?	Students plan and conduct an investigation to observe and draw conclusions on the growth of a plant. Students build terrariums and aquariums and observe the plants and creatures within. What details and labels are required to make our scientific drawings useful and meaningful?
3	Catching the Wind (EiE)	K-2ETS1-1 K-2ETS1-2 K- ETS1-3 K-ETS2-1	Why does the wind blow? How can we use the wind to solve problems?	Students use the engineering design process to plan, create, test, and improve a model of a sail that will move a boat across strings with the air of a fan. Students use the engineering design process to design, build a windmill that lifts the most weight.

Tri-mester	**Unit Topic (Using Coalition Kits)**	**Performance Expectations**	**Unit Phenomenon**	**Sample Student Activities & Assessments**
Second Grade				
1	Insects (STC)	3-LS1-1 3-LS3-2	What patterns can be observed in the changes a butterfly goes through during their life?	DE-EOU-GR3 (Environmental Impacts on Organisms and Life Cycles and Traits) as a class activity. Science Journals. Plan and Carryout an investigation that observes the life cycle of a butterfly.
2	Bridges	2-PS1-2 2-PS1-3 K-2ETS1-1 K-2ETS2-1	What impact does the choice of materials have on a structure?	Students use the engineering design process to plan, design and build a model bridge. Discuss merits and properties of building materials. Design and carryout a test for the bridge. Summative reflection.
3	Soils (FOSS)	2-ESS1-1 2-ESS2-1 2-ESS2-2	What kind of events cause changes in the earth?	Students use the engineering design process to plan, design and build a model to slow or prevent water from changing the shape of the land.
3	Plants (no kit)	S-LS4-1 S-LS2-1	How does the weather change the health of a plant?	Plant a class garden. Design an investigation to answer questions on watering and sunlight/shade.

Tri-mester	**Unit Topic (Using Coalition Kits)**	**Performance Expectations**	**Unit Phenomenon**	**Sample Student Activities & Assessments**
Third Grade				
1	Forces & Interactions (no kit) *Anticipated for 2021*	3-PS2-1 3-PS2-2 3-PS2-3 3-PS2-4 3-5ETS1-1,2,3	Magnets produce fields that attract or repel other objects.	Students use the engineering design process to design, test, and improve a tabletop maglev transportation system.
2	Earth Materials (FOSS)	3-LS4-1 4-ESS1-1	Did an asteroid kill the dinosaurs?	Students investigate through taking apart and putting together Students observe, describe, and record properties of rocks Students observe the effects of vinegar on certain minerals Students investigate and classify fossils
3	Water, Water Everywhere (EiE)	3-5ETS1-1 3-5ETS1-2 3-5ETS1-3 3ESS2-1	Dirty water must be cleaned before it is safe to drink.	Students use the engineering design process to investigate, plan, and test water filters.

Tri-mester	Unit Topic (Using Coalition Kits)	Performance Expectations	Unit Phenomenon	Sample Student Activities Assessment
Fourth Grade				
1	Structures of Life (FOSS)	3-LS1-1 3-LS2-1 3-LS3-1 3-LS4-1 3-LS4-2 3-LS4-3 3-LS4-4	Hemingway's Polydactyl Cats	Students investigate and sort animals by characteristics Investigate the external structures of a beetle to analyze the impacts of those structures on its status as predator and/or prey Students classify animals by their young Investigate and compare properties of seeds and fruits Investigate crayfish to observe and record structural and behavioral adaptations Investigate skeletal systems. Hydroponics vs soil: an Investigation
2	Magnetism & Electricity (FOSS)	4PS3-1 4PS3-2 4PS3-3 4PS3-4 4ESS3-1	Shuffling your feet on some floors can build up a static charge.	Design an experiment to identify conductors and insulators Discover the relationship between the number of turns of wire around an electromagnetic core and the strength of the magnetism Explore to discover attraction and repulsion with relationship to magnets Use the engineering design process to design and create a telegraph
3	Land & Water	4-ESS1-1 4-ESS2-1 4-ESS2-2 4-ESS3-1 4ESS3-2	Grand Canyon	DE EOU (Processes that Shape the Earth) in small groups Students look for evidence of patterns and systems in motion, weathering, fossils, and rock formations. Evidence of patterns and systems in streams as they encounter Earth features. Water on Earth: Investigate how water travels through sand, clay, dirt, and mud.

Tri-mester	Unit Topic (Using Coalition Kits)	Performance Expectations	Unit Phenomenon	Sample Student Activities & Assessments
Fifth Grade				
1	Engineering Design Process	MS-ETS1-4	Testing a design can be helpful. Galloping Gertie Bridge Disaster	Students use the engineering design process to design and test a model airplane, including a prototype and redesign. Science Journal
1	Matter	5-PS1-1 5-PS1-2 5-PS1-3 5-PS1-3 5-PS2-1 5-PS3-1	Why does cutting an onion make you cry? Observe a balloon with baking soda combined with a water bottle filled with vinegar – what happens?	DE-EOU (Structures and Properties of Matter) in small groups Heating & Cooling petroleum Plan the best ways to carry out an experiment that separates mixtures. Science Journal
2	Astronomy	5-ESS1-1 5-ESS1-2 5-ESS2-1	Observe the winter and summer solstice How do Sundials work?	DE-EOU (Stars and the Solar System) in small groups Design and build a sun dial Design an investigation to measure shadows on campus throughout the day. Earth vs The Sun: a size comparison! Science Journal.
3	Ecosystems	5-LS2-1	Watered once in 50 year?	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. Create and observe an ecosystem and investigate the roles of producers, consumers, and decomposers. Science Journal
3	Slick Solutions (EiE) new to PCA in 2020	5-LS2-1 5-ESS3-1 3-5ETS -1 3-5ETS-2	The salvinia effect in plants	Students use the engineering design process to design a model clean-up of an oil spill. Science Journal

Tri-mester	**Unit Topic (Using Coalition Kits)**	**Performance Expectations**	**Unit Phenomenon**	**Sample Student Activities Assessment**
Sixth Grade				
1	Planet Earth (TCI) & Space (TCI)	MS-ESS-1 MS-ESS-2 MS-ESS-3 MS-ESS-4	How do sundials work? What are star trails and what can we connections can we make by observing them? How much does the earth weigh?	Students design a model to explain rotation and revolution. They record their model in a short flipgrid video as a formative assignment. Explore the motion of orbiting objects in the solar system. TCI Summative assessments.
2	Earth's History & Systems (no kit)	ME-ESS2-1 MS-ESS2-4 MS-ESS3-1	What happens as water changes state? What can we tell by observing rocks? Water entering the Geosphere.	Topographical map manipulation. Exploration of Natural Disasters through student selected research. Use the engineering design process to explore solutions to weathering and erosion. Where did the Water Go? (new in 2020)
3	Forces (TCI)	MS-PS2-1 MS-PS2-2 MS-PS2-4 MS-PS3-1 MS-PS3-5	Rube Goldberg Machines	DE-EOU (Force & Motion) in small groups Use the engineering design process to plan, build, and present a Rube Goldberg Machine.

Tri-mester	Unit Topic (Using Coalition Kits)	Performance Expectations	Unit Phenomenon	Sample Student Activities Assessment
Seventh Grade				
1	Matter (TCI)	MS-PS1-1 MS-PS1-2 MS-PS1-3 MS-PS1-4 MS-PS1-5	To create stage makeup, chemists must account for the properties of the substances they will use. Water appears to disappear when boiled. Why doesn't it break?	DE-EOU (Properties of Matter) in small groups for part, with part as a summative assessment. Students use the engineering design process to plan and design investigations chemical reactions, and make sense of information to describe the impacts of synthetic materials. Students use different tools to model simple molecules and more complex extended structures. Students identify unknown substances found at a fictional crime scene. Students predict state changes as a result of pressure and temperature changes. Students discover how the motion of particles is related to the thermal energy of a substance and the heat it gains or loses from other substances. They use this dicover to to revise their initial models of matter.
1 & 2	Cells, Genetics, & Heredity	MS-LS1-1 MS-LS1-2 MS-LS1-3 MS-LS3-1 MS-LS3-2	Why do cats have different hair color and length? Killer T-Cells White blood cells Inner Life of a Cell	Antibiotic Resistance History of Life on Earth The Evolution of Life Human Impacts on Evolution Students design and create a model of a cell from edible material How has the opposable thumb affected human survival? Students plan a Trait Trek to Madagascar.

3	Adaptations	MS-LS4-1 MS-LS4-2 MS-LS4-3 MS-LS4-4 MS-LS4-5 MS-LS4-6	Similar fossils have been found in the same aged rock in fossil digs that are over 100 miles apart. Natural Fish Lure	Students assume the role of paleontologist and collect data from one of six fossil sites around the world. They will analyze the data to find patterns. Students use the engineering design process to design a tool to extract a plaster model of a fossil, develop possibly solutions to problems they encounter, and evaluate their designs. Students construct a scientific explanation based on evidence obtained from sources. Look who's coming to Dinner: students formulate a hypothesis, test data, and

Tri-mester	**Unit Topic (Using Coalition Kits)**	**Performance Expectations**	**Unit Phenomenon**	**Sample Student Activities & Assessment**
Eighth Grade				
1	Transformation of Energy & Waves (TCI)	MS-PS3-1,2,3 MS-PS4-1 MS-PS4-2 MS-ETS1-1 MS-ETS1-3	Ruben's Tube Self-leveling pool table	DE-EOU (Transformation of Energy) as a summative assessment. Ocean Waves (crosscurricular with Math) Forces & Non-contact forces How does the mass and speed of a go-kart affect the forces involved in collision? Use a slinky to model a wave and create a plan for erosion.
2	Weather & Climate (TCI)	MS-ESS2-6	Build a Mountain to increase rainfall Dark Snow Project	DE-EOU (Weather and Climate) as a summative assessment. Four Cities
3	Ecosystems: Interactions, Energy, and Dynamics (TCI)	MS-LS1-6,7 MS-LS2-1,2,3,4,5	Attack of the killer fungi Too much of a good thing?	Resources in Ecosystems Energy & Matter in Ecosystems Humans & Changing Ecosystems

Science & Engineering Practices and Crosscutting Concepts

		Science & Engineering Practices								
Crosscutting Concepts		Asking Questions & Defining Problems	Developing & Using Models	Planning & Carrying Out Investigations	Analyzing & Interpreting Data	Using Mathematics & computational thinking	Constructing Explanations & Designing Solutions	Engaging in Argument from Evidence	Obtaining, Evaluation, and Communicating Information	All domains
	Patterns	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Cause & Effect	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Scale, Proportion, & Quantity	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Systems & System Models	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Energy & Matter	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Structure & Function	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	
	Stability & Change	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	K – 8	

As Providence Creek Academy continues to embrace the Next Generation Science Performance Expectations, each team will utilize PLC time on a monthly basis to address the Practices and Crosscutting Concepts above. Given a blank chart during PD week, we will fill in the chart as we progress through the year, noting the practices and concepts that we are exploring with our students. The goal for each grade-band team to address each block over the course of the schoolyear.

Providence Creek Academy

Sample Kindergarten Lesson

Adapted from Push, Pull, Go!

<table>
<tr><td>Standards:</td><td>Phenomenon:</td><td>Crosscutting concepts:</td><td>Disciplinary Core Ideas:</td><td>Science & Engineering Practices:</td></tr>
<tr><td>Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object.</td><td>What happens when we use different strengths and directions of pushes and pulls on the motion of an object?</td><td>Cause & Effect</td><td>PS2.A: Forces & Motion
PS2.B: Types of interactions
PS3.C: Relationship between Energy and Forces</td><td>Asking questions and defining problems.
Planning & Carrying out Investigations.
Analyzing & Interpreting Data.
Constructing explanations.</td></tr>
<tr><td colspan="4">Lesson Specific Objective: Use common playground equipment to continue building understanding of force and motion.</td><td rowspan="2">Essential Question:
What makes the ball go?
How can we make a plan to figure out a scientific answer?</td></tr>
<tr><td colspan="4">This 45 minute lesson occurs on Day 2 of this unit.
This unit takes approximately 2 weeks.</td></tr>
</table>

Push, Pull, Roll Extension

Vocabulary: Push, pull, force, motion

Materials: Different playground balls, Anchor Chart labeled “Our Ideas about Force” and “Our Ideas about Motion”, Student Science Journals.
*This lesson takes place partially outside.

Kindergarten Activity Plan

Engage (5 minutes): Class begins outside with students seated. Teacher rolls a ball against a backdrop and challenges the students to use their new vocabulary words to discuss their observations through turn and talk. What do we notice? What would we wonder?
Explore (10 minutes): Teachers will pose 3 questions. (Can any of these playground balls move on their own? What can make them move? How can I make one move without touching it with any part of my body?) Students plan how to use the playground balls to answer those three questions. Teacher notes plan on Anchor Chart. Explore: (15 minutes): Students investigate in their groups. Teachers may utilize collaborative group roles or partner roles. Teacher circulates to facilitate with sharing, on-task activity, and questioning. **Sample Questions to further thinking:** How is what stopped the ball a force? What can change the direction of the ball? How is what changed the direction of the ball a force? What is the same about the red ball and the green ball as we roll them? Why did the red ball go farther when Student A rolled it? You said you rolled the yellow ball harder (used more force), but it didn't go as far as the blue one. Why do you think that happened? How can you test that idea?
Explain (10 minutes): Students note their observations in their Science Journals by drawing pictures.
Evaluate (5 minutes): Students share in groups what they learned. One student per group shares the group evaluation with the class. Student notes are logged on the classroom Anchor Charts, "Our Ideas about Force" and "Our Ideas about Motion".
Next Steps (3 minutes): How can we continue to explore force and motion tomorrow with the swing set?

Providence Creek Academy

Sample 4th Grade Lesson

Adapted from Structures of Life

Standards:	Phenomenon:	Crosscutting concepts:	Disciplinary Core Ideas:	Science & Engineering Practices:
Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.	Butterfly Eye or Desert Beetle harvesting water	Cause & Effect	L.S4.B: Natural Selection	Constructing explanations and designing solutions. • Use evidence to construct and explanation
Lesson Specific Objective: Investigate the external structures of a beetle to analyze the impacts of those structures on its status as predator or prey				Essential Question: What can we learn about a beetle by observing its external structures?
This lesson takes 60 minutes. This unit takes approximately 3 weeks.				

External Structures of a beetle

Tier 2 Vocabulary: antennae, joint, predator, prey, pinchers, structure, territory, external

Tier 3 Vocabulary: Abdomen, adaptation, nocturnal, stridulating

Materials: Bess beetles, bess beetle bins, paper towel tunnels (one per group), magnifying strips, observation sheet, journal section of science binder, pencil, Smart Board, sticky notes, “Look What Stuck With Us” Anchor poster.

4th Grade Activity Plan

Engage (5 minutes): Students will view the butterfly eye phenomenon and turn and talk to discuss what they notice and what they wonder. A visual noise level monitor will be running on the Smart Board to help the students monitor their noise level, as beetles are sensitive to loud noises.
Explore (10 minutes): Teachers will post a photo of a bess beetle on the Smart Board and pose 3 questions. (How can we study the external structures of a beetle? What might those external structures tell us? The beetles that we will be studying today are all the same species; what can the differences between individual beetles tell us?) Students plan together how to use their materials to answer those three questions. Teacher notes plan on the Smart Board as groups note their plan in their Science Journals. Explore (15 minutes): Students use magnifying strips to investigate the beetles their groups. They note their observations on their observation sheet per their classroom routines. Explore (15 minutes): Student groups receive a crayfish. Students use magnifying strips to compare the beetle behavior and body parts to the crayfish behavior and body parts. **Sample Questions to further thinking:** Which of the external body structures indicate a defense against a predator? Which of the external body structures indicate a weakness against a predator? What do you think the pinchers do? What differences do you observe between the beetle and the crayfish? What do those differences lead us to conclude? How else can you make an observation? What else would be helpful to know?
Explain (10 minutes): Students note their “After Action Report” in their Science Journals by drawing pictures and writing bullet point key observations.
Evaluate (5 minutes): Students share in groups what they observed and what questions they now have as a result of their learning. One student per group shares the group evaluation with the class. Student notes are logged on the classroom “Look What Stuck With Us” Anchor Chart.
Next Steps : What other structures can we investigate to further inform our thinking on the structures of life?

Providence Creek Academy

Sample 6th Grade Lesson

Adapted from TCI for **Virtual Learning**: Rotation & Revolution

Standards:	Phenomenon:	Crosscutting concepts:	Disciplinary Core Ideas:	Science & Engineering Practices:
Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.	Total Solar Eclipse	Patterns	ESS1.A: The Universe and its Stars ESS1.B: Earth & the Solar System	Developing & Using Models • Develop & use a model to describe phenomena
Lesson Specific Objective: Use a model to sense of the relationship of the earth to the sun.				Essential Question: How can we model
This 45 minute lesson occurs on Day 2 of this unit. This unit takes approximately 2 weeks.				

Rotation & Revolution

Vocabulary: Eclipse, rotation, revolution, universe, cyclic

Materials: Student Chrombooks. Zoom webcam session. Flipgrid student access. Student choice materials for the models.

Background Knowledge: Students have begun this unit on the Earth-sun-moon system, so have some vocabulary. Students have made models in previous units.

6th Grade Activity Plan

*Note, this has been adapted for a **Virtual class**

Engage (5 minutes): Class begins via Zoom and teacher shows a quick engagement video: Forced Perspective. Students quickly review the vocabulary from the previous lesson and then break into groups in Zoom breakout rooms to quickly discuss the activities and lessons from the previous lesson (90 seconds).
Explore (10 minutes): Teachers will pose 3 questions. (What are the benefits of using a model to describe a phenomenon? How can students plan and use available materials at their disposal to make a model of the Earth in relation to the sun. How can some groups work together if we are in different houses?) Explore: (15 minutes): Students plan their models and submit their plans via Schoology. In this virtual platform, students may work independently or in groups of up to 3 with a plan for collaboration. **Sample Questions to further thinking:** How does scale factor into this plan? What else might you use? Can your iPhone be used to help with perspective? How?
Explain (HOMEWORK): Students create a flipgrid video that demonstrates their model. Their model should be clearly visible, and there should be an explanation – either a voiceover or some type of labeling system that is shown in their video. Flipgrids will be turned in via Schoology.
Evaluate (explored further in Lesson 3): Students will share their videos with the class and work in groups to decide how each could be improved.
Next Steps after lesson 2 Closure: How can your model show your understanding of our phenomenon? (after lesson 3): How does understanding the Earth and its place in the Universe impact our daily lives?

High Quality Instructional Materials

Providence Creek Academy Science teachers are working to incorporate the big ideas of the Next Generation Performance Expectations into daily science experiences for students. We are moving away from what students learn and moving to a science class that offers students the opportunity to create learning experiences that bring science to life.

Providence Creek Academy is a proud member of the Delaware Science Coalition. As the coalition gradually moves from kits that focus on "what" we are learning and adopt kits that lay out a path for student exploration, we are doing our best to use the materials from the kits in a more student-centered fashion. An example of this is the included 4th grade lesson. Instead of using the lesson as developed, the teacher has adapted the lesson to encourage the students to be in control of the investigation and develop ownership of their learning. Our Upper School teachers adapt the TCI materials in a similar fashion, encouraging the students to drive their learning as often as possible. This student-centric approach is bridging the gap while the coalition works to replace all of the kits.

Additionally, we have begun integrating the Delaware End Of Unit tests into our teaching. PCA teachers are using them primarily in the earlier grades as learning experiences. These provide opportunities for rich, student-focused discussions that allow students to access "test" questions in a stress-free experience.

As we seek out additional resources to bolster the materials we receive through the Coalition, PCA will be exploring Open Sci Ed and PhD Science to determine suitability for inclusion in our scope and sequence.

Science Walk Through Tool

Providence Creek Academy currently uses our own teacher walk-through and evaluation tool, the PCAAT. To further delve into the specifics of a science lesson, this year, we will be exploring the Walk-through tool in Engaging Students in Science using GRC (Moulding, Huff, & van der Veen, 2017).

Professional Development Plan

Providence Creek Academy had begun our transition to becoming a Next Generation aligned school and was working with DOE when the state experienced the COVID 19 shut-down. Several planned events were canceled that we plan to reschedule as soon as we are able. Those include: NGSX training for teachers, NGSS training through DOE with Model Lessons and a focus on 3D teaching, and NGSS training with DOE: focus on Assessment. This year, Providence Creek Academy is focusing on 3D teaching and learning in a virtual format. Due to the current pandemic, we have shifted our timeline and incorporated virtual learning into professional learning communities. Our tentative timeline is:

- 2020-2021: NGSS Training through DOE, Model Lessons
- 2020-2021: Next Gen in a Virtual World training at PCA, focus on phenomenon, computer skills for productive talk, and equity
- 2021: NGSX Training for teachers through DOE
- 2021-2022: NGSS Training through DOE, focus on Assessment
- 2022: NGSX training for teachers through DOE

Trending To Equity

Equity remains a top priority at PCA. As we adapt to the big idea of learning during a pandemic, PCA teachers are making a concerted effort to provide learning opportunities that enable all students to access knowledge. As students learn to incorporate productive talk during webinars and other virtual settings, teachers are making sure to facilitate learning opportunities that encourage students to experience and explain their world using vocabulary that is comfortable to them. Teachers will then capture the excitement and introduce vocabulary to expand their learning, instead of dictating it. Further, during the pandemic, PCA has provided computer hardware and internet service to those students learning remote who might otherwise be unable to access their online classrooms.