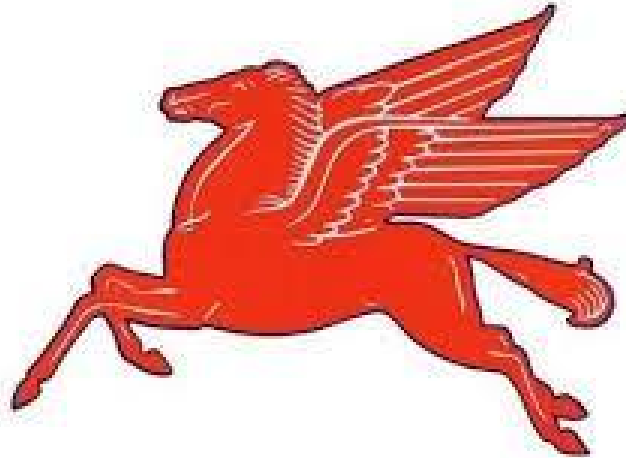


Curriculum Management System

PAULSBORO PUBLIC SCHOOLS



Science Grade 5

UPDATED May

For adoption by all regular education programs as specified and for adoption or adaptation by all Special Education Programs in accordance with Board of Education Policy.

Board Approved: 2022

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Paulsboro Public Schools

Mission Statement

The mission of the Paulsboro School District is to work with students, parents, educators, and community to develop excellence in education while preparing each student to be viable and productive citizens in society. Our goal is to develop the unique potential of the whole student by creating a challenging and diverse learning climate that prepares students for the 21st Century and is rich in tradition and pride.

PACING CHART

TOPIC	# OF DAYS	DATES	COMMENTS
Unit 1 Matter <ul style="list-style-type: none"> Lesson 1 	5	MP 1	Focus on the properties of matter The lab should be done about day 2 Review on the last day and use it for a possible informative assessment.
Unit 1 <ul style="list-style-type: none"> Lesson 2 	5	MP 1	Focus on Mixtures and Solutions Day 1 – 19-21 Intro The lab should be done about day 2 Review on the last day and use it for a possible informative assessment Day 4 pg 28 (Optional Lab pg 29)
Unit 1 <ul style="list-style-type: none"> Lesson 3 	5	MP1	Focus on Physical and Chemical Changes The lab should be done about day 2 Review on the last day and use it for a possible informative assessment
Unit 1 <ul style="list-style-type: none"> Lesson 4 	5	MP1	Focus on Solid Liquids Gas The lab should be done about day 2 Review on the last day and use it for a possible informative assessment
Unit 1 Test	1	MP1	Assessment after 4 lessons are complete
Unit 2 Module 1 <ul style="list-style-type: none"> Lesson 1 	4	MP1	Focus on plant survival Skip the lab Day 2 go to the reading page 10 and 11 Day 3 talk about soilless gardens Day 4 review
Unit 2 Module 1	4	MP1	Focus on Interactions of Living Things Day 1 go to page 21

<ul style="list-style-type: none"> Lesson 2 			<p>Day 2 complete lab but complete steps 1 and 2 ahead of time and omit question 7</p> <p>Day 3 page 26</p> <p>Day 4 Review</p>
<p>Unit 2 Module 1</p> <ul style="list-style-type: none"> Lesson 3 	4	MP1	<p>Focus on Decomposers</p> <p>For the lab if you prepare ahead of time you can do all observations in one class period. Make a five days, four days, three days, two days and one day bag prior to investigation.</p>
<p>Unit 2 Module 1</p> <p>Test</p>	1	MP1	<p>Assessment on Module 1 after 3 lessons are completed and reviewed.</p>
<p>Unit 2 Module 2</p> <ul style="list-style-type: none"> Lesson 1 	4	MP1	<p>Focus on Earth's Major Systems</p> <p>The lab should be done about day 2</p> <p>Review on the last day and use it for a possible informative assessment</p>
<p>Unit 2 Module 2</p> <ul style="list-style-type: none"> Lesson 2 	4	MP1	<p>Focus on Cycles of Matter in Ecosystems</p> <p>The lab should be done about day 2</p> <p>Review on the last day and use it for a possible informative assessment</p>
<p>Unit 2 Module 2</p> <ul style="list-style-type: none"> Lesson 3 	4	MP1	<p>Focus on Energy Transfer in Ecosystems</p> <p>The lab should be done about day 2</p> <p>Review on the last day and use it for a possible informative assessment</p>
<p>Unit 2 Module 2</p> <p>Test</p>	1	MP1	<p>Assessment on Module 1 after 3 lessons are completed and reviewed.</p>
<p>Unit 3 Module 1</p> <ul style="list-style-type: none"> Lesson 1 	4	MP3	<p>Focus on Water Distribution on Earth</p> <p>Read pages 12 and 13 on day 2.</p> <p>Skip the second Inquiry Activity, pg 14-15</p> <p>Review day 4</p>
<p>Unit 3 Module 1</p> <ul style="list-style-type: none"> Lesson 2 	4	MP3	<p>Focus on Human Impact on Water Resources</p>

			Skip this lab to be able to finish within 4 days.
Unit 3 Module 1 ● Lesson 3	4	MP3	Focus on Effects of the Hydrosphere Save Talk about it for day 4 For the lab save time by having stations set up and complete step 1 ahead of time for student groups. Have water premeasured.
Unit 3 Module 1 ● Test	1	MP3	Assessment on Module 1 after 3 lessons are completed and reviewed.
Unit 3 Module 2 ● Lesson 1	4/5	MP3	Focus on Effects of the Geosphere To save time skip page 69. Do the readings on day 3 pages 70-75. Review on the 4 th day. You could also break the readings up and do 74-75 on the fourth day or there is some flexibility here to add a 5 th day in if needed.
Unit 3 Module 2 ● Lesson 2	4	MP3	Focus on Effects of the Atmosphere To save on time read pages 90-91 on the first day of this lesson after the encounter. Begin close read on day 3 and if you can't finish move into day 4. End day four with review.
Unit 3 Module 2 ● Lesson 3	4	MP3	Focus on Effects of the Biosphere To save time skip the second inquiry activity on pages 108-109
Unit 3 Module 2 Test	1	MP3	Assessment on Module 2 after 3 lessons are completed and reviewed.
Unit 4 Module 1 ● Lesson 1	4	MP3	Focus on The Role of Gravity

			To save time skip the first inquiry activity. After the encounter on day 1 go straight to page 12 on day 2
Unit 4 Module 1 • Lesson 2	4	MP3	Focus on Earth's Motion To save time for the lab observe and measure your own shadow ahead of time. Present the data and photos of the shadows throughout the day to the class. Have them complete steps 7-10 Do the simulation: Earth's Movements on day 4. Skip 31-32 and complete 40-41
Unit 4 Module 2 • Lesson 1	4	MP3	Focus on Earth's Place in Space To save time for the lab complete steps 1-3 ahead of time for students groups.
Unit 4 Module 2 • Lesson 2	4	MP3	Focus on Stars and Their Places To fit in the reading you could read pages 74-75 on the first day after the encounter. Do simulation on Day 4
Unit 4 Test	1	MP3	Assessment on Both modules, because the number of lessons per module is low.

MODIFICATIONS

Special Education:

Accommodations will be made in accordance with students' IEPs and 504 plans. The following provides examples and are not limited:

- Shorten assignments to focus on the mastery of key concepts – classroom/homework.
- Alternatives for written assignments in a hands-on activity assignment such as clay models, posters, panoramas, collections – visual, auditory or kinetics assignments.

- Modified textbooks.
- Organize workspaces in a clear environment from unrelated materials.
- Provide technology in lieu of written work.
- Provide verbal/visual aids to assist with comprehension.
- Have students repeat/paraphrase directions and understandings of concepts during/after lessons are taught.
- Number and sequence the steps in task.
- Provide directions in small steps and in few direct words.
- Maintain adequate space for students – preferential seating.
- Provide an unobstructed view of boards, teacher and screens so students are not distracted and can follow along easily.
- Have seating in classroom in optimal proximity to positive role models or teachers to assist during the day.
- Provide differentiated assessments that coincides with a students' learning style to aid in analyzing the comprehension and mastery of skills including verbal test such as an independent project.
- Show a model of the end product of directions.
- Extended time on tests assignments.
- Mark correct answers rather than incorrect answers.
- Use a pass-fail or an alternative grading system when the student is assessed on his or her own growth.

- Frequent breaks.
- Excused lateness, absence, or missed work.
- Pre-approved nurse's visits and accompaniment to visits.

English Language Learners:

Accommodations include, but not limited to:

- Alternative responses for comprehension – gestures, drawings.
- Extended time on assignments and assessments.
- Teacher modeling – Hands - on activities and explanations.
- Simplified written and verbal instructions.
- Use reduced text so print is not so dense.
- Use translation to locate words in the native language.
- Use English Learners resources such as study guides, assessments and a visual glossary.
- Google Translate.

At-Risk Students:

Accommodations include, but not limited to:

- Have student restate information.

- Provisions of notes or outlines.
- Concrete examples.
- Assistance in maintaining uncluttered space.
- Weekly home-school communication tools -notebook, daily log, phone calls or email messages.
- Peer or scribe note-taking.
- Use of manipulatives.
- No penalty for spelling errors or sloppy handwriting.
- Follow a routine/schedule.
- Teach time management skills – Self-management.
- Verbal and visual cues regarding directions and staying on task.
- Adjusted assignment timelines.
- Visual daily schedule.
- Immediate feedback.
- Work-in-progress check.
- Pace long-term projects.
- Preview test procedures.
- Film or video supplements in place of reading text.
- Pass/no pass option.

- Cue/model expected behavior.
- Use peer supports and mentoring.
- Have parent sign homework/behavior chart.

Gifted and Talented Students:

Accommodations include, but not limited to:

- Offer choice.
- Speak to student interests.
- Allow G/T students to work together.
- Tiered learning.
- Focus on effort and practice.
- Encourage risk taking.
- Utilize Pre-AP Resources such as the pacing, assignment and best practices guide.

Unit 1

Big Idea: Investigate Matter

NJSLS - Science:

- 5-PS1-1 – Develop a model to describe the matter is made of particles too small to be seen.
- 5-PS1-2 – Measure and graph quantities to prove evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.
- 5-PS1-3 – Make observations and measurements to identify materials based on their properties.
- 5-PS1-4 – Conduct an investigation to determine whether the mixing of two or more substances results in new substances.
- 3-5-ETS1-3 – Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Related Interdisciplinary Standards:

Mathematics -

- 5.MD.A.1 - Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems."
- 5.MD.C.3 - Convert among different-sized standard

Critical Knowledge and Skills

Concept(s):

Students will identify properties of materials. Students will understand the difference between a mixture and solution. Students will understand the difference between a physical and Chemical Change. Students will understand the difference between a solid, liquid and gas.

Students are able to:

- SWBAT – identify the properties of matter
- SWBAT – Understand what happens when different materials are mixed together.
- SWBAT – understand how matter changes when it interacts with other matter.
- SWBAT – understand and identify the differences between solid, liquids, and gases.

Learning Goal(s):

- Students will observe and produce data to identify materials based on their properties.
- Students will use mathematical and computational thinking to determine if mixing substances causes a change in mass.
- Students will plan and carry out investigations to determine if mass is conserved after matter undergoes a chemical or physical change.
- Students will use models to show the scale and organization of particles in matter. Students will investigate how the arrangement of particles affect the properties of matter.

measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these conversions in solving multi-step, real world problems.

- 5.MD.C.4 - Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.
- 5.NBT.A.1 - Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

English Language Arts –

- W.5.7 - Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.
- W.5.8 - Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes

Formative/Summative Assessments

Including, but not limited to:

Formative: participation in team activities, research, verbal communication, observations, experiments, initial models, Google reflection forms/exit tickets

Summative/Topic: Interactive Science assessments, formal lab sheets, experiments, final model and final Scientific Explanation (CER)

Primary & Supplementary Resources

- Interactive Science Series
- Trade Books/ Classroom Library
- Manipulatives
- NJ DOE Model Curriculum
- NGSS
www.nextgenscience.org/
- NSTA www.nsta.org/
- Student Chromebook use
- Microscopes, prepared slides
- The Science Spot
- Game On: Online Science Games
- Education.com activities and experiences
- Numerous internet sites, references, digital media, Discovery Education Streaming Plus
- Teachers pay Teachers

and finished work, and provide a list of sources.

- W.5.9 - Draw evidence from literary or informational texts to support analysis, reflection, and research.
- RI.5.7 - Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

UNIT 2

Big Idea: Ecosystems

Topics : Matter in Ecosystems Energy in Ecosystems

NJSLS - Science:

Matter in Ecosystem Standards –

- 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.
- 5-LS2-1 – Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

Energy in Ecosystems Standards

- 5-ESS2-1 – Develop a model using an example to describe the ways in which the geosphere, biosphere, hydrosphere and/or atmosphere interact.
- 5-LS2-1 - Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
- 5-PS3-1 Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

Related Interdisciplinary Standards:

Critical Knowledge and Skills

Concept(s):

Matter in the Ecosystem - Students will learn about plant survival. They will look at the interactions of Living Things. They will understand the roll of decomposers.

Students are able to:

Learning Goal(s):

Matter in Ecosystems

- SWBAT understand what plants need to survive
- SWBAT understand what happens when different materials are mixed together.
- SWBAT understand the role of decomposers in an ecosystem.

Energy in Ecosystems

- SWBAT understand how energy is transferred in an ecosystem.
- SWBAT understand what the Earth's major systems are.

Matter in Ecosystems

- In this module, students will learn about different types of matter in ecosystems and how the types of matter interact.
- Students will support an argument that most of the mass of a plant is obtained from water and air and not from the soil.
- Students will use models to show the relationships between living things in an ecosystem.
- Students will use models to understand the role of

- RI.5.1 - Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.
- RI.5.7 - Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.
- RI.5.9 - Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably.
- SL.5.5 - Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.
- W.5.1 - Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

- SWBAT understand how matter cycle in an ecosystems.

decomposers in their place in an ecosystem.

Energy in Ecosystems

- In this module, use models to understand how energy flows within an ecosystem
- Students will use a model to identify matter on Earth as part of Earth's systems
- Students will develop and use models of how matter cycles through ecosystems. Students will also be able to explain how these cycles affect the ecosystem.
- Students will develop and use models to show how energy is transferred through an ecosystem.

Formative/Summative Assessments

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- NGSS www.nextgenscience.org/
- NSTA www.nsta.org/
- Student Chromebook use
- Microscopes, prepared slides

experiments, final model and final
Scientific Explanation (CER)

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- Game On: Online Science Games
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UNIT 3

Big Idea: Earth's Interactive Systems Topics: Earth's Water System Earth's Other Systems

NJSLS - Science:

Earth's Water System:

5-ESS2-1 -

Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS3-1 - Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

3-5-ETS1-1., Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2., Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3., Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Earth's Other System:

5-ESS2-1 -

Develop a model using an example to describe

Critical Knowledge and Skills

Concept(s):

Water Distribution on Earth. Human Impact on Water Resources. Effects of the Hydroshpere.

Students are able to:

Earth's Water System:

- SWBAT understand types of water features that are on Earth's surface.
- SWBAT understand how humans impact Earth's water.
- SWBAT understand how the hydrosphere interacts with the Earth's other systems.

Earth's Other Systems:

- SWBAT understand how the geosphere interacts with other systems.
- SWBAT understand how the atmosphere interacts with other systems.

Learning Goal(s):

Earth's Water System:

- Students will understand the effects humans have on Earth's water sources as well as the location and amount of water on Earth's surface.
- Students will use mathematics to graph the amounts of usable fresh water on Earth.
- Students will explain the positive and negative impact that humans can have on water resources.
- Students will develop and use models to show how

ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

5-ESS2-2 - Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

5-ESS3-1 - Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

3-5-ETS1-1., Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

3-5-ETS1-2., Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3., Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Related Interdisciplinary Standards:

5.G.A.2 - Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.

MP.2 - Reason abstractly and quantitatively.

MP.4 - Model with mathematics.

- SWBAT understand how the biosphere interacts with other systems.

the hydrosphere interacts with Earth's other systems.

Earth's Other Systems:

- Students will develop and use models to show how Earth's major systems interact.
- Students will develop and use models to show how the geosphere interacts with Earth's other systems.
- Students will develop and use models to show how the atmosphere interacts with Earth's other systems.
- Students will develop and use models to show how the biosphere interacts with Earth's other systems

Formative/Summative Assessments

Including, but not limited to:

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Summative/Topic: Interactive Science assessments, formal lab sheets,

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RI.5.7 - Draw on information from multiple print or digital sources, demonstrating the ability to locate an answer to a question quickly or to solve a problem efficiently.

LS.5.5 - Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.

W.5.8 - Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

W.5.9 - Draw evidence from literary or informational texts to support analysis, reflection, and research.

experiments, final model and final Scientific Explanation (CER)

- Student Chromebook use
- Microscopes, prepared slides
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UNIT 4
Big Idea: Earth and Space Patterns
Topics: Earth's Patterns and Movement
Earth and Space

NJSLS - Science:

5-ESS1-1 -
 Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from the Earth.

5-ESS1-2 – Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.

5-PS2-1 -
 Support an argument that the gravitational force exerted by Earth on objects is directed down.

Related Interdisciplinary Standards:
 ELA W.5.10 - Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of

Critical Knowledge and Skills

Concept(s):

The role of gravity. Earth's motion. Earth's Place in Space. Stars and Their Patterns.

Students are able to:

Earth's Patterns and Movement

- SWBAT understand that gravity pulls on objects.
- SWBAT understand how the Earth moves through space.

Earth and Space

- SWBAT understand where the Earth is located in space.
- SWBAT understand what causes some stars to be brighter than others.

Learning Goal(s):

Earth's Patterns and Movement

- In this module, students will gain and understanding of role of gravity in relation to patterns of the Earth and Moon
- Students will support an argument that gravity causes objects to be pulled towards the center of Earth.
- Students will model the movement of Earth in relationship to other objects in space

Earth and Space

- In this models, students will apply their understanding of Earth's patterns and knowledge of the Sun and other Star's distance from

discipline-specific tasks, purposes, and audiences.

ELA W.5.7 - Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic.

Math 5.NF.B.6 - Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

Math 5.MD.B.2 - Make a line plot to display a data set of measurements in fractions of a unit ($\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{8}$). Use operations on fractions for this grade to solve problems involving information presented in line plots.

Earth to design a model of a constellation.

- Students will explain Earth's location within the universe.
- Students will support an arguments that some stars appear brighter than others due to their relative distances.

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