PREKINDERGARTEN
DIGGING UP THE PAST: UNIT 5

CONCEPTS AND ENDURING UNDERSTANDINGS:

Unit: Digging Up The Past/Dinosaurs   **Time Frame:** Four Weeks

Key Concepts: Paleontologist, fossil, dinosaur, endangered

Concept Overview: *Paleontologists study fossils in order to learn about life on earth millions of years ago.*

ENDURING UNDERSTANDINGS:

- Scientists learn about life on earth a long time ago by studying fossils i.e., size, movement, physical features, babies, food, and protection.
- A paleontologist is a scientist who studies fossils to find out about life on earth long ago.
- Scientists use a variety of tools to dig for fossils.
- Long ago the earth looked different than it does today.
- Dinosaurs were reptiles that lived millions of years ago. Like all living things they have physical features that helped them live/meet their needs as they interacted with the environment.
- Many plants and animals that lived on earth long ago are no longer alive (extinct).
- Scientists have different theories about why dinosaurs became extinct.
- Many species alive may become extinct.

ESSENTIAL QUESTION:

1. How do scientists learn about life on earth from long ago?

GUIDING QUESTIONS:

1. How do people know about dinosaurs?
2. Who are paleontologists and what do they do?
3. What are fossils? Why are they important? What information do they tell us about dinosaurs?
4. What tools do paleontologists use? How does each tool help paleontologists do their work?
5. What do the physical characteristics of dinosaurs suggest about the way they lived on earth long ago and what earth looked like then?
6. Why did dinosaurs die?
7. What animals alive today could be related to dinosaurs?

Lesson Sequence

Children will sort animals into dinosaurs and not dinosaurs and tell what they know about dinosaurs.

2. Children will identify dinosaurs as reptiles and construct a dinosaur.

3. Children will match objects with fossil imprints and make a fossil.

4. Children will define paleontologist and explore the tools he/she uses to do his/her job.

5. Children will act like a paleontologist to dig for fossils and sketch their findings to make field notes.

6. Children will discover the purpose of museums and create a classroom museum.

7. Children will research in books and create a dinosaur habitat that shows what the world looked like when the dinosaurs were alive (water, land, and sky).

8. Children will research to find out how dinosaurs made nests and sequence pictures to show how dinosaurs made nests.

9. Children will use books, pictures, and models to identify how dinosaurs were alike and record their findings.

10. Children will use books, pictures, and models to identify how dinosaurs were different and record their findings.

11.Children will identify physical features some dinosaurs had for self-defense and "invent" a dinosaur with self-defense mechanisms and explain their creation.

12. Children will sort dinosaurs on basis of their diet (meat vs. plant eaters) and draw conclusions about what information fossils showed about dinosaurs.

13. Children will sort dinosaurs into herds and examine the advantages of living in a herd.

14. After using fossil clues to conclude different ways dinosaurs moved, children will move like two-legged and four-legged dinosaurs.

15. Children will measure dinosaurs and draw conclusions about one way dinosaur fossils showed how dinosaurs differed.

16. Children will research and construct theories about why the dinosaurs became extinct.

17. Children will identify reasons why today's animals may become endangered and make posters to help endangered animals.

18. Children will research to find out what animals alive today could be related to dinosaurs and make a comparison drawing of each.

19. Children will celebrate their research on dinosaurs by sharing their dinosaur projects.

Reading English Language Arts

https://www.marylandpublicschools.org/programs/Documents/ELA/Standards/Grades_PK_K_MCCR_ELA%20Standards.pdf

Digging Up the Past 4 Weeks	Read Aloud/ Book and Print Daily Essential Question: How can we be star readers? Why do we read? What makes a great story? How do words and pictures help tell a story?	Phonological Awareness Daily (Heggerty)	Alphabetic Awareness Day 1 Identify and construct. Day 2 Letter Sound Essential Question: Why is it important to know about letters	Writing 2 Days Essential Questions: How can we represent thoughts and ideas? How can we be rising writers? Why are we writing and for whom? How do writers get their ideas?	Word Work/ Phonemic Awareness Day 5 Essential Question: Why is it important to identify the differences in sounds? • How are words made to convey meaning?
	• Define illustrations/pictures. Illustration shows what the print says. Illustrations match the pictures. Illustration also tells the story. • Define and Compare Characters • Define Setting Identity other stories that happened in a similar place. What time (of day, year) was it? • Use books to conduct research. • Recall one or more details in the story. • Tracking Print Identify and define words and spaces. Show where a word begins and ends. Locate spaces. • Answer and ask questions about text. • Participate in group reading activities • Gain exposure to common types of literary text. • Connect text to life experiences. • Retells stories and poems: a story tells what happens in a logical order. Recalls main idea and details of story	Heggerty Week 16- 19	• Identify, construct and tell sound of letter Pp. • Identify, construct and tell sound of letter Bb. • Identify, construct and tell sound of letter Rr. Identify, construct and tell sound of letter Kk.	**Independent Writing (Teacher delivers a 7–10-minute mini lesson to model writing processes and habits. Students independently apply new skills. Teacher conferences and collects data during independent writing time)** • Participates in shared research and shared writing projects. • Use a combination of drawing, dictating, or developmentally appropriate writing to state information on a topic and supply facts about the topic. • With modeling and support recall information from experiences or information from provided sources to answer a question. • Label Drawing • Print upper and lowercase letters in first name. • Understands words are separated by spaces in print.	• Identify and isolate individual words in a spoken sentence, count words. • Isolate and pronounce the initial sound in spoken words. • Snap Word we We will identify and build we. • Snap Word read We will identify and build read.

MATHEMATICS

https://www.ixl.com/standards/maryland/math/pre-k

Counting and Cardinality	Operations and Algebraic Thinking	Measurement and Data	Geometry
Essential Question: • What is counting and how is it used?	**Essential Questions:** How can we represent quantities in different ways?	**Essential Questions:** • How can we compare groups of objects? Why and how can we sort objects?	**Essential Questions:** • How can we create different shapes using different materials? • What whole can be made from these parts and what parts make this whole? Is there a pattern?
For quantities of 0-6,demonstrates understanding of the following: • Rote count to 15 (PK.CC.A.1) • Numerical order before/after (PK.CC.A.2) • Number recognition (PK.CC.A.2 PK.CC.A.3) • Match numbers and quantities (PK.CC.A.4 PK.CC.B.4) • 1:1 correspondence (PK.CC.B.4 PK.CC.B.4a) • Identify and count collections (PK.CC.B.4 PK.CC.B.4a PK.CC.B.4b PK.CC.B.4c) • Counting order (PK.CC.A.2 PK.CC.A.4)	• Represent simple addition and subtraction problems with objects, fingers, mental images, drawings, sounds acting out situations, or verbal explanations up to 5 (PK.OA.A.1) • For any quantity 1-5, use objects or drawings to find the quantity that must be added to make 5 (PK.OA.A.3) Decompose a quantity, less than or equal to 5, then to 10 into pairs in more than one way by using objects or drawings (PK.OA.A.2)	• Describe and compare items by size, height, length, and weight (PK.MD.A.1) • Identify bigger/smaller, taller/shorter, longer/shorter, lighter/heavier (PK.MD.A.2) • Sort objects 2 ways (shape, color, and size) (PK.MD.B.3) • Compare groups of objects to determine same/more (PK.MD.B.4) Organize and interpret data on picture/real graphs (PK.L.5.a,b)	• Define, recognize, copy and extend 2 item visual patterns • Assemble up to a 10 piece puzzle

• Use a 10-frame to show and count quantities (PK.CC.B.4b, PK.CC.B5) • Construct collections (PK.CC.B.4 PK.CC.B.4a PK.CC.B.4b PK.CC.B.4c PK.CC.B.5) • Recognize quantity/subitizing (PK.CC.A.4) • Compare collections to tell if same, greater than or less than (PK.CC.C.6) Counting on from a specified number (PK.CC.A.1 PK.CC.A.2 PK.CC.A.4)			

STANDARDS AND INDICATORS:

Reading English Language Arts
https://www.marylandpublicschools.org/programs/Documents/ELA/Standards/Grades_
PK_K_MCCR_ELA%20Standards.pdf

Reading: Literature
RL.PK.1. With modeling and prompting, answer questions about details in a text.
RL.PK.2. With modeling and support, retell familiar stories/poems.
RL.PK.3. With modeling and support, identify characters, settings and major events in a story.
RL.PK.4. With modeling and support, answer questions about unknown words in stories and poems.
RL.PK.5. Gain exposure to common types of literary texts (e.g., storybooks, poems).
RL.PK.6. With modeling and support, identify the role of author and illustrator.
RL.PK.7. With modeling and support, tell how the illustrations support the story.
RL.PK.9. With modeling and support, compare adventures and experiences of characters in familiar stories.
RL.PK.10. Actively engages in group reading activities with purpose and understanding.

Reading: Informational Text
RI.PK.1. With modeling and support, answer questions about details in an informational text.
RI.PK.2. With modeling and support, recall one or more detail(s) related to the main topic from an informational text.
RI.PK.3. With modeling and support, connect individuals, events, and pieces of information in text to life experiences.
RI.PK.4. With modeling and support, answer questions about unknown words in a text.
RI.PK.5. With modeling and support identify the front cover, and back cover of a book.
RI.PK.6. With modeling and support define the role of the author and illustrator/photographer in presenting the ideas or information in a text.
RI.PK.7. With modeling and support, tell how the illustrations/photographs support the text.
RI.PK.8. With modeling and support identify the reasons an author gives to support points in a text.
RI.PK.9. With prompting and support, discuss similarities and differences between two texts on the same topic (i.e. in illustrations or descriptions).
RI.PK.10. Actively engage in group reading activities with purpose and understanding.

Reading: Foundational Skills
RF.PK.1. Demonstrate understanding of basic features of print.
RF.PK.2. Demonstrate understanding of spoken words and sounds (phonemes).
RF.PK.3. Know and apply grade-level phonics and word analysis skills in decoding words.
RF.PK.4. Engage with a variety of texts (e.g., a variety of structures and/or genres) with purpose and understanding.

Writing
W.PK.1. With modeling and support, use a combination of drawing, dictating, and developmentally appropriate writing to share opinion about an experience or book.

W.PK.2. Use a combination of drawing, dictating, or developmentally appropriate writing to state information on a topic.

W.PK.3. With modeling and support, use a combination of drawing, dictating, or developmentally appropriate writing to communicate a personal story about a single event and tell about the event in a meaningful sequence.

W.PK.5. With modeling, guidance, and support from adults, review drawing, dictation or developmentally appropriate writing.

W.PK.6. With prompting and support from adults, explore a variety of digital tools to express ideas.

W.PK.8. With modeling and support from adult, recall information from experiences or information from provided sources to answer a question.

Speaking and Listening

SL.PK.1. Participate in collaborative conversations with diverse partners about pre-kindergarten topics and texts with peers and adults in small and larger groups.

SL.PK.2. Confirm understanding of text read aloud or information presented orally or through other media by asking and answering questions about key details with modeling and support.

SL.PK.3. Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

SL.PK.4. Describe familiar people, places, things, and events with modeling and support.

SL.PK.5. Add drawings or visual displays to descriptions as desired to provide additional detail.

SL.PK.6. With modeling and support, speak audibly and express thoughts, feelings, and ideas clearly.

Language

L.PK.1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

L.PK.2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

L.PK.4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.

L.PK.5. With modeling and support from adults, explore word relationships and nuances in word meanings.

L.PK.6. Use words and phrases acquired through conversation, being read to, and responding to text.

Mathematics
Mathematics: Counting and Cardinality **PK.CC.1.** Count verbally to 10 by ones. **PK.CC.2.** Recognize the concept of just after or just before a given number in the counting sequence up to 10. **PK.CC.3.** Identify written numerals 0-10. **PK.CC.4.** Understand the relationship between numbers and quantities to 5, then to 10; connect counting to cardinality. **PK.CC.5.** Represent a number (0-5, then to 10) by producing a set of objects with concrete materials, pictures, and/or numerals (with 0 representing a count of no objects). **PK.CC.6.** Recognize the number of objects in a set without counting (Subitizing). (Use 1-5 objects) **PK.CC.7.** Explore relationships by comparing groups of objects up to 5 and then10. Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies (includes groups with up to 5 objects). **Mathematics: Operations and Algebraic Thinking** **PK.OA.3.** For any given quantity from 0 to 5, use objects or drawings to find the quantity that must be added to make 5. **Mathematics: Measurement and Data** **PK.MD.1.** Describe measurable attributes of objects, such as length or weight. **PK.MD.2.** Directly compare two objects with a measurable attribute in common, using words such as longer/shorter; heavier/lighter; or taller/shorter. **PK.MD.3.** Sort objects into self-selected and given categories. **PK.MD.4.** Compare categories using words such as more or same. **Mathematics: Geometry** **PK.G.1.** Match like (congruent and similar) shapes. **PK.G.2.** Group the shapes by attributes. **PK.G.3.** Match and sort three-dimensional shapes. **PK.G.4.** Describe three-dimensional objects using attributes. **PK.G.5.** Compose and describe structures using three-dimensional shapes. Descriptions may include shape attributes, relative position, etc.

Fine Arts
Fine Arts: Visual Art **1.0 Perceiving and Responding: Aesthetic Education** Students will demonstrate the ability to perceive, interpret, and respond to ideas, experiences, and the environment through visual art. **2.0 Historical, Cultural, and Social Context**

Students will demonstrate an understanding of visual arts as an essential aspect of history and human experience.

3.0 Creative Expression and Production

Students will demonstrate the ability to organize knowledge and ideas for expression in the production of art.

4.0 Aesthetics and Criticism

Students will demonstrate the ability to make aesthetic judgments.

Physical Education
https://www.marylandpublicschools.org/about/Documents/DCAA/PE/Physical_Education_Framework_August_2022.pdf

1.0 Skillfulness

Students will demonstrate the ability to enhance their performance of a variety of physical skills by developing fundamental movement skills, creating original skill combinations, combining skills effectively in skill themes, and applying skills.

2.0 Biomechanical Principles

Students will demonstrate an ability to use the principles of biomechanics to generate and control force to improve their movement effectiveness and safety.

Science https://earlychildhood.marylandpublicschools.org/system/files/filedepot/4/msde-pedagogy-report-_appendix_2016.pdf

1.0 Skills and Processes

Students will demonstrate the thinking and acting inherent in the practice of science.

2.0 Earth/Space Science

Students will use scientific skills and processes to explain the chemical and physical interactions (i.e., natural forces and cycles, transfer of energy) of the environment, Earth, and the universe that occur over time.

3.0 Life Science

The students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.

4.0 Chemistry

Students will use scientific skills and processes to explain the composition, structure, and interactions of matter in order to support the predictability of structure and energy transformations.

6.0 Environmental Science

Students will use scientific skills and processes to explain the interactions of environmental factors (living and non-living) and analyze their impact from a local to a global perspective.

Dear Parent/Guardians,

We are beginning a new theme called *Digging Up The Past*.   This unit will help your child learn that a long time ago only plants and dinosaurs lived on the earth. Scientists learn about dinosaurs by studying fossils. By the end of this unit, your child will know what a paleontologist does and what tools a paleontologist uses to gather clues about the way dinosaurs lived a long time ago.

During *Digging Up The Past,* your child will become a paleontologist, dig for fossils and assemble bones to build a dinosaur. In the process, your child will learn about the basic methods scientists use when they investigate, such as how to gather data, how to record it and how to use the clues data provides to draw conclusions. Your child will learn some new and exciting words.   Museum, prehistoric, evidence, extinct and endangered may be some of them! Your child will distinguish dinosaur facts from dinosaur fantasy. (S)he will learn that no one has ever seen a real dinosaur because dinosaurs no longer exist.

Digging Up The Past will focus on using evidence as clues to life on earth long ago. As your child examines fossils, (s)he will acquire information about dinosaurs' physical features. Your child will learn the advantage of some dinosaur's physical features.

Your child will conduct book research to find out about dinosaurs' parenting styles and habitats. After reading, your child will create a dinosaur egg and recreate a dinosaur habitat resembling the earth long ago. Finally, your child will collect information about dinosaurs by experimenting. Through active investigation, (s)he will relate the shape of dinosaur teeth to dinosaur diets. What caused the dinosaurs to become extinct? At the end of *Digging Up The Past,* your child will use all the evidence (s)he and his or her classmates gather to offer their own theories about dinosaur extinction.

Listed below are key learning goals for your child during *Digging Up The Past*.

- Defines illustrations and pictures and know that illustrations show what the print says.
- Identifies the initial sound in a given word.
- Discriminates whether a specified sound is heard at the beginning of specified word.
- After listening to two or more words, identifies whether they do or do not begin with the same sound.
- Recognizes, names and constructs **Pp, Bb, Rr, Kk.**
- Reads sight words **will** and **at**.
- Listens to factual books; recalls some of the information.
- Uses a combination of drawing, dictating, or developmentally appropriate writing.
- Identifies, sequences, adds, subtracts and makes sets 0-6.
- Rote counts to 15.
- Compares and orders objects on the basis of size, weight, length and height.
- Identifies, repeats and extends patterns.
- Sorts objects 2 ways (shape, color, and size)