TEACHING LITERACY IN TENNESSEE: UNIT STARTER GRADE 3 ELA UNIT CONNECTED TO LIFE SCIENCE

Important Note: *The Unit Starter provides the foundation for English language arts unit planning in connection with life science. In addition to thoughtful preparation from these resources, there are additional components of the literacy block for which educators will need to plan and prepare. See page 6 for more guidance on planning for other components of the literacy block.*

TN Department of Education

TABLE OF CONTENTS

Note: A student packet with all daily tasks included can be accessed in a separate document entitled: "Grade 3 Student Packet."

GUIDANCE FOR EDUCATORS

1. WHY IS THE DEPARTMENT PROVIDING UNIT STARTERS?

The research is clear: reading proficiently—especially reading proficiently early—prepares students for life-long success. To support greater reading proficiency among all students in Tennessee, Governor Haslam, the First Lady, and Commissioner McQueen kicked off the Read to be Ready campaign in February 2016 with a goal of having 75 percent of Tennessee third graders reading on grade level by 2025. Together, we are making progress. High-quality texts that meet grade-level expectations are increasingly making their way into classrooms. Students are spending more time reading, listening, and responding to texts that have the potential to build both skills-based and knowledge-based competencies. However, the first year of the initiative has revealed a need for strong resources to support the growing teacher expertise in Tennessee.

In May of 2017, the Tennessee Department of Education released Teaching Literacy in Tennessee. This document outlines the types of opportunities students need to become proficient readers, writers, and thinkers, and includes a literacy unit design framework describing the ways that teachers can create these opportunities. This includes building rich learning opportunities around meaningful concepts within the English language arts block where students listen to, read, speak, and write about sets of texts that are worthy of students' time and attention.

The resources found in each of the Teaching Literacy in Tennessee: Unit Starters are intended to support planning for one full unit aligned to the vision for Teaching Literacy in Tennessee. They are intended to serve as a model to reference as educators continue to design units and compare the alignment of lessons to the vision for Teaching Literacy in Tennessee.

2. WHAT RESOURCES ARE INCLUDED IN A UNIT STARTER?

The Unit Starters include several of the key components in the framework for Teaching Literacy in Tennessee. These components serve as the foundation for strong unit planning and preparation.

Content Goals: Each Unit Starter begins with content goals that articulate the desired results for learners. [Adapted from McTighe, J. & Seif, E. (2011) and Wiggins, G. & McTighe, J. (2013)]

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries. This concept provides educators and students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world.

Universal Concept Example: Interdependence

Unit Concept: The unit concept is the application of the universal concept to one or more disciplines. This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning.

Unit Concept Example: Interdependence of living things

Enduring Understandings and Essential Questions: Enduring understandings are the ideas we want students to understand, not just recall, from deep exploration of our unit concept; and essential questions are the corresponding open-ended questions that will guide students' exploration of these ideas. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So what?" and "How does this apply beyond the classroom?" to support deep levels of

thinking. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings.

Enduring Understanding Example: People, plants, and animals depend on each other to survive.
Essential Question Example: Why do humans need to preserve trees?

Disciplinary Understandings and Guiding Questions: Disciplinary understandings are the specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these content-related ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. Guiding questions are open ended and guide students' exploration of the disciplinary understanding. These questions prompt ways of thinking and support knowledge building within the content areas.

Disciplinary Understanding Example: The structure of plants and the function of each part
Guiding Question Example: Why are roots important to plants?

The concepts for this set of Unit Starters were derived from the vertical progression of the Life Sciences Disciplinary Core Ideas within the Tennessee Academic Standards for Science and focus on plant and animal life. These standards are represented below. **Though strong connections are made to the science standards within the unit, it is critical to note that this Unit Starter does not encompass the totality of the identified science standards. The unit is not intended to replace instruction and hands-on application of the science** crosscutting concepts, science and engineering practices, and disciplinary core ideas.

Kindergarten

- K.LS1.1. Use information from observations to identify differences between plants and animals (locomotion, obtainment of food, and take in air/gases).
- K.LS1.2. Recognize differences between living organisms and non-living materials and sort them into groups by observable physical attributes.

Grade 1

- 1.LS1.1 Recognize the structure of plants (roots, stems, leaves, flowers, fruits) and describe the function of the parts (taking in water and air, producing food, making new plants).
- 1.LS1.2 Illustrate and summarize the life cycle of plants.

Grade 2

- 2.LS1.1 Use evidence and observations to explain that many animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air.
- 2.LS1.3 Use simple graphical representations to show that species have unique and diverse life cycles.

Grade 3

- 3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.
- 3.LS4.1 Explain the cause and effect relationship between a naturally changing environment and an organism's ability to survive.
  3.LS4.2 Infer that plant and animal adaptations help them survive in land and aquatic biomes.

Texts for Interactive Read Aloud & Shared Reading: Each Unit Starter includes a collection of complex texts to support strong interactive read aloud and shared reading experiences. These texts have been selected to provide regular opportunities for students to engage with rich academic language and build the disciplinary and enduring understandings for the unit. Given the complexity of these texts, teachers should revisit them with students after the initial read(s) to deepen knowledge. Multiple question sequences and tasks are included in the Unit Starter for most texts; however, teachers are encouraged to add additional readings, questions, and tasks as needed to meet the needs of their students. Teachers may also analyze and select additional suitable texts to extend and/or support the development of the unit concepts. *See page 38 in* Teaching Literacy in Tennessee *for the three-part model for determining text complexity: quantitative dimensions of text complexity; qualitative dimensions of text complexity; and reader and task considerations.*

Suggested Resources for Small Group & Independent Reading: The Unit Starters include a list of suggested resources (texts, videos, online resources) to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs. In addition, teachers are encouraged to select additional resources to extend and/or support the development of the unit concepts.

End-of-Unit Task: Each Unit Starter includes an end-of-unit task that provides an opportunity for students to demonstrate their understanding of the unit concept and to answer the essential questions for the unit in an authentic and meaningful context.

Daily Tasks & Question Sequences: Each Unit Starter includes a daily task and question sequence for approximately two weeks of instruction. The question sequences integrate the literacy standards to support students in accessing the complex texts during interactive read aloud and shared reading by drawing students' attention to complex features in the text and guiding students toward the disciplinary and/or enduring understandings of the unit.

The daily tasks provide an opportunity for students to demonstrate their new understandings by applying what they have learned from the texts they read daily across the literacy block. The texts and tasks have been carefully sequenced to support students in building disciplinary understandings over the course of the unit, so students are able to successfully engage in the end-of-unit task.

Sidebar Notes: As you navigate this document, you will also see that sidebar notes have been included throughout. These notes are intended to: 1) highlight additional rationale that may be of interest to educators; and 2) point out specific changes that have been made to the second iteration of Unit Starters based on feedback from the first set.

3. WHAT RESOURCES ARE NOT INCLUDED IN A UNIT STARTER?

These resources provide the foundation for unit planning but are not intended to be a comprehensive curriculum resource. Instead, educators must thoughtfully prepare from the resources that are included in the Unit Starter by adding additional resources as appropriate to meet instructional goals and student needs.

In addition, teachers will need to plan for other components of the English language arts block. The Unit Starters **do not include** the following:

- Instructional guidance for small group and independent reading and writing
    - Students should be grouped flexibly and resources selected to meet specific and unique needs of students, which may change over time.

- Instructional guidance and resources for explicit foundational skills instruction and foundational skills practice in and out of context
    - Reading foundational skills instruction should follow a year-long scope and sequence and be responsive to the unique needs of your students.

Please refer to Teaching Literacy in Tennessee for definitions of new or unfamiliar terms used in this document.

4. HOW SHOULD I USE THE RESOURCES IN THE UNIT STARTER TO PLAN MY UNIT?

Interactive Read Aloud and Shared Reading Experiences

To prepare for the unit, start by thoroughly reviewing the resources that are included in the Unit Starter. These resources are designed to support students in thinking deeply about the unit concepts and the enduring understandings embedded in complex text through interactive read aloud and shared reading experiences. To support this step, a unit preparation protocol and a lesson preparation protocol are included in Appendices A and B.

Small Group Reading and Writing

In addition to interactive read aloud and shared reading experiences, plan small group instruction to support the diverse needs of students in your classroom. Group students flexibly and select texts that address students' strengths (e.g., prior knowledge) and meet their specific needs:

Accuracy/word analysis: Some students may need additional practice with foundational reading skills that have already been taught and now are applied to reading authentic texts.

Fluency: Some students may be strong decoders but still struggle to read fluently, which holds them back from successful comprehension.

Comprehension: Some students may require support for their use of comprehension skills and strategies for building knowledge and acquiring academic vocabulary.

The Unit Starters include a list of suggested resources (texts, videos, online resources) that can be used to support small group instruction.

Modeled, Shared and Interactive Writing

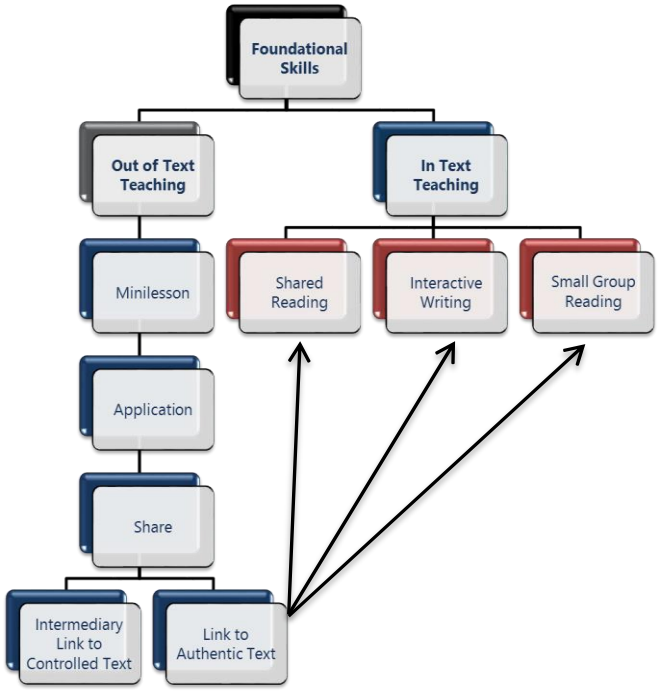
While important for a teacher to use modeled, shared, and interactive writing in order to support student independence with the tasks, please note that the units include few call-outs, if any, for modeled, shared, and interactive writing in the unit. To prepare students for success on the daily and end-of-unit tasks in the Unit Starter, teachers should plan for modeled, shared and interactive writing opportunities. Modeled writing is an instructional strategy where the teacher explicitly demonstrates the writing process for different forms and purposes. Shared writing is an instructional strategy where the teacher and students compose a text together with the teacher acting as the scribe. Interactive writing is an extension of shared writing in which the teacher and students compose a text together with the teacher strategically sharing the pen during the process.

Independent Reading and Writing

The Tennessee English Language Arts Standards call for students to read a range of literary and informational texts and to engage in a high volume of reading independently. The standards also call for students to have aligned writing experiences that develop their skills as writers and support their comprehension of rich, complex texts. Plan for how you will use the suggested resources to engage students in a variety of reading and writing experiences. Consider setting up systems for accountability during independent work time such as one-on-one conferences, center assignments, and/or accountable independent reading structures.

See pages 41-43 in Teaching Literacy in Tennessee for a description of these instructional strategies and their purpose within the literacy block.

Explicit Foundational Skills Instruction
It is recommended that educators consult the Foundational Literacy Standards and use a systematic phonics sequence (often found within a phonics program) for foundational skills instruction in conjunction with the resources in the Unit Starter. Strong foundational skills instruction follows an intentional, research-based progression of foundational skills that incorporates phonological awareness, phonics, and word recognition.



Foundational Skills Practice Out of Text and In Text
Strong foundational skills instruction includes opportunities for students to practice their newly acquired skills out of text and in text.

Out of text instruction may take the form of mini-lessons and hands-on application through activities, such as word sorts or the use of manipulatives.

In text instruction provides opportunities across the literacy block for students to further apply their new learning in authentic reading and writing texts. Foundational skills assessments should be ongoing and should be used to determine when students have mastered the skill and are ready to move on to the next skill.

See pages 78-79 in Teaching Foundational Skills Through Reading and Writing Coach Training Manual *for more information about the relationship between out of text and in text teaching.*

Structures for Academic Talk & Collaboration
The Unit Starters include suggestions for questions and daily tasks, but they do not include guidance on how to structure sharing/discussion time. Consider planning how your students will engage with you and each other when responding to complex text orally or in writing by incorporating things like expectations for talk time, sentence starters, hand signals, etc.

5. WHAT MATERIALS DO I NEED TO ORDER AND PRINT?

Texts for Interactive Read Aloud & Shared Reading
Each of the texts included in the Unit Starters can be purchased or accessed online or through a local library. A list of these texts is included in the Unit Starter materials. Educators will need to secure, purchase, or print one copy of each text selected to support interactive read aloud experiences. Each student will need a copy of the selected text for the shared reading experiences, unless the text is projected or displayed large enough for all students to read.

Suggested Texts for Small Group & Independent Reading
Additionally, each of the texts suggested for small group and independent reading can be purchased or accessed online or through a local library.

Materials to Be Printed
The Unit Starters can be accessed digitally here.

Educators may also consider printing:

- **Question Sequence –** Teachers may want to print question sequences or write the questions on sticky notes to have them available during interactive read aloud and shared reading experiences.
- **Daily Task –** Teachers may want to print the teacher directions for the daily task.
- **End-of-Unit Task –** Teachers may want to print the teacher directions for the end-of-unit task.

UNIT OVERVIEW

The diagram on the next page provides a high-level overview of the unit.

Guidance for the central text and suggested strategy for each day of instruction has been provided in the Unit Starter. It is important to note that this guidance does not reflect a comprehensive literacy block. Educators should support students in developing their expertise as readers and writers by flexibly utilizing a variety of instructional strategies throughout the literacy block.

Educators are also encouraged to use the guidance from this Unit Starter flexibly based on the needs, interests, and prior knowledge of students. For example, teachers may decide to re-read a text, pull in supplementary texts, or provide additional scaffolding based on their knowledge of their students. Teachers are encouraged to be strategic about how many instructional days to spend on this unit.

This Unit Starter is organized around three questions: (1) What are the desired results for learners? (2) How will students demonstrate these desired results? (3) What learning experiences will students need to achieve the desired results?

UNIT OVERVIEW

WHAT ARE THE DESIRED RESULTS FOR LEARNERS?

By the end of this unit, students will have developed an understanding of the following concepts and will be able to answer the following questions.

Universal Concept:
Structure & Function

Unit Concepts:
Structure and Function in Animals

Enduring Understanding:

Animals have biological **structures** with **functions** that support survival and adaptation in their environments.

Essential Question:
How do animals survive and adapt in their environments?

Disciplinary Understandings:

Animals have internal and external structures with functions that are related to their senses, instincts, and behavioral responses.

Some animal structures and behaviors change over time in response to natural changes in the environment in which they live.

The same structures on different animals can function differently. The same function in different animals can be performed by different structures.

Guiding Questions:

Why do animals look and act the way they do? Has that animal always looked and acted that way? How has it changed? How do the same structures and functions "work" on different animals?

HOW WILL STUDENTS DEMONSTRATE THESE DESIRED RESULTS?

Students will synthesize their learning from the unit texts and demonstrate understanding in the following authentic and meaningful context.

End-of-Unit Task:

Part I: You are a journalist for the magazine *Our Planet*, and your assignment is to fly to two different regions to study the differences in animal adaptations in each region, so the public can better understand how animals interact with their environments and how they avoid extinction. Your article will be featured in the *Our Planet Kids* Magazine. Since you are one of the senior journalists, you are able to select the two regions you will travel to.

Part II: As a senior journalist, an important part of your work is designing the layout of your article which will be featured in the "Check Out Our Planet" section of the magazine. Determine how to best present your article to the readers of *Our Planet* magazine. As you design the layout of your article, consider the text features and visuals that would be helpful to your readers.

Part III: Your article will also be featured on a special edition of the *Our Planet* TV broadcast. Prepare to deliver a 1-2-minute segment that will be televised for viewers of all ages. During your segment, highlight the key findings you made while traveling to your two regions. Your purpose is to help the public understand how animals interact and survive in specific environments. As you practice your broadcast, consider what makes TV reporters successful.

WHAT LEARNING EXPERIENCES WILL STUDENTS NEED TO ACHIEVE THE DESIRED RESULTS?

Students will achieve the desired results as a result of deep exploration of complex texts through interactive read-aloud (IRA) and shared reading (SR) experiences with the following texts.

Trumpet of the Swan (SR)

Animal Senses (IRA)

Animals That Make Me Say Wow! (SR)

Crickwing (SR)

How to be an Elephant (IRA)

What If You Had an Animal Nose? (SR)

What If You Had Animal Eyes? (SR)

Eye to Eye (IRA)

What Do You Do with a Tail Like This? (SR)

Neighborhood Sharks (IRA)

UNIT CONTENT GOALS

This Unit Starter was created with several levels of conceptual understanding in mind. Each conceptual level serves an instructional purpose, ranging from a universal concept that bridges disciplinary boundaries to concrete disciplinary understandings that focus instruction around specific schema. The diagram below shows the conceptual levels and questions that were considered during the development of all of the Unit Starters. The diagram on the following page outlines the specific concepts and questions for this Third Grade Unit Starter.

Universal Concept: A concept that bridges all disciplinary and grade-level boundaries (i.e., super-superordinate concept). This concept provides students with an organizational framework for connecting knowledge across disciplines into a coherent view of the world. (Example: Interdependence)

Unit Concept: The application of the crosscutting concept to one or more disciplines (i.e., superordinate concept). This concept provides students with an organizational framework for connecting knowledge within the disciplines into a coherent view of the world and provides educators with a focus for unit planning. (Example: Interdependence of living things)

Enduring Understandings: The ideas we want students to understand, not just recall, from deep exploration of our unit concept. The enduring understandings reflect the abstract, easily misunderstood, "big" ideas of the discipline. They answer questions like "Why?" "So what?" and "How does this apply beyond the classroom?" to support deep levels of thinking. (Example: People, plants, and animals depend on each other to survive.)

Essential Questions: Open-ended questions that guide students' exploration of the enduring understandings or "big" ideas of the discipline. These questions spark genuine and relevant inquiry and provoke deep thought and lively discussion that will lead students to new understandings. (Example: Why do humans need to preserve trees?)

Disciplinary Understandings: The specific ideas and specialized vocabulary of the discipline. These ideas will focus instruction, build disciplinary knowledge, and provide the schema to organize and anchor new words. Student understanding of these key ideas is critical to investigation and understanding of the more abstract and transferable ideas outlined in the enduring understandings. (Example: The structure of plants and the function of each part.)

Guiding Questions: Open-ended questions that guide students' exploration of the disciplinary understandings in the unit and refer specifically to the domain (e.g., ecosystems). These questions prompt ways of thinking and perceiving that are the province of the expert. (Example: Why are roots important to plants?)

UNIT CONTENT GOALS

The diagram below outlines the specific concepts and questions for the Third Grade Unit Starter.

Universal Concept:
Structure & Function

Unit Concept:
Structure and Function in Animals

Enduring Understanding
Animals have biological **structures** with **functions** that support survival and adaptation in their environments.

Essential Question
How do animals survive
and adapt in their environments?

Disciplinary Understanding	Disciplinary Understanding	Disciplinary Understanding
Animals have internal and external structures with functions that are related to their senses, instincts, and behavioral responses.	Some animal structures and behaviors change over time in response to natural changes in the environment in which they live.	The same structures on different animals can function differently. The same function in different animals can be performed by different structures.
Guiding Question Why do animals look and act the way they do?	**Guiding Question** Has that animal always looked and acted that way? How has it changed?	**Guiding Question** How do the same structures and functions "work" on different animals?

3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.
3.LS4.1 Explain the cause and effect relationship between a naturally changing environment and an organism's ability to survive.
3.LS4.2 Infer that plant and animal adaptations help them survive in land and aquatic biomes.

UNIT STANDARDS

The questions and tasks outlined in this Unit Starter are aligned with the following Tennessee English Language Arts and Science Standards. As you will see later in the Unit Starter, the question sequences and tasks for each text integrate multiple literacy standards to support students in accessing the rich content contained in the texts.

ALIGNED STANDARDS: INFORMATIONAL TEXT

3.RI.KID.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers.

3.RI.KID.2 Determine the main idea of a text; recount the key details and explain how they support the main idea.

3.RI.KID.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.

3.RI.CS.4 Determine the meaning of words and phrases in a text relevant to a grade 3 topic or subject area.

3.RI.CS.5 Use text features to locate information relevant to a given topic efficiently.

3.RI.CS.6 Distinguish reader point of view from that of an author of a text.

3.RI.IKI.7 Use information gained from illustrations and the words in a text to demonstrate understanding of a text.

3.RI.IKI.8 Explain how reasons support specific points an author makes in a text.

3.RI.IKI.9 Compare and contrast the most important points and key details presented in two texts on the same topic.

3.RI.RRTC.10 Read and comprehend stories and informational texts at the high end of the grades 2-3 text complexity band independently and proficiently.

ALIGNED STANDARDS: LITERATURE

3.RL.KID.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers.

3.RL.CS.4 Determine the meaning of words and phrases as they are used in a text, distinguishing literal from nonliteral language (e.g., feeling blue versus the color blue).

3.RL.IKI.7 Explain how illustrations in a text contribute to what is conveyed by the words.

3.RL.KID.3 Describe characters in a story and explain how their actions contribute to the sequence of events.

ALIGNED STANDARDS: WRITING

3.W.TTP.2 Write informative/explanatory texts to examine a topic and convey ideas and information.

3.W.TTP.3 Write narratives to develop real or imagined experiences or events using an effective technique, such as descriptive details and clear event sequences.

3.W.PDW.4 With guidance and support, produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade specific expectations for writing types are defined in standards 1-3 above.)

3.W.PDW.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1–3 up to and including grade 3.)

3.W.RBPK.7 Conduct short research projects that build general knowledge about a topic.

3.W.RBPK.9 Include evidence from literary or informational texts, applying grade 3 standards for reading.

ALIGNED STANDARDS: SPEAKING & LISTENING

3.SL.CC.1 Prepare for collaborative discussions on 3rd grade level topics and texts; engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly.

3.SL.CC.3 Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

3.SL.PKI.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

3.SL.PKI.5 Add audio or visual elements when appropriate to emphasize or enhance certain facts or details.

3.SL.PKI.6 Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

ALIGNED STANDARDS: SCIENCE

3.LS1.1 Analyze the internal and external structures that aquatic and land animals and plants have to support survival, growth, behavior, and reproduction.
3.LS4.1 Explain the cause and effect relationship between a naturally changing environment and an organism's ability to survive.
3.LS4.2 Infer that plant and animal adaptations help them survive in land and aquatic biomes.

TEXTS FOR INTERACTIVE READ ALOUD & SHARED READING

These texts have been selected to provide regular opportunities for students to engage with rich academic language and to build the disciplinary and enduring understandings for the unit. They have been vetted for quality and complexity to support strong interactive read aloud and shared reading experiences.

The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own.

The texts selected for shared reading are intended to provide opportunities for students to practice newly acquired foundational skills, to develop reading fluency, and to build knowledge across a variety of genres. Shared reading texts should be appropriately complex text that students can read with teacher guidance and support. Teachers will need to take the grade level and time of year into account when deciding if the shared reading texts are appropriate for their students. Teachers will also need to consider students' current abilities and the pace at which students need to grow to meet or exceed grade-level expectations by the end of the year. If the shared reading texts included in the Unit Starter are not appropriate for the specific group of students and time of year, educators are encouraged to make an informed decision about selecting a different text for shared reading. The shared reading texts in this Unit Starter are appropriate for instruction closer to the end of the academic school year. Later in the Unit Starter, you will see an example of different texts that may be more appropriate for different times of the year.

While preparing for instruction, educators are urged to carefully consider the needs and interests of the readers, including how to foster and sustain new interests, and to be strategic about the types of tasks that will support readers in deeply engaging with these rich texts. Teachers should also consider how they will make connections to students' prior knowledge and students' cultural and previous academic experiences. Teachers need to consider the vocabulary demands of the text and the level of support readers will need to deeply understand the text.

TITLE	AUTHOR
Trumpet of the Swan	E.B. White
Animal Senses	Pamela Hickman
Animals That Make Me Say Wow!	Dawn Cusick
Crickwing	Janell Cannon
How to Be an Elephant	Katherine Roy
What If You Had an Animal Nose?	Sandra Markle
Eye to Eye: How Animals See the World	Steve Jenkins

What If You Had Animal Eyes?	Sandra Markle
What Do You Do with a Tail Like This?	Steve Jenkins & Robin Page
Neighborhood Sharks	Katherine Roy

SUGGESTED RESOURCES FOR SMALL GROUP & INDEPENDENT READING

These resources can be used to support a volume of reading on the unit concepts. These materials may be used during small group instruction and/or independent reading and writing activities to support knowledge building for students and to meet students' diverse learning needs.

TITLE (TEXTS, VIDEOS & ELECTRONIC RESOURCES)	AUTHOR
Wild Tracks! A Guide to Nature's Footprints	Jim Arnosky
Feathers Not Just for Flying	Melissa Stewart
Creature Feature	Steve Jenkins
Down, Down, Down	Steve Jenkins
What If You Had Animal Feet?	Sandra Markle
What If You Had Animal Hair?	Sandra Markle
What If You Had Animal Ears?	Sandra Markle
What If You Had Animal Teeth?	Sandra Markle
At the Sea Floor Cafe: Odd Ocean Critter Poems	Leslie Bulion
And to the Orca Winner Goes the Spoils- a Tasty Shark's Liver	Lauren Smith
The Rainforest Grew All Around	Susan K. Mitchell

10 Facts About Polar Bears!	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/general-animals/polar-bear-facts/#!/register
Scorpion Facts!	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/general-animals/scorpion-facts/#!/register
10 Giraffe Facts!	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/general-animals/ten-giraffe-facts/#!/register
10 Facts About Bottlenose Dolphins	National Geographic Kids https://www.natgeokids.com/uk/discover/animals/sea-life/dolphins/#!/register
Living Things Change (video)	Crash Course Kids https://www.youtube.com/watch?v=xDSFlRunlrU&list=PLqXMSwaoorcjOfpomSz2RMPDWsbaNNLC9&index=1
What Do You Do With A Tail Like This?	Steve Jenkins

UNIT VOCABULARY

The following list contains vocabulary words from the interactive read aloud and shared reading texts that warrant instructional time and attention. Teachers should attend to these words **as they are encountered in the texts** to build students' vocabulary and to deepen their understanding of the unit concepts. Educators are encouraged to identify vocabulary that might be unfamiliar to students and to determine how they will teach those words (implicit, embedded, or explicit instruction) based on knowledge of their students. See Appendix C for an example routine for explicit vocabulary instruction.

Note: In addition to this comprehensive list, each question sequence lists the newly introduced vocabulary words that warrant instructional time and attention during the specific reading. These lists also provide guidance as to how the specific words could be taught.

Educators are also encouraged to dedicate a space in their classrooms to record unit vocabulary. This will provide a reference point for the students as they read, write, and talk about the unit topics. Through repeated attention to these words over the course of the unit, students will develop their understanding of these words and will begin to use them in speaking and writing activities.

Day 1	Day 2	Day 3	Day 4	Day 6
cob cygnet nesting treacherous peninsula life cycle	senses structures binocular vision monocular vision rumbling echolocation survival	internal structures external structures anatomy instinct	exoskeleton	herd pod primate
			Day 5	
			canopy toil	
Day 7	**Day 8**	***Day 9***	**Day 10**	**Day 11**
stable/stability generations vocal cords	appendage precision multipurpose coordination	smell sensors sensors keratin signals nasal cavity	signals decoded interpreted committed perceptive	shift lenses retina pupils expand
Day 12	**Day 13**	**Day 14**	**Day 15**	***Day 16***
diverse acquired advantage	ledge capture	apex predator pinniped thriving dorsal fin stability warm-blooded visual predators razor-sharp projectile patrolling	foraging carnivores herbivores	efficient migratory animals disproportionate impact vulnerable

THE TRUMPET OF THE SWAN – READING 1, QUESTION SEQUENCE 1, DAILY TASK 1

TEXT
Text: *The Trumpet of the Swan* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

Note: In many cases, multiple question sequences are included for one text. These sequences intentionally build on each other in service of deepening students' analysis of the text and understanding of the unit's disciplinary and enduring understandings. Teachers may also decide to read the text in its entirety prior to asking questions.

Note: Each instructional strategy has a different purpose. Interactive read aloud is a time for students to actively listen and respond to above grade level complex text. The texts selected for interactive read aloud are intended to build students' comprehension of vocabulary, rich characters, engaging plots, and deep concepts and ideas across a variety of genres. These texts will typically be 1-3 grade levels above what students can read on their own. Shared reading is an interactive experience in which students join in the reading of an appropriately complex text with teacher support. Texts used for shared reading are texts that students can read with teacher support. The purpose of shared reading is to provide opportunities for students to practice their newly acquired foundational skills, develop reading fluency, and build knowledge. These texts should be chosen by considering students' current abilities and the pace at which they need to grow to end the year meeting or exceeding grade-level expectations.

TEXT COMPLEXITY ANALYSIS
QUANTITATIVE COMPLEXITY MEASURES
750L

QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The narrator intermittently steps out of character to speak directly to the reader. The order of the first two chapters is not sequenced chronologically; in the first chapter, the boy discovers the swans and their nest of eggs, but chapter 2 begins with the swans looking for a location to build the nest. Illustrations are used sparingly but do support and assist the reader with the text.	The language is moderately complex. Largely conversational, the text does present examples of unfamiliar, content-specific vocabulary words; however, the author provides sufficient context for understanding. The language is often figurative. For example: "They heard and felt the breath of spring;" "…a smell of earth waking after its long sleep." The author often supports unfamiliar terms with an addition of the definition. The sentences are composed of some complex constructions, beginning with introductory prepositional phrases, subordinate clauses, and transitions. There is also use of semicolons.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose is moderately complex. The author's purpose is straightforward, describing the relationship of a human with nature. The dialogue of the characters and author's diction are intentional and provide clarity. If the book is read in its entirety, themes of persistence, challenge, and courage are evident and develop over the course of the story.	The knowledge demands are moderately complex. The text does contain discipline-specific content knowledge; however, the author explicitly provides context to aid in the comprehension of unknown vocabulary. The text explores several themes; experiences portrayed may not be common to some readers, but the author provides support for understanding.

LESSON OBJECTIVE(S) FOR THIS READING

Note: The lesson objectives for each reading articulate the integrated understandings, including ELA, disciplinary, and enduring understandings, students will grasp and/or build on as a result of engaging with the text. The question sequence for each reading will draw students' attention to complex features of the text that will support or challenge students. Over the course of the unit, the lesson objectives for each reading build intentionally on one another to provide a coherent learning experience for students. This coherence is also supported through the intentional sequence of texts.

Students will experience a portion of the narrative text *The Trumpet of the Swan* as they begin their unit of study about animals and their survival. This text will require students to utilize prior knowledge about the life cycle of a bird (swan) including growth, behavior, and reproduction.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of the first four chapters of *The Trumpet of the Swan*, referring explicitly to the life cycle of the swan and the beginning of the story plot;
- describe the characters of Sam Beaver, cob swan, and pen swan in the story of *The Trumpet of the Swan* and discuss how their actions contribute to the sequence of events;
- describe how swans' structures, functions, and behaviors support their survival in the environment in which they live;
- include evidence from *The Trumpet of the Swan* in journal entries that describes the role of the pen swan as she brings baby swans into the world; and
- prepare for collaborative discussion on the topic of the life cycle of swans; engage effectively with varied partners, building on others' ideas and expressing their own ideas about the characters in the story *The Trumpet of the Swan.*

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- cob (embedded)
- cygnet (embedded)
- nesting (implicit)
- treacherous (embedded)
- peninsula (implicit)
- life cycle (implicit)
- instinct (implicit)

Note: The daily tasks build over the course of the unit to support students in developing the knowledge, vocabulary, and skills they will need in order to complete the end-of-unit task. Expectations for students' performance on the daily tasks are aligned with the disciplinary standards and the grade-level literacy standards for writing and speaking & listening.

DAILY TASK

In the text, we learn Sam's perspective of his experiences through his journal entries. Assuming the role of the female swan (pen) in this text, create a journal entry that describes your actions and perspective as you built the nest, nested, and hatched the cygnets. Create your work based on the information provided and inferred in this text. Be sure to:

- establish yourself as the author of your journal;
- organize and present your thoughts logically;
- use temporal words and phrases to provide clarity to your experiences;
- use imagery to describe the events, actions or experiences; and
- provide some form of closure to your entry.

POSSIBLE STUDENT RESPONSE

Note: Tasks throughout the unit are considered to be independent and autonomous writing opportunities where students express their learning through their own writing. Teachers are encouraged to integrate strategies, such as modeled, shared, and interactive writing, in order to equip students with the skills and strategies needed to complete the tasks. The use of these other writing strategies should not demonstrate a carbon copy of the task before students complete it. It is important for students to capture their own thinking as they complete each task.

Individual Student Response:

April 1, 2018

Carrying out the responsibilities of a female swan requires hard work and patience. My husband and I traveled many miles to find the perfect location to build our nest in a secluded spot away from the threat of predators. We selected a beautiful place on the pond surrounded by a swampy area that would provide protection to our eggs and discourage intruders.

Building the nest was quite simple because nature provided an abundance of twigs, moss, and grass. A few days later, I laid my first egg, with four more soon to follow. Sitting on the eggs for the next 35 days was quite uncomfortable but necessary for the survival of the babies. This task does require patience, and I could only move away from the nest briefly to stretch my legs, eat, drink, or bathe. Thankfully, my husband was there to protect the babies while I took a short break before returning to my responsibility of keeping the eggs warm.

One day we were threatened by a hungry enemy, a sneaky fox, who was planning to kill us. We were grateful that a visiting boy rescued us from this dreadful predator. We had noticed him watching us for some time, but he had never chosen to harm us, so we were no longer frightened by his presence.

Sometimes the days passed slowly as I sat on the eggs, but all the trouble was worth it. My firstborn used its sharp tooth to pick a hole in the egg so it could breathe and then it used its strong neck to break through the shell. Soon our five beautiful cygnets were born. The cob and I are so proud of our little family, and now our responsibility begins to guide them as they use their structures that will function to find food and protection as they stay away from dangerous predators.

Note: You will not see one specific skill indicated as the focus for the reading. Educators are encouraged to support students in arriving at the objectives for the reading by integrating multiple literacy standards. To that end, the question sequences integrate multiple literacy standards. The literacy standards will come into play as students access the rich texts included in the Unit Starter. In this way, multiple literacy standards naturally support students in accessing and making meaning of the text.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Note: This reading and question sequence extends through the fourth chapter. Ideally, the students would continue to read (independent/shared/small group) this text in its entirety throughout the unit of study.* *The Trumpet of the Swan, by E.B. White, is a fiction text and was selected to be used for instruction of story structure, but it can also be used to extend students' understanding of the unit's enduring understanding of animals having biological **structures** with **functions** that support survival and adaptation in their environments.* *Take a few minutes before reading this text to review the differences between fiction and nonfiction texts. Remind students to listen the important elements of fiction text (e.g., setting, characters, plot, etc.). Then, as the students develop an understanding of the story, you should also focus attention on expanding the understanding of animals having biological **structures** with **functions** that support survival and adaptation in their environments.* (Possible questions to allow students to access schema prior to reading.) *Teacher's Script: "Think back to when you might have learned about animals and their life cycles. What are the different stages that life cycles go through?"* (This is an opportunity for a collaborative talk structure.) How are life cycles the same? How are they different?	Most animals including fish, mammals, reptiles, and birds have very simple life cycles. They are born either alive from their mother or hatched from eggs. They go through several stages that include before birth, young, and adult. Humans, which are mammals, are born alive from their mothers, nurse or get food from their mothers and are cared for by their parents as they go through youth and then grow into adults to repeat the cycle again. Some animals like amphibians and insects go through a more complicated life cycle. They undergo a metamorphosis or a big

	What are some important facts about how baby animals are supported during the life cycle for survival? *Teacher's Script: "The text that we are going to begin reading is titled, The Trumpet of the Swan. This story is a narrative, so it does not have to be accurate when it comes to the life cycle. So, as you read, you will want to compare what you know about life cycles to what the author writes about to determine the accuracy of the text."*	change. Amphibians are born either alive from their mother or hatched from eggs, spend their young life under water breathing with gills, then they grow into adults and move to land breathing with lungs. Insects have four stages in their life cycle: egg, larva, pupa, and adult. Some animals are cared for by their mothers, like mammals and some animals use their instincts to survive. Some animals can camouflage themselves for protection.
Pages 2-3	What imagery does the author use to describe the pond's physical structure and its surrounding area? What does this description help us to infer about Sam?	The text informs us that the pond is a small and swampy with lots of reeds and cattails. The untouched land was difficult to travel with its soggy bottom and places where someone walking could get stuck in the mud and others couldn't help pull you out. The father also describes the swampy area as a treacherous place where Sam could be harmed and need assistance. The author wants the readers to understand that the boy is willing to risk danger to fulfill his strong desire of seeing the swans and their nest. We can infer this from learning the information about the pond's environment.
Pages 5-6	What did the character Sam reveal in the text about the life cycle of the swan? Why do you think the author wrote the following, "I heard a fox bark today. Why does a fox bark? Is it because he is mad, or worried, or hungry, or because	Sam said that he knew a lot about the life cycle of the swan. He knew that the babies are hatched from eggs in about 35 days. The mother swan built a nest and was laying at least 4 eggs in the nest. Baby swans are called cygnets. I think that the author is trying to tell us that the fox is a predator of baby swans.

	he is sending a message to another fox? Why does a fox bark?" 	
Page 10	We learn from the text that the female swan searched diligently for a perfect nesting place. Why would she be so selective?	The text states that nest-building is "uppermost in a bird's mind; it is the most important thing there is." The female swan knew that her choice meant the survival or death of her babies.
Page 11	The text states that the swans discovered a sandy strip of land extending out in the pond like a small peninsula. How is this habitat a suitable place for the trumpeter swans to live?	It is secluded from other animals which is important for their survival. It contains one small tree to provide protection from the weather and shade. The rocks, ferns, and grasses provide camouflage and materials for nest-building. The text says the land extends into the pond, so water for drinking, eating, and bathing is accessible.
Page 14	In this story the swans are characters. During this chapter the swans are talking like people. What is the literary terminology for this type of writing?	The writer is using personification in the story. Personification is when animals take on human characteristics. Swans do not talk like humans.
Pages 21-22	Specific body parts of an animal's anatomy are called structures. Animals have both internal (inside the body) structures and external (outside the body) structures. Since the heart and lungs are inside the body, they are examples of internal structures. The nose and mouth are examples of external structures. The actions of the structures are called their functions. For example, the function of the ears is hearing. In the text, the swans encounter a predator looking for prey. What structures and their functions led the fox to the swans?	The text states that a fox had been "attracted to the pond by the sound of splashing water," so he heard the swan with his ears. He also sniffed the air, and his nose smelled the swan. He spied the swans with his eyes and watched their movements as he planned to sneak up on them and kill them.

	What structures may support the swans' survival if the fox does approach them?	Had the boy not seen the fox before the swans did, they would have depended on the functions of their eyes and ears to defend themselves. Also, on page 12, the text tells us that when the wing of a Trumpeter Swan hits and enemy, "it is like being hit by a baseball bat." The cob's strong wing would have definitely helped in the swans' survival.
Page 25	In the text, we learn that an infant swan is called a cygnet. What structures of a cygnet are vital to its survival as a hatchling? How are these structures crucial to a cygnet's existence? 	The text tells us that strong neck muscles and a small dagger-tooth on the tip of a cygnet's bill are extremely important for its survival. The cygnet uses its tooth to pick a hole in the egg for air. This hole weakens the hard egg and the cygnet's strong neck helps it break through the shell.
Page 26	The author has given the swan some human characteristics such as talking. When the male swan speaks in fancy phrases and graceful language, what does that help us to understand about his character?	The author tells us that he enjoyed "speaking in fancy phrases and graceful language," so he must enjoy impressing others with his fancy words and large vocabulary. The text also states that he liked to have someone ask his advice, so it seems he likes attention and feeling like he is important.
Page 27	What else can be inferred about the cob's character through his behavior? What text evidence supports your characterization?	He is very proud of his heritage as a swan, and his behavior shows that he is very protective of his wife and the eggs because he constantly watches out for their safety. He is also very proud of being a father. The text says on page 27 that when he had been watching all day, and when he saw the first little cygnet, his "heart leapt up with joy."
Pages 30-33	Describe the event that demonstrates the relationship between the swan parents and the baby cygnets and how this behavior prepares the animals for survival.	The cygnets are dependent on their parents to teach them things about survival. The parents lead the cygnets to the pond to teach them how to swim, get a drink, stay together with each other, and away from predators like the fox and otter.
Page 34	By the end of the fourth chapter, readers may infer that a relationship is developing between the cob,	The father swan, because of his trust in Sam, led the cygnets near. Sam's earlier

	the cygnets, and the boy. Using specific events and details from the text characterize this relationship and its impact on Sam. 	kind action of saving them from the fox and his refusal to harm them with sticks and stones had convinced the adult swans that Sam would not be a threat to them or their babies. To Sam's surprise, the cygnets came near, and one of the cygnets untied his shoe. The cygnets willingly approached Sam without fear because they had seen the trusting nature of his father. Sam is amazed and excited by the actions of the cob and the cygnets. On page 34, the text states, "If I live to be a hundred years old," thought Sam, "I'll never forget what if feels like to have my shoelace pulled by a baby swan."
	Teacher note: *Consider options for students to continue reading the book. Continue to build on the plot and the structures and functions of the trumpeter swan.*	

ANIMAL SENSES – READING 1, QUESTION SEQUENCE 1

TEXT
Text: *Animal Senses: How Animals See, Hear, Taste, Smell and Feel* **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
930L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is slightly complex. The author uses description and sequence to share information. The structure is straightforward - the text is organized by different external characteristics of animals (eyes, noses, etc.) There are several text features that accompany illustrations. These graphics support the content, often providing opportunities for the reader to apply the written content but are not essential for comprehension.	The language features in this text are moderately complex. The vocabulary is mostly familiar with a few academic or domain specific words ("monocular vision"). In these cases, there is context for the reader to draw on to determine the meaning of the word. There is a mixture of simple, compound, and complex sentences throughout. The language is largely explicit and easy to understand. There are a few occasions where the reader must apply knowledge or understanding to written or illustrated examples.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose of this text is slightly complex. The purpose is explicitly provided in the beginning of the text ("In this book, you will learn about the five senses..."). It has a clear focus on animals' senses and the characteristics that support those senses.	The knowledge demands are moderately complex. The text contains some practical knowledge (and knowledge explored in social studies standards in grade 2) and begins to explore more specific content knowledge (some of the internal structures that support animals' senses and the different purposes they serve (they enable some social and predatory behaviors, support survival, etc.).

LESSON OBJECTIVE(S) FOR THIS READING

In this text, students will learn that animals have internal and external structures with functions that are related to their senses, instincts, and behavioral responses. Animal senses support certain behaviors that lead to survival.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of animal structures and functions related to each of the five senses;
- use text evidence to support their knowledge of animal structures and functions related to each of the five senses;
- Include evidence from informational text about animal structures and functions related to each of the five senses when participating in a shared writing; and
- report on a topic or text with appropriate facts about animal structures and functions related to each of the five senses.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- senses (embedded)
- structures (explicit)
- binocular vision (embedded)
- monocular vision (embedded)
- rumbling (embedded)
- echolocation (embedded)
- survival (explicit)

DAILY TASK

There is no daily task for this interactive read aloud. Students will spend time participating in a shared writing and completing a table in the student packet to be used in subsequent lessons. This allows for layering of text which builds knowledge and encourages synthesizing.

PAGE/ PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Script: "In the text I am going to read today, we will study how animal senses and structures function to support an animals' ability to use behaviors that lead to survival.* *I bet you have studied about animals before, so you may know some things already. As readers, we can make connections from what we already know and what the new text tells us.* *In our lesson objectives for this text, we are going to ask and answer questions as well as cite evidence to support our answers. As we read through this book we are going to come back to this question:* ***"How do animal senses and structures function to support an animals' ability to use behaviors that lead to survival?""*** *Teacher's Note:* *Complete a Collaborative Shared Writing-Anchor Chart while reading this text. See sample in the resource section following the question sequence.*	
Pages 3-4	The introduction on page 4 is the author's preview about the knowledge we will gain by reading this text. From reading this section, what can be determined about how animals use their senses? Provide examples from the text to support your response.	Animals use their senses in many unique ways to interact with their environment and to survive. For example, a fly uses its feet to taste its food, and a snake uses its tongue to sense its environment. Also, the text tells us that some animals have "super senses" that help them survive. For example, the incredible vision of a hawk allows it to see ten times better than a human, so it can locate small prey from far away.

Pages 6-7 sense - sight	On these pages, we learn that some animals' sense of vision is supported differently by their structures. What makes their structure unique, and how does it support their behavior?	Unlike humans, some animals cannot move their eyeballs to increase their range of vision. Animals like the owl use their flexible necks to turn their heads in many directions to provide a wide range of vision. The large eyes of a frog are turned to the sides on top of its head. This structure allows the frog to hold its eyes above the water while its body is hidden underwater as it searches for food and protects itself when predators are near.
Page 10 sense - sight	On page ten, we learn that animals may have one of two types of vision, binocular and monocular. These terms are easy to understand when we look at the parts of each of the words. The root, or word part, "*–ocular*" pertains to our eyes and vision. Both of our terms contain this word part. With this knowledge, we can now look at the different prefixes. In *binocular*, the prefix "-bi" means *two,* as in the word *bicycle* (two wheels). So, we can assume that we are speaking of the vision of two eyes. In the term *monocular,* the prefix "–mono" means "one." This means we can think of the word *monocular* as pertaining to the vision of one eye. Use this understanding and the knowledge you gained from the text to explain how each of these functions and their structures contribute to animal survival. Use specific vocabulary from the text.	Animals' eyes are positioned in different places on their head. These unique structures contribute to the survival of the animals in different ways. We learn from the text that the eyes of most predators are placed in front of the head so that the animal can better focus on its prey. The sense of vision from this structure is called *binocular* because <u>both</u> eyes of the animal are focused on an object at the same time. The use of both eyes gives the predator better aim to catch its prey. Animals with *monocular* vision have eyes on each side of their head. This type of vision helps the animal use each eye for different purposes. The text tells us that animals with this type of vision can search for food with <u>one</u> eye while at the same time watching out for predators with the other eye.
Pages 12-13 sense - sight	In past unit studies of the moon, you might have learned how light is reflected. How does the text explain the night vision of a nocturnal animal such as the skunk? How is	Similar to how the moon responds to light, the skunk's eye also reflects light. Skunks have a layer on the back of their eyes similar to a mirror. Light bounces off this layer and exits the eyes of the skunk. This

	the skunk's ability to see in the dark aided by reflected light? *Teacher's Note: Direct students back to the question asked at the beginning of the read aloud,* **How do animal senses and structures function to support an animals' ability to use behaviors that lead to survival?**  (This is an opportunity for a collaborative talk structure.)	reflected light causes their eyes to glow and helps them to see better in the darkness. Skunks also have cells called "rods" in their eyes. This means that they can see better in the dark. Frog eyes can see even when the rest of their body is below water. Their eyes can turn almost complete around. This allows them to see from many angles. Skunk eyes allow them to see in the darkness. They have more rods, which enables night sight.
Pages 16-19 sense - hearing	In pages 16-19, the text provides much information about the structure of ears. Unique shapes and sizes of ears have different purposes and benefit the animals in different ways. How are the different shapes and sizes of animal ears important for sustaining the lives of animals that reside in regions with different climates? How is the ability to locate the point of origin of sounds critical to the survival of an animal?	The text states that heat escapes fastest through the ears. For this reason, animals in hot, dry climates need large ears to allow more heat to escape from their bodies. On the contrary, cold region animals must produce and retain body heat to survive. These animals require small ears to trap more of the heat and provide warmth necessary for survival. According to the text, locating sound is necessary for an animal's survival. When an animal can determine where a sound originates, it can track the sound to locate prey, discover mates for reproduction, or escape deadly predator attacks.
Pages 20-22 sense - hearing	How does echolocation support the survival of animals such as bats and dolphins?	Echolocation is a method of locating an object when sound waves reflect or bounce off nearby objects and return as an echo. The animal uses its sense of hearing to determine the amount of time it takes the echo to return. Knowing this information allows the animal to know how close it is to an object, prey, or predator. According to the text, echolocation also helps the animal as it hunts in the dark and avoids obstacles and enemies.

	Direct students back to the question asked at the beginning of the read aloud, **How do animal senses and structures function to support an animals' ability to use behaviors that lead to survival?** 	Kit fox ears have very large ears, which makes it easy to hear sounds from far away, locate prey, and keep cool in hot, dry climates. Bats and dolphins use something called "echolocation" which we discussed earlier.
Pages 24-26 sense - smell	Why is the deer's lack of scent important when it is first born?	The text tells us that animal smells are carried by the wind and some predators can smell from far away to locate hidden and quiet prey. Because the newborn deer leaves no scent to be tracked, it is protected from its enemies and this improves its' ability to survive.
Page 27 sense - smell	What are some structures that support animals that cannot smell with their noses? Give examples with specific animal names and names of structures.	Insects use their antennae to smell and catfish use their whiskers. Other aquatic animals, like the octopus, use their tentacles to smell and taste their food.
Page 33 sense - taste	How does an animal's unique use of its tongue support survival?	**Answers may vary* Snails have tongues that are perfect for shredding plants. They are not smooth, but they have a texture that makes eating plants easier. A toad's tongue is attached at the front of its mouth so it can flip out a long way to catch a fly.
Page 35 sense - touch	What structure does a walrus use to gather information about things it touches?	A walrus' sense of touch is mainly through its whiskers. The whiskers allow the walrus to feel around in the water for food.
Page 38	Some animals have unique senses that other animals do not. How does a shark's ability to sense electricity affect its behavior?	Sharks sense food from electric currents in the water that are given off by other animals. This means the sense might trigger a behavior that leads to hunting for prey.

	How do animals' senses and structures help them survive? Describe one animal and its structures. Use specific details from our text. *Teacher's Note: Use shared writing to chart answers on the interactive chart.* What are we now understanding about the differences in how animal senses and structures function to help them survive? 	*Answers may vary. A skunk uses its sense of sight to activate its spraying response. If a skunk did not have this ability to spray and ward off unfriendly animals, it could be an easy target for predators. Not all animals use their senses and structures in the same way. Different animals sense the world around them in different ways. But all animals have structures that function for survival.

RESOURCE

Collaborative Shared Writing- Anchor Chart:
This chart should be completed collaboratively during the reading and discussion of, *Animal Senses*. It will support students' understanding of the text (example shown below). During the reading, the teacher records responses from students that answer the second question, "How do animal structures and senses support behaviors and the survival instincts?" Teacher also charts different structures/senses students encounter as they read the text.

What's the difference between the senses and animals' structures and functions?		
Animal Senses	**Animal Structures**	**Animal Functions**
How do animal senses, structures, and their functions support behavior(s) and survival?		

TN Department of Education

EXEMPLAR CHART

What's the difference between the senses and animals' structures and functions?

The five senses (i.e., sight, hearing, touch, smell, taste) play a special role in supporting animals to take in information from the environment and send it to the brain for interpretation. Animals' senses are connected to specific structures on their bodies that function to help them survive. For example, animals have a nose, which is their structure. An animal uses its sense of smell through its nose. The sense of smell may warn them that a predator is close by and they should leave the area to avoid the predator. So, an animal's nose may function to warn them of danger which in turns helps them survive.

Animal Senses	Animal Structures	Animal Functions
sight	Frog eyes	Frog eyes can see even when the rest of their body is below water. Their eyes can turn almost complete around. This allows them to see from many angles.
	Skunk eyes	Skunk eyes allow them to see in the darkness. They have more rods, which enables night sight.
hearing	Kit fox ears	Kit fox ears have very large ears, which makes it easy to hear sounds from far away.
smell	Deer nose	A deer's nose allows it to simply sniff the wind to find out if other animals are nearby.
taste	Butterfly feet	Butterfly feet allow them to taste a flower before deciding to eat all its nectar.
feel	Walrus whiskers	A walrus' whiskers allow it to poke down in the ocean waters to feel for food.

How do animal senses, structures, and functions support behavior(s) and survival?

Animals have structures, like noses, that can sense smells in various parts of their surroundings. Because an animal can smell a nearby-predator, it behaves in a way that triggers survival instincts. The animal will then know to hide, fight, or protect its young.

Teacher's Note: There is no daily task for this interactive read aloud. Students will spend time participating in a shared writing experience and completing a table in the student packet to be used in subsequent lessons. This allows for layering of text which builds knowledge and encourages synthesizing.

ANIMALS THAT MAKE ME SAY WOW – READING 1, QUESTION SEQUENCE 1, DAILY TASK 2

TEXT
Text: *Animals That Make Me Say Wow!* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading (Pages 53-73) *Teacher's Note: This shared reading lesson is meant to follow the question sequence for Animal Senses. This text will be broken down into multiple shared reads throughout the unit.*

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
1080L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is slightly complex. The text's organization is clear and text features support it. The text provides an introduction and is divided into three sections including: "Defense," "Foraging," and "Anatomy." For this lesson teachers will focus on the "Anatomy" section of the text. Within each section, there are several examples of animals' biological **structures** with **functions** that support survival and adaptation in their environments. Most of these are explicit examples. The pictures, while not essential, are highly supportive of the information embedded in the text and assist with overall understanding.	The language features are moderately complex. The primary syntactic sentence structure is simple sentences. There are a few domain specific vocabulary words with context providing support for the reader in determining the meaning.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose is slightly complex. The purpose is explicitly stated in the introduction. The focus is on animals; their defenses, behaviors, and internal/external characteristics.	The knowledge demands are moderately complex. The text contains some discipline-specific content knowledge Some of the knowledge is more complicated – making implicit connections between the structures and their impact on behavior, survival, growth, etc.

LESSON OBJECTIVE(S) FOR THIS READING

In this text, students will learn about the internal and external structures that aquatic and land animals have to support survival, growth, behavior, and reproduction.

In today's reading, students will:

- analyze the internal and external structures that aquatic and land animals possess and how these structures support them;
- ask and answer questions to demonstrate understanding *of Animals That Make Me Say Wow!,* referring explicitly to the text as a basis for the answers;
- determine the meaning of words and phrases in *Animals That Make Me Say Wow*! relevant to animals' biological **structures** with **functions** that support survival and adaptation in their environments;
- use information gained from illustrations and the words in *Animals That Make Me Say Wow*! to demonstrate understanding of the anatomy of an animal including both internal and external structures and how animal structures support behaviors that protect them, feed them, and help them communicate with other animals; and
- write an informative/explanatory text to demonstrate understanding of the anatomy of an animal including both internal and external structures and how animal structures support behaviors that protect them.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- internal structures (explicit)
- external structures (explicit)
- anatomy (explicit)
- instinct (explicit)

**Teacher Note: These words are in the inferred meanings of this text and unit. To support students in building knowledge, it is sometimes necessary to explicitly teach words that are not in the book but can be used during student conversations connected to the text.*

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- structure
- survival

DAILY TASK

Write an informational text that answers each of the following questions:

- What are animal senses?
- What are animal structures?
- How do animals' senses and structures affect certain behaviors and survival instincts?

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animals' internal/external structures and their functions; and
- provide a conclusion to provide closure for your readers.

Possible scaffolding opportunity if needed:
During the shared reading of *Animal Senses: How Animals See, Hear, Taste, Smell and Feel*, students participated in the co-construction of a shared writing chart and recorded it in their student packet. They should use this information, along with new information learned during the reading of *Animals That Make Me Say WOW!*, to complete the daily task.

The teacher will provide a definition of internal structure and external structures.
External structures - an animal's external, or outer, structures are what you see on the outside of their body (legs, tail, etc.).
Internal structures - an animal's internal structures are the important pieces and parts of their body systems (heart, stomach, etc.).

As the teacher reads, students will contribute their thinking on sticky notes, providing examples from the text of how various internal structures and external structures help animals survive.

**Teacher Note: Using precise language while charting information related to the structure will support students' building of knowledge over time. This task should be completed after the first reading of both Animal Senses and Animals That Make Me Say Wow!*

POSSIBLE STUDENT RESPONSE

Individual Student Response:

Animal senses are an animal's ability to experience their environment through sight, smell, hearing, tasting, and feeling. Animal senses support certain behaviors in animals. For example, a bat will hear sounds from far distances. This is due to their large ears and echolocation. Echolocation is the ability to determine the location of nearby objects or predators by measuring the amount of time it takes for sounds or echoes to bounce off objects in the distance. Animal senses promote many behaviors. Some animals use their sense of touch to find food, like a walrus. A walrus uses its whiskers to search for food in the ocean water and sand. Other animals use their sense of smell to activate behaviors that protect themselves and their young. Some animals use their scent to

know when it is time to flee upcoming predators. This is a survival instinct. A survival instinct lets animals know when danger is near. Many animals rely on certain senses and body structures to remain free from harm.

Unique animal structures make it possible for them us use their senses in the environment they live in. Animals have different structures that help them use their senses in day-to-day behavior. For example, The European swallowtail butterfly does not have a nose to smell its food (nectar) before eating it. Instead, it uses its feet, which is a structure that helps the butterfly taste the nectar on flowers before deciding to eat it. Butterflies must eat nectar from flowers to survive. Another example is Cuttlefish. Cuttlefish do not have paws or feet to hold onto things, but they do have eight tentacles to help them grab and hold onto their food. Each animal is different and unique, but one thing is for sure, animals need their structures and senses to survive!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Script: "Today, we will add to what we learned yesterday about how animal **senses**, **structures and functions** impact animal behaviors that lead to survival.* *Remember to make connections from what we already know and what the new text tells us."* *Teacher note:* *Introduce the concept of anatomy by asking students to name a part of the body (a part of the anatomy) that enables humans to use each of the five senses.*	Sight – eyes, hearing - ears, touch - hands, smell – nose, taste – tongue
Page 54	Think about the physical structures of aquatic animals that you know of or have read about. What might be an example of an important structure of an aquatic animal's anatomy? Why is this adaptation important for living in water? (This is an opportunity for a collaborative talk structure.)	Aquatic animals need webbed flippers or feet to help them swim in the water. Other aquatic animals may need whiskers to help them sense the movement in water to find food.
Page 56-57	We have read about both internal and external structures in this text. How is an internal structure different from an external one?	An animal's external, or outer, structures are what you see on the outside of their body (legs, tail, etc.). Internal structures are inside the animal.

	Explain how a cuttlefish's internal and external structures enable certain behaviors that are important to its survival.	A cuttlefish has a large brain, which is inside their body, so it is an internal structure. The big brain helps them problem-solve helps them to hunt food. The tentacles are outside of their body, so they are an external structure. Tentacles are used when hunting food as well. The tentacles have neurons which help the cuttlefish put pressure on fish that it catches in its multiple tentacles.
Page 60	"Dermis" means skin. It is the layer of tissue below the epidermis, which is our outer layer of skin. Here our book says some animals have dermal receptors. What are dermal receptors? How do you know? What behaviors do these dermal receptors promote with an alligator?	Dermal receptors are special sense organs on some animals' bodies. Dermal receptors allow the alligator to pick-up low frequency sounds from other reptiles or animals in the water. This leads to alligators hunting or fighting for their food. These dermal receptors also allow the alligator to communicate with other animals in the water.
Page 61	What do rattlesnakes do with their keratin rings? How is this a sign of their survival instincts?	Rattlesnakes shake their keratin rings or rattles when they feel threatened. The tip of their tail shakes fast when they feel they are in danger. This warns off possible predators and helps the snake survive. The snake's anatomy has a built-in warning system designed to scare away anything that might cause it harm. It knows how to use this part of its anatomy as soon as it is born which is why it is an instinct. If the warning signal doesn't work, the snake will have to defend itself in other ways.
Page 63	What unique structure supports an eagle's ability to fly around with a freshly caught fish? (Use illustration to guide student answers as needed.)	The eagle has talons, which are external structures that allow the eagle to grip a fish while flying. This is unique because talons have a grip even stronger than human hands.
Page 66	How does an artic fox benefit from changing coat colors?	The arctic fox benefits from changes in the color of its coat because the change acts as a camouflage when the snow covers the ground. This makes it

		harder for larger animals to hunt the fox. It makes it easier for the fox to sneak up on prey since it blends in so well with its surroundings.
Page 69	How does an elephant shrew's nose support feeding behaviors?	The elephant shrew can sniff out insects from far away or hard to reach distances.
Page 72	What part of a porcupine's anatomy, or external structure, is used for protection? How do they use this structure to protect themselves?	Porcupine quills have hundreds of barbs that make it hard to move. If a porcupine is threatened, they are protected by their quills because it would hurt a predator to be stuck by so many sharp needle-like hairs!
	How do animal structures promote behaviors that protect them, feed them, and allow them to communicate with other animals? Support your discussion with text evidence.	Animal structures allow animals to feed in many ways. Some structures, like noses, let animals know it is time to find food, bears can smell food and know it is time to hunt for its next meal. Other structures, like tentacles catch and kill food, making it easier to chomp on a yummy bite. Animal structures promote communication in different ways, too. Some animals, like alligators communicate through messages received in their dermal receptors, and others communicate through rattling sounds of a keratin rings like rattlesnakes!

ANIMALS THAT MAKE ME SAY WOW! – READING 2, QUESTION SEQUENCE 2, DAILY TASK 3

TEXT

Text: *Animals That Make Me Say Wow!* By Dawn Cusick

Question Sequence: Second Read

Instructional Strategy: Shared Reading (Pages 7-22)

LESSON OBJECTIVE(S) FOR THIS READING

In this text, students will learn about the internal and external structures that aquatic and land animals have to support survival, growth, behavior, and reproduction.

In today's reading, students will:

- analyze the internal and external structures that aquatic and land animals have to support survival, growth, behavior, and reproduction;
- ask and answer questions to demonstrate understanding of the text *Animals That Make Me Say Wow!*, referring explicitly to the text as a basis for the answers;
- determine the meaning of words and phrases in the text *Animals That Make Me Say Wow!*;
- use information gained from illustrations and the words in the text *Animals That Make Me Say Wow!*, to demonstrate understanding of how some animals behave in specific ways to survive. Some animals have unique external and internal features that support survival;
- write an opinion article on surprising animal structures and the function of the structures that support survival in their habitat; and
- participate in collaborative discussions, engaging effectively with varied partners and building on others' ideas and expressing their own ideas clearly.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- exoskeleton (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- internal structures
- external structures
- anatomy
- instinct
- structures

DAILY TASK
Think about the animal structures that we have been studying so far. Some are quite interesting and even surprising. Write an opinion article about what you think is the most surprising animal structures you have studied. Consider how these animal structures prepare and support animal survival in their habitat. Write an opinion article to explain What have you learned about the structure and how they contribute to animal survival. Why do you think it is most surprising? In your article, be sure to: • introduce your topic and opinion (Why are these structures essential to survival?); • provide reasons that support your opinion; • use linking words (e.g., because, therefore, since, for example) to connect your reasons to your opinion; • provide a concluding statement to provide closure for your reader; • provide a title; and • provide at least one text feature.

POSSIBLE STUDENT RESPONSE
Amazing Animal Structures There are many amazing animals in our world that have unique external structures to help them survive. Some of these structures and their uses might surprise you. In my opinion, the most surprising external structures I've learned about are the spots on a leopard, and the dolphin's use of sounds. It surprised me that the spots of a leopard help the leopard be camouflaged in the wild. I thought the spots would stand out and be very noticeable. However, in the jungle habitat, they are actually not. It also surprises me that dolphins make their sounds through an air sac under their blowholes and not through their mouth! I thought a dolphin's voice would come from its mouth because that is how humans and many other animals make sounds. As you can see, animals have unique structures that help survive in their habitats. For me, the most interesting ones are the leopard and dolphin.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher script: "Today, we will dig back into our book we read yesterday "Animals That Make Me Say WOW!"* *This is an interesting title. What kinds of things usually make us say "WOW"?* *As we read today, think about things that make you say "WOW". Maybe it will be something you didn't know before, or maybe*	Things we didn't know about, things that impress us, or things that surprise us.

	it will be something that surprises you. Keep those things in mind to talk about as we go through the text." *Teacher note:* *Setting a purpose for reading that connects to the daily task will help students generate the thinking and prepare them for the task later in the lesson.*	
Page 7	Our text says, "...animals use some amazing adaptations in their bodies and behaviors to help them compete." With whom are they competing and why? Think about dermal receptors. How do these structures support survival?	Animals compete with one another. They compete because there are limited resources like habitats and food, so they must compete with one another to get what they need to survive. Alligators and crocodiles have dermal receptors, which are sensors on the scales or skin. They help animals locate or sense prey.
Page 9	This section of the text is all about how animals defend themselves. Can you recall some animals from our last reading in this text and how they defended themselves? During this reading, we will find out more about how animals defend themselves.	A rattlesnake uses rings of keratin or its rattle to defend itself from predators. The leafy sea dragon has leaf-like body shapes that helps them blend in with seaweed. The arctic fox can change its fur color to blend into the surroundings.
Pages 10-11	What information did you learn about some large mammals and how they stay safe?	Some large mammals like bears and leopards sleep during the hot part of the day, high in trees, where few predators can reach them. They have sharp claws, strong muscles, and good balance for climbing. Leopards can carry recently killed prey up trees to prevent other animals from stealing it.
Page 13	We just read about mutualism (a mutually supportive relationship) between the clown fish and the sea anemone. It is mutually supportive because they each do something that helps or supports the other.	

	What does a clown fish do for the sea anemone? What does the sea anemone do for the clown fish? Think about what we read about the crab and the jellyfish. Would this relationship be mutually supportive? Why or why not? Use specific evidence and vocabulary from the part of the text we just read together.	Sea anemones receive extra oxygen from the clown fish's moving fins and the clownfish eats parasites that get on the sea anemone. The sea anemone gives the clown fish protection from predators because it stings. Young crabs survive by hiding on the underside and top of jellyfish. They are safe there because the jellyfish tentacles cannot reach them there. When they get older, the crabs' exoskeletons harden and become like armor. The hard exoskeleton protects them from the stinging tentacles on the jellyfish. This relationship benefits the crab but **would not be considered** mutually supportive because the crab doesn't do anything to support the jellyfish.
Page 14	What essential external structures is a baby squirrel missing when it is first born? How could this impact their survival?	Newborn squirrels do not have fur and they cannot see because their eyes are closed which makes them vulnerable to predators until about 7 weeks old.
Page 17	Why do some animals compensate for their lack of external or internal structures? How do they do this? Explain using a specific example from the text.  (This is an opportunity for a collaborative talk structure.)	Some animals find way to compensate for their lack of external or internal structures in order to stay alive. They will do something else that can help them in their habitat. One example is the ring-neck snake. They don't have venom, which is an internal structure that helps protect them. So instead they camouflage themselves in leaves and soil to avoid predators. The brightly colored underside mimic the colors of animals with toxins.
Page 21	What external structures do armadillos have that are "like armor?" How is this similar to the older crabs we read about earlier? Use specific vocabulary we have learned.	Armadillos have scutes that are protein-covered bones. These scutes act as an exoskeleton and protect the animal from predators' bites/stings and the environment where the terrain is rough. This is similar to the hard exoskeleton older crabs develop which protects them from the stings of the jellyfish.

After the reading	Turn to your partner and summarize why animals' external and internal structures are important. Partner A will share one strong example of how an internal or external structure supports an animal's behavior. Partner B will share one strong example of how an internal or external structure supports an animal's survival. 	*Answers will vary but should include specific examples and precise vocabulary from readings.*

CRICKWING– READING 1, QUESTION SEQUENCE 1, DAILY TASK 4

TEXT
Text: *Crickwing* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
AD 800L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is slightly complex. *Crickwing* is a narrative text with a clear plot and sequence of events. The organization is chronological and clear. The beautifully colored illustrations support the overall understanding of the text.	The language features are moderately to very complex. In this text, the author uses imagery to help readers visualize the setting. For example, "Far below the great forest canopy lies a shadowy world that many insects call home; Crickwing, still groggy and still angry, crept out for a better look." There is also extensive use of descriptive adjectives and non-literal language increasing the complexity of the text. The vocabulary is rich and sophisticated, employing such words as *ravenous, truss, seethed, crouched, plummeted, loomed, and dastardly*. In addition to occasional uncommon usage of words such as in the statement, "That night Crickwing *wolfed* down a sweet flower bud…" the writing style includes personification and other non-literal language (e.g., "They poured like an angry river…" "…they stopped dead in their tracks…"), alliterative language (muttering molecules; terrible tongue), and puns, ("Have a nice *trip.* See you next *fall*!"; "There's something about these eensy critters that just *bugs* me.") The sentence structure is mostly compound and complex with instances of several subordinate phrases or clauses.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose is moderately to very complex. There are multiple levels of meaning in	The knowledge demands are moderately complex. Readers need to understand the predator/prey relationship that exists in environments. They also need to

this text. The reader may need guidance to understand the complexity of the levels of meaning.	understand empathy and sympathy. Prior talk about the concept of bullying or being teased may support the understanding of this text.

LESSON OBJECTIVE(S) FOR THIS READING

Students have learned about several animals and how they survive. Like those animals, cockroaches and ants have structures to help them survive. However, for the reading today, they are going to learn more about how organisms co-exist in a mutually supportive environment. Students will consider these relationships in a narrative text.

In today's reading, students will:

- determine the meaning of words and phrases as they are used in the text *Crickwing*, distinguishing literal from nonliteral language (e.g., "They poured like an angry river…" "…they stopped dead in their tracks…");
- explain how the Illustrations in *Crickwing* contribute to what is conveyed by the words;
- describe the characters in a story and explain how Crickwing's actions contributes to the sequence of events;
- write a narrative piece from Crickwing's point of view; and
  recount an experience from *Crickwing* with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- canopy (explicit)
- toil (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- exoskeleton

DAILY TASK

Write a short narrative piece from the perspective of Crickwing. In your story, explain life from your point of view, including descriptions of your experiences and how your relationships evolved, as well as how your feelings and attitude have changed over time. (Keep in mind the central message of the story as you write your narrative.) In your writing, be sure to:

- introduce yourself (Crickwing) as the narrator of your written text;
- logically organize the events of your writing;
- use temporal words and phrases to show the order of the events as you experience them;
- use imagery to describe the events, actions or experiences; and
- provide an ending, or closure, to your story

POSSIBLE STUDENT RESPONSE
My name is Crickwing. I hate this name because it reminds me of the tragic event that started all my troubles. While fleeing from a predator, a huge, hungry toad, I twisted one of my wings. That's where it all began. Since I had an important structure damaged, I had to avoid encounters in other ways. When people saw me, they made fun of my wing by calling me Crickwing. It upset me so much that I stayed indoors during the day, and even though it was risky, I searched for food at night. My life was horrible because I was always on the run from night creatures much fiercer than me. One day after fighting to survive, I noticed a colony of hard-working ants. They weren't running from predators! I decided that I would pick on them like I had been picked on. I began interfering with their work by setting traps for them. I spent all my time thinking of how I could pick on them. Then one day, it happened. I was caught off guard when, what looked like a million ants, captured me. I suppose I knew this day was coming, but I was not prepared. They bound me up like a mummy and left me to die, but a small group of ants showed compassion. As they talked, I realized that they were awaiting an attack from a colony of fierce army ants. I also learned that these ants were risking their lives as they were disobeying the queen's orders, yet they chose to help me-even after all I had done to them! I was grateful, and in my appreciation, realized I could help them to avoid the attack from the ants. My plan worked great, and now the leaf-cutting ants and I are the best of friends. I suppose I learned that showing a little kindness and a lot of forgiveness really do go a long way!

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Note:* *Crickwing, by Janell Cannon, is a fiction text and was selected to be used for instruction of story structure, but it can also be used to extend students' understanding of the unit's enduring understanding of animals having biological* ***structures*** *with* ***functions*** *that support survival and adaptation in their environments.* *Take a few minutes before reading this text to review the differences between fiction and nonfiction texts. Remind students to listen the important elements of fiction text (e.g., setting, characters, plot, etc.). Then, after the students have an understanding of the story, move towards expanding the understanding of animals having biological* ***structures*** *with*	

	functions *that support survival and adaptation in their environments.*	
Page 1-2	In the first sentence, the text mentions a "great forest canopy." A canopy is commonly described as a fabric, vinyl, or metal covering that is "hung or held over something." We understand that the forest is not covered by a large cloth. In this case a canopy is a covering formed by tree branches and leaves. The rainforest has a floor, an emergent layer, an understory, and a canopy at the top. What other words in the first sentence provides a clue to the meaning of the word *canopy*?	The author uses the words "far below" so we can imagine the leaves on the large trees standing over the ground, overlapping and create a covering like a fabric canopy.
	Why would the author select this term to describe the forest?	The text states that the world below the canopy is *shadowy*. Since shadows occur when the sun is blocked, there must be something standing between the sun and the ground. The leaves on the trees must be blocking the sun's rays.
	What does this description help us to infer about the animals that live in this habitat?	This description helps us infer that the forest was a dark and shadowy place with small animals that had to work hard to survive. It also helps us understand that there were lots of trees overhead.
Pages 1 & 2	The text says the main character was called Crickwing by others. What information does the text and illustrations supply that helps us to understand why he had been given this name?	The text describes a cockroach called Crickwing. He has that nickname because he twisted one of his fine long wings as he escaped from a predator. The illustrations show the attack and what his wing looks like after the attack.
Page 3	*Teacher notes:* *Reread the first paragraph on page 3.* How do Crickwing's feelings about his nickname impact his behavior?	He despised his nickname so much that he removed himself from normal daily activities and relationships. In fact, he would sneak out at night when the predators are a greater threat to search for food.

Pages 5-11	How have the encounters with other animals further shaped Crickwing's thoughts and attitudes?  (This is an opportunity for a collaborative talk structure.) *Teacher Notes:* *(Chart student responses)*	He's tired of running from predators like the monkey and the lizard. He is very frustrated because he never finishes a meal. He exaggerates this fact by saying, "I am a mere exoskeleton." He is angry, scared, and has gone into hiding.
Page 11	What can we infer about Crickwing's overall attitude? What text evidence supports your inference?	Crickwing is frustrated with his situation. We know this because the text tells us that he scrambled about in a panic and collapsed in angry tears. After one encounter with a predator, he states that he didn't know if he could "take this much longer."
Pages 14-20	Think about Crickwing's encounters with the ants. How has his damaged wing influenced his behavior in these encounters?	Crickwing's damaged wing has not allowed him to escape from predators in a natural way. He is exhausted from having too many stressful encounters with predators and becomes angry because he feels like a victim. He questions why the tiny ants aren't being threatened as he was and decides to power over them and treat them as badly as he has been treated. His damaged wing causes him to behave in ways that aren't characteristic of him.
Page 23	What internal and external changes did Crickwing experience as a result of being captured by the ants?	Crickwing develops empathy, as he learns that the ants have experienced stressful encounters with other insects much the same way he has. During his capture, Crickwing's wing is healed when it is pushed back into place as he is being transported.
Page 26	How would you describe the relationship between the leafcutter ants and Crickwing at this point in the text? Use specific text evidence to defend your response.	Eartha, Terra, and Gravel are ordered by the queen ant to carry Crickwing to an area where he will be devoured by the army ants. They have a change of heart and decide to free him. Later when he sees these ants in trouble, He the favor and helps rescue them. Crickwing feels grateful for his freedom and realizes that the ants chose to show on him.

	How does Crickwing's feelings about the ants change after he is freed by them? How did the relationship between Crickwing and the ants contribute to the animals' survival?	He gains their trust when he shows kindness and helps them. They helped each other in different ways. By helping each other they all survived.

ANIMALS THAT MAKE ME SAY WOW! – READING 3, QUESTION SEQUENCE 3

TEXT

Text: *Animals That Make Me Say Wow!*

Question Sequence: Third Read

Instructional Strategy: Shared Reading (Pages 23-31)

LESSON OBJECTIVE(S) FOR THIS READING

During this reading, students will learn that animals have unique internal and external structures that allow them to protect and defend themselves and their young. In this way, their structures support their survival and impact their behaviors.

In today's reading, students will:

- explain the cause and effect relationship between a naturally changing environment and an organism's ability to survive;
- read and comprehend *Animals That Make Me Say Wow!* independently and proficiently;
- ask and answer questions to demonstrate understanding of a *Animals That Make Me Say Wow!;* Defense Wow! referring explicitly to the text as a basis for the answers;
- describe the relationship between **internal** and **external** structures animals use to protect themselves from predators and their environments, using precise language; and
- report on appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- herd (embedded)
- pod (embedded)
- primate (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- echolocation
- predator

DAILY TASK
There is no daily task for this shared reading. Students will spend time completing the daily task for the Interactive Read Aloud of *How to be an Elephant.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before reading	*Teacher note: This is the third reading of this text. During the first reading of the text, students learned about the external and internal structures of animals. The second reading provided information on how animals used structures to defend themselves from predators. This reading will provide additional information regarding how animals defend themselves. Make sure to connect all of the readings together and record important information learned from the text.* Last time we read from this text we learned about how animals used structures and functions to defend themselves from predators. Tell me about a few animals that we read about last time.	A rattlesnake uses rings of keratin or its rattle to defend itself from predators. The leafy sea dragon has leaf-like body shapes that helps them blend in with seaweed. The arctic fox can change its fur color to blend into the surroundings.
Page 24	How do dolphins' and whales' internal structures influence their individual and group behaviors?	Dolphins and whales have air sacs beneath their blowholes that help them make sounds like clicking, whistling, and pulsing. These sounds are used for communication in groups call pods or individually. The sounds also help them find food through echolocation.
Page 27	How do some primates' external structures, appendages like their arms, impact their behavior and reproduction? Use a specific example and vocabulary from our text to support your answer.	Since primates carry their young in their arms, they typically have fewer offspring. For example, female orangutans usually only have one baby every eight years.

Page 28	Why do baby elephants stand close to their mothers? Why don't adult elephants do the same?	Baby elephants have predators like lions and hyenas that will try and attack them. Adult elephants do not have predators because of their size. Therefore, they do not need to stand close to one another to avoid predators.
Page 31	How do marsupials' biological structures support their young?	Marsupials have pouches where their offspring can live in the early days of their lives. This protects them from predators.
After reading	Select two different animals and explain how they each have unique internal or external structures that impact their behaviors. Be sure to use specific vocabulary and details from the texts we have read so far.	**Answers will vary but should include specific vocabulary and details.*

HOW TO BE AN ELEPHANT – READING 1, QUESTION SEQUENCE 1, DAILY TASK 5

TEXT
Text: *How to Be an Elephant* **Question Sequence:** First **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
NC 1310L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is very complex. This text is written using a combination of narrative and informational structure. The illustrations enhance the narrative, and detailed diagrams help the reader understand the development of the elephant.	The language features are moderately complex. Most of the text is easy to read. Both the narrative and informational text are written in a conversational tone with some unfamiliar vocabulary interspersed. There are many academic and domain-specific vocabulary words: matriarch, pillar-like legs, totters, acacia, olfactory bulb, appendage, resonance, repertoire, cuisine, formidable, several musical metaphors, sparring, courting. Most of the sentences are compound or complex.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose is clear. The text seeks to provide information about how elephants learn to survive from their communities. It explores internal and external structures that elephants use to understand the world around them and to survive in it.	The knowledge demands for this text are very complex. Readers would be familiar with elephants but may not have a strong understanding of how elephants learn about their surroundings and develop survival strategies. There are several musical metaphors, which may not be clear to readers without some musical background knowledge.

LESSON OBJECTIVE(S) FOR THIS READING

This text describes how elephants have specific internal and external structures and behaviors that allow them to survive. Some structures allow the animal to behave in certain ways, such as forming groups, and continue the existence of a species.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of the text *How to be an Elephant*, referring explicitly to the text as a basis for the answers;
- describe the relationship between elephant babies and their herds, using precise language;
- read and comprehend *How to be an Elephant* independently and proficiently;
- construct an argument in support and explaining why elephants benefit from forming groups; and
- engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parentheses.

- stable/stability (embedded)
- generations (explicit)
- vocal cords (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- herd
  rumbling

DAILY TASK

During Reading: As you read the text and students are exposed to new internal and external structures of the elephant, add them to the anchor chart of internal and external structures from earlier in the unit of study.

Independent Task: Pass the Reflection*

Pass the Reflection Directions:
Part One:
You will have 10 minutes to independently write a reflection in consideration of the following bullet points:

- What are some examples of an elephant's external and internal structures?
- How do these structures support elephants' survival?
- How do elephants learn what they need to know to survive?
- What is the benefit of elephants living in groups?

Please write legibly so your classmates can read your writing. Write in complete sentences that include text evidence and details. As a challenge, try to use the vocabulary we focused on today in your writing.

In your writing:

- introduce a topic;
- group related information together;
- develop the topic with facts, definitions, and details from the text we read;
- provide a conclusion;
- use linking words and phrases to connect ideas within categories of information; and
- use precise language we've studied (stable/stability, treasury of knowledge, generations, vocal chords, etc.).

Part Two:
After your individual reflection time, you will pass your reflection to the person on your right. The person to the right will read your reflection and respond to your writing by doing one or more of the following:

- add on to your thinking by connecting similar ideas;
- ask you additional questions to prompt your thinking; and
- introduce a new idea for you to consider or add onto your idea using evidence from the text we have read.

You will also respond to the person to your right. You must write your response in 5 minutes. During this time, you can ask an additional question and add on using evidence from the text we just read. This process will repeat with one more classmate. After two classmates respond to your reflection, you will receive your original paper and read the responses and feedback from your peers and then use that feedback to revise your original piece.

**Teacher's Note: Students will complete this task as a group of three.*

POSSIBLE STUDENT RESPONSE

Pass the Reflection:

Independent Reflection:	Elephants live in social groups for different reasons. They stay together to teach babies and young elephants how to survive. They continue to learn from each other as they grow into adulthood. This behavior allows them to share resources, stay away from danger, and raise young elephants together. Elephants have many internal and external structures that help them survive. The trunk of an elephant has many jobs. It can be used to complete tasks and take in information for elephants to process in their brains. An elephant's skin and ears help it to stay cool in hot temperatures. The skin of an elephant has wrinkles that trap moisture and keep the elephant cool. Their ears act like fans when they flap, and they also release heat from the elephant's body into the air. These structures help elephants survive in their environment.
Partner Response #1:	I agree that elephant trunks have many different jobs. Their trunks are like hands that allow the elephant to pick up big and small things, including food. Their trunks can also work like a shower. I also remember hearing that an elephant's trunk helps the elephant "see" the world. Elephants have poor eyesight, so they

	follow their nose and see the world using their trunks. Elephants use these structures to survive. If they were unable to use these structures, they may possibly struggle to interact in their environment and eventually become extinct.
Partner Response #2:	What are some elephant structures that help them interact in their social groups? I remember later in the text, it talked about vibrations. Elephants make calls to each other to stay in touch and make sure they know where other elephants in their social group are headed. They can track each other with the tips of their trunks or their feet. It is like a family.

**Teacher Note: The answers students provide will vary based on the information students connect back to the text. Responses will vary based on the original student thinking.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher notes: Do a quick picture walk through the text showing illustrations to the students. Prior to reading, have students surface ideas about behaviors they observe in the illustrations that are essential to elephant's survival.* *(Chart student ideas)* (This is an opportunity for a collaborative talk structure.) What do you notice about most of these illustrations that might give us a clue about elephant behavior?	A group (herd) walking together A group around a baby A group at a watering hole A group communicating A group splashing in mud A group pulling on a dead tree All of the pictures are of groups of elephants. I think that means that elephants stay together in groups to survive.
Page 8	How do young elephants learn about physical and social behaviors? The text refers to the knowledge they gain as a "treasury of knowledge." What does treasury of knowledge mean? Follow up: Why might they refer to it as a treasury? What does the text mean by "knowledge is passed down through the generations"?	Young elephants learn physical and social behaviors of elephant life from their family. A "treasury of knowledge" means that elephants have a lot of knowledge, or a wealth of knowledge. A treasure is something valuable, so a treasury of knowledge is knowledge that elephants might value or need to survive. That phrase means that knowledge is shared from family member to family member over many years. Each new group of elephants gains

		the knowledge from the many groups that came before them.
	Why is an elephant's family, or social group, important to an elephant's survival?	An elephant's social group is important because they work together to find and share resources, fight off danger, and care for each other to survive.
Page 9	What are two of the elephant's external structures mentioned on this page?	The two external structures the author mentions are the elephants' pillar-like legs and shock-absorbing feet.
	How does an elephant's legs and feet support its survival?	A baby elephant can be an easy target for predators. However, its legs and feet allow it to walk shortly after birth to avoid predators. The legs and feet of an elephant also allow it to be on the move in many ways (e.g., walking, swimming, kneeling, and climbing).
	What might happen to the baby elephant if it did not have these features?	The baby elephant wouldn't be able to walk shortly after birth, causing it to be at risk from predators. If an elephant didn't have these features, it would be unable to move or complete many tasks. If baby elephants didn't have these features, then many babies would die, which might lead to extinction.
Page 15	How does an elephant use their internal structures, lungs and vocal chords, to help them continue to exist?	Elephants use their lungs and vocal chords to create calls using their voice. These calls help an elephant to communicate with its family or scare away a predator. In order to continue to exist, elephants must have the ability to protect or defend themselves. Their lungs and vocal chords help them do this.
	What were some specific words and phrases in the text that helps you know how elephants use their lungs and vocal chords? 	The text said elephants make sound by pushing air out of their lungs and across their vocal chords. The text also said that elephants bark, cry, grunt, and trumpet to call to their family.
Page 20	In what environment do elephants live?	Elephants live in the savanna.
	In what ways do an elephant's skin and ears allow it to adjust its body to survive in the savanna?	An elephant's skin has wrinkles that collect moisture. When the moisture evaporates, it cools the elephant's body temperature. The ears of an elephant act like fans that provide a cool

		breeze. They also have blood vessels that give off heat into the air. These adaptations allow the elephant's body temperature to remain near 97° F.
	Why is it important that elephants stay cool?	Elephants live in environments with warm temperatures. It is important that elephants stay cool to live in their surroundings. Like humans, when our bodies are too hot, we don't feel well, and we are unable to complete tasks. Elephants' bodies must remain cool to stay in working condition that supports their survival.
Page 35-37	What has happened now that the elephant has survived into adulthood?	Now that the elephant has survived into adulthood it is having a baby.
	What would have happened if this elephant had not survived to adulthood?	If the elephant would not have survived into adulthood, it would not be able to have a baby, and the herd would not grow.
	How does living in groups or herds help elephants survive? Give examples from the text. 	Together the elephants help each other in many ways. They protect each other and their babies. They help to teach the young ones how to survive. They make breezes to cool each other. They make rumbling sounds to help keep the herd on the right path and find water.
	What behaviors were similar to behaviors of human families?	Human families protect each other and communicate with each other too. They also teach their young how to do things, so they know how to live on their own.

HOW TO BE AN ELEPHANT – READING 2, QUESTION SEQUENCE 2, DAILY TASK 6

TEXT

Text: *How to Be an Elephant*

Question Sequence: Second

Instructional Strategy: Interactive Read Aloud

LESSON OBJECTIVE(S) FOR THIS READING

Today's reading will help students understand that elephant noses can be considered both internal and external structures because of their multiple functions.

In today's reading, students will:

- explain the cause and effect relationship between a naturally changing environment and an organism's ability to survive;
- Infer animal adaptations help them survive in their environments;
- construct an argument supporting and explaining why elephants benefit from forming groups;
- read and comprehend *How to be an Elephant* independently and proficiently;
- ask and answer questions to demonstrate understanding of *How to be an Elephant*, referring explicitly to the text as a basis for the answers;
- describe the relationship between elephant babies and their herds, using precise language;
- engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly; and
- write an informative/explanatory text to examine a topic and convey ideas and information about the survival behavior of forming groups.

VOCABULARY WORDS

The following words will be introduced during this reading. The suggested instructional methods are included in parenthesis.

- appendage (explicit)
- precision (explicit)
- multipurpose (embedded)
- coordination (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- herd
- rumble

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DAILY TASK
Write a two- part script for an African Safari Tour Guide: Pretend you are an African Safari tour guide. Your job is to inform the tourists about the animals they are observing as you drive by their natural habitats. Part 1: Write down the script you would use as you pass a herd of animals (e.g., *elephants or other African species that live in herds*). Explain this herding behavior and why some animals benefit from forming groups or herds. Also, write down your script for reminding tourists of the safety issues they might face if they wander away from the group during the tour. Part 2: As you pass elephants on your tour, draw attention to the different ways these animals are using their trunk as both an internal and external structure. Explain to your group of tourists how this structure helps the elephant survive in its environment.

POSSIBLE STUDENT RESPONSE
Independent Exemplar Student Response: Part 1 – As you can see to your left, this is a herd of elephants traveling to find water. This herd is a family and is made up of mothers, sister, cousins, and calves and is usually led by the oldest female in the group. They will stay together to help one another avoid dangers and to care for the young. Many animals benefit from staying together in a herd. Together they have a better chance at chasing away or warning each other of predators before it is too late. However if one strays from the herd it must face these dangers alone. That is a good reminder to all of us as well. Please do not leave the group for any reason. It is not safe to be alone in this environment. Part 2 – To your right you can see some elephants at the watering hole. One is using its trunk to suck water up then pour it down its through to drink, while another one is using its trunk to spray mud on to its back as a natural sunscreen and bug repellent. The trunk has many uses all of which help the elephant survive in this environment.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Notes: Revisit the Book How to Be An Elephant. During the sequence, you will reread page 11-16 which is focused on the elephant's nose. Remind students of the concept covered in the previous lesson: animals forming groups and the benefits for their survival.* *Next, refer to pages 13-16 for the topic of today's discussion.*	

	Teacher Script: "Today we are going to look more closely at an animal structure that serves more than one purpose." *Read Aloud pages 11-16*	
Page 13	An appendage is a body part connected to the main part of the body, like an arm or a leg. How is an elephant's trunk a multipurpose appendage?	The text says an elephant's trunk is part hand, part arm, part nose, and part shower. That means it has multiple purposes and functions.
Page 13	The author provided us with a very informative graphic. What does this graphic describe about an elephant's trunk? Follow Up: How does this graphic support you in understanding the many purposes of an elephant trunk?	The graphic describes the many purposes of an elephant's trunk. The graphic uses illustrations and labels to help us see that elephants use their trunks to complete many tasks in various ways.
Page 13	How does an elephant's trunk help it complete tasks?  (This is an opportunity for a collaborative talk structure.) Why is it important for the elephant's trunk to be both strong and precise?	An elephant's trunk can serve as a hand, a crane, a shovel, a shower, and pincers. These purposes of the trunk allow the elephant to complete tasks like scratching, making a gesture, digging, bathing, picking up small object, and uprooting heavy trees. An elephant's trunk is both strong and precise. It is important for the trunk of an elephant to be strong for it to be able to lift heavy things. An elephant must also be precise to pick up smaller objects.
Pages 11-12, and 15-16	The trunk of an elephant can also be considered an internal structure because it interacts with other internal structures. How might an elephant's trunk help it receive and send information?	The text says that a trunk helps the elephant to smell and sound. I think the elephant receives information from the smells around it. The elephant uses its trunk to make sounds. This allows the elephant to send information and communicate with other elephants.

TEXT
Text: *What if You Had an Animal Nose?* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
710L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text follows a predictable pattern on each page. The text presents information, a fact, and a fun human connection on each page. The text features included in this text enhance the reader's understanding of the content and are mostly supplementary.	The language features are moderately complex. The conventionality of the text is largely explicit and easy to understand. The text presents many new animal names and content specific vocabulary. Mostly simple sentences are used; however, there are sentences that are compound or complex and introduce the use of dashes.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is clear that animals have different noses that are used for different and specific purposes. However, there is an implied meaning that animals use their noses to survive which allows them to continue to exist. The text also explores how noses can be both external structures and internal structures, but that is not clearly communicated to the reader.	The knowledge demands for this text are moderately complex. The level of knowledge demand relies on a both practical knowledge and content-specific knowledge. The text includes a mixture of simple and more complicated ideas.

LESSON OBJECTIVE(S) FOR THIS READING

This text shares about how animal noses are multifaceted. They serve a variety of purposes depending on the species and the environment. Animal noses help with the completion of tasks and prompt some behavioral responses.

In today's reading, students will:

- infer that the animal adaptation (*noses*) have helped them survive in their environment;
- ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as a basis for the answers;
- describe the relationship between the various functions of an animal's nose and its survival, using precise language;
- read and comprehend *What if You Had an Animal Nose!?* independently and proficiently;
- speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification regarding text-based information; and
- write an informative/explanatory piece to examine the topic and convey ideas and information on whether animal noses should be considered external structures, internal structures, or both.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- smell sensors (explicit) **Be sure to address how smell sensors interact with the brain.*
- sensors (explicit)
- keratin (implicit)
- signals (implicit)
- nasal cavity (implicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- hibernation
- senses
- internal structures

DAILY TASK

Write an explanatory piece on whether animal noses should be considered external structures, internal structures, or both. Be sure to include information from the two texts to support your answer.
Be sure to do the following when writing:

- introduce your topic;
- develop the topic with facts, definitions, and/or details;
- provide a conclusion;
- use linking words and phrases to connect ideas; and
- use precise language (appendage, precision, multipurpose, coordination, etc.).

POSSIBLE STUDENT RESPONSE
Animal noses can be considered internal or external structures depending on their purpose. Some noses interact with the brain by sending signals that encourage the animal to make a behavioral response. Animals, like the grizzly bear, use their noses to find prey and stay away from predators to survive. Some noses complete tasks like digging, lifting, showering, and grabbing objects. Elephants and warthogs use their noses to complete many different tasks. These tasks also play a part in the animal's survival. The tasks they complete with their noses allows them to interact with their environment. Animals' noses serve multiple purposes that impact an animal's ability to survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Script: In this unit, we have talked a lot about senses and structures the enable animals to use those senses.* *What are the five senses we've talked about?* *When we think of our nose, we usually only think of one use for it – the sense of smell. However, many animals have multiple uses for their noses. Today in our text, What if you Had an Animal Nose!?, the author gives us some great information while also sharing a humorous look at what it might be like to have a nose that does more than just smell.*	Hearing, sight, smell, taste, and touch
Page 2	How would you describe the tapir's nose? How does the tapir's nose help it survive in its environment?	The tapir's nose is big and moveable. It can also bend. The tapir uses its proboscis, or nose, to grab leaves or fruit to eat. It also helps the tapir find food at night by bending in all directions.
Page 10	Remember, we read about grizzly bears earlier in our unit. How does a grizzly bear's nose help it survive?	The smell sensors allow the grizzly bear to track down food from miles away. Once a grizzly bear smells food, its smell sensors send a message to his brain. Grizzly bears must eat a lot to prepare for winter, so being able to smell food is very important.

	The text says that the grizzly bear's smell sensors are 100 times bigger than human's. What does that imply? Why do bear's need this ability?  (This is an opportunity for a collaborative talk structure.)	Because grizzly bears have smell sensors that are a hundred times bigger than humans, they have a better sense of smell than humans. They can smell things from farther away. Since food may not be available close by, grizzly bears need to be able to find that might be far away so they can eat enough before hibernating.
Page 12	How and why does a warthog's nose have more than one purpose?	The warthog's nose both completes tasks and receives information. The warthog uses its nose to smell its food. When it smells its food, a message is sent to its brain and then the warthog responds by searching for and finding the food that was smelled. The warthog also uses it nose to dig soil and lift out dirt. The warthog needs its nose to do these things to continue to find food and survive.
Page 16	The star-nosed mole is a burrowing animal, meaning he lives mostly underground. How does his nose help him survive in his underground environment?	The star-nosed mole uses its nose to search for food in the dark and underground. Its nose smells and feels for food, using its twenty-two rays that always move. To continue to survive, star-nosed moles need different ways to find food in the dark.
Page 20	Where is the nose of a giant anteater? What tasks does the anteater's nose allow it to complete? Why are these tasks important?	The nose of the giant anteater is on the tip of his jaws. The nose of an anteater allows it to poke through hard-to-reach places to sniff for food. It also uses its nose to breathe underwater when it goes swimming. These tasks are important because they allow the anteater to find sources of food, or energy, and breathe which are both essential to maintaining survival.
Page 24	As we've read about different animals, we've seen that animals use their noses in many different ways in order to survive. The hammerhead shark has a unique	The only job of the hammerhead shark's nose is to smell.

	nose. What is the only job of the hammerhead shark's nose? How does the hammerhead shark's nose help it to continue to exist?	The shark's nose has a strong sense of smell which allows him to smell blood from wounded prey from far away. Because the shark has a nostril on each side, it can tell if a scent is stronger to the right or left and track down food quickly. The shark's nose helps it find food which is part of survival.
After Reading	Explain how animal noses are important to an animal's survival. Use a specific example.	Animals use their noses for many different reasons. Some animals use their noses to complete tasks, like the warthog that sniffs out its food such as underground roots and bulbs that it likes to eat. It also uses its nose to dig into soil and lift the dirt out just like a shovel. Other animals use their noses to receive information to make a behavioral response. Animals smell their food and the potential for danger. They must use their nose to support their survival.

HOW TO BE AN ELEPHANT – READING 3, QUESTION SEQUENCE 3, DAILY TASK 8

TEXT

Text: *How to be an Elephant*

Question Sequence: Third Read

Instructional Strategy: Interactive Read Aloud

**Teacher Note: Reread page 11-12 only. This page is focused on the elephant's smell-o-vision.*

LESSON OBJECTIVE(S) FOR THIS READING

Today's reading will support learning related to how strong structures within an elephant compensate for weak structures within an elephant. Internal structures that receive information send messages to the brain that prompt survival behavior.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of the text *How to be an Elephant*, referring explicitly to the text as a basis for the answers;
- describe the relationship between internal structures and external structures, using precise language;
- read and comprehend *How to be an Elephant* independently and proficiently;
- report on the topic with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace; and
- write informative/explanatory texts to examine the topic and convey ideas and information.

(Teacher's Note: You may also want to revisit page 16 of What If You Had an Animal Nose to link the star-nosed mole's weak eyesight in with these objectives).

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- signals (implicit)
- decoded (embedded)
- interpreted (embedded)
- committed (embedded)
- perceptive (explicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- senses

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DAILY TASK

Today, we reread a page from our text, *How to be an Elephant.* Our purpose for reading this text was to think about the enduring understanding, animals have internal and external structures that work together to help them survive.

However, we discovered today that some of those structures are weaker than others and the animals must compensate for those. Write an informational paragraph about how animals' structures work together and even compensate for weaker structures when needed.

Be sure to include information from multiple texts to support your answer. Be sure to do the following when writing:

- introduce your topic;
- develop the topic with facts, definitions, and/or details;
- provide a conclusion;
- use linking words and phrases to connect ideas; and
- use precise language.

POSSIBLE STUDENT RESPONSE

Animals have structures that work together to support life and survival. However, not all structures are equally strong. Sometimes animals have very strong structures that compensates for weaker structures. For example, an elephant has poor eyesight, but a very strong trunk. The elephant uses its trunk to smell and store information to help it interact with its environment. Its trunk actually helps it "see" better and compensates for its poor eyesight.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher Script: "We are going to look at our book, How to be an Elephant, one more time. I want you to think and talk about this question with a partner."* What do you think would be the best thing about being an elephant? Talk with a partner.  (This is an opportunity for a collaborative talk structure.) *Teacher Script:*	*(Answers will vary)* Having a strong trunk to pick things up or to spray water. Having huge ears to make a breeze when it is so hot. Having thick skin so that bugs can't bite you.

	Teacher's Script (once responses to the previous question are given): "Those are all structures elephants have that help them survive. In fact, elephants and other animals use their strong structures and behaviors to compensate for their weak ones. *Let's read to find out what structures are not as strong for elephants and how they compensate for those."*	
Page 12	What does the author mean by the elephant "sees" the world by following her nose?	An elephant needs to see with its nose because it has poor eyesight. The author means that because the elephant has poor vision, and it must use its nose to smell the surroundings, which allows it to be aware of what's close by in the environment.
Page 12	What does the author mean by "signals are decoded into data that can be interpreted…"? Why would it be important that an elephant commit the smells and information to memory? How would this memory help her survive in her environment?	The author is telling us that signals, or messages, are sent to the elephant's brain. Those messages are broken down, so the elephant can understand the important information. To survive, animals sometimes must make quick decisions. Once the elephant commits the smell and related information to memory, she can quickly behave or respond to support survival.
Page 12	On this page we read that the elephant's nose is perceptive. Using the context in the text, what might perceptive mean and why? How does having one of the most perceptive noses on earth support an elephant's survival?	Perceptive means that the elephant's nose can understand or notice something quickly and easily. By having one of the most perceptive noses on earth, an elephant can see what's around it. The elephant can learn who its family members are, how to locate food and water, stay away from danger, and find a mate. These lessons will help the elephant survive.

WHAT IF YOU HAD ANIMAL EYES? – READING 1, QUESTION SEQUENCE 1

TEXT
Text: *What if You Had Animal Eyes* **Question Sequence:** First Read **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
710L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The text follows a predictable pattern on each page. The text presents information, a fact, and a fun human connection on each page. The text features included in this text enhance the reader's understanding of the content and are mostly supplementary. For example, most pages have a secondary picture to illustrate the meaning of the text at the bottom of the page. This solidifies understanding for students and is an accessible text feature once students know how to use the text.	The language features in this text are moderately complex. The conventionality of the text is mostly explicit and easy to understand. The text presents many new animal names and content specific vocabulary. There are also words and phrases that can be used for explicit and embedded vocabulary instruction. Examples of tier 2 words are "twin telescopes", colossal, and horned. There are mostly simple sentences; however, there are sentences that are compound or complex and introduce the use of dashes.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The purpose of the text is clear that animals have different types of eyes that are used for different and specific purposes. However, there is an implied meaning that animals use their eyes to survive which allows them to continue to exist. These connections more directly implied in the concluding pages of the book when the author connects human eyes to a reader's new learning about animal eyes.	The knowledge demands for this text are very complex. The level of knowledge demand relies on a both practical knowledge and content-specific knowledge. The text includes a mixture of simple and more complicated ideas. However, there are connections across texts and outside ideas presented.

LESSON OBJECTIVE(S) FOR THIS READING

During this reading, students will learn that animal eyes are multifaceted, have different structures, and serve a variety of purposes depending on the species and the environment. Animal eye structures impact and support a behavioral response which helps them survive.

In today's reading, students will:

- describe the relationship between how animal eyes (structure) function to complete tasks and/or support a behavioral response which helps them to survive;
- compare and contrast information learned about the similarities and differences of animal eyes structures and functions;
- read and comprehend informational texts about animals' eyes and how they function to support survival; and
- prepare for collaborative discussions about animal eyes; engage effectively with varied partners, building on others' ideas and expressing their own ideas about the similarities and differences of animal eyes structures and functions.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- shift (embedded)
- lenses (embedded)
- retina (embedded)
- pupils (embedded)
- expand (implicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- structures
- binocular vision
- monocular vision
- echolocation
- survival

DAILY TASK

There is no daily task for this shared reading. Students will spend time completing the daily task for the interactive read aloud of *Eye to Eye.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Notes: In a previous text, Animal Senses: How Animals See, Hear, Taste, Smell, and Feel, students learned about the sense of sight and how the structure of the eyes help animals survive.* *The next text that you are about to read is all about animal eyes. Prior to reading, you will want to prepare students to compare and contrast the different animals and how they use the structure and function of their eyes for survival. Students should listen as you read for information that is the same (compare) or different (contrast).* *Use the chart in the resources section at the bottom of the question sequence to review what was learned in the previous text, Animal Senses: How Animals See, Hear, Taste, Smell, and Feel.* *Ask the students to be prepared to add new animals so that you can compare and contrast the animals and how they use their eyes to survive.*	
Page 4 Chameleon	We just read about how elephants use their "smell-o-vision" to compensate for their poor eyesight. Some animals have better vision, but must compensate for other things, like a lack of visual mobility. The chameleon must compensate for its eyelids not opening all the way. In what ways does it compensate for this weak structure?	The chameleon compensates for his half-opened eyes by having eyeballs that can see two directions at the same time. This allows them to catch prey even though they can't open their eyes all the way!

Page 6 Eagle	What important information did you learn about how the eagle's eye functions?  (This is an opportunity for a collaborative talk structure.) *Teacher's Note: Record the information discussed on the interactive chart.*	The golden eagle can see up to eight times better than most people. It can also spot its prey up to two miles away. It can shift its eyes from focusing on something far away to something up close. A golden eagle's eyes have a third eyelid that sweeps across the eyes like windshield wipers, keeping them clean.
Page 10 Clouded Leopard	Describe the structure of the clouded leopard's eye. How does this eye structure help the clouded leopard? What other animals have we read about that have this same type of eye? *Teacher's Note: Record the information discussed on the interactive chart.*	A clouded leopard's eyes have a special mirror-like layer at the back. This layer reflects light back through the retina, the part of the eye packed with light-sensing cells. This helps the clouded leopard see well in the dim light at nighttime for hunting prey and avoiding predators. The skunk has an eye like the clouded leopard.
Page 12 Bullfrog	On this page we see that the bullfrog has eyes that are slightly different from other animals. What is the function of their eyes? What information do they receive? How do they respond to this information? (Scaffold: ask questions to punctuate the conversation if students are unable to answer all questions in a single conversation. See below.) What is the function of their eyes? What purpose do their eyes serve? What do the animal's eyes allow it to do to survive? What information do they receive? What information do they receive to stay away from predators?	The function is to help the bullfrog see, but also to help it digest food. To see, the bullfrog receives information and prompts it to go underwater for protection. The bullfrog peeks its eyes above the surface to make sure all predators have gone away. The bullfrog can respond to an upcoming predator without having to expose its body. The eyes also help the bullfrog digest food because the eyes shut and then push down food through openings in the skull. The bullfrog couldn't eat without its eyes!

	How do they respond to this information? Do they adapt? What are their reactions when they receive this information? How does this adaptation help the frog survive?	
Page 14 Four-Eyed Fish	Describe the structure of the four-eyed fish's eye.  How does this structure help the fish? *Teacher's Note: Record the information discussed on the interactive chart.*	A four-eyed fish really has only two eyes, but each eye has two different parts. Each of these four eye parts has its own pupil. This fish keeps half of each eye underwater, looking for the insects and smaller fish it eats. It keeps the other half of each eye above the water, watching for birds and other predators.
Page 16 Yellow Mongoose	Describe a yellow mongoose's eyes based on what we have read in our text. What function do the mongoose's rectangular pupils serve?	A mongoose has rectangular pupils. This specific pupil structure allows mongooses to see predators and escape routes.
Page 21 Llama	How have the llamas' eyes changed? Why would it be important for the llama's eyes to be able to adapt to sun in the desert region?	Their eyes have adapted to adjust to the hot conditions of the desert region. Llamas have black crystals at the top and bottom of their pupils to help shield them from the hot sun of the desert. Because they live in a desert region, llamas need to be able to protect their eyes from over-exposure to the sun.
Page 24 Tarsier	Describe the structure of the Tarsier's eye. How does this structure help the animal? *Teacher's Note: Record the information discussed on the interactive chart.*	The giant eyes of a Tarsier have large pupils and are perfect for hunting tiny insects during dark nights.

	Teacher's Note: Ask the students to look at the chart of animals' eye structures and functions.	
	First, compare animal eye structures. What animals have a similar eye structure?	Skunks and bats both have eyes that contain rod cells which allow them to see during the nighttime.
	Now contrast, or tell how different animals have different eye structures. 	Frogs have eyes on top of its head. The clouded leopards have a mirror-like layer at the back. The four-eyed fish have two eyes, but each eye has two different parts. And, the tarsier has giant eyes and large pupils.
	Compare how animal eye structures and functions help with survival.	Bats, clouded leopards, and tarsiers all have eye structures that are well suited to being active at night. They go out looking for food when it is dark, and the eye structure helps it to function so that they can see at night. It also helps them to see predators and avoid them at night. The frog and the four-eyed fish both sit on top of the water and only expose their eyes or half of their eyes to search for food or avoid predators.
	Contrast how animals' eyes function differently to help with survival.	The golden eagle has sharp eye sight and can see for long distances. Some animals like bats, skunks, the clouded leopard, and the tarsier all have eyes that make it easier to hunt at night.

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RESOURCE

This chart can be used during the shared reading to help capture information that will support students in the daily task they will complete after having read this text and comparing and contrasting information learned about the functions of eye sight learned in the previous text titled *Animal Senses: How Animals See, Hear, Taste, Smell, and Feel*.

Example Interactive Chart:

Animal Sense	Animal Structures	Animal Functions	How does the function help with survival?
sight	Frog – eyes on top of head, wide apart	Frog eyes can see even when the rest of their body is below water. Their eyes can turn almost complete around.	This allows them to see from many angles to find prey or see predators that are after them.
	Skunk – eyes are made of rod cells	They have more rods in their eyes than cones, which enables night sight.	Skunk eyes allow the animal to see in the darkness to hunt prey and avoid predators.
	Bat – eyes have both rod and cone cells	Bats use the rod cells to see at night.	Bats use their eyes at night and another system to stay safe. They use echolocation to find food and avoid predators.
	Eagle – eyes have sharp vision and a third eyelid to keep the eye clean	Eagle eyes have sharp vision that can see up to two miles away. They can also see up close.	Eagles can spot prey from long distances and assures that they always have something to eat.
	Clouded Leopard - eyes have a mirror-like layer at the back.	This mirror-like layer reflects light back through the retina.	This type of sight helps the clouded leopard see well in the dim light of nighttime. Finding prey is easier if the leopard sees well at night.
	Four-eyed fish – two eyes, but each eye has two different parts	The design of this fish's eye allows it to keep half of each eye underwater, looking for the insects and smaller fish it eats.	It keeps the other half of each eye above the water, watching for birds and other predators that want to eat it.
	Tarsier giant eyes and large pupils	This animal has giant eyes and large pupils. The eyes can't move because of how the skull bones support them. These eyes are perfect for hunting tiny insects during dark nights.	Since the eyes can't move this animal turns its head all the way around to look for predators.

TEXT
Text: *Eye to Eye* **Question Sequence:** First **Instructional Strategy:** Interactive Read Aloud **Teacher's Note: The question sequence for this text focuses on the concepts found on the first three pages only. The remainder of the book provides additional examples of how animals use their eyes to survive in their environment. Teachers may choose to use the remainder of the text to continue support student understanding of the diversity of eyes and their functions if needed.*

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
1040L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization begins with a broad overview and then provides more specific details about how animals' eyes function and support survival. Numerous text features including headings, bolded key words, graphics and captions directly enhance and support understanding of the text. The last pages of the text provide additional information expanding upon information presented throughout the text (e.g., diagrams, labels and graphics describing different eye structures, additional animal facts, a bibliography, and a glossary).	The language features are very complex. A variety of simple, compound, and complex sentence structures are used throughout the text. Several examples of dashes, hyphens, and parentheses are evident as well. An abundant amount of Tier 2 and Tier 3 vocabulary words are used in addition to a couple of examples of figurative language (e.g., bathed it in light). Examples of Tier 2 Vocabulary (diverse, acquired, clusters, discern, resolve, convert, interpret, variations, adrift, detect, perceive, perched, sensitive, lurk, field of vision, migrate, keen, swivel, sweep). Examples of Tier 3 Vocabulary (arthropods, facets, retina, photoreceptors, pupil, iris, lens, radiant heat, infrared radiation, ultraviolet light, depth perception)
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The purpose of the text is moderately complex. The text describes the structure and function of the eye and how it is very different across animal species. It also describes how animals use the sense of sight for survival. The text provides several examples as well as larger categories of types of eyes. Another	The knowledge demands for this text are very complex. The overall assumptions by the author of this text is that students have some prior knowledge about animal structures and behaviors. (predator/prey relationships; what animals needs to survive in their environments; light and its connection to sight; and evolutionary changes over

subtle layer of the meaning within the text is the idea of animal adaptations. Animals that do not adapt over time may become extinct.	time). The text does support the readers understanding though text features and illustrations. These are fairly effective in bridging the gap, but be prepared to support students as needed. There is high usage of discipline-specific vocabulary (e.g., predator, prey, pupil, iris, retina, lens, ultraviolet light, depth perception) and presentation of challenging and abstract concepts (e.g. the level of diversity within the structure of eyes and how animals are able to use them in such diverse ways).

LESSON OBJECTIVE(S) FOR THIS READING

Today's text will share that most animals rely on their vision more than any other sense. Eyes help animals find food, avoid predators, communicate, and locate a mate for reproduction.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of *Eye to Eye*, referring explicitly to the text as a basis for the answers;
- describe the relationship between an animal's sight and its ability to survive, using precise language;
- read and comprehend selections from the text, *Eye to Eye,* independently and proficiently;
- write informative/explanatory texts to share their learning related to the external structures of eyes through text-related ideas and information; and
- engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- diverse (embedded)
- acquired (explicit)
- advantage (implicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- interpret
- adapt
- perceive

DAILY TASK

Use your knowledge about the two texts we have read about eyes, *What if You Had Animal Eyes*? and *Eye to Eye,* to write an informative paragraph describing how the external structures (eyes) and the unique ways different animals use their sense of sight.

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about this external structure; and
- provide a conclusion to provide closure for your readers.

POSSIBLE STUDENT RESPONSE
Many animals depend on their vision more than any other sense. They use their vision in many ways to survive in their environment. Some animals, such as the golden eagle, rely on their vision to spot their prey from far away distances. Other animals have poor vision and must compensate by using other senses to navigate or find food. Even though different animals' sense of sight is diverse, they all use their eyes and vision to help them survive in their environment.

PAGE/PART OF TEXT	**QUESTION SEQUENCE**	**EXEMPLAR STUDENT RESPONSE**
Before Reading	*Teacher's Note:* Show a pair of eye-glasses to the class. *Teacher's Script: When I was your age, I didn't need to wear glasses. I could see very well. Now, as I have gotten older my eyes are not as strong and they need a little help. That is why some people wear glasses. Animals, however, can't go get glasses if they don't see well, but they do change or adapt in order to survive.* *Today we are going to find out more about adaptations some animals have made in order to "see" the world around them.*	

Page 1	What does the author mean when he says, "the eyes are the most important link to the world," for many animals? What are some of the animals we have already learned about that rely on their vision more than any other sense?  (This is an opportunity for a collaborative talk structure.)	The author means that most animals rely on their ability to see to understand what is going on in the world around them. *Teacher Note: Student responses will vary and could reference multiple animals from previous readings. For example, each of the chameleon's eyes moves in different directions, so it can look out for prey.*
Page 1 Caption	Based on the caption on page 1, how does the Amazon parrot's vision help it survive? The ability to see color is an adaption that not all animals have. What challenges might it face if it could not see color or have this adaptation?	The parrot can see colors so well, it is able to find the fruit and flowers it eats. If it did not have this adaptation, it would have a harder time finding food and could possibly starve.
Page 1 Caption	What benefit does the jumping stick insect's ability to see in many directions have? What is unique about how the jumping stick's eye is designed that allows it to have this adaptation and use it to survive?	The jumping stick can see in many directions at once, therefore, it can take in more information at once. This could help it locate predators or find food more quickly. The jumping stick's eye is protruding, or sticking out. This is the reason it can see in many directions.
Page 2 & 3 Captions (focus on only these portions of this page)	*Teacher's Script: Since this is an informational text, we are able to focus in on the portions of the text that help to focus us in on our goals for this reading in connection with the text What if You Had Animal Eyes?. We are going to move directly to the bottom portion of pages 2 and 3 to learn about the four different kinds of eyes. As we do, be thinking of connections you are making to our other text.* Which of these eyes are the simplest? What are animals able to do and not do that have this type of eye? How might this help them survive?	 The eyespot is the simplest. They can see light but are not able to form images. They can detect shadows of their predators and move away to avoid being eaten.

Page 2 & 3 Captions	How are pinhole eyes different from eyespots? How might this be more helpful? How are these types of eyes different from compound or camera eyes?	Pinhole eyes can form images, and eyespots cannot. The more details an animal can gain from what it sees the better. Since it can see images, it might be able to determine threatening animals from those that are not. Even though they can all form images, pinhole eyes do not let in as much light and the images are dimmer than images created by the compound or camera eye.
Page 2 & 3 Captions	Which type of eye developed first in animals that could not see? Thinking about these four designs, which is the most complex? How do you think this process of changing as animals adapt to survive in their environment happens? Why do you think this?	Eyespot Camera Animals were blind for three billion years before they even began to see. When they did, they were still only able to see light and shadows, which is the simplest way to see. The text says eyes continued to change and become more and more complex.
Page 4-25	How do animals with poor eyesight compensate? Give an example from the text. As you consider the eyes as an external structure of animals, what are some connections that you are making between this text and the text *What if You Had Animal Eyes*?	*(Note: student responses will vary and could reference multiple animals from previous readings such as the chameleon.)* Animals with poor eyesight use other ways to navigate or to find food. The giant clam has thousands of pinhole eyes. The snail senses shadows even without coming out of its shell. *(Note: student responses will vary and could reference multiple animals from previous text, including the bullfrog and colossal squid.)*

TEXT
Text: *What Do You Do with a Tail Like This?* **Question Sequence:** First **Instructional Strategy:** Shared Reading

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
510L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization of the text is repetitive and easy to follow. The text is organized around showing one particular structure of an animal on one page (e.g., nose, tail, feet, etc.) and then the next page has a picture of the animal and the function of the animals' structure. This is supportive but may be difficult for readers to identify the page with one structure by itself. Text features and the use of graphics are closely tied to the information provided about each animal.	The language features are slightly complex. The language conventions are mostly explicit and easy to understand. Vocabulary is common expect for names of animals, however, the sentence structures throughout the book are mostly compound. This is the only area that might move the text into the moderately complex category.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose of the text is slightly complex. The ideas contained in the text are straight forward and easy to understand.	The knowledge demands for this text are moderately complex based on information presented on animals that might not be commonly known (e.g., platypus, mole, scorpion, bush baby, four-eyed fish, blue-footed booby, water strider, pelican, anteater, archerfish).

LESSON OBJECTIVE(S) FOR THIS READING

This reading will reinforce the idea that animals have external structures and functions that affect and support their behaviors.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of animal external structures and functions that support their behaviors;
- use text evidence to support their knowledge of animal structures and functions that support their behaviors;
- include evidence from informational text about animal structures and functions that support their behaviors; and
- report on a topic or text with appropriate facts about animal structures and functions that support their behaviors.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- ledge (embedded)
- capture (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- external structures

DAILY TASK

Throughout the course of this unit, you have learned about many different animals. This text presented many animals that you have learned about before (e.g., hyena, alligator, elephant, bat, skunk, monkey, four-eyed fish, chameleon, snake). Select one of these animals to write a detailed description about at least three structures of the animals and how the structures function to support their animal behaviors.

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animal adaptations; and
- provide a conclusion to provide closure for your readers.

POSSIBLE STUDENT RESPONSE
The bat has many different structures on its body that supports its ability to survive. Bats have a tongue so long that it cannot fit inside of its mouth. Instead, part of the tongue stays in the bat's rib cage when it is not eating. This allows the bat to catch insects and suck nectar from deep inside flowers. Second, echolocation is used by bats to find prey when they are out hunting at night time. The bat makes a very high-pitched sound. The sounds bounce off objects nearby and come back to the ears so that they can locate prey or predators nearby. Finally, bats have built-in heat sensors to help locate warm-bodied animals to feed on. Bats are well equipped with the structures that they need to thrive and survive in the world.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
	Teacher's note: Before reading this text, ask students to listen for animals that we have learned about in prior texts. Students should notice new and interesting animal structures.	
Page 5-6 nose	According to the text, what are different functions of animal noses?	Animals can use their noses to dig in the mud, find a meal, breathe, give a bath, and find their way underground.
Page 9-10 ears	According to the text, what are different functions of animal ears? What animal did the author write about that can "see with its ears"? What does that mean?  (This is an opportunity for a collaborative talk structure.)	Animals can use their ears to keep cool, see things, and hear things around them. The author was describing a bat and its use of echolocation. The author didn't use that term, but I know it because we learned about it in a book that we previously read titled *Animal Senses*.
Page 13-14 tail	According to the text, what are different functions of animal tails? What are some animals that use their tails for protection? What animals have we learned about before that are in this text too?	Animals can use their tails to brush off flies and hang from trees. Skunks spray stinky stuff, lizards break off the end of its tail, and scorpions will sting predators to stay safe. We have learned about skunks, monkeys, bats, elephants, and hyenas.
Page 17-18 eyes	According to the text, what are different functions of animal eyes?	Animals' eyes can spot tiny animals from far away, look two ways at once, look above and below the water at the same time, see clearly at night, and squirt blood out of their eyes.

Page 21-22 feet	According to the text, what are different functions of animal feet? What animals have we learned about before that are in this text too?	Animals can feed themselves, do a dance, walk on water, walk on the ceiling, and leap from ledge to ledge with their feet. We have learned about eagles, chameleons, and four-eyed fish.
Page 25-26 mouth	According to the text, what are different functions of animal mouths?	Animals use their mouths to scoop up fish, eat eggs larger than your mouth, suck blood, capture termites, and shoot down insects with a stream of water.
	Teacher's Note: In order to prepare students for the daily task, pair them up with a partner. Review the animals that were in the text today and in other books that you've read during this study (e.g., hyena, alligator, elephant, bat, skunk, monkey, four-eyed fish, chameleon, and snake). As the partner to generate as many facts as possible about each animal. 	

TEXT
Text: *Neighborhood Sharks* **Question Sequence:** First Read **Instructional Strategy:** Interactive Read Aloud

TEXT COMPLEXITY ANALYSIS	
QUANTITATIVE COMPLEXITY MEASURES	
1330L	
QUALITATIVE COMPLEXITY MEASURES	
TEXT STRUCTURE	**LANGUAGE FEATURES**
The text structure is moderately complex. The organization of this text starts out supportive and then shifts to a variety of topics making it a bit more complex for the reader. The big ideas in the text are implied and can be more difficult to follow based on the organization. The connections between the elephant seal and the shark's various internal and external structures are connected through descriptive passages. Text features are used to enhance the reader's understanding. For example, the projectile nature of the shark's jaw is described in detail as well as illustrated through a text feature, providing detail of the shark's body structures and adaptations. The use of graphics, side notes, and animal structure diagrams allow for deeper thinking and explicit connections with the descriptive text on the page.	The language features are very complex. This text contains a variety of abstract, ironic, and figurative language used to describe the shark and its interactions with other aquatic animals. The vocabulary is varied across the text and allows for explicit and embedded instruction of both tier 2 and 3 words. Examples of tier 2 words are proximity, intimidating, leverage, projected, and distinctive. Examples of tier 3 words are pinniped, apex predator, binocular vision, dorsal fin, dorsal aorta, and blubber. While there is an enormous amount of potential vocabulary for instruction, teachers must choose strategically which words best support the desired understandings for this read. The complex sentence structure used throughout the text contributes to the reading difficulty and students' ability to understand the text.
MEANING/PURPOSE	**KNOWLEDGE DEMANDS**
The meaning/purpose of the text is moderately complex. The purpose of this text is implied but easy to identify based on the context provided in the descriptive text at the top of the page. The purpose of the text is communicated through description and connections of the shark hunting its	The knowledge demands for this text are very complex. The subject matter of the text relies on moderate levels of discipline-specific knowledge, such as the shark's unique anatomy, which makes it suitable to hunt other aquatic animals. Even so, the text includes a mix of recognizable ideas such as the "apex predator." Students generally

prey, the elephant seal, at certain times of the year. Students will be able to make the connection that the purpose of this text is to understand the ironic phrase "neighborhood" shark. While "neighborhood" has a positive connotation, the word "shark" might not. Students will need to infer that sharks use the "neighborhood" or "proximity" of the seals to feed during a certain time of the year. Students will use the text features and new learning about a shark's body structure to uncover why this meaning is ironic and how a shark's behaviors impact survival of many aquatic animals.	recognize that sharks hunt based on their sharp teeth and the way they are portrayed through scientific images. However, the challenging concepts such as binocular vision will push students to understand that a shark's rank on the food chain is not simply because of its sharp teeth, etc. This text provides some connections to other texts. *How to be an Elephant* will be a natural connection given the authors are the same and the craft and structure is complementary. Also, the text will connect with Sandra Markle's text given the specific descriptions of both internal and external animal structures.

LESSON OBJECTIVE(S) FOR THIS READING

White sharks use their internal and external structures to support survival, growth, and behavior.
In today's reading, students will:

- read and comprehend the informational text, *Neighborhood Sharks*;
- determine the meaning of words and phrases in the text *Neighborhood Sharks* to understand the internal and external structures and functions of sharks;
- use text features to understand the external and internal structures of a shark that make it the perfect body for hunting prey;
- use information gained from illustrations and words in the text *Neighborhood Sharks* to understand the internal and external structures and functions of sharks;
- explain how reasons in the text, *Neighborhood Sharks*, support specific points an author makes about the internal and external structures and functions of sharks;
- prepare for collaborative discussion on the topic of sharks internal and external structures and their functions; engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly about sharks; and
  write an informational text to describe the internal and external structures and functions of sharks and how thrive in the environment.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- apex predator (explicit)
- pinniped (embedded)
- thriving (explicit)
- dorsal fin (embedded)
- stability (embedded)
- warm-blooded (embedded)
- visual predators (embedded)
- razor-sharp (implicit)

- projectile (implicit)
- patrolling (implicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- structures
- binocular vision
- internal structures
- external structures
- lens
- retina

DAILY TASK

Write an informational text answering: How do white sharks use their internal and external structures to thrive in their environment?

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animal adaptations; and
- provide a conclusion to provide closure for your readers.

Teacher's Note: See optional collaborative task supporting this independent task in the resources section that follows the question sequence.

POSSIBLE STUDENT RESPONSE

White sharks use their internal and external structures to thrive as an apex predator in their environment. An apex predator is an animal at the top of environmental region's food chain. This means that they are predators of their region and typically not an object of predators.

Sharks thrive in this region for many reasons. They have external structures, such as their torpedo-shaped body, that allow them to glide in the ocean waters before striking their tasty prey. Another external structure that helps them thrive is the white shark's tail. The dual-finned appendage allows the shark to swiftly reach its prey, like the Farallon Island elephant seals. These external structures have adapted over time to support a white shark's need to efficiently snatch its favorite meal.

Additionally, sharks also thrive with the use of certain structures, such as their eyes and projectile jaws. Sharks are visual predators. This means that their eyes have a keen sense that allows them to see their prey in high definition, even at far distances. This adaptation allows sharks to thrive by attacking their prey with little time to escape. White sharks have projectile jaws which also support their rank in the oceanic environment. Their jaws move systematically to clench their prey while projecting their mouths forward, another adaptation that makes it difficult for vulnerable elephant seals to escape.

The white shark also has internal structures that support its ability to thrive in the environment. Most fish are cold-blooded animals, but the white shark has a unique main blood vessel, called the dorsal aorta, which is unusually small, forcing most blood leaving the gills into a tight web of arteries and veins that weaves through the shark's red muscle tissue. This web acts as a heat exchange system: the movement of the shark's muscles warms its blood, so the shark can move quicker. This allows the shark to function as a warm-blooded animal.

In conclusion, white shark's external and internal structures allow them to thrive because their use and function is targeted towards achieving their sole purpose, finding prey. Because they are apex predators, they are uniquely adapted to hunt and attack their prey to survive.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Note: This book will be read over two days. On the first day, the focus on the lesson will be on the internal and external functions of the white shark.* *Teacher's Script: "Sometimes writers of informational text use graphics, such as diagrams and other text features, to help the reader understand the text. During today's lesson, we will be focused on learning about the external and internal structures of the white shark that help them to survive and thrive in their environment and these text features will help us."*	
Hot Lunch Page 12	What animals are present in the Farallon Islands during the fall, and why might the sharks be there as well? Today we are discussing how apex predators thrive in their environmental region. On this page elephant seals are described as "nature's perfect energy bar for a hungry white shark." Why is this? (Scaffold: Use the illustration at the bottom of that page to inform your answer.)	The white sharks thrive around the Farallon Islands in the fall because there is large population of seals that moved into the nearby waters. The seal's blubber provides a lot of energy the shark needs in its food. Elephant seals are "nature's perfect energy bar" because they are full of fat, or blubber, and they swim slowly in the water because they are large animals. This makes it easy for a predator to attack. Therefore, these seals are full of nutrients and easy to obtain which makes them the "perfect energy bar."

The Perfect Body Page 13	After reading this page, what are some external structures that allow the white shark to thrive in its environment? (This is an opportunity for a collaborative talk structure.) Follow up questions: How does the diagram on page 13 help you understand the different external structures? How does this structure allow it to thrive? How do these structures work together to support survival? Using what you know about dermal denticles, explain why they would help sharks glide through the water. How does the shark's skin tone help it thrive?	Dorsal Fin- The dorsal fin allows the shark to swim with stability and the pectoral fins help the shark glide quickly in water. Tail- The tail of a white shark has two fins which bring more power and movement when the shark swings its tail toward a swimming target of prey. Torpedo-shaped body/ dermal denticles- The overall shape of the body is a structure that makes the shark a perfect predator because its body is made to glide through the water while on a hunt. The shark has skin tones that help it blend into the shades of the ocean. When the shark is seen from below, its "ghostly" color helps camouflage it. If something is below a shark, it can't see the shark because the light underside color blends in with the light at the surface of the water. If something is above the shark, it can't see the shark because its dark upper body blends in with the dark colors of the reef. Being able to camouflage itself allows the white shark to quickly attack its prey.
Hot Head Page 15	How does the white shark's bloodstream, or internal structure, allow it to thrive, despite the cold temperatures of the ocean?	The shark's dorsal aorta is relatively small compared to other fish. Because of the size of the dorsal aorta and other gills that carry blood, the shark's body promotes a heat exchange that keeps the shark's temperature on the rise. This is important because sharks need to stay warm in the water as they wait to attack their prey. Sharks need to be able to stay warm for long periods of time before they attack. Their warm blood stream helps them survive.

High-Definition Vision Page 17	The author says that white sharks are visual predators. What does this mean and how does their vision allow them to thrive? What structures are used as the shark attacks? (Scaffold: What parts of a shark's vision allow them to thrive?)	Sharks are visual predators, which means they are able target their prey by sight. Sharks have eyes can see in high-definition because of their two types of photoreceptors. Their snout allows binocular vision, which helps them judge distances before they strike. Just before they attack, their eyes roll back in their head. This protects their most precious weapon, their eyes. This allows them to thrive because they can spot a meal from far off and attack.
Endless Teeth Page 19	What does the author mean when she says that "a white shark is always ready to dine with a razor-sharp smile"?	Sharks' teeth adapt because each time they lose a tooth, another tooth quickly grows and replaces it. This allows them to be apex predators because their sharpest weapon continually grows- they never run out of razor sharp teeth!
Projectile Jaws Page 21	How do a shark's jaws make it perfect for feasting on elephant seals? What adaptations have sharks developed that allow them to attack quickly?	The shark's jaws have adapted. They are not attached to its skull and can project to gulp it food, while pinning down the prey so that it cannot move. Sharks also cannot chew their food, so they simply must bite and swallow. This would make it hard to get away.

RESOURCE

Optional Collaborative Task

Teacher's Note: This activity is meant to be used in addition to the independent daily task and can be completed during or after the reading. If completed during the reading, students will pause during discussion to describe an internal or external structure of the white shark that allows the animal to thrive and explain why this structure allows it to thrive. If completed after the reading, consider what pages may need to be revisited to gather enough information to meet the desired understanding. This resource can be carried over into students writing during the independent task.

In this chart, students will be asked to apply their knowledge and think critically when explaining "why" – the significance – of an animal's structures. Students will describe the structure on a sticky note and place it near the structure on the chart. Teacher and student might need to draw arrows to identify certain structures. Then, as a class, the teacher will ask students to explain why this structure allows the white shark to thrive. These examples can be recorded at the bottom of the chart in the appropriate columns.

Example of completed collaborative task (a large diagram of a shark on an anchor chart could also be included):

White sharks thrive because of the use of their internal and external structures. Why?	
External Structures	**Internal Structures**
• Sharks are the largest predatory fish in the ocean. They can grow up to 21 feet long and weigh over 4,500 pounds. • Their torpedo shaped body is perfect for efficient swimming. • The dorsal fin provides stability which allows the shark to swim quickly after hovering in place, waiting for its prey. • The shark's tail has two fins that allow it to move efficiently in the water and charge towards its dinner. • The shark's belly is a camouflage, making it difficult to see from a distance and perfect for hunting tasty elephant seals. • The shark's eyes see in high definition. Their vision allows them to thrive because sharks can spot a meal from far away. • Sharks have an endless supply of teeth. If a tooth falls out another, one quickly takes its place. The teeth tilt inward to allow for bigger bites of food. • The projectile jaws of sharks use a five-part progression that occurs quickly to eat its prey: 1. lifts snout and opens jaws wide 2. drops lower jaw 3. thrusts upper jaw out from its skull while lifting its lower jaw 4. pins its prey in place 5. drops its snout and forces the jaws to clamp down on the prey. 6. Now the shark shakes its head from side to side and gulps down the bite of food.	• The main blood vessel, called the dorsal aorta, is unusually small, forcing most blood leaving the gills into a tight web of arteries and veins that weaves through the shark's red muscle tissue. This web acts as a heat exchange system: the movement of the shark's muscles warms its blood, so the shark can move quicker. This allows the shark to function as a warm-blooded animal. • The extra heat caused by the blood moving through the shark's body speeds up digestion and makes its reflexes lightning fast, enabling it to catch and eat its prey.

ANIMALS THAT MAKE ME SAY WOW! – READING 4, QUESTION SEQUENCE 4

TEXT

Text: *Animals That Make Me Say Wow!*

Question Sequence: Fourth Read

Instructional Strategy: Shared Read (Pages 32-51)

LESSON OBJECTIVE(S) FOR THIS READING

Animals have unique behaviors that help them survive. Some are natural instincts, such as foraging. Others are learned behaviors. Animals also, have unique internal and external structures allowing them to utilize their senses for protection, finding and digesting food, and communicating with other animals. These structures and behaviors help animal species survive in their natural habitats.

In today's reading, students will:

- ask and answer questions to demonstrate understanding of *Animals That Make Me Say Wow!*, referring explicitly to the text as a basis for the answers;
- describe the relationship between animal structures and behaviors, using precise language;
- read and comprehend *Animals That Make Me Say Wow!*; and
- engage effectively with varied partners, building on others' ideas and expressing their own ideas clearly.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- foraging (embedded)
- carnivores (embedded)
- herbivores (embedded)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- instincts
- internal structures

DAILY TASK
There is no daily task for this shared reading. Students will spend time completing the daily task for the interactive read aloud of *Neighborhood Sharks.*

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Script: "Today, we will dig back into our text we read at the beginning of the unit Animals That Make Me Say WOW!"* *As we read today, we will learn about another behavior many animals use to survive called* ***foraging****. As you listen, see if you can find out what foraging means and why animals do it.* *Teacher's Note: Setting a purpose for reading help students generate the thinking prior to collaborative discussion.*	
Page 33	As you listened to this page, what did you find out about the meaning of foraging and why animals do it? What are instincts? What are learned behaviors? How do instincts, learned behaviors, and body adaptations help animals forage?	Foraging is the act of searching for food. Animals do it in order to eat and make energy for their bodies. Instincts are patterns of behavior that come naturally to animals. Things that animals are taught or learn how to do. Animals use their foraging instincts to find food. Sometimes their parents teach them to hunt. Their body adaptations help animals get the food they need and digest it. All animals need food to survive.
Page 34	How do brown bears' external structures support their survival? Use specific evidence including illustrations from the text to support your answer.	Brown bears have large, flat surfaces on their paws. They use these to strike fish in rivers. This is necessary for them to get food to survive. They also can swim underwater to catch fish that swim close by. In the illustration, it also shows that brown bears have long, sharp claws. This would help with catching slippery prey like fish.

Page 36	Describe external structures of felines and *how* those structures support specific behaviors for survival. Use specific evidence from the text to support your answer. 	Leopards have incredibly strong legs that enable them to leap more than 20 feet in just one jump. This helps them catch prey from farther away. They also have whiskers that help them differentiate between living or dead prey.
Page 38	In the text, we read about some animals that were herbivores and other animals that were carnivores. How are herbivores and carnivores different? How might eating only plants impact an animal's internal structures? How might a high diet of meat impact an animals' behaviors? What physical structures would a carnivore need to hunt? 	Herbivores consume plants while carnivores consume mostly meat. Plants are more difficult to digest because the cell walls are made of cellulose. Plants also contain less energy. This means herbivores must be able to digest plants, so they could have different internal structures. Their behaviors would also be impacted because they would need to consume more plants and likely forage for longer periods of time. Animals that eat meat must learn how to hunt because the animals they are eating have survival instincts and structures to keep them from being eaten. A carnivore would need teeth and claws that can tear meat. It might also need to be fast and strong enough to catch prey that is running away.
Page 40-41	How are nectar bats and hummingbirds' external structures different? Why?	Nectar bats have tube-like tongues, so they can suck the nectar from deep inside flowers. Their tongue is really long, so it doesn't fit inside its mouth. It rests on its ribcage. Hummingbirds have beaks to protect their tongues, so they can feed on nectar that most other animals cannot reach. Their tongues are also extremely long, but they rest in a hollow place in their skulls instead of on their ribcages like the nectar bat.

NEIGHBORHOOD SHARKS – READING 2, QUESTION SEQUENCE 2, DAILY TASK 12

TEXT

Text: *Neighborhood Sharks*

Question Sequence: Second Read

Instructional Strategy: Interactive Read Aloud

LESSON OBJECTIVE(S) FOR THIS READING

Today's reading will provide information related to how white sharks have adopted a migration behavior in order to survive.

In today's reading, students will:

- read and comprehend the informational text, *Neighborhood Sharks*;
- determine the meaning of words and phrases in the text *Neighborhood Sharks* to understand the migration pattern of white sharks;
- explain how reasons in the text, *Neighborhood Sharks*, support specific points an author makes about the migration patterns of sharks;
- prepare for collaborative discussion on the migration of the white shark; and
- write an informational text on the migration of sharks.

VOCABULARY WORDS

The following words are introduced during this reading. Suggested instructional methods are included in parentheses.

- efficient (explicit)
- migratory animals (explicit)
- disproportionate impact (explicit)
- vulnerable (explicit)

The following words are reinforced during this reading. Suggested instructional methods are included in parentheses.

- apex predator
- pinniped
- thriving
- dorsal fin
- stability
- warm-blooded
- visual predator

- razor-sharp
- projectile

DAILY TASK

The white shark migrates, or travels, every year to find a plentiful supply of food. It travels each year to the Farallon Islands to feast on seals or sea lions. Write an informational text which describe the sequence of the migration, what happens during each stage of migration, and draw a picture to illustrate the migration pattern.

Your writing should:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animal adaptations; and
- provide a conclusion to provide closure for your readers.

POSSIBLE STUDENT RESPONSE

Each year the male white shark leaves his usual habitat in search of food. Females make the trip every other year because of giving birth to baby sharks off the coast of Mexico. Beginning in August each year, the white shark leaves an area in the Pacific Ocean, about halfway between Hawaii and California. The shark swims to the Farallon Islands located outside of San Francisco. The reason they go to this location is that the pinnipeds or seals are there feeding on plankton and tiny plants. These pinnipeds provide lots of food for the white shark. The shark feeds until December and then starts the long migration back to their home in the Pacific Ocean. The male sharks stay in this location until about March. The sharks mate from April to July and then it is time to start the trip back to San Francisco. This migration happens every year.

A migration picture should also be drawn by the student and should include three distinct timeframes for migration and what happens within each time frame.

August – November	December - March	April - July
Picture of white shark leaving an area in the Pacific Ocean, about halfway between Hawaii and California. White shark in the Farallon Islands feeding on seals.	Picture of white sharks leaving the Farallon Islands and heading back to the Pacific Ocean.	Pairs of sharks together in the Pacific Ocean. Lots of time spent rapidly diving over and over again.

PAGE/PART OF TEXT	QUESTION SEQUENCE	EXEMPLAR STUDENT RESPONSE
Before Reading	*Teacher's Note: Today's focus is on the migration of the white shark in search of food. In addition, there are certain adaptations in external structures that the white shark's body has made in order to survive.* *You should plan to read the following pages in the order suggested: page 12, 31, 32, 33, 17, 19, and 35.*	
Hot Lunch Page 12	This page describes the pinnipeds, a name for seals and sea lions. Every year these animals migrate or travel to the Farallon Islands to breed and give birth each fall. How does this behavior impact the behaviors of the white shark? Both the pinnipeds and white sharks are migratory animals. Using what you know about migration, explain what might happen to the great white shark species if they had not adapted this migration pattern. *Go on to Page 31 – Farallon Soup*	Because the pinnipeds are a food source for the white shark, they have learned to migrate with these seals and sea lions to the Farallon Islands to feed. If the white shark had not developed this adaptation, it might not be able to get enough food. If sharks can't get enough food to survive into adulthood, they won't be able to reproduce, and the species would die out.
Farallon Soup Page 31	The text says that seals rely on the nutrient-rich waters surrounding the Farallon Islands. If these waters changed and no longer provided tiny plants and animals called plankton to feed on what might happen? How would a change in the pinnipeds migration change the white sharks' migration?	If the food source for the pinnipeds changed then they might start to migrate somewhere else and the white sharks would lose their food source. If the Farallon Islands are no longer home to pinnipeds, white sharks may change their migratory patterns. They would need to migrate or prowl for a new object of prey in a different place.

Farallon Soup Page 32	What does “disproportionate impact” mean in the following sentence? “With so few sharks, each individual animal has a disproportionate impact on the balance of the Farallon food chain.”	A disproportionate impact means that even though white sharks largely prey on elephant seals, there are not enough of the apex predators in the area to disturb the food chain or jeopardize survival.
The White Shark Cafe Page 33	After reading the text on page 33, retell the sequence of the white shark migration.	From December to March, the male white shark leaves the Farallon Islands and swims toward a spot in the Pacific Ocean and the females swim go on to Hawaii. From April to July, the male sharks mate with the females. From August to November, the white sharks head back towards the Farallon Islands to feast.
High-Definition Vision Page 17	*Teacher script:* *We are going to look back at Neighborhood Sharks and consider how this species has changed, and how these changes have impacted their behavior.* How do sharks’ eyes support their behaviors and survival? What might happen to the shark species if it had not adapted to have keen eyesight? Support your answer using information from our text.	Sharks eyes support their feeding behaviors and therefore their survival. Their eyes have adapted to the need to be visual predators. Because aquatic animals migrate from season to season, sharks must use their eyesight to judge distances to find a meal. Sharks may go weeks without a meal, which makes their eyesight even more important. If sharks did not have this eyesight, they would have difficulty finding prey and may not survive.
Endless Teeth Page 19	How do sharks’ teeth support their behaviors and survival? What might happen to the shark species if it cannot replace teeth that it loses while feeding? Support your answer using information from our text.	A white shark has twenty-six top teeth and twenty-four bottom teeth. When a tooth wears down or falls out a new tooth begins rotating forward to take its place. This allows the shark to always have enough teeth to continue to be an “apex predator.”
Page 35	Have white sharks or humans been on the earth longer? What specific details did you hear in the text about that? What does that tell you about the shark’s ability to adapt?	Sharks have been on the earth longer. In order to live for such a long-time, sharks may have had to adapt. If the shark did not adapt, we would not expect the species to have survived so long.

Department of Education

END-OF-UNIT TASK

Note: The end-of-unit task gives students the opportunity to answer the essential questions for the unit and to demonstrate their understanding of the unit concepts. The end-of-unit task prompts student thinking, speaking, and writing about unit texts that reflects the demands of the grade-level literacy standards. In addition, the end-of-unit task provides students a chance to demonstrate their understanding in an authentic and meaningful context.

END-OF-UNIT TASK

Part I: You are a journalist for the magazine, *Our Planet,* and your assignment is to fly to two different regions to study the differences in animal adaptations in each region, so the public can better understand how animals interact with their environments and how they avoid extinction. Your article will be featured in the "Check Out Our Planet" section of the magazine. Since you are one of the senior journalists, you can select the two regions you will travel to. Your options include:

- desert region;
- ocean region;
- arctic region;
- forest region;
- jungle region; and
- savanna region.

As you write your article, be sure to do the following:

- introduce your topic;
- develop the topic with facts, definitions, and details;
- group related information together including illustrations and text features when needed;
- use linking words and phrases to connect ideas;
- use precise language from the vocabulary you studied while learning about animal adaptations; and
- provide a conclusion to provide closure for your readers.

In your article, consider providing the following information to your readers:

- What comparisons can you make among animals in the two regions?
- How do the internal and external structures of animals promote certain behaviors and impact their survival?
- How do their structures allow them to continue to survive in their environment?

**Teacher's Note: Students may need to do additional research to expand their regional knowledge. Texts that explore the regions mentioned are included in the unit to support student inquiry and research. You may want to provide a graphic organizer to help students with the pre-writing stage.*

During the writing process, students will go through a peer-review to ensure they have met the criteria for writing. Students will read and review their articles with partners and provide specific feedback that allow the writers the opportunity to improve their writing. Students may use the following question stems during their discussion:

- *What was your goal for writing?*
- *How do your words support your thinking?*
- *How did you support your facts with details from some of the text we've read?*
- *How did you clearly tell the topic of your writing?*

Part II: As a senior journalist, an important part of your work is designing the layout of your article. Determine how to best present your article to the readers of *Our Planet.* As you design the layout of your article, consider the text features and visuals that would be helpful to your readers.

Graphics should include:

- text sections that include writing and additional information throughout the article;
- relevant pictures or illustrations with accompanying captions; and
- headings and/or subheadings that organize the article.

You may also include:
- tables, diagrams, and charts as needed;
- other sources (websites, articles, and reports) to inform the layout and presentation of your article; or
- colors and font that allow your information to visual appealing to the readers.

Part III: Your findings will also be featured on a special edition of the *Our Planet* broadcast. Prepare to deliver a 1-2-minute segment that will be televised for TV viewers. During your news segment, highlight the key findings you made while traveling to your two regions. Your purpose is to help the public understand how animals interact and survive in specific environments. As you practice your broadcast, consider what makes TV reporters successful. Be sure to:
- use appropriate facts and relevant descriptive details to inform your viewers;
- speak clearly and at an appropriate pace, so viewers can understand your article; and
- speak in complete sentences to communicate your detailed information.

**Teacher's Note: Students could use audio or audio-visual media to record their news broadcast to present to the class.*

POSSIBLE STUDENT RESPONSE

***Our Planet* magazine article:**

Region by Region: Animal Adaptations and Survival

Animals have external and internal structures that promote certain behaviors and help them to survive in their environments. Different regions, or habitats, require animals to have different structures and behave in certain ways in order to interact with their environments and thrive. Without specific internal and external structures, animals' behaviors would be different and their survival would be impacted.

In the desert region, animals have modified their behavior to find food, store water, and keep cool. Water is hard to come by in the desert, so animals get most of their water from the foods they eat. They must find foods that provide water such as succulent plants and insects. Once they find food and water sources, animals must store as much water as possible in their bodies. Camels are desert animals that store fat in their humps. They break down the fat into water in order to survive. Animals must also use their external or internal structures to survive in the heat of the desert. The desert experiences hot temperatures during the day and cooler temperatures at night. Some desert animals have low body temperatures at night followed by temperatures that rise slowly during the day. This allows them to remain cool during most of the hot day. Other desert animals have external structures that help them in the heat. The desert fox has large ears that allow heat to escape which helps it stay cool. The desert horned viper has eyes with clear eyelids that work like safety goggles in the dusty, desert environment.

Animals living in the arctic region have certain behaviors to interact and survive in their cold environment and find sources of food. Arctic animals have external and internal structures that allow them to remain warm. Several arctic animals have an internal layer of blubber, or fat, under their skin that insulates their bodies. Other animals living in the arctic have thick coats of fur to shield them from the extremely cold temperatures. Animals living in

the arctic must have internal and external structures that allow them to trap heat. The arctic fox has tiny ears to keep more body heat trapped to stay warm. Another way arctic animals behave and survive is through the use of their nose. This internal structure allows them to sniff prey from far away distances. Polar bears can smell prey as far as 16 kilometers. Polar bears also have webbed paws, which allow them to swim quickly through icy waters in search of their prey.

In conclusion, the environment which an animal lives in dictates how they use their internal and external structures. Animals use these structures and behave in different ways in order to impact their survival in these varied environments. Animals' internal and external structures are necessary for their behaviors and survival.

Teacher's Note: Students should strategically design the layout of their article to support reader understanding. This may include text features and visuals such as photographs and captions, graphs and charts, diagrams with labels, etc.

ADDITIONAL TEXTS TO SUPPORT THE END-OF-UNIT TASK

10 Facts about Polar Bears! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/polar-bear-facts/#!/register

Scorpion Facts! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/scorpion-facts/#!/register

10 Giraffe Facts! by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/general-animals/ten-giraffe-facts/#!/register

10 Facts about Bottlenose Dolphins by National Geographic Kids
https://www.natgeokids.com/uk/discover/animals/sea-life/dolphins/#!/register

https://kids.nationalgeographic.com/explore/wacky-weekend/rain-forest-animals/#sloth-beach-upside-down.jpg

https://kids.nationalgeographic.com/animals/sun-bear/#sun-bear-tongue.jpg

END-OF-UNIT TASK RUBRIC

END-OF-UNIT TASK RUBRIC

Note: The end-of-unit task rubric is designed to support educators in determining the extent to which students' responses meet the grade-level expectations. This rubric will also help teachers analyze the extent to which each student understands the unit concepts and understandings.

Third Grade Student End-of Unit Task Rubric

Directions: After reading and reflecting on the student work sample, score each area and total the rubric score at the bottom. Note that this rubric is designed to look at student work samples in a holistic manner.

	Below Expectation (0)	Needs More Time (1)	Meets Expectation (2)	Above Expectation (3)
Content (Text-based evidence)	The response: • does not address the prompt. • lacks supporting details or evidence from text. • does not discuss animal adaptation and survival in 1 or 2 regions.	The response: • partially addresses the prompt. • includes some supporting details or evidence from text. • effectively discusses animal adaptation and survival in 1 region.	The response: • generally addresses the prompt. • includes adequate supporting details or evidence from text. • adequately discusses animal adaptation and survival in 2 regions.	The response: • fully addresses the prompt. • includes relevant and sufficient supporting details or evidence from text. • effectively discusses animal adaptation and survival in 2 regions.
Word Choice (Content Vocabulary)	The response does not include content vocabulary *(e.g., adapt, survival, predator, prey)*.	The response includes little use of content vocabulary *(e.g., adapt, survival, predator, prey)*.	The response includes adequate use of content vocabulary *(e.g., adapt, survival, predator, prey)*.	The response includes effective and appropriate use of content vocabulary *(e.g., adapt, survival, predator, prey)*.
Mechanics	The response • illustrates little, if any, use of appropriate language. • utilizes few, if any, linking words and phrases. • demonstrates little, if any, use of grade-level conventions of standard written English.	The response • illustrates inconsistent command of the language. • utilizes basic linking words and phrases. • demonstrates inconsistent command of grade-level conventions of	The response • illustrates adequate command of the language. • utilizes an appropriate linking words and phrases. • generally demonstrates adequate command of grade-level	The response • illustrates consistent command of the language. • utilizes a variety of appropriate linking words and phrases. • demonstrates consistent command of grade-level conventions of

	• contains numerous errors in grammar, spelling, capitalization, and/or punctuation that impede understanding.	standard written English. • contains some errors in grammar, spelling, capitalization, and/or punctuation, and they may impede understanding.	conventions of standard written English. • contains errors in grammar, spelling, capitalization, and/or punctuation, but they do not interfere with understanding.	standard written English. • contains few, if any, errors in grammar, spelling, capitalization, and/or punctuation.
Structure	The response: • does not include an introduction. • does not use paragraph. structure to group discussions of regions. • does not include a conclusion.	The response: • includes a weak or limited introduction. • uses little paragraph structure to group discussions of regions. • includes a weak or limited conclusion.	The response: • includes an adequate introduction. • uses adequate paragraph structure to group discussions of regions. • includes an adequate conclusion.	The response: • includes an effective introduction. • uses effective paragraph structure to group discussions of regions. • includes an effective conclusion.

Total: _____

Above Expectation: 11 -12 points **Meets Expectation: 8-10 points**

Needs More Time: 4-7 points **Below Expectation: 0-3 points**

***Points given are not to be averaged for a grade. This rubric is designed to look at student work samples in a holistic manner.**

APPENDIX A: UNIT PREPARATION PROTOCOL

Question 1: What will students learn during my unit?

Review the content goals for the unit, and identify the desired results for learners.	
• What are the concepts around which I will organize my unit (*universal concept, unit concept*)? • What will students come to understand through deep exploration of these concepts (*essential questions, enduring understandings*)?* • What disciplinary knowledge will focus instruction and provide the schema for students to organize and anchor new words (*guiding questions, disciplinary understandings*)? • Why is this content important for students to know? *Adapted from McTighe, J. & Seif, E. (2011), Wiggins, G. & McTighe (2013).	

Question 2: How will students demonstrate their learning at the end of my unit?

Review the end-of-unit task and the exemplar response to determine how students will demonstrate their learning.	
• How does the task integrate the grade-level standards for reading, writing, speaking and listening, and/or foundational literacy in service of deep understanding of the unit texts and concepts? • How does the task call for students to synthesize their learning across texts to demonstrate their understanding of the unit concept? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 3: How will students build knowledge and vocabulary over the course of the unit?

Read each of the texts for the unit, and consider how the texts are thoughtfully sequenced to build world and word knowledge.	
• How are the texts sequenced to build knowledge around the unit concepts? • How are the texts sequenced to support students in developing academic and domain-specific vocabulary? • Which instructional strategies are suggested for each text? How will I sequence them within the literacy block?	

Question 4: What makes the text complex?

You are now ready to prepare at the lesson level. To do this, revisit the individual text. Review the text complexity analysis and read the desired understandings for the reading.	
• What aspects of this text (structure, features, meaning/purpose, knowledge) are the most complex? • What aspects of the text are most critical for students to comprehend to ensure they arrive at the desired understanding(s) for the reading? • Where might you need to spend time and focus students' attention to ensure they comprehend the text?	

Question 5: How will I help students access complex texts during daily instruction?

Review the question sequence, and reflect on how the questions support students in accessing the text.	
• How does the question sequence support students in accessing the text and developing the desired understanding(s) of the reading? • How does the question sequence attend to words, phrases, and sentences that will support students in building vocabulary and knowledge?	

• How are the questions skillfully sequenced to guide students to the desired understanding(s) of the reading? • How will you ensure all students engage with the questions that are most essential to the objectives of the lesson? (Consider structures such as turn and talk, stop and jot, etc.) • How will you consider additional texts, or additional reads of the text, to ensure students fully access and deeply understand the text? • Are there any additional supports (e.g., modeling, re-reading parts of the text) that students will need to develop an understanding of the big ideas of the text and the enduring understandings of the unit?	

Question 6: How will students demonstrate their learning during the lesson?

Review the daily task for the lesson to determine what students will be able to do at the end of the lesson.	
• How does the task require students to demonstrate their new or refined understanding? • How does the task call for students to use appropriate details and elaborate on their thinking sufficiently? • How does the task prompt student thinking and writing that reflects the grade-level expectations? • How does this task build on prior learning in the unit/prepare students for success on the end-of-unit task? • How will students demonstrate their learning during other parts of the lesson? • What is the criteria for success on this task? What does an excellent response look/sound like?	

Question 7: What do my students already know, and what are they already able to do?

Consider what your students already know and what they are already able to do to support productive engagement with the resources in the Unit Starter.	
• What knowledge do my students need to have prior to this unit? • What do my students already know? What are they already able to do? • Given this, which/what components of these texts might be challenging? Which/what components of these tasks might be challenging? • What supports will I plan for my students (e.g., shifting to a different level of cognitive demand, adding or adjusting talking structures, adding or adjusting accountable talk stems into student discussions, providing specific academic feedback, or adding or adjusting scaffolded support)? • How can the questions and tasks provided in the Unit Starter inform adjustments to upcoming lessons?	

Question 8: What content do I need to brush up on before teaching this unit?

Determine what knowledge you as the teacher need to build before having students engaged with these resources.	
• What knowledge and understandings about the content do I need to build? • What action steps can I take to develop my knowledge? • What resources and support will I seek out?	

APPENDIX B: LESSON PREPARATION PROTOCOL

Question 1: What will students learn during this lesson?

Review the desired understanding(s) for the reading. Then read the daily task and the desired student response.	
• What is the desired understanding(s) for this reading? • How does this desired understanding build off what students have already learned? What new understandings will students develop during this reading? • How will my students demonstrate their learning at the end of the lesson? • How does the desired understanding for this reading fit within the larger context of the unit?	

Question 2: How might features of the text help or hold students back from building the disciplinary and/or enduring understandings?

Read and annotate the lesson text and review the associated text complexity analysis.	
• Where in the text will students be asked to make connections to what they already know? Where in the text will students build new knowledge? • What aspects of the text (structure, features, meaning/purpose, knowledge) might help or hold students back from building the disciplinary and/or enduring understandings? • Where do I need to focus students' time and attention during the read aloud/shared reading?	

Question 3: How will I support students in accessing this text so they can build the disciplinary and/or enduring understandings?

Read through the question sequence and the desired student responses.	
• Which question(s) are crucial and most aligned to the desired understandings? What thinking will students need to do to answer the most important questions? • Which questions target the aspects of the text that may hold students back from building the desired disciplinary and/or enduring understandings? • Are there adjustments I need to make to the questions or their order to meet the needs of my students - while assuring students are still responsible for thinking deeply about the content? • What do I expect to hear in students' responses? How will I support to students who provide partial or incomplete responses in developing a fuller response?	

Example 1:

- Contextualize the word for its role in the text.
- Provide a student friendly definition, description, explanation, or example of the new term along with a nonlinguistic representation and a gesture.
- Provide additional examples, and ask students to provide their own examples of the word.
- Construct a picture, symbol, or graphic to represent the word.
- Engage students in lively ways to utilize the new word immediately.
- Provide multiple exposures to the word over time.

-Beck et al., 2002; Marzano, 2004

For a specific example, see the shared reading webinar presentation found here.

Example 2:

- Say the word; teach pronunciation.
- Class repeats the word.
- Display the word with a visual, read the word, and say the definition using a complete sentence.
- Have the class say the word and repeat the definition.
- Use the word in a sentence: the context of the sentence should be something students know and can connect with.
- Add a gesture to the definition, and repeat the definition with the gesture.
- Students repeat the definition with the gesture.
- Have student partners take turns teaching the word to each other and using the word in a sentence they create.
- Explain how the word will be used in the text either by reading the sentence in which it appears or by explaining the context in which it appears.

- Adapted from *50 Nifty Speaking and Listening Activities* by Judi Dodson