**Expert Pack: All Eyes on the Moon**

Lexile Range: 450-600

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| **Topic/Subject:** The Moon  **Essential Question:**   * **What do we know about the moon?** |
| **Texts/ Resources**  Books   1. *Tommy Goes to the Moon* by Francis Morgan 2. *The Disappearing Moon* by Dori H. Butler 3. *On the Moon* by Eugene Stanley   Video/Interactive   1. “All about the Moon: Astronomy and Space for Kids” - FreeSchool 2. “Phases of the Moon: Astronomy and Space for Kids” - FreeSchool |
| **Rationale and Suggested Sequence for Reading**  The purpose of this series of texts is for students to grow an understanding of the moon and its phases. The set begins with a book, *Tommy Goes to the Moon,* about a boy named Tommy and his friends that go to the moon and learn about the surface of the moon. Next, a broad overview of the moon is given in the first video, “All About the Moon*.*” The following book, *On the Moon,* tells students about the surface and characteristics of the moon. The second video, “Phases of the Moon,” furthers the study of the moon with an emphasis on the moon’s orbit and its phases. Ending the set, students will read *The Disappearing Moon.* This engaging short story is intended to reinforce learned knowledge about the moon and raise student curiosity about watching the moon’s phases. |
| **The Common Core Shifts for ELA/Literacy**   1. Regular practice with *complex text* and its academic language. 2. Reading, writing, and speaking grounded in *evidence* from text, both literary and informational. 3. Building *knowledge* through content-rich nonfiction. |
| **College and Career Readiness Anchor Standards for Reading Literacy and/or Informational Texts**   1. *Read closely to determine what the text says explicitly and to make logical inferences from it***;** cite specific textual evidence when writing or speaking to support conclusions drawn from the text. 2. *Determine central ideas of themes of a text* and analyze their development; summarize the key supporting details and ideas. 3. *Read and comprehend complex literary and informational texts independently and proficiently.* |
| **Annotated Bibliography**  **600L *Tommy Goes to the Moon***  Author: Francis Morgan  Genre: Fictional children’s book  Synopsis: Tommy and his friends get transported to the moon. On there they learn about gravity and other characteristics of the surface of the moon.  Length: 16 pages  Citation: Francis, M. *Tommy Goes to the Moon*. Reading A-Z. Retrieved from <https://www.raz-plus.com/book.php?id=622&lang=English>.  Recommended Student Activity: A Picture of Knowledge  **N/A “All About the Moon: Astronomy and Space for Kids” - FreeSchool**  Author: FreeSchool  Genre: Video  Length: 4:38  Synopsis: The moon is our nearest neighbor in space and the only heavenly body that people have visited! Learn more about the moon and our visits to it in this fun, kid-friendly video.  Citation: “All About the Moon: Astronomy and Space for Kids” – FreeSchool  Retrieved December 11, 2016 from <https://www.youtube.com/watch?v=JM21GBJecx0>  Recommended Student Activity: Wonderings  **450L "On the Moon”**  Author: Eugene Stanley  Genre: Nonfiction book  Length: 129 words  Synopsis: This book gives insight to the surface of the moon, talking about craters and gravity.  Citation: “On the Moon”. Retrieved December 9, 2016 from <https://www.raz-plus.com/books/leveled-books/book/?id=2468&lang=English>  Recommended Student Activity: Wonderings  **N/A** “**Phases of the Moon: Astronomy and Space for Kids” - FreeSchool**  Author: FreeSchool  Genre: Video  Length: 5:41  Synopsis: The moon changes its shape almost every night. But why? The phases of the moon are caused by the light from the sun and the moon's orbit around the Earth. From new moon through waxing crescent, quarter, gibbous, full moon, and waning back to new moon again, come learn about the cycle of shapes the moon takes (or rather, appears to take) as it travels around our planet.  Citation: “Phases of the Moon: Astronomy and Space for Kids” - FreeSchoolRetrieved December 9, 2016 from<https://www.youtube.com/watch?v=f4ZHdzl6ZWg>  Recommended Student Activity: A Picture of Knowledge  **450L *The Disappearing Moon: A Pourquoi Tale***  Author: Dori H. Butler  Genre: Fiction Book  Length: 470 words  Synopsis: The animals are afraid the moon is disappearing, and they’re very worried. They think their  fears have come true until they get a lesson about the moon and its phases from wise old Owl.  Students will learn facts about the moon through this enjoyable story. Pictures support the text.  Citation: Butler, D. *The Disappearing Moon*. [https://www.readinga-z.com/books/leveled- books/book/?id=916&lang=English](https://www.readinga-z.com/books/leveled-%20books/book/?id=916&lang=English)  Recommended Use: End set with this engaging independent read to reinforce learning about the  moon. |

**Supports for Struggling Students**

By design, the **gradation of complexity** within each Expert Pack is a technique that provides struggling readers the opportunity to read more complex texts. Listed below are other measures of support that can be used when necessary.

* Provide a brief **student-friendly glossary** of some of the academic vocabulary (tier 2) and domain vocabulary (tier 3) essential to understanding the text
* Download the Wordsmyth widget to classroom computers/tablets for students to access student-friendly definitions for unknown words. <http://www.wordsmyth.net/?mode=widget>
* Provide brief **student friendly explanations** of necessary background knowledge
* Include **pictures or videos** related to the topic within and in addition to the set of resources in the pack
* Select a small number of texts to **read aloud** with some discussion about vocabulary work and background knowledge
* Provide **audio recordings** of the texts being read by a strong reader (teacher, parent, etc.)
* **Chunk the text** and provide brief questions for each chunk of text to be answered *before* students go on to the next chunk of text
* Pre-reading activities that focus on the **structure and graphic elements** of the text
* Provide **volunteer helpers** from the school community during independent reading time.
* Use Expert Packs as the **resources for Guided Reading** with a small group of students

Why Text Sets Support English Language Learners

Those acquiring English as a second language have to learn many words in English to catch up with their English-only peers. Vocabulary builds at a much quicker pace when reading a set of connected texts. Text sets are an adaptable resource perfect for building knowledge and vocabulary. Student use of text sets can vary in terms of independence or teacher supports based on the individual needs of the students in the room. Activities found within the text set resources reflect several best practices for English Language Learner instruction including:

* Providing brief, engaging texts that provide a high volume of reading on a topic.
* Providing web-based resources and/or videos that are tied to the content of the texts students are reading.
* Providing opportunities for students to learn new vocabulary through the use of student-friendly definitions in resource-specific glossaries.
* Allowing for options to reinforce newly learned vocabulary and/or content through graphic organizers.
* Providing opportunities for students to reinforce new vocabulary through multi-modal activities including written work, group discussion, viewing visual content, and reading texts that feature the vocabulary.

Teachers of ELLs may use the protocols on the following pages to provide additional support to students who are struggling to access the content within text sets because they are new to English.

ELL Text Set Protocol Grades K-2

The protocol below assumes that students will be engaged in reading text sets with the support of the teacher and/or another adult staff member. This can be done full class, or in small groups, but will likely require adult support in this grade band.

Please note that this protocol includes options for teachers. This includes the order in which various activities (steps) take place. Individual decisions should be made considering the needs of the students and the demands of the content, keeping in mind that the goal of each scaffold is to allow students to meaningfully access each text and move toward independent, knowledge-building reading.

**Step one: Build knowledge and vocabulary as you build student interest and engagement in the topic.**

Introduce students to the overall topic/content of the text set, including knowledge demands needed to engage in the content, and domain-specific vocabulary necessary for comprehension. This should be done prior to engaging with the texts themselves – time allotted to this activity should reflect student needs (anywhere from 5 minutes prior to reading, to a full day’s lesson is appropriate).

*Options for this step include:*

* Engage students in reading and discussing auxiliary texts and resources (illustrations, photographs, video clips) on the topic of the text set.
* Pre-teach a few key content-specific terms prior to students engaging with a text set. (Ideas for text-focused vocabulary instruction can be found [here](https://achievethecore.org/content/upload/Selecting%20and%20Using%20Academic%20Vocabulary%20in%20Instruction.pdf).)
* Provide a student-friendly glossary prior to reading each text, with picture support where possible.

If pairing the text set with a [Read Aloud lesson](https://achievethecore.org/category/411/ela-literacy-lessons?filter_cat=788), giving students access to the resources in the text set can help build their knowledge and vocabulary prior to engaging with the anchor or primary text, as can access to the resources alongside subsequent reads of the anchor text. The “juicy sentence” discussion is a strategy developed by Dr. Lily Wong Fillmore to help students learn to deconstruct and reconstruct sentences, and to understand how different language features contribute to meaning. Teachers should use the [juicy sentence guidance](https://achievethecore.org/page/3160/juicy-sentence-guidance) to dig deeply into a sentence or phrase within the read aloud book, to build vocabulary, deepen content knowledge, and support understanding of syntax and grammar. Juicy sentence work should not be done for the other texts in the text set, since the purpose is for students to work rapidly through a high-volume of reading to build knowledge.

**Step two: Read text orally.**

Focusing on one resource at a time, allow students to listen to a fluent read of the resource.

*Options for this step include:*

* Have the teacher model the first read of a text or resource.
* Use recordings of the text to provide additional opportunities to hear expert reading.

**Step three: Engage in group discussion about the content.**

Allow students time in partnerships or small groups to discuss the content of the resource.

*Options for this step include:*

* + Allow for discussion/conversation (in the students’ home language if possible) with a small group of students reading the same text set prior to writing orprovide heterogeneous language groupings to talk about content and discuss what students are learning.
  + Provide opportunities to practice using newly acquired vocabulary in the context of discussion.
  + Have students refer to the student-friendly glossary included with each passage to identify meanings for new vocabulary necessary for comprehension.

**Step four: Write about what was read.**

*Options for this step include:*

* Use the “Rolling Knowledge Journal” and/or “Rolling Vocabulary Journal” as a shared writing routine.
* Have students complete the “Rolling Knowledge Journal” and/or “Rolling Vocabulary Journal” as independent graphic organizers that help to scaffold the writing process and capture student knowledge over time. Encourage students to use a combination of writing and drawing.
* Provide students with several supports to help students engage in writing/drawing about what they read:
  + Use mentor texts about which students can pattern their writing.
  + Allow them to write collaboratively.
  + Show students visual resources as prompts, etc.
  + Provide language supports such as strategically chosen sentence starters.

**Repeat steps one through four with each resource in the text set as appropriate.**

ELL Text Set Protocol Grades 3-12

The goal of text sets is to help students build knowledge through a volume of independent reading, and it is important that educators provide scaffolds to allow English Language Learners to be successful in engaging meaningfully with the texts, even as students are still developing English language skills. The protocol below can be used for teaching with text set resources as a full class. Students can also be trained on the protocol so that they can utilize text sets in small groups or partnerships as a resource for independent or reciprocal reading and study.

Please note that this protocol includes options for teachers. Individual decisions should be made considering the needs of the students and the demands of the content, keeping in mind that the goal of each scaffold is to allow students to meaningfully access the text and move toward independent, knowledge-building reading.

**Step one: Build knowledge and vocabulary.**

Introduce students to the overall topic/content of the text set, including knowledge demands needed to engage in the content, and domain-specific vocabulary necessary for comprehension. This should be done prior to engaging with the texts themselves; time allotted to this activity should reflect student needs (anywhere from 5 minutes prior to reading, to a full day’s lesson is appropriate).

*Options for this step include:*

* Engage students in reading and discussing auxiliary texts (of lesser complexity) and resources (illustrations, photographs, video clips) on the topic of the text set.
* Pre-teach a few key content-specific terms prior to students engaging with a text set. (Ideas for text-focused vocabulary instruction can be found [here](https://achievethecore.org/content/upload/Selecting%20and%20Using%20Academic%20Vocabulary%20in%20Instruction.pdf).)
* Provide the student-friendly glossary included in the text set prior to reading each text.
* When possible, allow students to read texts in their home language about the topic under study.

**Step two: Read text orally.**

Focusing on one resource at a time, allow students to listen to a fluent read of the resource, while following along with their own copy of the text.

*Options for this step include:*

* Have a fluent reader model the first read of a text or resource.
* Have students engage in a buddy/partner read.
* Use recordings of the text to provide additional opportunities to hear expert reading.

**Step three: Engage in group discussion about the content.**

Allow students time in partnerships or small groups to discuss the content of the resource.

*Options for this step include:*

* + Allow for discussion/conversation (in the students’ home language if possible) with a small group of students reading the same text set prior to writing or provide heterogeneous language groupings to talk about content and discuss what students are learning.
  + Have students refer to the student-friendly glossary included with each text set to identify meanings for new vocabulary necessary for comprehension.

**Step four: Write about what was read.**

*Options for this step include:*

* Use the “Rolling Knowledge Journal” and/or “Rolling Vocabulary Journal” as a shared writing routine/ graphic organizer to help to scaffold the writing process and capture student knowledge over time.
* Provide students with several supports to help students engage in writing/drawing about what they read:
  + Use mentor texts about which students can pattern their writing.
  + Allow them to write collaboratively.
  + Show students visual resources as prompts, etc.
  + Provide language supports such as strategically chosen sentence starters.

**Repeat steps one through four with each resource in the text set as appropriate.**

**Expert Pack: All Eyes on the Moon**

**Learning Worth Remembering**

**Cumulative Activities** – The following activities should be completed and updated after reading each resource in the set. The purpose of these activities is to capture knowledge building from one resource to the next, and to provide a holistic snapshot of central ideas of the content covered in the expert pack. *It is recommended that students are* ***required*** *to complete one of the Cumulative Activities (Rolling Knowledge Journal or Rolling Vocabulary) for this Expert Pack.*

1. **Rolling Knowledge Journal**

* Read each selection in the set, one at a time.
* After you read *each* resource, stop and think what the big learning was. What did you learn that was new *and important* about the topic from *this* resource? Write, draw, or list what you learned from the text about (topic).
* Then write, draw, and/or list how this new resource added to what you learned from the last resource(s).

**Sample Student Response**

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| --- | --- | --- |
| **Title** | **Write, Draw, or List** | |
|  | **New and important learning about the topic** | **How does this resource add to what I learned already?** |
| 1. “Tommy Goes to  the Moon” | Students get insight to the characteristics of the surface of the moon. |  |
| 1. “All About the Moon” | Details about the moon’s gravity, light, atmosphere and weather. | The moon has no atmosphere, which means the moon does not have air to breathe. There is no wind or water on the moon, so the footprints left by the astronauts many years ago are still there. |
| 1. “On the Moon” | Because of the atmosphere, the astronauts had to wear special suits to protect them. | Since there is no atmosphere on the moon, it is not possible to go there easily. Astronauts are trained to be able to do so. |
| 1. “Phases of the Moon” | Details about the moon’s phases while orbiting the Earth, including waning and waxing. | The moon only appears to change shape while orbiting the Earth. The different ‘shapes’ are called phases. |
| 1. “The Disappearing Moon” | This story is about how the moon shrinks, wanes, and grows, waxes. | I now understand what the animals saw with the moon. The moon was waning. |

**2. Rolling Vocabulary: “Sensational Six”**

* Read each resource then determine the 4 words from each text that most exemplify the central idea of the text.
* Next use your 4 words to write about the most important idea of the text. You should have as many sentences as you do words.
* Continue this activity with EACH selection in the Expert Pack.
* After reading all the selections in the Expert Pack, go back and review your words.
* Now select the “Sensational Six” words from ALL the word lists.
* Use the “Sensational Six” words to summarize the most important learning from this Expert Pack.

**Sample Student Response**

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| --- | --- |
| **Title** | **Six Vocabulary Words & Sentences** |
| *Tommy Goes to the Moon* | Words: moon, spacesuit, Earth, craters, meteorites, astronaut   1. We can see the moon at night in the sky. 2. People who go to the moon have to wear spacesuits. 3. We live on a planet called Earth, the only planet with people living on it. 4. The craters on the lunar surface are much larger than those on Earth. 5. They (the craters on the moon and Earth) are both caused by meteorites. 6. Astronauts are people that go into space as their job. |
| *On the Moon* | Words: gravity, craters, protect, suit, spaceship, footprints   1. The moon’s gravity is much weaker than the gravity on Earth. 2. Rocks that are in space, hit the moon which creates craters. 3. People going to the moon have to protect themselves because it can be dangerous. 4. Astronauts wear special suits that protect them from the air around the moon. 5. In order to go to the moon, you must take a spaceship there. 6. The astronauts that went to the moon left footprints when they walked around. |
| *The Disappearing Moon* | Words: disappearing, gather, still, half-moon, full moon, new moon   1. The animals thought that the moon was disappearing. 2. The owl told the animals to gather around to learn a lesson. 3. The moon does not sit still in the sky. 4. A half-moon is when you only see half of the lighted side of the moon. 5. A full moon is when you can see all of the lighted side of the moon. 6. A new moon is when you can’t see any of the light, only the dark side of the moon can be seen. |
| **Sensational Six** | Words: Earth, moon, full moon, half moon, disappearing, astronauts  moon, spacesuit, Earth, craters, meteorites, astronaut  From **Earth** we see the **moon** differently every night. Sometimes we see a **full moon** which is big and round. Other nights it can look like it’s **disappearing** and turns into a **half moon**. Some people are lucky enough to have jobs the let them go to the moon, they are **astronauts.** |

**Student Copy**

**1. Rolling Knowledge Journal**

* Read each selection in the set, one at a time.
* After you read *each* resource, stop and think what the big learning was. What did you learn that was new *and important* about the topic from *this* resource? Write, draw, or list what you learned from the text.
* Then write, draw, or list how this new resource added to what you learned from the last resource(s).

**Sample Response**

|  |  |  |
| --- | --- | --- |
| **Title** | **Write, Draw, or List** | |
| **New and important learning about the topic** | **How does this resource add to what I learned already?** |
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**2. Rolling Vocabulary: “Sensational Six”**

* Read each resource then determine the 6 words from each text that most exemplify the central idea of the text.
* Next use your 6 words to write about the most important idea of the text. You should have as many sentences as you do words.
* Continue this activity with EACH selection in the Expert Pack.
* After reading all the selections in the Expert Pack, go back and review your words.
* Now select the “Sensational Six” words from ALL the word lists.
* Use the “Sensational Six” words to summarize the most important learning from this Expert Pack.

**Sample Response**

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| --- | --- |
| **Title:** | **Six Vocabulary Words & Sentences** |
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| **Sensational Six** | Words: |

**Learning Worth Remembering**

**Singular Activities** – the following activities can be assigned for each resource in the set. The purpose of these activities is to check for understanding, capture knowledge gained, and provide variety of ways for students to interact with each individual resource. Students may complete some or none of the suggested singular activities for each text. Singular activities are assigned at the discretion of the teacher.

1. **Wonderings** (Recommended for *All About the Moon* video and *On the Moon*)

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| --- | --- |
| I’m a little confused about: | This made me wonder: |
| On the left, track things you don’t understand from the video and the article.  **I am confused about or do not understand….** | On the right side, list some things you still wonder (or wonder now) about this topic.  **I wonder or would like to learn more about….** |

1. **A Picture of Knowledge** (Recommended for *Phases of the Moon* video and *Tommy Goes to the Moon*)

* Take a piece of paper and fold it two times: once across and once top to bottom so that it is divided into 4 quadrants.
* Draw these shapes in the corner of each quadrant.

1. Square
2. Triangle
3. Circle
4. Question Mark

**?**

* Write!

Square: What one thing did you read that was interesting to you?

Triangle: What one thing did you read that taught you something new?

Circle: What did you read that made you want to learn more?

Question Mark: What is still confusing to you? What do you still wonder about?

* Find at least one classmate who has read [selection] and talk to each other about what you put in each quadrant.

**Expert Pack: Eyes on the Moon**

Expert Pack Glossary

***Tommy Goes to the Moon***

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| --- | --- |
| *Word* | *Student-Friendly Definition* |
| Earth | The world; place where people live |
| spacesuits | Special clothing worn by astronauts when they go to the moon to protect themselves |
| champion | The winner |
| bounced | To spring back or up after hitting a surface |
| helmet | Protective covering for your head |
| tracks | A mark left by something |
| module | A space vehicle |

***All About the Moon***

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| --- | --- |
| *Word* | *Student-Friendly Definition* |
| gravity | The force by which a planet or other such body tends to draw objects toward its center  *The moon’s gravity is much weaker than the gravity on Earth.* |
| launch | To move forward with force  *Humans launched rockets that were able to escape Earth’s atmosphere.* |
| atmosphere | The mass of gases surrounding the earth or any other planet  *The moon has no atmosphere, which means there is no air to breathe.* |
| extreme | Well beyond what seems normal  *The moon has extreme temperatures.* |

“**On the Moon”**

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| --- | --- |
| *Word* | *Student-Friendly Definition* |
| protect | To cover from something that would destroy or injure  *Astronauts should protect themselves when they go to space.* |
| suit | Piece of clothing  *To go to the moon, you need to wear a special suit.* |
| spaceship | A vehicle to go outside of the earth  *Astronauts use a spaceship to go to the moon.* |
| footprints | A track left by feet  *The astronauts that went to the moon left footprints* |

***Phases of the Moon***

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| --- | --- |
| *Word* | *Student-Friendly Definition* |
| lunar | Of or relating to the moon.  *The lunar phases begin with the new moon.* |
| waxing | Growing or getting bigger  *When the moon phases are waxing, the part of the moon we see is getting bigger.* |
| illuminate | To provide or brighten with light  *The first quarter moon is sometimes called the half-moon because it appears to us that half of the moon is illuminated.* |
| gibbous | When the moon is over half full  *A gibbous moon phase is over half waxing or waning.* |
| waning | Getting smaller or shrinking  *A waning moon appears to be getting smaller.* |

***The Disappearing Moon***

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| --- | --- |
| *Word* | *Student-Friendly Definition* |
| half-moon | The moon in the first or last quarter, when half its disk is lit  *A half-moon is when only half of the moon is lighted and can be seen..* |
| full Moon | The moon when it is on the side of the earth opposite the sun, and can be seen as a bright full circle  *A full moon is when we can see all of the lighted side of the moon.* |
| new Moon | The phase of the moon when it passes directly between the sun and the earth.  *A new moon is when we can’t see any of the light, only the dark side of the moon can be seen.* |

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