Title/Author: *The Moon Book* by Gail Gibbons

Suggested Time to Spend: 6-7 Days (Recommendation: two sessions per day, at least 20 minutes per day)

Common Core grade-level ELA/Literacy Standards: RI.1.1, RI.1.2, RI.1.3, RI.1.4, RI.1.6, RI.1.7; W.1.2, W.1.8; SL1.1, SL.1.2, SL.1.5; L.1.4, L.1.5, L.1.6.

Lesson Objective:

Students will keenly listen, energetically participate in demonstrations, and creatively illustrate the moon to actively learn about the informational picture book *The Moon Book* by Gibbons in order to gain understanding of the basic facts about our Earth’s moon, and specifically about the phases of the moon. This book study can easily be paired with other books (both fiction and non-fiction), articles, and videos about the moon. It is particularly recommended to be paired with Moon Rooster, by David Gershator.

Teacher Instructions

**Before the Lesson**

1. Read the Big Ideas and Key Understandings and the Synopsis below. **Please do not read this to the students**. This is a description to help you prepare to teach the book and be clear about what you want your children to take away from the work.

Big Ideas/Key Understandings/Focusing Question

Many planets have moons. The Earth only has one moon. We see the moon in the night sky in different forms or phases during a month. Why does the moon seem to shine? Why does the shape seem to change in the sky? (The moon reflects the sun’s light. The moon orbits the Earth causing the phases of the moon.)

Synopsis

The book begins with general facts about the night sky then goes into more specific information about the moon and its relationship to the Earth and Sun. Gibbons uses illustrations to explain the text. Gibbons also includes information about how people of ancient times tried to make sense of the moon. The book offers an experiment moon timeline, legends and stories, and more facts.

1. Go to the last page of the lesson and review “What Makes this Read-Aloud Complex.” This was created for you as part of the lesson and will give you guidance about what the lesson writers saw as the sources of complexity or key access points for this book. You will of course evaluate text complexity with your own students in mind, and make adjustments to the lesson pacing and even the suggested activities and questions.
2. Read the entire book, adding your own insights to the understandings identified. Also note the stopping points for the text-inspired questions and activities. *Hint: you may want to copy the questions vocabulary words and activities over onto sticky notes so they can be stuck to the right pages for each day’s questions and vocabulary work.*

The Lesson – Questions, Activities, and Tasks

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| --- | --- |
| **Questions/Activities/Vocabulary/Tasks** | **Expected Outcome or Response (for each)** |
| FIRST READING:  Read aloud the entire book *The Moon Book* with minimal interruptions. Stop to provide word meanings or clarify only when you know the majority of your students will be confused. | The goal here is for students to enjoy the book, both writing and pictures, and to experience it as a whole. This will give them some context and sense of completion before they dive into examining the parts of the book more carefully. |
| SECOND READING:  Today we will re-read this text carefully to study the moon, sun and Earth.  Teacher suggestion: Reread each page before asking students to Turn and Talk about the given question.  1. p. 2 - How does the author describe our moon?  2. p. 3 - What makes our moon look so big and bright?  3. p. 4 – Tell students that facts are real and true pieces of information about a topic. This book gives us information we are going to study about the moon. Use a photocopy of the page for each student or a document camera and highlight together the facts about the Earth and the moon. The teacher will add highlighted facts to a classroom chart while the students are provided a booklet entitled, Moon Facts to add facts and vocabulary words to throughout the rest of the book.   1. p. 5 – What do astronomers study? Where do we find this information on the page? 2. What do you think the tool does that the astronomers are using on the top half of this page? Why do you think so? 3. p. 5 – To orbit *means one object makes a path around another*. Pick a partner next to you. Stand up. The one on my right is the moon. The one on my left is Earth. Moons orbit around the Earth.   Allow time for students to write the term and definition in their Moon Fact Book after the teacher adds it to the classroom chart.  7. p. 5- Collided means hit with force while moving. What picture helps us to know the meaning of this word? How does it help us know the meaning of this word?   * 1. 8. p. 6-7 – The word ancient *means belonging to the very distant past and no longer in existence*. Listen as I give you some phrases. You need to say “that is ancient” or “that is not ancient.”   9. p. 7- What did ancient people believe about the moon?  10. p. 7 – What does imprisoned mean?  11. p. 7- Why is the “man in the moon” not a fact about the moon?  12. p. 8- What is a SATELLITE? Where do we find this information? Why is SATELLITE capitalized?  13. p. 8-9 – In the Moon Facts Book, students will draw and label the illustration on p. 8 of the moon’s orbit around the Earth. Be sure to include the sun. | NOTE: The text pages are not numbered. For the purpose of our notations, page 1 begins “As the sun sets at the end of each day…”  1. “Brightest and biggest light”, “outshines all the stars and planets.”  2. It is closer to the Earth than any other star or planet, about 384,000 miles.  3. Moon is about 2,000 miles in diameter. About 6,800 miles around. Earth is about 8,000 miles in diameter. About 25,000 miles around. Moon makes no light. Moon reflects the sun’s light. One-fourth the size of Earth. Made up of rock and dust. No air. No sign of life. Astronomers think it formed about 4.5 billion years ago.  4. Planets, their moons, and the stars. We find the information on the top half of the page.  5. The tool helps the astronomers to see the planets, their moons and the stars. We think so because the man in the picture is looking inside of it and it is pointing toward the sky. Maybe he is telling the woman something about what he sees and she is writing it down.  6. Students should have a chance to orbit each other or an object in the classroom. Ask them what they are doing, they should answer that they are orbiting.  7. The picture on the bottom left. It shows lines that mean movement and the pieces are close to the Earth.  8.   * My favorite toy I got for my birthday. “That is not ancient.” * My mom and dad. “They are not ancient.” * My teacher. “He/she is not ancient.” * Dinosaur bones. “They are ancient.” * Myths and legends from the Romans. “They are ancient.”   9. It was a powerful god or goddess. The moon and sun were brother and sister gods. The moon showed a man’s face. The “man in the moon” was imprisoned there for stealing. Demons lived there.  10. *Kept in prison. Captive.*  11. Because it is a story that is not true. A fact gives us real information about a topic and this is not real information.  12. A SATELLITE is an object orbiting around a larger one. We find this information next to the illustration. SATELLITE is capitalized because it is important information for us to know. Capitalizing all the letters in the word tells us to pay attention to it.  13*.* Check for understanding as students draw and label a simple diagram. |
| THIRD READING:  Today, we will learn about the phases of the moon.    Reread  1. p. 10 – Let’s see what we can recall about the moon from our study so far. (If students do not mention the moon has no light of its own, be sure to prompt for this information.)  2. p. 10 – reflect *means to throw or be bent back*.  If the moon has no light of its own, why does it appear to be bright in the sky?  3. How much light of the moon we see depends on the positions of what three things?  4. p. 11 – PHASES OF THE MOON. This will require your students to be actively engaged learners. You will reread each phase (either before, during or after each question), have a trio of students act out the positions of the moon, Earth, and sun. If possible, have the sun hold a flashlight. Have the moon hold a small ball. Then, give each student a set of black circles and a piece of chalk. They can color, paste and label the circles as each phase is discussed, adding them one at a time to their Moon Fact Book. This will reinforce that the moon has no light of its own.  5. Look at the New Moon illustration on p. 11, what do you notice?  Have students color, paste and label “New Moon.”  6. When the moon gets a little bigger, it is called waxing. Look at the illustration of the Crescent Moon. What do you notice?  Have students color, paste, and label Crescent Moon.  7. Quarter means *one of four*. Look at the First-Quarter Moon. What do you notice? Have students color, paste, and label First-Quarter Moon.  8. What is another name for First-Quarter Moon?  9. p. 12 – Waxing means to ….  What do you notice about the Gibbous Moon? Have students color, paste, and label a Gibbous Moon.  10. p. 12 – Point to the next phase of the moon. What do you notice about this phase of the moon? Have students color, paste, and label the Full Moon.  11. Reread Gibbous Moon. We learned that waxing means to get bigger. What did the author tell us waning means?  12. Let’s compare the Gibbous Moon we saw before the Full Moon and the Gibbous Moon we see now. What is the same? What is different?  Have students color, paste, and label the Gibbous Moon.  13. Reread Last-Quarter Moon. How many quarters around the Earth does the moon orbit in order to be the Last-Quarter Moon?  Have students color, paste, and label Last-Quarter Moon.  14. Look at the illustration on Last-Quarter Moon. How much of the moon is covered? What would be an easier name to remember this moon phase?  15. A sliver *is a narrow piece or portion*. Why does the author say “we see a small sliver of moon”?  Have students color, paste, and label a Crescent Moon.  16. Re-read New Moon Phase. How long does it take the moon to go through its entire set of phases?  17. About how long is one month?  18. Do we need to re-draw the New Moon? | 1. Have students give facts that they remember. Note: Students may refer back to their Moon Facts Book if needed.  \*key – the moon has no light of its own.  2. The moon reflects different amounts of light (from the sun).  3. The Earth, moon, and sun.   |  | | --- | | New Moon – The moon is almost directly between the sun and Earth. |   New Moon  5. The moon is a dark circle.  6. You can still see the circle, but only a c-shape is lit.  7. It is half-lit.  8. Half-moon  9. *Get bigger*.  The lit portion of the moon is getting bigger.  10. The entire face of the moon we see shines.  11. *Getting smaller.*   |  |  | | --- | --- | | Same | Different | | Both called Gibbous Moon  Both have the same-sized portion lit up | One comes before the Full Moon and one comes after.  One occurs when the moon is waxing. One occurs when the moon is waning.  Before the full moon, it is lit on the right side. After the full moon, it is lit on the left side. |   13. Three-quarters of the way around the Earth.  14. Half of the moon.  Half-Moon  15. Because we only see a small portion lit up.  16. About one month.  17. About 30 days.  18. No, because we are back at the beginning of the phases. |
| FOURTH AND BEYOND: ECLIPSES AND TIDES  Today we are going to learn what affect the moon has on the Earth.  Eclipse means *A temporary or permanent dimming or cutting off of light. To darken.*  1. p. 14 -Read the page text and display the illustration. What are the arrows on the left side of the page and how do we know?  2. p. 15- What is the purpose of using a sun projector instead of just looking at the solar eclipse? How are the words in the caption telling us that this is important information? Are the people in the illustration following the warning?  ACTIVITY  Pg 14-  Choose 3 students to demonstrate a solar eclipse using a flashlight and 2 different sized balls, one smaller and one larger. Stand the students in a straight line (as Sun, Moon and Earth would be). Turn off the lights. The first student stands with the largest ball as Earth, the second student stands in straight line with the smaller ball as the moon. Have the third student turn on the flashlight so that the “moon ball” blocks the light from reaching the earth. Have the other students observe to make sure they are in a straight line.  ACTIVITY  Pg. 16-17  Compare a Solar Eclipse and a Lunar Eclipse. Give students 3 circles labeled Sun, Moon, and Earth and challenge them to line them up as a Solar Eclipse, and then a Lunar Eclipse. Allow them to use pages 16-17 as a reference. Ask them to identify which is having the sunlight blocked in each and what is blocking it.  3. Solar means…  Lunar means…  Reread p. 18-19 – TIDES  4. Gravity means *The natural force of attraction between any two massive bodies.*  When the moon uses gravity to pull, what happens?  5. What does tide mean?  6. Does the rising and lowering of the tides happen quickly or slowly? How do you know?  7. Stand up. Let’s act like the tides. Put your hands up like we’re the wave.  Reread p. 20-21  8. Name some ways that night-sky gazers and astronomers can view the moon.  9. With what is the surface of the moon covered? | 1. They stand for the sun’s rays, one of the arrows is labeled “SUNLIGHT” and it is the same color (yellow) as the other arrows.  2. You should never look directly at a solar eclipse, because it may hurt your eyes. The word WARNING is capitalized. Yes, they have their backs to the sun while holding the heavy paper towards the sun.  The other students can compare the demonstration to the images on page 14. They should look for the light to be partially blocked on the moon from the earth being in the way in a straight line.  Check for understanding. The order for a solar eclipse is the sun, moon, Earth. The order for a lunar eclipse is sun, Earth, moon. The sun is being blocked by the moon in a solar eclipse. The moon is being blocked by the Earth in a lunar eclipse.  3. Solar means the sun. Lunar means the moon.  4. It causes tides.  5. The *daily rising and falling of the oceans’ waters*.  6. Slowly because it takes 13 hours for tides to go from high tide to low tide.  7. Students should be able to demonstrate that tides go slowly.  8. binoculars, telescopes, at observatories  9. With craters, mountains and valleys. |
| FIFTH READING (Quickly review what students have learned throughout the reading of this text.)  A TRIP TO THE MOON  Pair this final reading with a favorite fictional text about astronauts, e.g. *Jimmy Zangwow’s Out-of-this-World Moon Pie Adventure* by Tony DiTerlizzi, *The Moon Over Star* by Dianna Hutts Aston, *If You Decide to Go to the Moon* by Faith McNulty |  |

FINAL DAY WITH THE BOOK - Culminating Task

Students will put pictures of the moon phases in order on a chart that has the phases printed on the page. They will then respond in writing to the given prompts.

* The prompts: Why does the moon seem to shine? Why does it seem to change shapes in the sky?
* Sample answer: The moon seems to shine because it reflects the light from the sun. It changes shapes because it is revolving around the Earth.



Vocabulary

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| **These words merit less time and attention**  (They are concrete and easy to explain, or describe events/  processes/ideas/concepts/experiences that are familiar to your students ) | **These words merit more time and attention**  (They are abstract, have multiple meanings, and/or are a part  of a large family of words with related meanings. These words are likely to describe events, ideas, processes or experiences that most of your student will be unfamiliar with) |
| age 2 - gases – air-like substances  Page 2- star- small light in the sky like the sun  Page 2-planet- large, round object in space  Page 2- Earth- planet we live on  Page 4-diameter-distance around an object  Page 4-one-fourth-one out of four  Page 6-chariot-vehicle driven by two horses  Page 14-tilted-leaned or tipped  Page 15- projector-projects rays of light  Page 20- observatories- buildings with telescopes to study things in the sky  Page 21-crater-a pit or hollow  Page 21-meteor-solid piece of debris  Page 21- pounded-beat or strike  Page 22-centuries- period of 100 years  Page 22-Soviet- people who lived in what is now the country Russia  Page 22-spacecraft-a vehicle used for traveling in space  Page 23-unmanned- without a man  Page 23-decade- period of 10 years  Page 23-astronaut-person who goes into or studies space | Page 2-revolves- turns  Page 5-astronomers-scientists who study space  Page 5- collided-ran into forcefully while in motion  Page 5- orbiting- curved path in space around a star, planet, moon  Page 6-ancient-a long time ago and doesn’t exist anymore  Page 7-legends- traditional stories that are not true  Page 7-imprisoned-held captive  Page 8- satellite- object orbiting around a larger one  Page 8-natural- caused by nature, not by humans  Page 9-rotation-spinning or circling  Page 10-reflected-throw back  Page 10-positions-location  Page 11-phases-stages in development  Page 11-quarter-one of four  Page 11-waxing-getting bigger  Page 12-gibbous-lit portion bigger than the unlit  Page 12-waning-getting smaller  Page 13-crescent-curved sickle shape of a waxing or waning moon  Page 14-solar eclipse-the sun is blocked from the Earth  Page 16-lunar eclipse-the sun is blocked from the moon  Page 18-gravity-the moon’s pull  Page 18-tides- rising and falling of the sea  Page 20-binoculars and telescopes- helps to see objects far away more closely  Page 23-commitment- dedicated  Page 24-mission- important assignment  Page 25-experiments-tests or investigations  Page 26-gaze-take a good look at |

Fun Extension Activities for this book and other useful Resources

* Additional Books to Read:
  + *Papa, Please Get the Moon for Me* by Eric Carle
  + *The Nightgown of the Sullen Moon* by Nancy Willard
  + *So That’s How the Moon Changes Shape* by Allan Fowler
  + *All About the Moon* by David Adler
  + Art/Crafts Projects:
* Moon Crater Art Project
  + Materials: watercolor paint, white cardstock or construction paper, paintbrush, white glue

1. Cut the cardstock or construction paper into a circle as large as the paper will allow.
2. Have the children draw craters within the circle with pencil.
3. Use the glue to “draw” over the lines.
4. When the glue is dry, use watercolors to paint the moon. Use blues, greens, and purples to imitate the idea of the blue moon.

* Oreo Moon Phases
  + Materials: plates (paper is best), Oreos (8 for each student), and a Sharpie marker
  + Students create the 8 phases of the moon using the cookies and then labeling them on the plate.
* Enrichment Activity
  + Tell students we are going to learn about traveling to the moon. As we re-read *The Moon Book*, we are going to look at the important dates that Gail Gibbons, the author, mentioned that helped us learn more about our moon. Together we will make a timeline. A timeline is a *graphic showing how time passes on a line*.

Steps:

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| Reread p. 22  1. What happened first? When did it happen?  Let’s begin our timeline with this date. | 1. 1959 - Soviet spacecraft Luna 3 transmitted to Earth the first pictures of the back side of the moon. |
| 2. Transmitted means *to send from one person, thing, or place to another.* What was transmitted from one place to another? | 2. Pictures of the back side of the moon |
| 3. Who transmitted the pictures? | 3. The Soviets. |
| The Soviets *are people who lived in the country formerly known as Union of Soviet Socialists Republics or USSR*. We now call these people Russians because the country they live in is known as Russia. |  |
| 4. Let’s read p. 23 to find out what happened next. Let’s start with 1961. What happened in 1961? | 4. 1961 – President John F. Kennedy committed to putting the first Americans on the moon before the end of the decade |
| Decade means *ten years.*  What did President Kennedy mean when he said, “before the end of the decade?” Let’s record this on our timeline. | Before 1970 |
| 5. What kind of spacecraft were sent up?  What does unmanned mean? | 5. American unmanned  *Without a man* |
| 6. What happened in 1966?  Let’s record that date on our timeline. | 6. In 1966, the Surveyor 1 rocket landed on the moon. |
| 7. Why was it important that an unmanned spacecraft went to the moon? | 7. It sent back information about the moon’s surface. |
| 8. When was the first manned orbit of the moon made?  Let’s record that date on our timeline. | 8. In 1968. |
| Reread p. 24 – 25  9. What happened on July 20, 1969?  Let’s record that date on our timeline. | 9. Neil Armstrong and Buzz Aldrin of the Apollo 11 mission became the first men to walk on the moon. |
| 10. When was the last moon landing?  Let’s record that. | 10. 1978 |
| 11. Were there other moon landings between 1969 and 1972?  Does the author tell us when those happened? | 11.Yes, five more.  No. |
| 12. What important work did the astronauts do on the moon landings? Why was this important? | 12. They did experiments and gathered samples. This helped scientists and astronomers learn more about the history and nature of our moon. |

**What Makes this Text Complex?**

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1. **Quantitative Measure**

Go to <http://www.lexile.com/> and enter the title of your text in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database.

Most of the texts that we read aloud in K-2 should be in the 2-3 or 4-5 band, more complex than the students can read themselves.

2-3 band 420-820L

4-5 band 740-1010L

740L

1. **Qualitative Features**

Consider the four dimensions of text complexity below. For each dimension\*, note specific examples from the text that make it more or less complex.

The meaning of the text is explicitly stated. Students will learn about our Earth’s moon.

Text begins with simple observations of the moon and continues to develop into a more complex informational text with specific vocabulary and illustrations related to the moon. The illustrations are essential to understanding the text, i.e. the phases of the moon.

The language demands are domain specific,

with many unfamiliar words teaching young children about the moon, in addition to general academic words, e.g. ancient times , unmanned, manned, transmitted; the book has many domain specific words, e.g. reflect, astronomers, phases of the moon, new moon, crescent, first quarter moon, full moon, waxing, waning, lunar, etc.

Students will be exposed to extensive, specialized discipline-specific content knowledge. While students who have background knowledge of the moon will have an advantage, this text will build a beginning foundation of the moon for students of all knowledge levels.

**Meaning/Purpose**

**Structure**

**Language**

**Knowledge Demands**

1. **Reader and Task Considerations**

What will challenge my students most in this text? What supports can I provide?

*Building knowledge of the moon and learning all of the domain specific language will be most difficult for students. Having students actively observing the moon, keeping track of the phases (either physically or digitally), creating charts and acting out the moon’s activities will support students’ learning.*

How will this text help my students build knowledge about the world?

*Gail Gibbons’ text will help students learn basic facts about the moon and more in-depth information about the phases of the moon.*

1. **Grade level**

What grade does this book best belong in? 1st grade