World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Target Language: English as a Second Language	**Grade Level**: 1
Proficiency Level: Junior Novice Low – Junior Novice Mid	
Context and Storyline: The teacher begins this module by reading Eric Carle's book, "Papa, Please Get the Moon for Me." As the children access this piece of literature and learn key words and expressions in the book, they become motivated to explore the changing phases of the moon and the moon's relationship to the sun and the earth. The teacher will guide children to understand the phases of the moon and help them figure out why the moon seems to look different to us at different times. The lessons will guide students through various hands-on experiment and activities, including a light bulb and a ball, and a cookie project. In the process, especially through their own observations of the moon, children will obtain facts about the phases of the moon, and learn how to make observations and discern patterns of natural objects in the sky. At the end, besides making their own science journal about their learning experiences, students will go back to the Carle book and identify different phases of the moon during the story. They will also reflect upon their own learning experience throughout this module.	
Enduring Understanding: Students will understand that objects may appear to be different than they really are. We need to investigate before we can draw a conclusion.	
Essential Questions: What does the moon look like? Why does the moon look different at different times?	
Module Duration and Lessons: Five 30-minute lessons Depending on the length and frequency of classes per week, we suggest the five lessons in this module could be taught during a period of three to five weeks. On the average, each lesson may be taught over a week, with 30-minute classes, three to five times per week. Lesson 1 – Papa, Please Get the Moon for Me (Engagement stage or introduction) Lesson 2 – This is How the Moon Looks at Different Times. (Exploration stage for main events) Lesson 3 – If the Moon were Cookies (Explanation stage for main events and practice) Lesson 4 – Our own book: Papa, Please Get the Moon for Me (Elaboration stage for summary and review) Lesson 5 – My Moon Story (Evaluation stage for assessing student learning outcomes)	

Standards Targeted	
5C – World Language Standards	**5E – STEM Standards**

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Communication

- Students engage in exchanges about familiar and personal topics in the present, past and future in the target language (1.3 B)

Culture

- Students identify and describe practices and perspectives of the cultures studied (2.1A)
- Describe and participate in school-based cultural activities such as games, songs, and holiday celebrations, which are representative of the cultures studied (2.1Ab)

Connections (sample below)

- Students access new information and reinforce existing knowledge of other content areas through the target language (3.1A)

NGSS

1.PC Patterns and Cycles

Students who demonstrate understanding can:

a. Investigate and compare how some natural events occur quickly and other natural events occur slowly.
b. Record and share observations about how some events have cycles; whereas, other events have a clear beginning and end.
c. Obtain information and share observations to determine simple patterns of natural objects in the sky.
e. Obtain information and communicate that there are tools that allow people to see more objects in the sky and in greater detail.

Math Common Core

1.G.A.3

Partition circles and rectangles into two or four equal shares, describe the shares using the worlds halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.

Knowledge: Students will know…	**Skills: Students can…**
Vocabulary (both linguistic and content areas) • *Sky, sun, Earth, moon* • Identify – Moon Phases: *New Moon, First Quarter Moon, Full Moon, Last Quarter Moon* • Shapes - *Circle, half circle* • *Sunlight, lighted* • *Change, different* Expressions and patterns • Sequence - *First, next, then, last* • *Bigger, smaller*	• Identify and describe four phases of the moon. • Express why the moon seems to change shape. • Sequence the cyclic pattern of the four moon phases learned.

• *Bright, dark* • *Right, left* • Be able to make simple statements • Be able to ask and answer simple questions	

Performance Assessment
Interpretive and Presentational Task
Students recreation and read their own version of Carle's book: Students walk around to view each other's books. Each student will select another student's book to read to the class.
Interpretive Task
My Science Journal Folder: They will develop their own mini-books based on the prompt from each station. Students' Science Journals will be on display. Students will do a gallery walk and look at all books. When the time is up for gallery walk, they will identify the book they are assigned to review.
Interpersonal Task
The class will be divided into two groups – Group A: the authors and Group B: the reporters. Members of Group B will interview the author of the science journals. Then the roles are switched, and members of Group B are the authors and will be interviewed by members of Group A. Each interview will be conducted using prompts.
Presentational Task
Working in pairs, students will report on the scientists and the journals. They will talk about the scientists' evaluation of their work, as well as their own comments about the scientists' work.

Materials/Resources
Materials: ○ Laptop/computer ○ LCD projector ○ USB Microphone ○ Speakers ○ Internet access to TeacherTube or video and a DVD player ○ Photos of the different phases of the moon, Worksheet 1a, cut apart (recommend laminating for use in other lessons during this module) ○ Photos of Moon, Earth and sun (recommend laminating for use) ○ Pocket chart or magnets to hold photos for display ○ Moon Phases Poem/Song- need transparency for overhead if there is no document camera

- Photo of empty paper plate for cookie moons
- Photo of paper plate with cookie moons on it. (one for each student for their Journal)
- Paper plates, prepared in advance as seen in Worksheet – with optional 2" Earth in center (one for teacher and one per student)
- Chocolate cookies with white cream filling, preferably miniature-sized, with one chocolate wafer already carefully removed (four per person) or regular chocolate cookie w/a can of frosting.
- Chocolate cookies with white cream filling, regular-sized, with one chocolate wafer already carefully removed (four, for teacher demonstration)
- Poster board pre-labeled with four moon phases in a circle, for placing demonstration cookies into cycle
- Craft stick (one per person)
- Lamp, with shade removed and picture of sun taped to it
- Tape
- Ball (for moon model), with face drawn on one half (suggest taping on a face)
  - OR – Softball, with one side marked to indicate one fixed side of the moon
  Permanent marker or pen, for drawing face on ball
- Document Camera or scanner, if available, to enlarge Moon Phases Poem/Song, and worksheet
- Paper clips or small plastic zip bags for pre-cut moon phase pictures, if using 2a. cloze version for individual students
- Glue
- Moon Phases calendars
- Colored pencils (yellow, black, gray)
- Printed paper
- Stapler

Resources:

"Papa. Please Get the Moon for me" translated into target language. Teacher can cut and attach the sentence strips on top of the English version.

- **Worksheet 1a –** to "Up and up and up he climbed."
- **Worksheet 1b –** to "Down and down and down he climbed."
- **Worksheet 1c –** to "*Each night the moon grew, and grew and grew.*"
- **Worksheet 1d –** Moon phases calendar
- "Papa, please get the moon for me" https://www.youtube.com/watch?v=EZE95KKinqo
- Internet access to DVD and DVD player of Eric Carle's Moon story
- Arabic Moon Video and Song http://www.youtube.com/watch?v=jU1nZq92pxw
- Ramadan Moon Video and Song (in English): http://www.youtube.com/watch?v=WwQjXWYaYEA
- Book – Moon game, by Frank Asch: A story about a little bear playing hide-and-seek with his friends. One of his friends is the moon, who hides behind some clouds, and can't be found until the clouds move out of the way. This may be used to support the meaning of the words *hide*, and *hidden*. Teacher may find time to explain to students that sometimes we cannot see the moon, even when it is not a New Moon, because of clouds.
- **Workbook 2a** – Sun, earth, and moon phases pictures
- **Worksheet 2b**– The sun is like a ball of fire Chant
- **Worksheet 2c** – Turn! Turn! Chant
- **Worksheet 2d** – Turn! Turn! Chant - for cloze version, with pre-cut pictures of moon

phases.
- Paper clips or small plastic zip bags for pre-cut moon phase pictures, if using Worksheet 2d. cloze version for individual students
- **Worksheet 3a** – *Cookie Moon Plate*
- **Worksheet 3b** – *"The MOON we all see up in the SKY" Chant*"
- **Worksheet 3c** – *My Moon Journal Folder* (cover & content)
- **Worksheet 4a** – *The Sun is like a ball of fire*
- **Worksheet 4b** – *Moon Phases Calendar Worksheet*
- **Worksheet 4c** – *Make My Own Papa Book Sentence Strips* .
- **Worksheet 5a** – *Student Self-check*
- **Worksheet 5b** - *What did I Learn?*
- **Worksheet 5c** – *Student's Interview*

Note to Teacher:
Audio tape the story so students can read the book independently and repeat after it, similar to "read aloud activities" for elementary students. We recommend that teachers establish a recording station in the classroom for the rest of the module. When appropriate, find time during Lessons 2-4 so students can review and practice the language.

Extension:
In Lessons 3 and 4, find time for groups of students to record their own reading of the book. Share this with the class for assessment and fun.

STEM Background for teachers: (identified and provided by a STEM teacher/resource person)

The Solar System
Our solar system includes the sun, planets and their moons, comets, asteroids, and meteoroids. Beyond our solar system are stars and galaxies. Space stretches beyond our solar system for at least 100 sextillion kilometers (numeral 1 followed by 23 zeros)!

The sun is a star at the center of our solar system. It is made of fiery hydrogen gas. It produces heat and light. Its heat and light travel 150 million kilometers through space to Earth. Everything in our solar system revolves around the sun and everything is kept in orbit by the pull of the sun's gravity. The sun rotates on its axis and completes one rotation in 25 days. One rotation of the earth around the sun takes 24 hours.

Earth's Rotation
Earth rotates on its axis every 24 hours. Earth's axis is an imaginary line that passes through the center of the earth from the North Pole to the South Pole.

One day equals one rotation of Earth. Half of the earth faces the sun; this half is daytime. The other half of the earth faces away from the sun; this half is nighttime.

Earth rotates from west to east. This makes the sun, moon, and stars look like they are moving from east to west. The sun, moon, and stars rise in the east and set in the west.

Daylight

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In the Northern Hemisphere, the shortest amount of daylight is on the first day of winter (December 21). The longest amount of daylight is on the first day of summer (June 21). Places farthest from the equator are in daylight the longest. However, in the Southern Hemisphere, places farthest from the equator are in darkness the longest. On June 21, the area around the North Pole has 24 hours of daylight and the area around the South Pole has 24 hours of darkness. At the equator, daylight and darkness are about equal.

The length of daylight changes during the year. From June 21 to December 21, the days grow shorter and from December 21 to June 21, the days grow longer. This is caused by the Earth's tilt on its axis and its revolution around the sun.

Moon Phases

From night to night, the shape of the moon looks different. These changes are called the moon's phases. The moon is shaped like a golf ball; it never changes its shape. The moon does not have any light of its own. We see the part of the moon that reflects light from the sun to Earth, and this changes with the movement of the moon. The moon rotates on its axis and revolves around the earth. One rotation and one revolution take the same about of time, about 28 days.

The shape of the part of the moon that reflects light depends on two things, the moon's position in its orbit around Earth and the position of the sun. The same phase of the moon repeats about every 27 ¾ to 29 ½ days. In some phases, you can see the moon during part of the day.

First quarter – 7 days before a full moon and the moon looks like a half circle
Full moon – moon look like a full circle
Last quarter – 7 days after a full moon and the moon looks like a half circle

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Lesson 1- Papa, Please Get the Moon for Me

Lesson 1 of 5	Duration: 30 Minutes
Objectives	***I Can:*** **Oral language:** • House: *house, window, door, ladder* • Physical activity: *play with, wish, touch, get/got, carry, stretch, climb, look out, see/saw, look (smaller), can/could* **Literacy:** • Recognize the words: *window, door, ladder, moon* • Read aloud with teacher **STEM and Other Subject Areas:** Students who demonstrate understanding can: a. Investigate and compare how some natural events occur quickly and other natural events occur slowly. b. Record and share observations about how some events have cycles; whereas, other events have a clear beginning and end.
Vocabulary and Expressions	**Previous Learned:** Family members: *father, mother, daughter, son, cat/dog* Directional words: *up, down* Nature: *stars, the moon, sky* **Content obligatory language:** *Ladder, play with, wish, touch, get/got, carry, stretch* **Content compatible language:** *Big, bigger, small, smaller, disappear* *First, then, finally, when,*
Materials/ Resources	○ laptop ○ Video camera ○ LCD projector ○ speakers ○ Internet access to YouTube or video of "Papa. Please Get the Moon for me" ○ **"**Papa. Please Get the Moon for me" in target language. If necessary the teacher can cut and fasten translated sentence strips on top of the English version. **Worksheet 1a –** to "Up and up and up he climbed." **Worksheet 1b –** to "Down and down and down he climbed." **Worksheet 1c –** to "*Each night the moon grew, and grew and grew.*" ○ **Worksheet 1d** - Moon calendar.

	Note: If you do not have internet access, a laptop, LCD projector (with connector cables), and speakers, you may download and burn a copy of the YouTube video prior to class on a DVD and bring a DVD player (with some way to display the DVD) into the classroom. There are many videos of this story; you may choose one that you prefer instead of the one suggested here.
Lesson Storyline and Core Text	Teacher begins this module by reading Eric Carle's book, "Papa, Please Get the Moon for Me." As the children access this piece of literature during the rest of this lesson, and as they learn key words and expressions in the book, they become motivated to explore the changing phases of the moon and the moon's relationship to the sun and the earth. *I found a book and would like to share it with you* *Papa, please get the Moon for me.* *Papa put the very long ladder on the mountain.* *Up and up and up he climbed.* *Papa got to the moon.* *He said, "My daughter would like to play with you.* *The moon got smaller and smaller. Papa took it.* *Papa said to Monica, "Here, I have the moon for you."* *Monica jumped and danced with the moon.* *The moon kept getting smaller and smaller and smaller, and finally it disappeared.* *Then, one night, Monica saw the moon again.* *We will keep track of the moon every night on this calendar for the next month. Together, we will find out what the moon looks like each night.*

Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
Engagement ● *Object, event or question used to engage students.* ● *Connections facilitated between what students know and can do*	**Read Carle's book; What does Monica want?** T: *Good morning, class, I found a book and I would like share it with you.* T: (Teacher shows the book and asks students to predict what the book is about.) *What do we see? Let's see…* (pointing) *I think this is the*… (Wait for student response. If they do not provide the word, then ask :) *Is this the moon or the sun? And this is a little…* (Wait and prompt, if necessary.) *Is this a girl or a boy? And this little girl lives in a…* (Wait and prompt, if necessary.) *She lives in a house. So our story is about the moon, a little girl who lives in a house. She also has pet, she has a…* (Wait and prompt, if necessary.) *(Dog/cat)? Who in this class has a dog? Who has a cat?* *I wonder what the little girl's name is. I wonder if there is anyone else in the story. Let's read the book and find out.* Students respond.

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Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
	Note: The purpose of this activity is to provide the necessary vocabulary to students while activating their prior knowledge and building their interest. It doesn't have to be very extensive. Teacher reads the story (TL). T: *I also found a video about this story. Would you like to watch it?* (This video is in English) https://www.youtube.com/watch?v=EZE95KKinqo **Note for Spanish, Chinese, and Arabic versions:** ➢ About using English and the target language on the first day of this module: Our philosophy is to tap into students' bi-literacy as a resource. By exposing students with the English video first, we prime them to building or activating their prior knowledge. Throughout the module, only the target language is used. T: *Now, let's hear the story again.* (Read the story with animation and interpretation, while pointing at pictures.) Ask simple comprehension questions: • *Who are the people in the story?* • *What is the girl's name?* • *What kind of pet did the girl have?* • *What does Monica want?* Closing Routine (to be used every day); Say thank you, goodbye to the teacher and fellow students. Adding different things daily, based on the new vocabulary or concepts introduced that day. For this day, lead the students to say good-bye to Monica, papa, cat, and the moon.
Exploration ● *Objects and phenomena are explored.* ● *Hands-on activities, with guidance.*	**What does Papa do?** Use the book up to the page that reads, "Up and up and up, he climb. T: (Pulls out the Papa book which already has TL strips covering the English in the book and reads the story once in the TL up to the page that states, "Up and up and up he climbed. Then go back to the first page and engage students in answering comprehension questions page by page. Point at the pictures while asking questions.) *What did Monica want to do with the moon?* *What did Monica ask her father?* *Monica's father got a very long ladder. Who can point to the ladder?* *Where did Monica's father take the very long ladder? Who can point to where he went?*

Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
	Right, he went to a very high mountain! **Text in the book up to this page: Worksheet 1a** *Before Monica went to bed she looked out of her window and saw the moon. The moon looked so near.* *"I wish I could play with the Moon," thought Monica, and reached for it.* *But no matter how much she stretched, she could not touch the moon.* *"Papa," said Monica to her father, "please get the Moon for me."* *Papa got a very long ladder.* *He carried the very long ladder towards a very high mountain.* *Then Papa put the very long ladder on the top of the very high mountain.* *Up and up and up he climbed.* As you read the book, lead students in pantomiming the actions in the story. Afterwards read the text again again, with the entire class joining in, especially by supplying key words in the target language. Lead students to recite: *"I wish I could play with the Moon"* (and reach for the moon). *But no matter how much I stretch, I cannot touch the moon* (stretch and stretch)." *"Papa, please get the Moon for me."* T: *Have you ever looked at the moon, like Monica did? What did the moon look like? Let's all draw a picture of the moon.* (Have students draw pictures of the moon and have them hold them up for everyone to see. Those pictures will likely look different from one another.) *Isn't that interesting! All the pictures look different, just the way they were in the story. How can all those pictures be the same moon? Maybe we can try to keep track of the moon.* T: (Distribute Moon Calendar to students, **Worksheet 1d**) *Class, let's keep track of the moon on this moon calendar. Look at the moon tonight, if you can, and see what it looks like. You can draw a picture of it on your moon calendar. I'll show you how.* T: *Let's make believe the moon looks like this.* (Teacher models by drawing a shape of the moon on the calendar. Repeat the modeling a few times so students understand how to complete the assignment.) T: *We will keep track of the moon every night on this calendar for the next month. If you aren't able to see the moon, we can look at an Internet picture of the moon. We will keep track on this big calendar, for the whole class, and also on your little calendars. Together, we will find out what the*

Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
	moon looks like each night. Note to the teacher: Have students fill in every day of their calendars, based on class discussion. For days when they actually see the moon themselves, ask them to put a star in the corner of that day of the calendar, so they can keep track of how many times they saw the moon. Closing: Lead the students in the refrain of what Monica says in the book: *"I wish I could play with the Moon"* (and reached for the moon). *But no matter how much I stretch, I cannot touch the moon. "* *"Papa, please get the Moon for me."* Do the daily good-bye routine, including to Monica and the moon.
Explanation ● *Students explain their understanding of concepts and processes.* ● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.*	**What did you see last night? Read and discuss Carle's book** T: (After daily routines, greetings, calendar, weather, etc.) *Who was able to see the moon last night? If you saw the moon, please show your moon calendar from last night to the classmates around you.* Students show each other what they drew the night before. T: (Walks around the classroom, making comments such as the following) *Hmmm, beautiful (or "very good"), the moon looked big (or small, fat, thin, half circle) last night. (Student name), how about yours?* T: (Showing Internet picture of the moon) *I wasn't able to see the moon last night, but I found this picture on the Internet. It looks a lot like your pictures, doesn't it?* Students comment. T: *Let's also put the moon onto our class calendar.* (Either the teacher draws or invites a student to draw it on the class calendar poster.) T: *Now, let's continue with our story. Let's read together up to where we stopped reading yesterday.* Teacher leads students in reading the passage up to "Up and up and up he climbed." Teacher continues to read the following page: *Finally, Papa got to the moon.* *"My daughter Monica would like to play with you," said Papa,* *"but you are much too big."* *"Every night I get a little smaller," said the moon.* *"When I am just the right size you can take me with you."* *And, indeed, the moon got smaller and smaller* *When the moon was just the right size, Papa took it.*

Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
	Down and down and down he climbed. Teacher asks and students answer comprehension questions. *What does Monica wants?* *What Monica does papa do?* *What does Monica's papa tell the moon? What is the problem?* *What does Moon say?* *What happened, does the moon get smaller?* *Did Papa get the moon and take it home?* Follow the procedures for reading and comprehending the story suggested in Explanation. Additionally, lead students to imitate the following passage from the story, modeled in short phrases: *"My daughter Monica would like to play with you," (in Papa's voice)* *"but you are much too big."* *"Every night I get a little smaller," (in the moon's voice).* *"When I am just the right size you can take me with you."* *And the moon got smaller and smaller.* T: (At the end, remind students about their homework assignment – Moon Calendar homework.) *Don't forget to draw what the moon looks like tonight in your Moon Calendars!* **Extension:** Follow similar closing procedures as the previous day. Recite the dialogue from the story.
Elaboration ● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.*	**The Moon?** Do the calendar and moon routine. Make sure to do the class calendar daily. T: *Now, let's continue with our story. Let's read together what we read before.* Teacher leads students in reading the passage up to "Down, down, and down he climbed." Teacher continues reading the following section – *"Here," said Papa to Monica, "I have the moon for you."* *Monica jumped and danced with the moon.* *She hugged the moon and threw it into the air.* *But the moon kept getting smaller and smaller and smaller, and finally it disappeared altogether.* *Then, one night, Monica saw a think sliver of the moon reappear.* *Each night the moon grew…* Ask and lead students answer comprehension questions, including learning

Key Elements	Lesson 1 Procedures – *Papa, please get the moon for me*
	the text from the book: *"Here is the moon for you" (in Papa's voice).* *"Thank you, Papa" (in Monica's voice).* *Monica jumped and danced with the moon.* *She hugged the moon and threw it into the air.* *The moon grew smaller and smaller and smaller, and finally it disappeared.* *Then, one night, the moon reappeared.* *Each night the moon grew, and grew and grew.* **Note:** If there is time, prepare a gift pack and have students practice gift giving and taking by using the language and gesture described in the story and chant. T: (At the end, remind students about their homework assignment – Moon Calendar homework.) *Don't forget to draw what the moon looks like tonight in your Moon Calendars!*
Evaluation ● *Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.*	For students who are not yet independent readers: Let's read and perform the story: Teacher guides students in re-reading the story in its entirety. Divide the class into three groups. Distribute Worksheet 1a - 1c to each child. Assign one of the worksheets to each group to act out as it is read. Read the story line by line, and the class repeats, and the designated group pantomimes the lines in the story. For students who are already readers: Let's Read and Perform the Story Together Teacher guides students in re-reading the story in its entirety. Divide the class into groups. Distribute Worksheet 1a - 1c, one to each group. The group will read the section as assigned from the worksheet. Each group will volunteer to read its section to the class. In this way, three groups will complete the reading of the entire book. Note: Provide assistance to any group that needs help. Make sure they can read the story accurately. At the end, remind students about their homework assignment – Moon Calendar homework.

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Teacher Reflection Lesson 1- *What are the four phases of the moon?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

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Lesson 2 – This is How the Moon Looks at Different Times

Lesson 2 of 5 – *This is How the Moon Looks at Different Times*	Duration: 30 Minutes
Objectives	***I Can:*** Oral language: • Moon Phases: *new moon, full, first[t] quarter, last quarter moon.* • Vocabulary: *moon, sun*, earth, *Sunlight, lighted, bright side, dark side* *Turn*, Shape, change, different* Literacy: • Identify the written words for the 4 four moon phases: *full moon, half moon, quarter moon, new moon* • Point to the words in the Moon Phases Chant. • (Track the written words while reading the chant chorally with the class.) STEM and Other Subject Areas: • Name and identify the *moon, sun*, and *Earth.* • Tell the different moon phases that I can see lighted by the 'sun' on the moon model. • Tell that Earth and the moon both turn. Identify the bright side and a dark side of the moon model. • Partition circles and rectangles into two or four equal shares, describe the shares using the worlds halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares.
Vocabulary and Expressions	**Content obligatory language:** Moon Phases: *New Moon, First Quarter Moon, Full Moon, Last Quarter Moon, Sun, Earth* *Sunlight, lighted, bright side, dark side* *Turn*, Shape, change, different* **Content compatible language:** *Real, fire, look like, head, experiment, volunteer,* *Circle, half-circle, how many, know, changes, review, which group*
Materials/Resources	○ Computer, LCD projector, USB microphones and speakers ○ Earth & Sun photos (printed in color and laminated, if possible) ○ Lamp, with shade removed and picture of sun taped to it ○ Tape ○ Ball (for moon model), with face drawn on one half

Lesson 2 of 5 – *This is How the Moon Looks at Different Times*	Duration: 30 Minutes
	- OR – Softball, with one side marked to indicate one fixed side of the moon (suggest taping on a face) o Permanent marker or pen, for drawing face on ball o Turn! Turn! Chant complete version (one per person) o Use scanner or projector, if available, to enlarge Sun, Earth, Moon phases photos. - OR – Overhead Projector and teacher-made transparency of worksheet 2a. Turn! Turn! Chant - OR – Teacher-created large poster of worksheet 2a. Turn! Turn! Chant **Worksheets:** **Worksheet 2a** – Sun, earth, and moon phases pictures o **Worksheet 2b**– The sun is like a ball of fire Chant o **Worksheet 2c** – My Science Experiment #1 o **Worksheet 2d** – Turn! Turn! Chant o **Worksheet 2e** – Turn! Turn! Chant - for cloze version, with pre-cut pictures of moon phases. o Paper clips or small plastic zip bags for pre-cut moon phase pictures, if using Worksheet 2d. cloze version for individual students o Glue
Lesson Storyline and Core Text	The teacher begins this lesson by reviewing Eric Carle's book, "Papa, please get the moon for me." Continue with a hands-on experiment involving a light bulb, a student volunteer and a ball or an orange. Guide and inform students about the relationship between the moon, earth, and sun through the experiment. Students will understand that objects may be different than how they appear to the naked eye. Students will understand the need to investigate before a conclusion can be drawn. In this lesson, students will not only learn the four basic moon phases but also why the moon's appearance changes. *Core Text:* *The sun is like a ball of fire.* *It gives us heat and light.* *When we see the sun,* *The sky is bright. It is day.* *When we cannot see the sun,* *The sky is dark. It is night.* *We can see the moon.* *In the night.* *This lamp is the sun.* *This ball is the moon* *We turned, and the ball turned with us.* *Turn, Turn, Turn, 4 phases of the moon*

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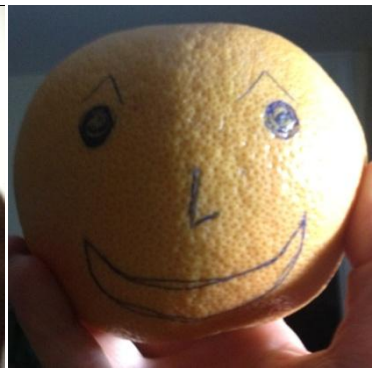
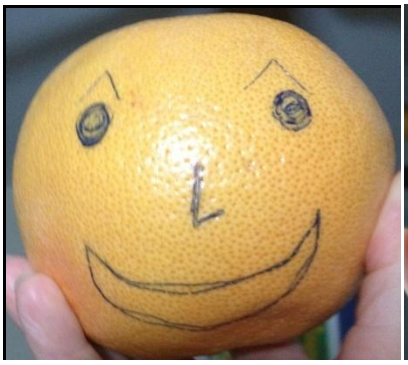
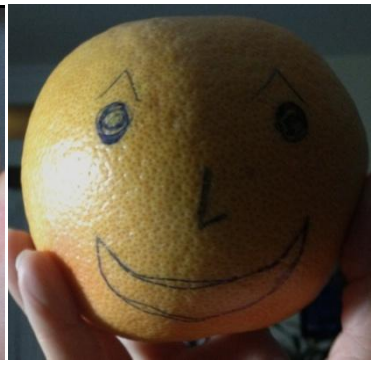
Lesson 2 of 5 – *This is How the Moon Looks at Different Times*	Duration: 30 Minutes
	New Moon, first quarter moon, full moon, last quarter moon.

Key Elements	Lesson 2 Procedures – *This is How the Moon Looks at Different Times*
Engagement ● *Object, event or question used to engage students.* ● *Connections facilitated between what students know and can do*	**The Facts about the Sun, Moon and Earth; Review the Carle's Book** T: *Let's read the "Papa, Please get the Moon for Me" again! Who would like to read with me?* Invite different students to read with teacher. T: (differentiating fantasy from reality.) *What do you think? Could Monica really play with the moon? Do you think that is possible? Can Papa get the moon for Monica? (Why not? Where is the moon?)* Students respond. T: *Do you think the moon really gets smaller and smaller Do you think the moon really gets bigger and bigger again? Let's find out how does the moon does that.* T: (Show pictures of the sun, the moon, and the earth. Point at the moon) *Class, is this the sun or the moon?* (Point at the pictures randomly to introduce the vocabulary for each until students understand.) T: (Pointing at or showing the picture of the sun) *The sun is like a ball of fire. It gives us heat and light. When we see the sun, the sky is bright*. (Putting the hand over the eyebrows and blinking the eyes as if the sun is too bright. Also fan with the hand as if for relief from the heat. Gesture students to follow the motions and repeat the utterances.) *When we cannot see the sun, the sky is dark. It is night.* T: (Pointing at the picture of the earth) *The earth is where we live. We need the light from the sun. When we can see the sun, the sky is bright and it is day.* (Showing the motion of waking up and getting up.) When we cannot see the sun, it is dark. It is night. (Yawning and putting hands together as if to sleep.) T: (Showing the picture of the moon) *When did Monica see the moon? In the day or at night?* Teach the chant (Worksheet **2b**) one line at a time, having students repeat after the teacher, in rhythm. *The sun is like a ball of fire.* *It gives us heat and light.* *When we see the sun,* *The sky is bright. It is day.* *When we cannot see the sun,* *The sky is dark. It is night.* *We can see the moon* *In the night.* Do the closing routine. Remind students of their moon watching.

World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Exploration ● *Objects and phenomena are explored.* ● *Hands-on activities, with guidance.*	**Relationship among the sun, the moon, and the earth** After the opening routine, begin by reminding students of the story, perhaps asking: *What happened to the moon when Monica played with it? Did it get smaller? Does the moon really get smaller and larger?* *That's one of the interesting things about the moon, and many people like to watch the moon, night after night. We call the part of the moon we see the* ***phase*** *of the moon. We are going to learn about four phases of the moon.* Show four pictures of the phases of the moon. Tell students what they are called: *New Moon, First Quarter Moon, Third Quarter Moon, and Full Moon.* Put the pictures up on the board in the order they appear. Have students point to pictures as you name them, and then invite volunteers to name phases as another student points to them. T: *Let's do an experiment to see how these phases work.* (Bring out a lamp and a ball. Showing the lamp) *Look at what I have in my hand. This is a lamp.* T: *But today, this lamp is the sun.* (Ceremoniously tape a picture of the sun on the lamp.) *Say hello to the sun.* Ss: *Hello, Sun!* T: This ball is the moon. (Ceremoniously tape a small picture of the moon on the ball.) *Say hello to the Moon.* Ss: *Hello, Moon!* T: My head is the earth. (Ceremoniously tape a picture of the earth on teacher's own forehead.) *Say hello to the Earth. Hello, Earth!* Ss: *Hello Earth!* T: *Now let's do an experiment about the sun, the moon, and our earth.* T: (Teacher dims or turns off lights in the room. Try to make the room as dark as possible. Turn on the "sun" lamp.) *It is bright! The light from the sun is very bright! The sun is bright! Tell me about the sun. Is the sun bright or dark?* Ss: *The sun is bright!* T: *Yes, the sun is bright. With no sunlight, it is dark.* (Turns off lamp for a moment.) *Now, tell me, is it dark or bright?* Ss: *It is dark.* T: (Turn the lamp back on.) *Now we see the sun again.*

T: *Now let's do an experiment. Do you remember what I am? Am I the sun or the earth?* (Pointing the picture of the earth on the forehead.)

Ss: *the earth.*

T: *I need a volunteer.*
Select a volunteering student, *Michael* (or any volunteer's name).

T: *Michael, your head is now the earth.* (Put the picture of the earth from Teachers' forehead to Michael's forehead.)

T: *Michael, you will also hold the ball, that is the moon. Hold your arms out toward the lamp/Sun, and a little above your head. Remember, your head is the earth, and the ball is the moon.* (Be sure the child holds the ball slightly above her/his head, so the head does not cast a shadow on the ball.)

T: (Turn to class) *Oh, Class. Let's make sure Michael understands it. What is Michael's head? What is in Michael's hand?* (The sun/the moon/the earth).

T: *Oh, I forgot, one side of the moon is always facing toward the earth. So, let's put a happy face on the side of the ball that is looking at us.* (Draw a happy face on the ball.) *Remember, Michael, when you turn, make sure the happy face always looks at you!*

T: (Motion Michael to turn and stop, about a quarter turn) *Now we will see what happens to the moon.*

Call on a few students to stand behind Michael.

	T: *Students, what do you see on the ball? Does the light make the ball more like the New moon/First Quarter moon/Last Quarter moon/Full Moon?* Students respond. Continue the turn and identification of the phases of the moon. Call on different students to be the volunteer and identifiers. For example: T: *Look! I can see the sun shining on the moon! The sun makes this side of the moon bright. It looks like a circle, like a Full Moon! Class, can you see the Full Moon, too?* Ss: *Yes, I can see the Full Moon!* T: *Is the Full Moon bright or dark?* Ss: *The Full Moon is bright!* T: *Now, let's turn a little.* T: *Look! What can I see? Now, I can only see part of moon is bright. The light makes the moon looks like a half-circle. Can anybody remember what we call this phase of the moon?* Ss: (volunteering) *Last Quarter Moon!* T: *Let's turn again.* T: *Can I see the sun shining on the moon now? No, I cannot! I cannot see the bright side of the moon. The bright side is hidden from me on the other side! This side of the moon is dark. Can anybody remember what we call this phase of the moon?* Ss: (volunteering) *New Moon!* T: *Is the New Moon dark or bright?* Ss: *The New Moon is dark!* T: *Excellent! It is the New Moon. We cannot really see the New Moon. It is dark. The New Moon is dark.* Ss: *The New Moon is dark.* T: *Let's turn one more time.* T: *I can see sunlight on the moon again! I can see a half circle of sunlight on the moon. Can anybody remember what we call this phase of the moon?* Ss: (volunteering) *A First Quarter Moon!* T: *Is the First Quarter Moon a full circle or half circle?* Ss: *The First Quarter Moon is a half circle.* T: *You are correct. It looks like a First Quarter Moon. Now we have seen the four phases of the moon. Let me show you how we do this* **- Worksheet 2c**

	Do the closing routine and remind students of the moon calendar work. T: *Now, we have learned the phases of the moon. Tonight, if we can observe the moon maybe we can figure out what phase it is tonight.*
Explanation ● *Students explain their understanding of concepts and processes.* ● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.*	**Moon Phases Chant** - Turn! Turn! What Can You See? **Worksheet 2d** Do the opening routine. Ask students if they can figure out which phase the moon was, also using the picture from the Internet as part of the discussion. **Note:** Although the moon phases cycle continuously, astronomers consider the New Moon to mark the beginning of the moon cycle which lasts between 27 1/3 to 29 1/2 days Get a calendar and post several months on a wall or the white board of the classroom. Cut several sets of phases of the moon: New Moon, First Quarter Moon, Last Quarter Moon, and the Full Moon. (Note: many calendars already show the phases of the moon, so it should be possible to use an existing calendar for this activity.) Start with several months' calendar that shows three moon cycles: http://www.moonconnection.com/moon_phases_calendar.phtml. T: (Invite a student to identify where the New Moon is on a calendar.) *Now, class, what do we see here? We see how moon changes its phases. Let's see where is New Moon?* T: *Great. Let's start counting. Let's see how many days are there from one New Moon to the next New Moon.* T: (Count with the students, starting from a New Moon) *1, 2, 3… 28. OK, in this moon phase period, there are 28 days.* (Record one Moon Phase. Repeat with other months. Students will see that each moon phase is slightly different, but it's between 27-29 days.) T: *Okay class, now we know when the moon circles around the earth one time, it takes about 28 or 29 days. And the moon changes its face about every 7 days.* Repeat the process starting with the first quarter moon. Have them first predict how many days there will be from one first quarter moon to the next, and then count them. Then find the number of days between each of the phases. Once this is done, put a couple of blank calendar posters on the white board or a wall. Invite volunteer students to paste pictures of different phases of the moon on the appropriate days. Start with a New Moon. T: *Now let's learn a Moon Phase Chant so we can remember this. Let me show you how we do this.* **Worksheet 2d**

	Teacher says while making the motion. This is how the chant goes: Turn! Turn! What can you see? The  is a moon phase I cannot see, New Moon Because the bright side is hidden from me! Turn! Turn! What can you see? I see the  looking at me. First Quarter Moon Turn! Turn! What can you see? I see the  looking at me. Full Moon Turn! Turn! What can you see? I see the  looking at me. Last Quarter Moon **Note:** When students are comfortable with the chant, Teacher may randomly point at a moon phase on the calendar poster, and invite a volunteer student to do the chant for that phase of the moon. Do the closing routine.
Elaboration ● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.*	**How the Moon Looks at Different Times** Do the opening routine. T: *Now let's review what we did.* (Pointing at each of these). *We used lamp/ball/ourselves. What was the lamp?* (The sun and so on.) T: *Can anyone remember what we did to make the light on the moon look different?* T: (Calls on one or more Ss.)*What did we do?*

	Ss: *We turned!* T: *Very good! We turned! The earth turned! Did the ball/moon turn, too?* Ss: *Yes, the ball/moon turned with us, too!* T: *Excellent! We turned, and the ball turned with us. This means the moon turned with the Earth.* (Teacher picks up ball, and quickly demonstrates how Earth turned, and also how the moon turned around Earth.) T: *But, did we see different sides of the moon? Or, did we always see the same side of the moon? (Remind students of the "happy face" if they can't remember it.)* Ss: *the same side.* T: *Right, we always see the same side of the moon. When the Earth and the moon turn, the sun shines on different parts of the earth and the moon. But we can only see the same side of the moon, so when this side of the moon is bright, we see a bright moon. So when this side of the moon is dark, we see a dark moon. That's why the moon seems have many phases to us.* T: *Can anyone tell me the phases of the moon we have learned?* Ss: *New Moon/First Quarter Moon/Last Quarter Moon/Full Moon.* **Note:** Earth *rotates* on its axis, and *revolves* around the sun. The moon also *rotates* on its axis and *revolves* around Earth. (Its rotations are in sync with Earth's rotations, which is why we only see one side of the moon.) For purposes of this demonstration with young children, it is best to keep the explanation simple. T: *Let's do the Moon Phase chant together.* (Repeat the chant with the class, using the motions.) *Let's see if we can perform this chant in small groups.* Divide the class into groups of four. Distribute a phase to a student. That student will be responsible for chanting the phase of the moon. Give them a few minutes to practice, and then call on groups to perform. **Literacy time:** Do the **Worksheet 2e**. Have students do peer editing. Collect worksheets. Do closing routine.

World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Evaluation ● *Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.*	Assessment: Students can • Identify and name different phases of the moon • Tell the relationship among the sun, the moon, and the earth • Students perform one of the chants they learned ➢ The sun is like a ball of fire ➢ Turn! Turn! Chant

Teacher Reflections on Lesson 2 – *Why Does the Moon Seem to Change Shape?*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Lesson 3 – If the Moon Were Cookies

Title in TL

Lesson 3 of 5 – *If the Moon Were Cookies*	Duration: 30 Minutes
Objectives	***I can:*** Oral language: • *Cookie, week, month, appear* Literacy: • Label the phases of the Moon on the calendar and find the cycle patterns of the moon phases on the calendar. STEM and Other Subject Areas: • Observe moon phases calendar and name and label the phases of the moon. • Obtain information and communicate that there are tools that allow people to see more objects in the sky and in greater detail.
Vocabulary and Expressions	*Calendar, week, month, appear, phase, moon, and cycle* *Change, plate, moon phases, cookie*
Materials/ Resources	○ Moon Phases calendars ○ Colored pencils ○ Printed paper ○ Paper plates, enough for entire class ○ Popsicle sticks ○ Cream-filled sandwich cookies, enough for each student to have 4+ ○ Internet access to Google for Moon Phases calendar ○ photos of the different phases of the moon ○ **Worksheet 2a** – *Use Moon Phases Photographs* ○ **Worksheet 3a** – *Cookie Moon Plate – preparing paper moon plate* ○ **Worksheet 3b** – *Cooke Moon Experiment* ○ **Worksheet 3c** – *"The MOON we all see up in the SKY" Chant* ○ **Worksheet 3d** – *My Moon Journal Folder* (cover & content)
Lesson Storyline and Core Text	In this lesson, teacher begins with a hands-on experiment, my cookie plate, and guides student review if the relationship among the moon, Earth, and the sun through the cookie activity. Students learned the moon, Earth, and sun relationship in earlier lessons. Students also learned a chant to help them to remember the lesson. *Core Text:* *We are going to do another moon activity!* *We'll make "My Moon Plate." But first I need your help.* *Which moon phase should we put here?* *The MOON we can all see up in the SKY*

	Seems to CHANGE SHAPE, can you tell me why? *Sometimes it's FULL like a big, round ball,* *And later it looks like it's not there at all!* *We see a FULL MOON. It starts to get small.* *After a while, it's just HALF a ball.* *Then you can't see it, it seems to be gone.* *But then another HALF ball comes along.* *Then again it's as big and as round as can be* *SHINING down BRIGHTLY on you and on me.* *New moon,* *first quarter,* *full moon,* *third quarter, and then* *These MOON PHASES CYCLE again and again*

Key Elements	Lesson 3 Procedures – *If the Moon Were Cookies*
Engagement. ● *Connections facilitated between what students know and can do*	**My Moon Plate** Do the opening routine and identify the current phase of the moon, from student observations and from the Internet picture. T: *We are going to do another moon activity! We'll make "My Moon Plate." But first I need your help.* **Note:** Prepare paper/Styrofoam plates, preferably in black to represent the night sky. Prepare plain chocolate cookies, a can of plain vanilla cake frosting and a craft stick to spread frosting on the cookies, and a stick of glue to paste cookies to the plate. (or you may use cream-filled chocolate cookies instead) Put a picture of the earth in the center of the plate, as shown in the picture below. Tell students that we'll put the New Moon on the top of the circle, as shown. 

World Language – STEM MODULE COVERSHEET
Different "Faces" of the Moon

Key Elements	Lesson 3 Procedures – *If the Moon Were Cookies*
	Note to teacher: Be sure to determine if any of the students are gluten-intolerant. For those students provide pictures of the cookies, or find a gluten-free alternative (parents can be helpful here). T: (Reviews each phase with Ss by pointing to the plate and saying) *This is my Moon Plate. I'm going to put the New Moon here.* (Invite a student to find the picture of the New Moon and post it at the spot the Teacher points.) T: *So which moon phase should we put here* (in counter-clockwise direction)? (Invite another student to find the picture of the next phase of the moon and post it on the plate. Ask the student or the class to name the phase. Repeat the process until all phases are done.) T: *Watch, students! I can make this cookie look like different phases of the Moon!* (Show students a chocolate cookie as the New Moon. Place it at the 12:00 position on the paper plate. Spread vanilla frosting on another cookie to make different phases of the moon. Repeat statements and glue/paste the moon phase cookies counter-clockwise on the prepared plate.) Students watch as the teacher uses the cookies to depict the four phases of the moon. Involve students during the process. T: *You'll make your own Cookie Moon Plates tomorrow. Be sure you can remember all the phases of the moon so you can make them.*  (See **Worksheets 3c**) Do the closing routine and the Moon Phase chant. **Workbook 2d**
Exploration ● *Objects and phenomena are explored.* ● *Hands-on activities, with*	**My Own Cookie Moon Plate** T: (After the opening routine.) *Do you remember what we're going to do today?* Ss: *Cookie Moon Plates.* T: *Do you remember how to make it?* (Show the Cookie Moon Plate made yesterday and asks students to identify and name each phase.)

Key Elements	Lesson 3 Procedures – *If the Moon Were Cookies*
guidance.	Prepare enough plates and craft sticks, one for each student. Prepare a can of plain vanilla cake frosting and several sticks of glue for students to use. Distribute a picture of the earth and four chocolate cookies per student. Tell students that they must finish the task in 5 minutes. Once students are finished, show them how to label the phases. (Write the captions on the board or project them on a transparency.) Provide students with more cookies if they need them. Walk around to provide the necessary assistance and guidance. **Note:** Use self-adhesive address labels to write captions for the phases of the moon, one on each label. Peel the label from its backing and paste it on the Cookie Moon Plate under the appropriate moon phase. Involve students to help. This is an excellent literacy activity. Distribute 4 labels per student. Once students are finished, ask them to do peer editing with a partner. If there are mistakes, students may ask for more labels and paste the new one on top of the one with errors. Distribute cookies for the students to enjoy. **(Note: Be sure to supply an alternative snack for students who are gluten-intolerant.)** While eating, they can show of their products and practice telling about them. Do the closing routines afterward.
Explanation ● *Students explain their understanding of concepts and processes.* ● *New concepts and skills are introduced as conceptual clarity and cohesion are sought.*	**For students with independent literacy skills: Write a Science Journal about My Own Moon Cookie** Do the opening routine. T: *Did you enjoy the Cookie Moon Plate activity yesterday?* (Invite students to reflect why they like it. Provide vocabulary such as fun, delicious, like, remember) Show the class a copy of the **Worksheet 3d**. Ask students to help with completing the project. Distribute a copy of the **Worksheet 3d** to each student. Tell the students that this is going to be their moon journal folder. Have them write their names and then draw pictures of the phases of the moon, leaving room to add labels. Remind them to put the phases in the correct order, starting with the New Moon. Circulate as they draw their pictures, and then have them do the labeling, using the model you have written on the board. Ask students to practice writing the labels on a separate sheet of paper. Do peer editing to ensure accuracy on the drawing, phases, and the writing. After each student receives the check from the teacher, he/she may write the labels on the worksheet. Do Gallery-Walk of the class to review the work.

Key Elements	Lesson 3 Procedures – *If the Moon Were Cookies*
	Do the closing routine, the Moon Chant.
Elaboration ● *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.*	**The MOON We All Can See Up In The SKY.** Do the opening routines, calendar work, and review what they did yesterday (my Science Journal). T: *I have a poem about the moon. It is called "The moon we can all see up in the sky". Let's learn it together.* **Verse 1:** **REFRAIN:** *The MOON we can all see up in the SKY* (two fingers on eyes; one finger points up) *Seems to CHANGE SHAPE, can you tell me why?* (Arms make different shapes overhead; shrug Why?) *Sometimes it's FULL like a big, round ball,* *(*Arms out big and round overhead) *And later it looks like it's not there at all!* (cross arms on chest) *We can explain why this is so. EARTH and MOON turn.* *Some MOON parts don't show.* (hold up index fingers of each hand and move them around in separate circles) *There's SUNLIGHT on MOON parts that we cannot see* (point to sun; cover eyes) *Those MOON parts are hidden from you and from me.* (cover eyes; point to others, then to self) **Verse 2**: **REFRAIN:** *The MOON we can all see up in the SKY* (two fingers on eyes; one finger points up) *Seems to CHANGE SHAPE, can you tell me why?* (Arms make different shapes overhead; shrug Why?) *Sometimes it's FULL like a big, round ball,* *(*Arms out big and round overhead) *And later it looks like it's not there at all!* (cross arms on chest) *We see a FULL MOON. It starts to get small.* (arms big and round overhead; one elbow moves forward) *After a while, it's just HALF a ball.* (moving elbow stops in front of face) *Then you can't see it, it seems to be gone.* (cross arms on chest)

Key Elements	Lesson 3 Procedures – *If the Moon Were Cookies*
	But then another HALF ball comes along. (Make half ball with other elbow) *Then again it's as big and as round as can be* (arms big and round overhead) *SHINING down BRIGHTLY on you and on me.* (point to others, then to self) *New moon,* (cross arms on chest) *first quarter,* (arm and elbow make half moon) *full moon,* (arms big and round overhead) *third quarter, and then* (arm and other elbow make half moon) *These MOON PHASES CYCLE again and* (hands move in circular motion in front of body) **Note:** You may divide the class into several groups; each group is responsible for only two or three stanzas. For example, for Verse 1: Group A: *The MOON we all can see up in the SKY* *Seems to CHANGE SHAPE, can you tell me why?* Group B: *Sometimes it's FULL like a big, round ball,* *And later it looks like it's not there at all!* In this choral recital way, each time a group recites, children need to remember only two lines instead of the entire verse. Once students have practiced and become comfortable with the verses, you may switch groups or lines so at the end, each student will have the opportunity to recite the entire chant. Tell students to practice the chant as homework in addition to observing the moon if they can.
Evaluation ● *Activities permit evaluation of student development and lesson effectiveness.*	**We can chant the Moon we all can see up in the Sky.** Give students time to practice. In small groups, students perform the *Chant: The MOON we can all see up in the SKY*

World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Teacher Reflections on Lesson 3 –*If the Moon were Cookie*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

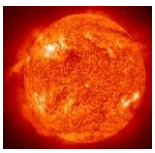
World Language – STEM MODULE COVERSHEET

Different "Faces" of the Moon

Lesson 4 – The Moon we can all see up in the Sky

Lesson 4 of 5 **–** *The Moon we can all see up in the Sky*	Duration: 30 Minutes
Objectives	***I Can:*** Oral language: • Ask yes/no questions about the moon phases in the target language. • Answer yes/no questions in complete sentences about the moon phases in the target language. **Literacy:** • Recognize the words: *moon phases, sun, earth, full moon, first quarter moon, last quarter moon, new moon, circle, half circle, semi- circle, and calendar* **STEM and Other Subject Areas:** • Partition circles and rectangles into two or four equal shares, describe the shares using the worlds halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. • Record and share observations about how some events have cycles; whereas, other events have a clear beginning and end. • Obtain information and share observations to determine simple patterns of natural objects in the sky.
Vocabulary and Expressions	**Content obligatory language:** • *How many…?* • *Can you tell…?* • *Can you show…?* • *Can you label?* • *What …?* **Content compatible language:** • *What comes first/next…?*
Materials/ Resources	○ A calendar ○ strings or tape to hang photo on back ○ Sentence strips for students (Worksheet 4c) and large strips to be read, sorted and put in order on the magnet board or in the circle. (Note: this could also be done on a SmartBoard.) ○ computer ○ USB microphones and speakers ○ LCD projector ○ speakers ○ internet access to YouTube or DVD and DVD player of cookie monster video from day one ○ **Worksheet 2a** – Prepare several sets of pictures of *the sun, earth, and moon, day, night, New Moon, First Quarter Moon, Last Quarter moon*

	○ **Worksheet 4a** – Chant: The Sun is like a ball of fire (expand) ○ Moon Calendar with Captions
Lesson Storyline and Core Text	In this lesson, the teacher will help students summarize what they have learned from the moon module. Teacher guides students through the chants, experiments, nightly moon observations, and mini book making. At the end, each student will have a completed Moon Journal folder to review and keep.

Key Elements	Lesson 4 Procedures **–** *The Moon we can all see up in the Sky*
Engagement ● *Object, event or question used to engage students.* ● *Connections facilitated between what students know and can do*	**What Can I Tell Others about the Sun, the Moon, and the Earth?** After the opening routine, do the expanded "*The sun is like a ball of fire*" chant, **Worksheet 4a** Prepare several sets of pictures of *the sun, earth, and moon, day, night, New Moon, First Quarter Moon, Last Quarter Moon, and the Full Moon* as in PPT (or examples as seen below). Show corresponding pictures as reciting the chant:  Sun  Earth *The sun is like a ball of fire. (show sun)* *It gives us heat and light.* *When we see the sun,* *The sky is bright. It is day.* *When we cannot see the sun,* *The sky is dark. It is night.* *We can see the moon* *In the night.*  **New:** *The earth revolves around the sun,* *And the moon turns with the earth.* *We see the phases of the moon,* *New Moon, First Quarter moon,* *Full moon, and Last Quarter moon!* **Note:** Randomly give pictures of these objects to students, one picture per student. Ask these students to stand in front of the class. When the class

Key Elements	Lesson 4 Procedures – *The Moon we can all see up in the Sky*
	recites, the student with the picture of the object named will stand forward, preferably doing the motion as described. Distribute the rest of the pictures to other students. In this way, there will be several groups of students who can perform together. Have students practice and tell them that they will perform this the next day.
	Collect the pictures and attach pictures to students' backs, without showing the picture or telling them what picture they represent. Then the students circulate to try to find out who they "are." They may ask only one question of each person they talk with, going from person to person until they find out who they are. Before the activity begins, have the class brainstorm what questions they might ask: Am I the sun? Am I the moon? Am I the Earth? Am I a first-quarter moon? And so forth. Once the children find out who they are, they get a group together that consists of Earth, sun, full moon, last quarter, new moon, first quarter. When all the groups are formed, have each group member tell who they are for the class.
Exploration ● *Objects and phenomena are explored.* ● *Hands-on activities, with guidance.*	**Work on My Moon Calendar** After the opening routines. Do the chant performance and work on My Moon Calendar. The students should have all the days filled in, since the teacher has provided a picture of the moon every day and discussed it. Lead students to answer the following questions orally: 1. *How many days did you observe?* 2. *How many moon phases did we see?* 3. *How many New moon/First Quarter moon/Last Quarter moon/Full Moon - do you have on your calendar?* 4. *Can you label them on your calendar?* *A Star (bonus) question:* 5. *Can you predict what the next moon phase will be?* Instruct students to do **Worksheet 4b**. Keep their worksheet in their science journal folder. Do the closing routine.
Explanation ● *Students explain their understanding of*	**Make My Own "*Papa, Please Get the Moon for Me*" Book.** Lead students to read the book again. Invite different students to co-read. Task A:

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Different "Faces" of the Moon

Key Elements	Lesson 4 Procedures – *The Moon we can all see up in the Sky*
concepts and processes.	Ask students to identify each phase of the moon in the story. Task B: Make My Own *Papa* Book. **Workbook 4c** Bring out the large sentence strips for retelling the story, and give each student an envelope with the same sentence strips cut up. They will use these strips to create their own Papa book. Put the sentence strips in random order on the board (or in the center of the circle). Ask the students to take out their sentence strips and spread them out so they can look at them. Each student should also have a pencil. Read each sentence strip aloud, pointing to it on the board, but NOT in the correct order. Have students find the same strip in front of them and point to it. Continue until all the strips have been read. Then ask students: *Now, which thing comes first in our story?* (Have students agree or disagree and finally settle on the correct segment–with teacher help, if necessary. After the correct segment is identified, have students put the number 1 on the back of the strip.) *Now, what comes next in our story?* (Continue with each segment, always numbering on the back of the segment, so students will be confident as they arrange their books.) After reading, tell students that they will make their own Papa book. They are to paste the sentences in the correct order in their little books, one on a page. Then they are to choose four of their favorite parts of the story and draw a picture on those pages. They may draw more pictures if they wish, but they must draw at least four. The sentences are: *1. "I wish I could play with the Moon."* *2. "Papa, please get the Moon for me."* *3. Papa put the very long ladder on the mountain. Up and up and up he climbed.* *4. Papa got to the moon. He said, "My daughter would like to play with you."* *5. The moon said, "When I am just the right size you can take me with you."* *6. The moon got smaller and smaller. Papa took it.* *7. Papa said to Monica, "Here, I have the moon for you."* *8. Monica jumped and danced with the moon.* *9. The moon kept getting smaller and smaller and smaller, and finally it disappeared.* *10 Then, one night, Monica saw the moon again.*

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Different "Faces" of the Moon

Key Elements	Lesson 4 Procedures **–** *The Moon we can all see up in the Sky*
Elaboration • *Activities allow students to apply concepts in contexts, and build on or extend understanding and skill.*	**Continue to finish the Papa book.** Go through peer editing. Go around ensure accuracy.
Evaluation • *Students assess their knowledge, skills and abilities. Activities permit evaluation of student development and lesson effectiveness.*	**Put "My Moon Journal folder" together** Lead students to reflect what they have done so far in this module: *Carle's book;* *Lamp Experiment;* *My Cookie Moon Plate;* *Three Chants:* *The sun is like a ball of fire* *Turn! Turn! Chant* *The MOON we can all see up in the SKY.* *Moon calendar* *My Own Papa Book*

Teacher Reflections on Lesson 4 – – *Let's Help Monica to find a present for her Papa*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	

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Lesson 5 – My Moon Story

Lesson 5 of 5	Duration: 30 Minute
Objectives	***I Can:*** **Oral Language:** • Ask and answer questions to name and tell about the moon phases, Earth and the sun. **Literacy**: • Read labels on pictures of moon phases (while matching them to drawings of moon shapes.) **STEM And Other Subject Areas:** • Record and Share observations about how some events have cycles: whereas, other events have a clear beginning and end • Obtain information and share observations to determine simple patterns of natural objects in the sky.
Materials/Resources	○ Moon Phases Photos, physically displayed in random order, ○ Pencils, one per student ○ Glue for each student ○ **Worksheet 5a** – Student's Self Check ○ **Worksheet 5b** – **What** Did I Learn?
Review	*Moon Calendar* *Papa, please get the moon for me* (Worksheet 1a,1b,1c) *My Own Papa Book* (Worksheet 4c) *Chant: The Sun is like a ball of fire* (Worksheet 2b) *Chant: Turn! Turn! (Worksheet2d)* *Chant:* "The MOON we all see up in the SKY" (Worksheet 3b) *My Science Experiment #1 – Lamp Experiment* *My Science Experiment #2 – Cookie Moon* *My Cookie Moon Plate* *My Cookie Moon Photo* *Moon Phases Calendar with Four Moon Shapes*

Performance Assessment
Interpretive and Presentational Task
Creation of their own Papa book and reading the pages they illustrated: Students walk around to view each other's books. Each student will select another student's book to read to the class (illustrated segments only).
Interpretive Task

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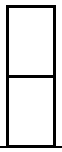

My Science Journal Folder: Students' Science Journals will be on display. Students will do a gallery walk and look at all the journals. When the time is up for the gallery walk, the will identify the partners for the Interpersonal Task.
Interpersonal Task
Partners will take turns interviewing each other about their journals, using the prompts from Worksheet **5c.** What is the best part of your journal? What are you proud of? What will you show your family? How many times did you watch the moon? The teacher will first model the interview several times with volunteer students.
Presentational Task
Each pair will report on the authors and the journals. They will talk about their interviews and their own work.
Rubrics for assessment: T: *I want you take a moment now to think about what you did! You sequenced the 4 moon phases and you talked about the moon phases. Put an X in the box under the face that shows how you feel about your work today. Did you do it by yourself, did you need a little help, or do you need more practice to do it?* (Guides students as needed to complete the self-assessments.) Ss: (Complete self-assessments.) **Worksheet 5b**

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Teacher Reflections on Lesson 5 – *Assessment Task*	
What worked well?	
What did not work well?	
What would I do differently?	
Other comments or notes	