

# 跨領域師培生教案

名稱：Moon

領域：英語、自然



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國立臺中教育大學



110年外語領域計畫優良教案徵選

師資培育之大學外語領域教學研究中心(小學組)設置計畫

Center for Research on Foreign Language Teaching for Elementary Schools  
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# Lesson Plan

## Lesson 1

Unit Title	Moon		
Grade Level	Grade 4	Number of Students	25
Sequence in the Unit	Lesson 1: Papa, Please Get The Moon For Me	Length of the Lesson	40 minutes

### 領域核心素養

英-E-B1 具備入門聽、說、讀、寫英語文能力。在引導下能運用所學字詞及句型進行簡易日常溝通。  
 自-E-A2 能運用好奇心及想像能力，從觀察、閱讀、思考所得的資訊或數據中，提出適合科學探究的問題或解釋資料，並能依據已知的科學知識、科學概念及探索科學的方法去想像可能發生的事情，以及理解科學事實會有不同的論點、證據或解釋方式。


### 節次規劃說明

Lesson	Summary of each lesson
V 1	<ol style="list-style-type: none"> <li>1. Reading a picture book about moon faces.</li> <li>2. Understanding the meaning about the story.</li> <li>3. Discussing about the picture book.</li> </ol>
2	<ol style="list-style-type: none"> <li>1. Report of the position of the moon</li> <li>2. Measurement via the compass and the fist</li> <li>3. Observation and record of the moon position</li> </ol>
3	<ol style="list-style-type: none"> <li>1. Recognition of the words “the moon, the sun, and the earth.”</li> <li>2. Identify the different moon phases caused by the shadow and the position of the moon.</li> <li>3. Teacher as the model, showing how to observe the different moon phases.</li> </ol>
4	<ol style="list-style-type: none"> <li>1. The students do the experiment.</li> <li>2. Share the observations.</li> <li>3. Do the interactive assessment about moon phases.</li> </ol>
5	<ol style="list-style-type: none"> <li>1. Share the observation sheets.</li> <li>2. Match the lunar calendar with the moon phases.</li> <li>3. Oreo Lunar Cycle Activity.</li> </ol>
6	Integrate the knowledge and skills that learned in previous lessons.

### 本節學習重點

學習表現	學習內容
英語文： 1-II-7 能聽懂課堂中所學的字詞 3-II-2 能辨識課堂中所學的字詞 6-II-2 積極參與各種課堂練習活動	英語文 Ac-II-9 第二學習階段所學字詞 B-II-1 第二學習階段所學字詞及句型的生活溝通

自然科學 po-II-1 能從日常經驗、學習活動、自然環境，進行觀察，進而能察覺問題。	自然科學 INc-II-10 天空中天體有東升西落的現象，月亮有盈虧的變化，星星則是有些亮有些暗。	
本節課程目標		
<i>Students will be able to</i> <ol style="list-style-type: none"> <li>1. <i>know the meaning of the storybook.</i></li> <li>2. <i>answer question about the book.</i></li> <li>3. <i>express their feelings or thought about the story.</i></li> </ol>		
學生所需之學科領域先備知識	本節課使用之英語語言內容	
學生過去在自然課已學習過月相。	language of learning The moon phases.	
	language for learning The moon has many phases. The moon changed phases.	
	language through learning I wish I could play with the moon. Please get the moon for me. Each night the moon grew, grew and grew.	
Teaching Aids & Multimedia or Resources		
1. PowerPoint of the story		
Teaching Procedure	Time	Assessment
<b>Preparation and warm up:</b> 1. Ask students what do they know about the moon. 2. Ask students what they have learned in science class.	10	

<p><b>Presentation:</b></p> <ol style="list-style-type: none"> <li>1. Teacher tells the story with PPT.</li> <li>2. Discuss about the story by asking students question about the story to check their attention and understanding.       <ol style="list-style-type: none"> <li>(1) Can the girl's papa get the moon ?</li> <li>(2) Why does the moon change?</li> <li>(3) Do you know the name of the moon phases?</li> </ol> </li> </ol>  <p>But no matter how much she stretched, she could not touch the moon.</p> <p>"Papa," said Monica to her father, "please get the moon for me."</p>	20	<p><i>Objective # 1 # 2</i></p> <p>Oral assessment</p>
<p><b>Wrap-up:</b></p> <p>Ask students to share what they have learned in this class and their thought.</p>	10	<p><i>Objective # 2 #3</i></p> <p>Oral assessment</p>

## Lesson 2

Unit Title	Moon		
Grade Level	Grade 4	Number of Students	25
Sequence in the Unit	Lesson 2: Motions of the Moon	Length of the Lesson	40 minutes

### 領域核心素養

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 自-E-A2 能運用好奇心及想像能力，從觀察、閱讀、思考所得的資訊或數據中，提出適合科學探究的問題或解釋資料，並能依據已知的科學知識、科學概念及探索科學的方法去想像可能發生的事情，以及理解科學事實會有不同的論點、證據或解釋方式。


### 節次規劃說明

Lesson	Summary of each lesson		
	1	1. Reading storybook about moon faces. 2. Understanding the meaning about the story. 3. Discussing about the storybook.	
V	2	1. Report of the position of the moon 2. Measurement via the compass and the fist 3. Observation and record of the moon position	
	3	1. Recognition of the words “the Moon, the Sun, and the Earth.” 2. Identify the different moon phases caused by the shadow and the position of the moon. 3. Teacher as the model, showing how to observe the different moon phases.	
	4	1. The students do the experiment. 2. Share the observations. 3. Do the interactive assessment about moon phases.	
	5	1. Share the observation sheets. 2. Match the lunar calendar with the moon phases. 3. Oreo Lunar Cycle Activity.	
	6	Integrate the knowledge and skills that learned in previous lessons.	

### 本節學習重點

學習表現	學習內容
英語文： 1-II-7 能聽懂課堂中所學的字詞 3-II-2 能辨識課堂中所學的字詞 6-II-2 積極參與各種課堂練習活動	英語文： Ac-II-9 第二學習階段所學字詞 B-II-1 第二學習階段所學字詞及句型的生活溝通
自然： tr-II-1 能知道觀察、記錄所得自然現象的結果是有其原因的，並依據習得的知識，說明自己的想法。	自然： INc-II-10 天空中天體有東升西落的現象，月亮有盈虧的變化，星星則是有些亮有些暗。

### 本節課程目標

<p><i>Students will be able to</i></p> <ol style="list-style-type: none"> <li>1. <i>report the position of the moon in a correct way.</i></li> <li>2. <i>use the compass and the fist to measure the position of the moon</i></li> <li>3. <i>observe the moon position and make the record.</i></li> </ol>		
<p>學生所需之學科領域先備知識</p>		<p>本節課使用之英語語言內容</p>
<p>學生平時有觀察月亮的經驗，並且在三年級學習過指北針的使用方法。</p> <p>學生學過以下英文用詞：</p> <p>It's in/on/under the box.</p>	<p>language of learning</p> <p>The moon is in the <u>north/south/east/west</u> and <u>one/two/three</u> fists high.</p>	<p>language for learning</p> <p>Where can you watch the moon? I can watch the moon in the _____. (e.g., park, school)</p>
	<p>language through learning</p> <p>I can watch the moon in the _____. (words students may ask)</p>	
	<p>Teaching Aids &amp; Multimedia or Resources</p>	
<p>1.PowerPoint 2.Compass 3.Fist 4.Treasure Hunt Game: mission cards, measuring tape, compass, fists counting</p>		
<p>Teaching Procedure</p>	<p>Time</p>	<p>Assessment</p>
<p><b>Preparation and warm up</b></p> <p>1. Position: Teacher shows a picture with the moon, and asks students “Which description is the best way to report the position of the moon? Why?”.</p> <p>(1) The moon is in front of the plane. (2) The moon is above the tallest building. (3) The moon is beside the cloud.</p> <p>Teacher teaches students how to report the position in a correct way.</p>	<p>5</p>	<p><i>Objective # 1</i></p> <p>Oral assessment</p>
		

## Presentation

1. Compass: Teacher asks students how to find the direction of the moon, and teach students how to use a compass.



2. Distance: tell students that the distance from the moon to the ground is one of the important details when measuring the position of the moon, and teach students to measure the distance by counting their own fists. The width of the fist will approximately be 10 degrees. This means that any two objects that are on the opposite ends of the fist will be 10 degrees apart.



15

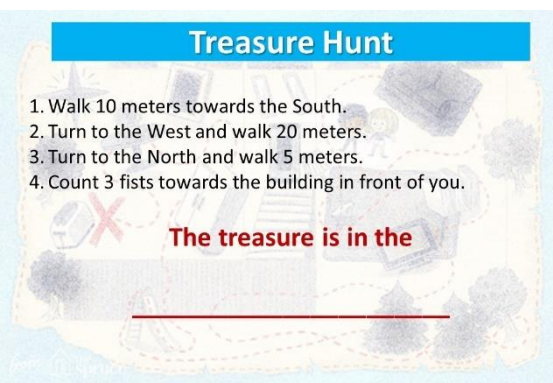
Objective # 2

Performance assessment

## Practice

Treasure Hunt Game:

1. Lead students to the gathering point in the sports field, and make them work in threes to fours.
2. Ask each group leader to take one measuring tape, and pick a card to decide their mission.
3. While following the commands in the mission card and using measuring tape to walk the right distance of the track, each group also has to find out the treasure location by using a compass and counting fists.
4. When the group finds the location, they have to check the answer with the teacher if it is correct.
5. The group who finds the right answer (e.g. principal's office) fastest is the winner.



17

Objective # 2

Performance assessment

## Production and wrap up

1. Review: ask students to share what they have learned in this class.
2. Homework: Teacher asks each student to observe the moon position and make the record in their workbook.

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Objective # 3

Oral assessment

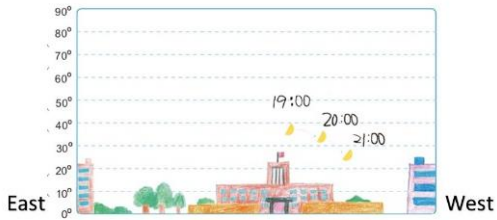
### Moon Position

Date: June 12

Lunar Date: May 12

Location: Park

Observer: Alice





## Lesson 3 & 4

Unit Title	Moon		
Grade Level	Grade 4	Number of Students	25
Sequence in the Unit	Lesson 3: The shadow and the moon phases. Lesson 4: Let's observe how the Moon goes through phases.	Length of the Lesson	80 minutes

### 領域核心素養

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自-E-A3 具備透過實地操作探究活動探索科學問題的能力，並能初步根據問題特性、資源的有無等因素，規劃簡單步驟，操作適合學習階段的器材儀器、科技設備及資源，進行自然科學實驗。

### 節次規劃說明

Lesson	Summary of each lesson
1	1. Reading storybook about moon faces. 2. Understanding the meaning about the story. 3. Discussing about the storybook.
2	1. Report of the position of the moon 2. Measurement via the compass and the fist 3. Observation and record of the moon position
V 3	1. Recognition of the words “the Moon, the Sun, and the Earth.” 2. Identify the different moon phases caused by the shadow and the position of the moon. 3. Teacher as the model, showing how to observe the different moon phases.
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5	1. Share the observation sheets. 2. Match the lunar calendar with the moon phases. 3. Ore Lunar Cycle Activity.

### 本節學習重點

學習表現	學習內容
英語文 1-II-7 能聽懂課堂中所學的字詞。 3-II-2 能辨識課堂中所學的字詞。	英語文 Ac-II-9 第二學習階段所學字詞。 B-II-1 第二學習階段所學字詞及句型的生活溝通。
自然科學 ti-II-1 能在指導下觀察日常生活現象，了解及描述自然環境的現象。 po-II-1 能從日常經驗、學習活動、自然環境，進行觀察，進而能察覺問題。 ai-II-1 保持對自然現象的好奇心，透過不斷的探尋和提問常會有新發現。	自然科學 INc-II-10 天空中天體有東升西落的現象，月亮有盈虧的變化，星星則是有些亮有些暗。

本節課程目標

Students will be able to

1. .recognize the words "the Earth, the Sun, and the Moon", express the moon phases. (remember key language of science)
2. operate the light and shadow experiment and observe the interesting facts by themselves. (understand & apply science)
3. share their feeling after they do the experiment, describing what they learned. (analyze & evaluate science)

學生所需之學科領域先備知識

本節課使用之英語語言內容

自然科學:

學生學過關於月亮的傳說。

學生學過月亮的方位和高度測量。

學生學過光照射物體會產生影子、光會直線前進。

英語:

學生學過用英語句型詢問所看到的物品。

(1) What is this?/What is that?

(2) It's a pen. It's an eraser.

學生學過如何用英語句型表示月亮位置:

(1) The moon is in front of the plane.

(2) The moon is above the tallest building.

(3) The moon is beside the cloud.

language of learning

Words: the sun, the moon, the earth, light, shadow.

language for learning

New moon, First Quarter moon, Full Moon ,Third quarter moon.

What is the moon phase?

It's \_\_\_\_\_.

language through learning

Follow me.

Let's turn 90 degrees.

What different shapes does the Moon have?

Teaching Aids & Multimedia or Resources

1.PowerPoint, flashlights, foam balls, pencils, worksheets.

2.Video of the experiment: YouTube: <https://www.youtube.com/watch?v=wz01pTvuMa0>

3.Video from NASA:<https://moon.nasa.gov/resources/412/moon-phase-and-libration-2021/>

Teaching Procedure

Time

Assessment

**Preparation:**

1. Teacher teaches the relationship between "light" and "shadow." Teacher asks the following questions:

(1) Can you see shadows in the day / night time ? Why or why not?

(2) Where can you see the shadows?

(3) Can you see the shadows in the sky?

2.Present the three words: the sun, the moon, the earth.

Teacher asks students" When we go outside and look at the sky, the light comes from.....? "" The sun." And we live on the earth. (Take out the foam ball looks like the Earth.) Between the earth and the sun, there is the moon.

3.Practice the words and the patterns:

It's \_\_\_\_\_. (the sun, the moon, the earth)

4.Why can we see the different shapes of the moon?

15

Objective # 1

Oral assessment

**Presentation**

20

Objective # 2  
Performance  
assessment

1. Teacher takes out the Pokemon ball to attract student’s attention. (The half is red, and the other side is white.) We pretend that it’s the moon. We can only see the white side of the Moon.

T: (Take out the flashlight then switch on the light, shine the light on the ball.) It’s the sun, it’s the moon, the moon reflects the sunlight, and we can see it. When I switch off the light. Can we see it well?

S: No. We cannot see it well.

T: The moonlight comes from the sunlight. Then we can see the moon.

T: Does the moon look the same every day?

(Show the students various shapes of the moon.)

S: No, it doesn’t.

T: Let’s learn what they are. Everyone repeats after me. Say” New Moon”

S: “New Moon.”

T: “First Quarter moon” S: “First Quarter Moon.” x2

T: “Full Moon” S: Full Moon.

T: “Third Quarter Moon” S: “Third Quarter Moon.” x2

T: When I say what is the moon phase, you say” It is \_\_\_\_\_.”

(Point to the picture of new moon.) S: It is New Moon.

(Point to the picture of full moon.) S: It is Full Moon.



T: (Take out the foam ball, half is dark, half is bright. )Look at the foam ball. And say what is the moon phase?

(Teacher spins the foam ball randomly, students can practice the patterns.)

S: It is New moon. It is Full moon.....



T: Let's do the experiment to observe how it works.  
 2. Teacher holds the foam ball with the pencil by pretending that the moon orbits around the earth. (Students in group take turns following the teacher to observe.)



10

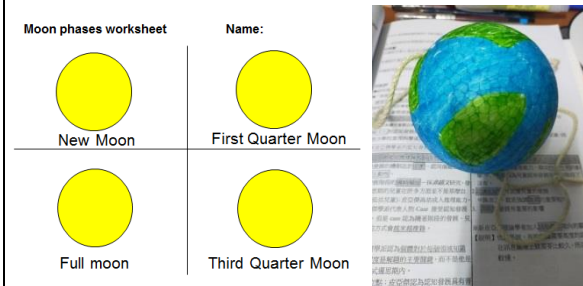
**Presentation**

1. Watch the video.  
<https://www.youtube.com/watch?v=wz01pTvuMa0>
2. Notice for the safety. (Do not use the flashlight to shoot classmate's eyes.) (Do not wave the pencil with the foam ball.)
3. Teacher demonstrates as the model to show how to do, and then the students do the experiment. One student holds the flashlight as the sun, and one student is the Earth, holding the foam ball and turns around. One student asks "What is the moon phase?" and draws the worksheet. One student standing behind the earth says "It's \_\_\_\_\_."

**(Teacher asks students to take turns being the earth, and holding the foam ball.)**

**(Earth number one raise your hands.....earth number two raise your hand.... )**

4. When the students do the experiment and practice the target language, teacher goes down stage to check what they do and if they practice the target language. (See Appendix One)



25

Objective # 3  
 Oral assessment

<p><b>Explain and wrap up</b></p> <ol style="list-style-type: none"> <li>1. Teacher explains the moon goes through phases because as it orbits around the Earth, different parts of the moon are made visible to us from the sunlight. Or Moon goes through phases because the positions among the Sun, the Earth and the Moon. The moon spends about a month to finish the routine.</li> <li>2. Show Moon Phase video from NASA. <a href="https://moon.nasa.gov/resources/412/moon-phase-and-libration-2021/">https://moon.nasa.gov/resources/412/moon-phase-and-libration-2021/</a></li> <li>3. Students share the observations.</li> <li>4. A mission for the student: “Observe and draw the “real” moon phase for today, tomorrow, the day after tomorrow on the worksheet (6/7,6/8,6/9) (See Appendix Two)</li> </ol>	15	Objective # 4 File assessment
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## Lesson 5

Unit Title	Moon		
Grade Level	Grade 4	Number of Students	25
Sequence in the Unit	Lesson 5 Moon Phases and the Lunar Cycle	Length of the Lesson	40 minutes

### 領域核心素養

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### 節次規劃說明

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4	1. The students do the experiment. 2. Share the observations. 3. Do the interactive assessment about moon phases.		
V 5	1. Share the observation sheets. 2. Match the lunar calendar with the moon phases. 3. Oreo Lunar Cycle Activity.		
6	Integrate the knowledge and skills that learned in previous lessons.		

### 本節學習重點

學習表現	學習內容
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自 tm-II-1 能經由觀察自然界現象之間的關係，理解簡單的概念模型，進而與其生活經驗連結。	自 INc-II-10 天空中天體有東升西落的現象，月亮有盈虧的變化，星星則是有些亮有些暗。

### 本節課程目標

<p><i>Students will be able to</i></p> <ol style="list-style-type: none"> <li>1. Match the lunar calendar with the moon phases.</li> <li>2. Draw the lunar cycle.</li> </ol>		
學生所需之學科領域先備知識	本節課使用之英語語言內容	
<p>學生在第三節和第四節課已經學到月亮 (Moon)、太陽 (Sun)、地球 (Earth) 以及四種月相 - 新月，滿月，上弦月和下弦月的英文。</p>	<p><b>language of learning</b></p> <p>the lunar calendar/ the lunar cycle</p> <p>I can see a <u>New Moon/ First Quarter Moon/ Full Moon/ Third Quarter Moon</u> on Day <u>1/ 7/ 8/ 15/ 21</u> of the lunar calendar.</p> <p>When can you see a New Moon? On Day 1.</p>	
	<p><b>language for learning</b></p> <p>What's the moon phase today? It's First Quarter.</p>	
	<p><b>language through learning</b></p> <p>The moon is getting bigger and bigger. The moon is getting smaller and smaller.</p>	
Teaching Aids & Multimedia or Resources		
<ol style="list-style-type: none"> <li>1. PowerPoint</li> <li>2. Website for the moon phases (Central Weather Bureau) <a href="https://www.cwb.gov.tw/V8/C/K/astronomy_day.html">https://www.cwb.gov.tw/V8/C/K/astronomy_day.html</a></li> <li>3. English Website for the moon phases <a href="https://www.moongiant.com/phase/05/11/2021/">https://www.moongiant.com/phase/05/11/2021/</a></li> <li>4. Clip (YouTube): <a href="https://www.youtube.com/watch?v=gekHahp948w">https://www.youtube.com/watch?v=gekHahp948w</a> (1:02-2:33) (SCIENCE series: A Tasty Science Activity-Oreo Cookie Moon Phases)</li> <li>5. The lunar cycle activity: Oreo cookies, paper plates, paper towel, plastic spoons, color pens and writing boards.</li> </ol>		
Teaching Procedure	Time	Assessment
<p><b>Preparation and warm up:</b></p> <ol style="list-style-type: none"> <li>1. Teacher asks students to take out their worksheet to see if they have observed the moon and drew the moon phases.</li> <li>2. Teacher asks students if they all can see the moon. If not, teacher asks students the reasons why they couldn't see the moon and then explain it.</li> </ol>	4	

## Presentation:

7

1. Teacher asks students to take out their observation worksheets and asks students what they have drawn on the observation sheet.
2. Teacher introduces the website for the moon phases (Central Weather Bureau) [https://www.cwb.gov.tw/V8/C/K/astronomy\\_day.html](https://www.cwb.gov.tw/V8/C/K/astronomy_day.html)

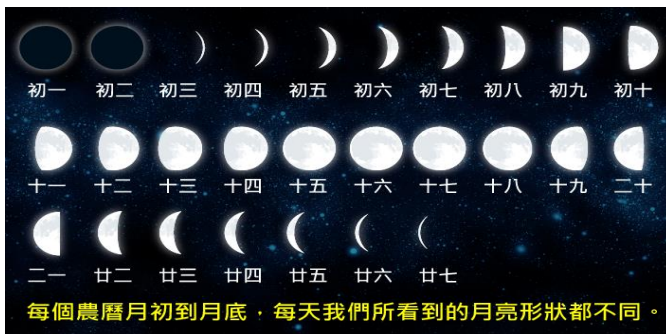
今日資訊 (2021-04-22)



農曆 農曆3月11日  
節氣 -  
天文現象 天琴座流星雨極大期

● 月相圖中之月面，左側指向東方、右側指向西方、上側指向北方、下側指向南方。

3. Teacher tells students that moon changes with the dates of the lunar calendar.
4. Teacher shows them the chart of moon phases and asks students what they have found.



## 5. Predictions:

T: The Moon shows different shapes on different days. The lunar cycle is corresponding to the lunar calendar.

(Point to the days on PPT)

T: When can you see the Full Moon?

S: We can see the Full Moon on Day 15 of the lunar calendar.

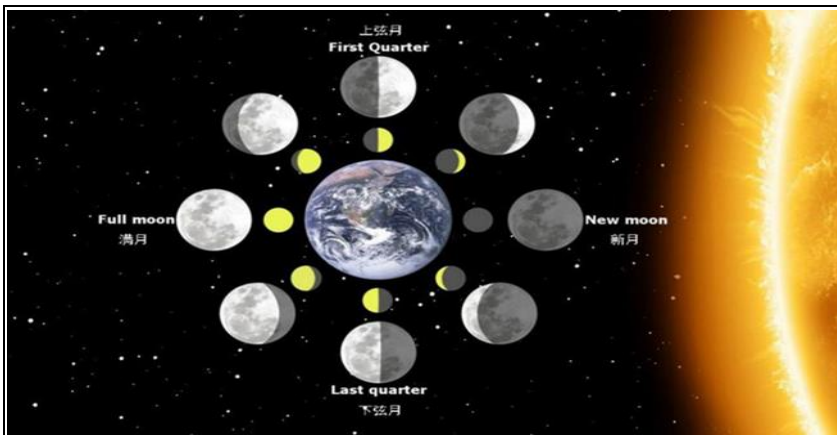
T: And when can you see on Day 9 of the lunar calendar?

S: (point at the First Quarter)



6. Teacher introduces the lunar cycle to the class. Points out that the moon (bright side) gets bigger and bigger since Day 1 to Day 15 of the lunar calendar; and it gets smaller and smaller since Day 16 to the last day of the lunar calendar.





**7. Drawing:**

Teacher gives each team a whiteboard and they have to work together to draw the lunar cycle (draw moon phases in order).

9

*Objective # 2*

Performance assessment:

Draw the lunar cycle.

Tool: whiteboards

**Practice: Oreo Moon Phase Activity**

1. Teacher shows the video of how to make Oreo Moon Phase.

YouTube: <https://www.youtube.com/watch?v=gekHahp948w> (1:02-2:33)

2. After watching the video, each team will get eight Oreo cookies, a paper towel, four plastic spoons, a piece of paper, and color pens. Four students in a team will work together to make the lunar cycle. When the students are done, they are given few minutes to see others' works (gallery walk), Teacher goes around the classroom and checks each team's work.

15

*Objective # 2*

Performance

assessment-Oreo moon phase activity



**Wrap-up:**

Teacher uses PPT to review what students have learned from Lesson Three to Five. Students have to match and write down their individual answers on the whiteboard.

(eg.)

T: *What's the moon phase of Day 7?*

(A) *Third Quarter*

(B) *First Quarter*

(C) *New Moon*

(D) *Full Moon*

5

*Objective # 1*

Students answer

questions by writing down the answers on the whiteboard.

## Lesson 6

Unit Title	Moon		
Grade Level	Grade 4	Number of Students	25
Sequence in the Unit	Lesson 6: Summative assessment of the Moon	Length of the Lesson	40 minutes

### 領域核心素養

英-E-B1 具備入門聽、說、讀、寫英語文能力。在引導下能運用所學字詞及句型進行簡易日常溝通。  
 自-E-B2 能了解科技及媒體的運用方式，並從學習活動、日常自經驗及科技運用、自然環境、書刊及網路媒體等，察覺問題或獲得有助於探究的資訊。

### 節次規劃說明

Lesson	Summary of each lesson	
1	1. Reading storybook about moon faces. 2. Understanding the meaning about the story. 3. Discussing about the storybook.	
2	1. Report of the position of the moon 2. Measurement via the compass and the fist 3. Observation and record of the moon position	
3	1. Recognition of the words “the Moon, the Sun, and the Earth.” 2. Identify the different moon phases caused by the shadow and the position of the moon. 3. Teacher as the model, showing how to observe the different moon phases.	
4	1. The students do the experiment. 2. Share the observations. 3. Do the interactive assessment about moon phases.	
5	1. Share the observation sheets. 2. Match the lunar calendar with the moon phases. 3. Ore Lunar Cycle Activity.	
V 6	Integrate the knowledge and skills that learned in previous lessons.	

### 本節學習重點

學習表現	學習內容
英語文： 1-II-7 能聽懂課堂中所學的字詞 3-II-2 能辨識課堂中所學的字詞 6-II-2 積極參與各種課堂練習活動	英語文： Ac-II-9 第二學習階段所學字詞 B-II-1 第二學習階段所學字詞及句型的生活溝通
自然： tc-II-1 能簡單分辨或分類所觀察到的自然科學現象。	自然： INc-II-10 天空中天體有東升西落的現象，月亮有盈虧的變化，星星則是有些亮有些暗。

### 本節課程目標

<p><i>Students will be able to</i></p> <ol style="list-style-type: none"> <li>1. use a compass to describe locations of places</li> <li>2. search the information on the Internet</li> <li>3. distinguish different phases of the moon</li> </ol>		
學生所需之學科領域先備知識	本節課使用之英語語言內容	
透過模擬及實作，學生在前五節已了解如何使用指北針判讀方位、月相成因及其與農曆的關聯。	language of learning	
	compass, moon phase, lunar calendar	
	language for learning	
	Where is the <u>library/health center</u> ...?	
	It is on the <u>north/south/east/west</u> .	
	language through learning	
	It is 朔/上弦月/下弦月/望.	
Teaching Aids & Multimedia or Resources		
<ol style="list-style-type: none"> <li>1. PowerPoint</li> <li>2. posters of poets and poems</li> <li>3. worksheet</li> <li>4. compass</li> <li>5. website:兩千年中西曆轉換 <a href="https://sinocal.sinica.edu.tw/">https://sinocal.sinica.edu.tw/</a></li> </ol>		
Teaching Procedure	Time	Assessment
<b>Warm up</b> <ol style="list-style-type: none"> <li>1. Review <ol style="list-style-type: none"> <li>(1)how to use a compass</li> <li>(2)the relation between the lunar date and the moon phase</li> </ol> </li> </ol>	3	

## Presentation

3

2. Give each S a double-sided worksheet and use the slide to explain the activities they are going to do.

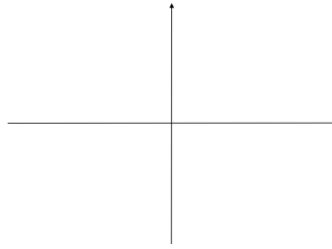
### Science Ch1 Moon worksheet

Class:    Number:    Name:    Group:



We are in the classroom now, let's locate the following places with the compass.

- a. 司令台    b. 校門口    c. 圖書館    d. 健康中心    e. 操場



### Science Ch1 Moon worksheet

Class:    Number:    Name:    Group:

Go to the X and find out who is the Chinese poet on the poster?

Don't forget to write or draw down the information about the poet.



The name of the poet	The poem he composed	The poet's birthday	Moon phase on his birthday
		Solar calendar	Draw the moon phase
		Lunar calendar	It is _____.

Practice

30

Objective # 1

3. Students need to use the compass to locate the places in a group.

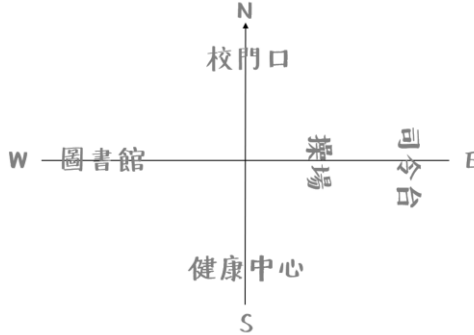
Science Ch1 Moon worksheet

Class: 四甲 Number: 15 Name: Ally Group: 3



We are in the classroom now, let's locate the following places with the compass.

- a. 司令台    b. 校門口    c. 圖書館    d. 健康中心    e. 操場



4. After locating the places, student may give the worksheet to the teacher. The teacher should check the answer and make a mark on a place randomly.

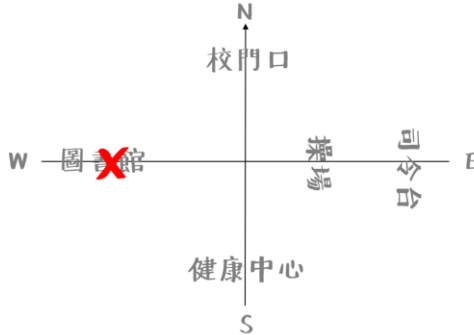
Science Ch1 Moon worksheet

Class: 四甲 Number: 15 Name: Ally Group: 3

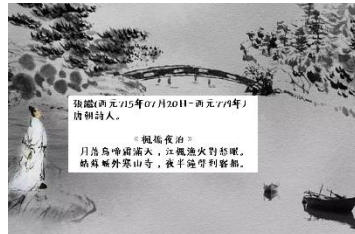
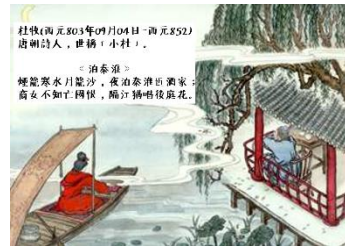


We are in the classroom now, let's locate the following places with the compass.

- a. 司令台    b. 校門口    c. 圖書館    d. 健康中心    e. 操場



5. Students in the same group will go to different places to read different posters.





6. When students find the poster, they have to write down the information they have found.

### Science Ch1 Moon worksheet

Class: 四甲 Number: 15 Name: Ally Group: 3

Go to the **X** and find out who is the Chinese poet on the poster?  
Don't forget to write or draw down the information about the poet.



The name of the poet	The poem he composed	The poet's birthday	Moon phase on his birthday
李白 	靜夜思  床前明月光， 疑似地上霜， 舉頭望明月， 低頭思故鄉。	Solar calendar  701年5月19日	Draw the moon phase  
		Lunar calendar  辛丑年4月7日	It is _____.

7. After that, students need to go back to the classroom and go to the website(兩千年中西曆轉換 <https://sinocal.sinica.edu.tw/>) to answer the rest of the questions.

兩千年中西曆轉換  
西元元曆2月11日至2101年1月30日

西曆收曆日期: 1582年10月15日 (德、荷、葡)

中曆 -> 西曆 執行 確定

國號 年號 節號 年號 月 日

西曆 -> 中曆 執行 確定

西元 701 年 5 月 19 日

西元 701年5月19日  
唐高祖大業元年(庚辰辛酉)4月7日

日	一	二	三	四	五	六
1 318	2 319	3 321	4 322	5 323	6 324	7 325
8 328	9 327	10 328	11 329	12 330	13 41	14 42
15 43	16 44	17 45	18 46	19 47	20 48	21 49
22 410	23 411	24 412	25 413	26 414	27 415	28 416
29 417	30 418	31 419				



Objective # 2+3

### Science Ch1 Moon worksheet

Class: 四甲 Number: 15 Name: Ally Group: 3

Go to the **X** and find out who is the Chinese poet on the poster?  
Don't forget to write or draw down the information about the poet.



The name of the poet	The poem he composed	The poet's birthday	Moon phase on his birthday
李白 	靜夜思  床前明月光， 疑似地上霜， 舉頭望明月， 低頭思故鄉。	Solar calendar  701年5月19日	Draw the moon phase  
		Lunar calendar  辛丑年4月7日	It is <u>上弦月</u> .

### Wrap up

8. When students answer all the question, they may share the poem which is related to the moon with their group members.
9. Students should hand in the worksheets before they leave.

4

# Appendix One

## Worksheet

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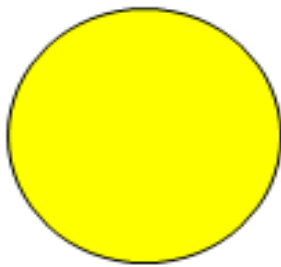
**Topic: The moon phases**

✂ Word Bank

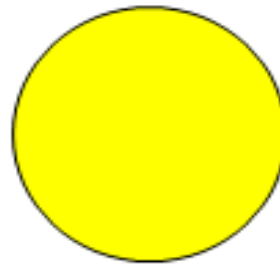
moon	sun	earth		
The moon phases	New Moon	First Quarter Moon	Full Moon	Third Quarter Moon

**Moon phases worksheet**

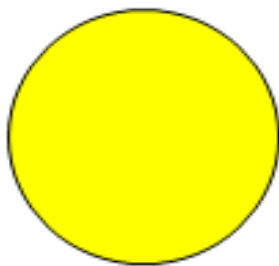
**Name:**



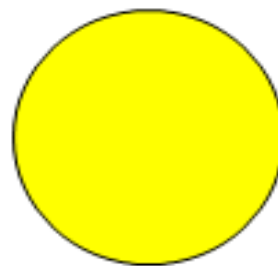
New Moon



First Quarter Moon



Full moon



Third Quarter Moon

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# Appendix Two

## Observation Sheet

Look at the moon and draw the moon

Class: \_\_\_\_\_ Number: \_\_\_\_\_ Name: \_\_\_\_\_

國曆日期 (solar date)			
農曆日期 (lunar date)			
月相 (moon phase)			