1. What star is closest to Earth? ______________________________

2. What is the name of the satellite that orbits the Earth?
   *Circle the one best answer*
   
   a. Mercury
   
   b. Mars
   
   c. Moon

3. Which of the following objects can be seen in the night sky?
   *Mark all the correct answers*
   
   ____ a new Moon
   
   ____ stars
   
   ____ a crescent Moon
   
   ____ Venus
   
   ____ Saturn
   
   ____ the Sun
4. Which items are not in our Solar System
   *Mark all the correct answers*

   _____ Sun    _____ Stars    _____ Mars    _____ Moon    _____ Meteor
   _____ Black hole    _____ Galaxy

5. Mark the names of Planets
   *Mark all the correct answers*

   _____ Chicago    _____ Jupiter    _____ Mars    _____ Sun
   _____ Saturn    _____ Venus    _____ Earth

6. What instrument makes faraway objects seem closer?
   *Circle the one best answer*

   a. Microscope
   b. Telescope
   c. Periscope

7. What is a model?

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
8. What are some ways our Solar System is studied?
   a. Satellites gather data
   b. Observation and recording of information over time
   c. Photographs from outer space
   d. Missions into outer space
   e. Models
   f. All of the above
   g. No one of the above

9. An example of **indirect** evidence is
   
   _____Reading a book
   _____Watching a video
   _____Observing the moon
   _____Drawing your shadow
   _____Reading the internet
   _____Going on a space expedition

10. In what direction did the Sun rise this morning? ______________________

11. In what direction will the Sun set this evening? ________________________

12. Does the Sun rise and set in the same direction each day? ______________
13. Where is the Sun at noon?
   a. At the horizon
   b. At the equator
   c. At its highest point in the sky

14. How does the Sun appear to travel across the sky during the day?

_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

15. Why does the Sun appear to travel across the sky during the day?

_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

16. What information can a shadow give you?
   Mark all the correct answers

   ____ the position of the sun
   ____ the time of day
   ____ how tall you are
   ____ where east and west are
17. Look at the picture below.
   Draw an outline of the student’s shadow.

   Why did you draw the shadow where you did?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

18. What is a shadow?

________________________________________________________________________

________________________________________________________________________
What do you need to have a shadow?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

19. How could you tell the approximate time if you didn’t have a watch, but had a compass and you were outside on a sunny day?

____________________________________________________________________

____________________________________________________________________

____________________________________________________________________

20. Where will your shadow be if the Sun is behind you?

*Circle the one best answer*

a. in front of you
b. behind you
c. beside you

21. Why do the shape and direction of your shadow change during the day?

*Circle the one best answer*

a. The Sun’s position changes during the day.
b. The shadows can show the time of day.
c. The Sun rises at different times each day.
22. What direction do shadows always point?  
*Circle the one best answer*

a. Toward the Sun  
b. Away from the Sun  
c. To the left

23. Which of the following Moon drawings is a crescent moon?

24. What times might you be able to see the Moon in the sky?  
*Mark all the correct answers*

___ at night  
___ during a new moon  
___ early in the morning  
___ just before sunset  
___ just after sunrise

25. How many weeks are between full moons?  
*Circle the one best answer*

a. one week  
b. two weeks  
c. four weeks
26. How long does it take for the Moon to orbit Earth?
   *Circle the one best answer*
   
   a. one week
   b. one month
   c. one year

27. Why does the shape of the Moon appear to change each night?
   *Circle the one best answer*
   
   a. The Moon revolves around Earth.
   b. The Earth revolves around the Moon.
   c. The Earth rotates on its axis.

28. Why does the Moon appear to move across the sky each night?
   *Circle the one best answer*
   
   a. The Moon revolves around Earth.
   b. The Earth revolves around the Moon
   c. The Earth rotates on its axis

29. Why does the Moon look a little bit different every night?

   _______________________________________________________________
   _______________________________________________________________
   _______________________________________________________________
30. Why does the Moon look like it shines?

_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

31. What causes the seasons on Earth?

_____________________________________________________________
_____________________________________________________________
_____________________________________________________________

32. When will your shadow be the longest?
   *Circle the one best answer*

   a. noon in winter
   b. sunrise in winter
   c. noon in summer

33. When will your shadow be the shortest?
   *Circle the one best answer*

   a. noon in winter
   b. sunrise in winter
   c. noon in summer
34. How does flagpole’s shadow change over a year?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

35. Why do shadows change over a year?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

36. What affects the length of a flagpole’s shadow?

*Mark all the correct answers*

____ the time of day

____ the temperature

____ the season

____ the height of the flagpole

____ the distance from the Sun
37. In the morning, you are facing west. Where will your shadow be?  
*Circle the one best answer*

- a. pointing east
- b. behind you
- c. in front of you

38. What causes day and night on Earth?

- a. Earth rotates on its axis.
- b. Earth revolves around the Sun.
- c. The Moon revolves around Earth.

39. What is gravity?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

40. What is an everyday word for orbit? ____________

41. What causes day and night?

________________________________________________________________________
________________________________________________________________________
42. What is an everyday word for rotate? ____________________

43. Draw a diagram showing how a moon moves in relationship to a planet.

44. What is this movement called? ____________________

45. Draw a diagram showing how planets move in our Solar System.
Pre/Post Assessment – ANSWER KEY

Sun Moon Planets

Name: __________________________

1. What star is closest to Earth? The **Sun**

2. What is the name of the satellite that orbits the Earth?
   
   Circle the one best answer
   
   a. Mercury
   b. Mars
   c. **Moon**

3. Which of the following objects can be seen in the night sky?
   Mark all the correct answers

   ____ a new Moon
   ____ x stars
   ____ x a crescent Moon
   ____ x Venus
   ____ x Saturn
   ____ the Sun

4. Which items are not in our Solar System
   Mark all the correct answers

   ____ Sun
   ____ x Stars
   ____ Mars
   ____ Moon
   ____ Meteor
   ____ x Black hole
   ____ x Galaxy
5. Mark the names of Planets
   *Mark all the correct answers*
   - [ ] Chicago
   - [x] Jupiter
   - [x] Mars
   - [ ] Sun
   - [x] Saturn
   - [x] Venus
   - [x] Earth

6. What instrument makes faraway objects seem closer?
   *Circle the one best answer*
   a. Microscope
   b. Telescope
   c. Periscope

7. What is a model?
   A representation of something that is too big. A way to represent a concept.

8. What are some ways our solar system is studied?
   a. Satellites gather data
   b. Observation and recording of information over time
   c. Photographs from outer space
   d. Missions into outer space
   e. Models
   f. All of the above
   g. None of the above
9. An example of **indirect** evidence is

- [ ] Reading a book
- [x] Watching a video
- [ ] Observing the moon
- [ ] Drawing your shadow
- [x] Reading the internet
- [ ] Going on a space expedition

10. In what direction did the Sun rise this morning? **East**

11. In what direction will the Sun set this evening? **West**

12. Does the Sun rise and set in the same direction each day? **Yes**

13. Where is the Sun at noon?
   a. At the horizon
   b. At the equator
   c. At its highest point in the sky

14. How does the Sun appear to travel across the sky during the day?

   The Sun moves from east to west each day.

15. Why does the Sun appear to travel across the sky during the day?

   The Sun is in one place, and the Earth is rotating to the east on its axis.
16. What information can a shadow give you?
   Mark all the correct answers

   ___ the position of the sun
   ___ the time of day
   ___ how tall you are
   ___ where east and west are

17. Look at the picture below.
   Draw an outline of the student’s shadow.

   Why did you draw the shadow where you did?
   Shadows are always on the opposite side from the Sun.

18. What is a shadow?

   A shadow is a dark area where an object has blocked the light.

19. What do you need to have a shadow?

   A light source and an object to block the light.
20. How could you tell the approximate time if you didn’t have a watch, but had a compass and you were outside on a sunny day?

Use the compass to find out east and west. In the morning your shadow will point west and in the afternoon it will point east. If your shadow is long, it is near sunrise or sunset and if it is short it is noon.

21. Where will your shadow be if the Sun is behind you?

Circle the one best answer

a. in front of you
b. behind you
c. beside you

22. Why do the shape and direction of your shadow change during the day?

Circle the one best answer

a. The Sun’s position changes during the day.
b. The shadows can show the time of day.
c. The Sun rises at different times each day.

23. What direction do shadows always point?

Circle the one best answer

a. Toward the Sun
b. Away from the Sun
c. To the left
24. Which of the following Moon drawings is a crescent moon?

![Moon drawings](image)

a. 

b. 

c. 

25. What times might you be able to see the Moon in the sky? 
Mark all the correct answers

- [x] at night 
- [ ] during a new moon 
- [x] early in the morning 
- [ ] just before sunset 
- [x] just after sunrise 

26. How many weeks are between full moons? 
Circle the one best answer

- a. one week 
- b. two weeks 
- c. four weeks 

27. How long does it take for the Moon to orbit Earth? 
Circle the one best answer

- a. one week 
- b. one month 
- c. one year
28. Why does the shape of the Moon appear to change each night?

*Circle the one best answer*

a. The Moon revolves around Earth.
b. The Earth revolves around the Moon.
c. The Earth rotates on its axis.

29. Why does the Moon appear to move across the sky each night?

*Circle the one best answer*

a. The Moon revolves around Earth.
b. The Earth revolves around the Moon.
c. The Earth rotates on its axis.

30. Why does the Moon look a little bit different every night?

As the Moon revolves around Earth, we see a different part of the lighted side.

31. Why does the Moon look like it shines?

The light from the Sun shines on the Moon, and the sunlight reflects back to us.

32. What causes the seasons on Earth?

The tilt of the Earth causes the seasons.

33. When will your shadow be the longest?

*Circle the one best answer*

a. noon in winter
b. sunrise in winter
c. noon in summer
34. When will your shadow be the shortest?
   
   *Circle the one best answer*
   
   a. noon in winter
   
   b. sunrise in winter
   
   c. noon in summer

35. How does a flagpole’s shadow change over a year?
   
   *In the summer the shadows are shorter, and in the winter the shadows are longer.*

36. Why do shadows change over a year?
   
   *In the summer the Sun is higher in the sky, and in the winter the Sun is lower in the sky.*

37. What affects the length of a flagpole’s shadow?
   
   *Mark all the correct answers*
   
   x the time of day
   
   the temperature
   
   x the season
   
   the height of the flagpole
   
   the distance from the Sun

38. In the morning, you are facing west. Where will your shadow be?
   
   *Circle the one best answer*
   
   a. pointing east
   
   b. behind you
   
   c. in front of you
39. What causes day and night on Earth?
   a. Earth rotates on its axis.
   b. Earth revolves around the Sun.
   c. The Moon revolves around Earth.

40. What is gravity?
    The force that holds the parts of the Solar System together.

41. What is an everyday word for orbit? go around something

42. What causes day and night? The rotation of the Earth?

43. What is an everyday word for rotate? spin

44. Draw a diagram showing how a moon moves in relationship to a planet.

   ![Diagram of a planet and moon orbiting]

45. What is this movement called? orbit
46. Draw a diagram showing how planets move in our Solar System.
<table>
<thead>
<tr>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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</table>
Words for all three chapters of this science journal will be collected in this
glossary. Glossaries are organized in alphabetical order. Complete the entry as
you learn the words.

1. Rewrite the word in your best handwriting. Spelling it correctly.
2. Draw a picture representing the word.
3. Write what the word means, use everyday words.
4. Write a sentence using the word. Be sure the meaning of the word is clear in how you
   use it. Be sure your sentence is written with proper punctuation and spelling.
5. Add any other words you learn during this unit of study (These extra words do not need
to be in alphabetical order.)

Example:

<table>
<thead>
<tr>
<th>Word: space</th>
<th>Picture:</th>
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</thead>
<tbody>
<tr>
<td>Definition: sky.</td>
<td></td>
</tr>
<tr>
<td>Sentence using word: Astronauts enter space to discover what is out there in our sky.</td>
<td></td>
</tr>
<tr>
<td>Word</td>
<td>Picture</td>
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<td><strong>cardinal directions</strong></td>
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<td>compass</td>
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<td>Word: gravity</td>
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<td><strong>satellite</strong></td>
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<td><strong>season</strong></td>
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**Definition:**

**Sentence using word:**

---

1.3.g

204
<table>
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<th>Word: shadow</th>
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<table>
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<th>Word: Solar System</th>
<th>Picture:</th>
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<td></td>
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<td><strong>Sentence using word:</strong></td>
<td></td>
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</tbody>
</table>
**Sun**

*Definition:*

*Sentence using word:*

**sunrise**

*Definition:*

*Sentence using word:*

**sunset**

*Definition:*

*Sentence using word:*
<table>
<thead>
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<th>Word: telescope</th>
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<td><strong>Sentence using word:</strong></td>
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**Other New Academic Vocabulary:**

<table>
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This link [http://www.nasa.gov/audience/forstudents/k-4/dictionary/Gravity.html](http://www.nasa.gov/audience/forstudents/k-4/dictionary/Gravity.html) shows NASA glossary using the same format as your glossary in your notebook!
**Compass Reflection**

A *compass* is a tool that ____________________________

___________________________________________________________________

___________________________________________________________________

The red end of the needle always points ___________________________

___________________________________________________________________

Here is a picture of a compass rose:

**Compass Reflection**

A *compass* is a tool that ____________________________

___________________________________________________________________

___________________________________________________________________

The red end of the needle always points ___________________________

___________________________________________________________________

Here is a picture of a compass rose:
Where's the Sun?
Evidence Graphic Organizer

Focus Question: __________________________________________________________

<table>
<thead>
<tr>
<th>Source</th>
<th>Evidence 1</th>
<th>Evidence 2</th>
<th>Evidence 3</th>
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</tr>
</tbody>
</table>
What do these data tell you about the movement of the Sun?

Draw how the Sun appears to move across the sky.

The sun appears to move from ________________

to _________________ in the sky.

The sun is not in the same place all day long.

What do these data tell you about the movement of the Sun?

Draw how the Sun appears to move across the sky.

The sun appears to move from ________________

to _________________ in the sky.

The sun is not in the same place all day long.
Where’s the Sun Reflection

1. Why is a compass a useful tool?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

2. How does the Sun appear to travel across the sky as seen from Earth?

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________
Where’s the Sun Reflection

A compass is a useful tool because you can use it to find the four _________________ directions:
_______________, _________________, _________________, and _________________.

The sun appears to rise in the ________________, travel from ________________, to ________________ across the sky and set in the _________________.

Where’s the Sun Reflection

A compass is a useful tool because you can use it to find the four _________________ directions:
_______________, _________________, _________________, and _________________.

The sun appears to rise in the ________________, travel from ________________, to ________________ across the sky and set in the _________________.

Sunrise, Sunset

Where does the Sun rise and where does it set?

How does the Sun move from sunrise to sunset?

Sunrise, Sunset

Where does the Sun rise and where does it set?

How does the Sun move from sunrise to sunset?
Sunrise, Sunset

Where does the Sun rise and where does it set?

The Sun appears to rise in the east. The Sun appears to set in the west.

How does the Sun move from sunrise to sunset?

The Sun rises in the east and moves westward. It is highest in the sky at noon. In the evening it sets in the west.
Sunrise, Sunset

The Sun rises in the __________________________

and sets in the____________________________.

The Sun moves in a __________________________ direction. The Sun is highest in the sky at

______________________________.

In the evening the sun sets in the

________________________.

Word list: (not all words are used and some may be used twice.)
West     East
Westward Eastward
Morning Evening

Sunrise, Sunset

The Sun rises in the __________________________

and sets in the____________________________.

The Sun moves in a __________________________ direction. The Sun is highest in the sky at

______________________________.

In the evening the sun sets in the

________________________.

Word list: (not all words are used and some may be used twice.)
West     East
Westward Eastward
Morning Evening
Shadow Prediction 1

I think my noon shadow will point ________________________

______________________________________________ direction,

because _________________________________________

______________________________________________

______________________________________________

Draw how your shadow looks now and how you predict it will look at noon.

<table>
<thead>
<tr>
<th>Now</th>
<th>Noon</th>
</tr>
</thead>
</table>

Shadow Prediction 1

I think my noon shadow will point ________________________

______________________________________________ direction,

because _________________________________________

______________________________________________

______________________________________________

Draw how your shadow looks now and how you predict it will look at noon.

<table>
<thead>
<tr>
<th>Now</th>
<th>Noon</th>
</tr>
</thead>
</table>
Shadow Prediction 2

I think my afternoon shadow will point ____________________

____________________________________________direction,

because __________________________________________

______________________________________________

______________________________________________.

Draw how your shadow looks now and how you predict it will look in the afternoon.

<table>
<thead>
<tr>
<th>Noon</th>
<th>Afternoon</th>
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</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Shadow Prediction 2

I think my afternoon noon shadow will point ________________

_______________________________________________direction,

because __________________________________________

______________________________________________

______________________________________________.

Draw how your shadow looks now and how you predict it will look in the afternoon.

<table>
<thead>
<tr>
<th>Noon</th>
<th>Afternoon</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Shadow Reflection

Did you shadow change from the morning?  YES  NO
I think my shadow changed because the Sun ____________________

I think the longest shadow is when the Sun is ____________________ in the sky.
I think the shortest shadow is when the Sun is ____________________ in the sky.
Scientific Explanation Evidence Graphic Organizer

Write the claim in a complete sentence: ________________________________________________

________________________________________________________________________

<table>
<thead>
<tr>
<th>Evidence (from science notebook)</th>
<th>Source or Activity</th>
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</tbody>
</table>

Restate claim in different words as concluding sentence: _____________________________

________________________________________________________________________
Outdoor Shadows

How do shadows happen outdoors?

_________________________________________

_________________________________________

_________________________________________

Why do shadows change over a day?

_________________________________________

_________________________________________

_________________________________________
Outdoor Shadows

Shadows happen outdoors because...

_________________________________________

_________________________________________

_________________________________________

_________________________________________

Shadows change shape and direction over a day because...

_________________________________________

_________________________________________

_________________________________________

_________________________________________
Outdoor Shadows

Shadows happen outdoors because ______________
from the__________ is blocked by an object to
create a _________________.

Shadows change ________________ and
______________ over a day because the
Sun’s position in the sky changes during
the_______________.

Word Bank (chose from these words to complete the sentences)

light Sun shadow
shape day direction

Outdoor Shadows

Shadows happen outdoors because ______________
from the__________ is blocked by an object to
create a _________________.

Shadows change ________________ and
______________ over a day because the
Sun’s position in the sky changes during
the_______________.

Word Bank (chose from these words to complete the sentences)

light Sun shadow
shape day direction
My Shadow
BY ROBERT LOUIS STEVENSON 1850–1894

I have a little shadow that goes in and out with me,
And what can be the use of him is more than I can see.
He is very, very like me from the heels up to the head.
And I see him jump before me, when I jump into my bed.

The funniest thing about him is the way he likes to grow –
Not at all like proper children which is always very slow;
For he sometimes shoots up taller than an India-rubber ball,
And he sometimes gets so little that there’s none of him at all.

He hasn’t got a notion of how children ought to play,
And can only make a fool of me in every sort of way.
He stays so close beside me, he’s a coward you can see;
I’d think shame to stick to nurse as that shadow sticks to me!

One morning, very early, before the sun was up,
I rose and found the shining dew on every buttercup;
But my lazy little shadow, like and errant sleepy-head,
Had stayed at home behind me and was fast asleep in bed.

My Shadow
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I rose and found the shining dew on every buttercup;
But my lazy little shadow, like and errant sleepy-head,
Had stayed at home behind me and was fast asleep in bed.
What Causes Shadows

1. How does the sun’s position in the sky change over a day?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. In what ways do shadows change during a day?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

What Causes Shadows Continued

3. What causes shadows to change during a day?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Rotate and Orbit

Draw a picture representing how the Earth rotates and orbits.

<table>
<thead>
<tr>
<th>Rotate</th>
<th>Orbit</th>
</tr>
</thead>
</table>

Complete the following sentence:

The Earth __________________________

and ____________________________ around the

______________________________.

---

Complete the following sentence:

The Earth __________________________

and ____________________________ around the

______________________________.
<table>
<thead>
<tr>
<th>Comparing and Contrasting Summer and Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are the summer and winter seasons the same?</td>
</tr>
<tr>
<td>How are the summer and winter seasons different?</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Comparing and Contrasting Summer and Winter</th>
</tr>
</thead>
<tbody>
<tr>
<td>How are the summer and winter seasons the same?</td>
</tr>
<tr>
<td>How are the summer and winter seasons different?</td>
</tr>
<tr>
<td>Sunday</td>
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</tbody>
</table>
**Night Sky Observations**  
Please answer the question in complete sentences.

Focus Question: ________________________________

_______________________________________________

Direct / Indirect evidence? (circle one)

<table>
<thead>
<tr>
<th>Data</th>
<th>Evidence 1</th>
<th>Evidence 2</th>
<th>Evidence 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moon Calendar Observation</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

**Data**  
**Evidence 1**  
**Evidence 2**  
**Evidence 3**
The Night Sky Review
Write your answers in complete sentences

1. What are some of the objects you can see in the night sky that you can’t see during the day?

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

2. Which object is the brightest object in the night sky?

_________________________________________________________________________________

_________________________________________________________________________________

3. Which star is the closest to planet Earth?

_________________________________________________________________________________

_________________________________________________________________________________

_________________________________________________________________________________

The Night Sky Review Continued

4. Look at the picture of the crescent Moon on page 18 of the Science Resources book. What is the other bright object you can see in the night sky?

_________________________________________________________________________________

_________________________________________________________________________________
Moon Prediction

Today’s date:

Draw what you think the Moon will look like in two days?

Explain why you think the Moon will look like your drawing.

______________________________________________

______________________________________________

______________________________________________
Phases of the Moon 1

Phases of the Moon 1 Continued

2.4.b
## Evidence Graphic Organizer

Focus Question: ____________________________________________________________

<table>
<thead>
<tr>
<th>Source</th>
<th>Evidence 1</th>
<th>Evidence 2</th>
<th>Evidence 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moon Video</td>
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<tr>
<td>Direct Evidence</td>
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<tr>
<td>or Indirect</td>
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<tr>
<td>Evidence</td>
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<td>or Indirect</td>
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<tr>
<td>Evidence</td>
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</tbody>
</table>

2.4.c
Changing Moon
Write answers in complete sentences.

1. How long does it take Earth’s Moon to complete one lunar cycle?

____________________________________________

____________________________________________

2. What is a new moon and what causes it?

____________________________________________

____________________________________________

____________________________________________

3. What is the difference between a waxing moon and a waning moon?

____________________________________________

____________________________________________

____________________________________________

Changing Moon Continued

4. What is the difference between a crescent moon and a gibbous moon?

____________________________________________

____________________________________________

____________________________________________

5. Describe the Moon’s appearance 1 week, 2 weeks, 3 weeks, and 4 weeks after the new moon. (Drawings can be included in explanation.)

____________________________________________

____________________________________________

____________________________________________
Changing Moon
Fill in the blanks with the correct word or number.

1. It takes Earth’s Moon_______ days, or ______weeks to complete one lunar cycle.

2. The_______________________ moon is the phase of the Moon that occurs when the Moon is between Earth and the Sun. The _____________________ moon is invisible because the Moon’s ___________ side is toward Earth.

3. The difference between a waxing moon and a waning moon is the____________________. The waxing moon appears to get ________________ each successive day. The waning moon appears to get __ ________ each day.

4. The difference between a crescent moon and a gibbous moon is how much______________ is on the moon. A crescent moon shows ______________ than half of the Moon illuminated. A gibbous moon shows ______________ than half of the Moon illuminated.

5. After the new moon, each week the moon looks different.
   a. Week 1 is__________; the right half of the Moon is bright.
   b. Week 2 is the__________________; the whole Moon is bright.
   c. Week 3 is the; the ___________________ of the Moon is bright.

   Week 4 is the _____________________________.

Word Bank (words may be used more than once)
New    Dark    Size    4    Bigger    Smaller    28

4. The difference between a crescent moon and a
gibbous moon is how much______________ is on
the moon. A crescent moon shows ______________
than half of the Moon illuminated. A gibbous moon
shows ______________ than half of the Moon
illuminated.

5. After the new moon, each week the moon looks
different.
   a. Week 1 is__________; the right half of the
   Moon is bright.
   b. Week 2 is the__________________; the
   whole Moon is bright.
   c. Week 3 is the; the ___________________ of
   the Moon is bright.

   Week 4 is the _____________________________.

Word Bank (words may be used more than once)
new moon    Less    first quarter    Light    full moon
More    third quarter
PHASES OF THE MOON–2

The Moon orbits Earth during a 4-week lunar cycle. Place in each box the phase of the Moon we see from Earth during the cycle and name the phase. Note where the Sun is.

Earth

Sunlight

full Moon, waxing gibbous, third quarter, waning crescent, waxing crescent, new Moon, first quarter, waning gibbous
New Focus Questions for the Moon

How does the ________________ change its ________________ over ________________?

The Moon changes appearance in a predictable ________________ from the invisible ________________, to the ________________, back to the ________________.

WORD BANK:
cycle new moon full moon new moon

New Focus Questions for the Moon

How does the ________________ change its ________________ over ________________?

The Moon changes appearance in a predictable ________________ from the invisible ________________, to the ________________, back to the ________________.

WORD BANK:
cycle new moon full moon new moon
Summary: The Moon

1. The______________ stands at the center of the Solar System. Earth orbits the___________________, and the Moon orbits  
_____________________. That is how they move around the  
Solar System.

2. We can see only the sunlit half of the Moon. As the Moon  
orbits Earth, we see different amounts of the sunlit half, so  
that the Moon appears to change _____________________.

3. Starting with the new moon, there are different phases.  
During the week following the new moon the Moon is a  
________________________. On day 7 the Moon is  
the____________________. The second week the Moon is a  
________________________moon. On day 14 the Moon is full.  
The third week the Moon is a _____________________moon.  
Day 21 is the____________________. The fourth week the  
Moon is a____________________moon. At the end of 4 weeks  
it is a______________________again.

Word Bank:
Sun, Earth, shape, waxing crescent, first quarter  
waxing gibbous, waning gibbous, 3rd quarter, new moon
Scientific Explanation Evidence Graphic Organizer (Moon)

Focus Question: How does the shape of the Moon appear to change over 4 weeks?

Claim (topic sentence): ________________________________________________

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<th>Evidence (from science notebook)</th>
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</table>

Restate claim in different words as concluding sentence: ________________________________
Video Questions

1. What is a Solar System?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

2. How do we sort space objects?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

3. What 3 things are needed for an object to be considered a planet?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Video Questions Continued

4. What 2 things are needed for an object to be considered a moon?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

5. What do scientists use to classify objects in our Solar System?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
How Do Scientists Study the Solar System?

<table>
<thead>
<tr>
<th>Ways that scientists study the Solar System</th>
<th>What this can tell us about the Solar System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: telescope</td>
<td>What objects in the Solar System look like</td>
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How Do Scientists Study the Solar System?

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</table>
### Sorting Planets by Diameter

Write the names of the 8 planets in order from smallest diameter to largest diameter.

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<thead>
<tr>
<th></th>
<th>Smallest Diameter</th>
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<thead>
<tr>
<th></th>
<th>Largest Diameter</th>
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<tr>
<td>Group A</td>
<td>Group B</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>I put these planets in this group because__________</td>
<td>I put these planets in this group because__________</td>
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<td>______________________________</td>
<td>______________________________</td>
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<td>______________________________</td>
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</tbody>
</table>
Sorting Planets by Surface Reflection

If I had to pick a name for the Group A planets, I would name the group ______________________

because ________________________________
______________________________________
______________________________________
______________________________________

If I had to pick a name for the Group B planets, I would name the group ______________________

because ________________________________
______________________________________
______________________________________
______________________________________

If I had to pick a name for the Group A planets, I would name the group ______________________

because ________________________________
______________________________________
______________________________________
______________________________________

If I had to pick a name for the Group B planets, I would name the group ______________________

because ________________________________
______________________________________
______________________________________
______________________________________
Sorting the Planets by

3 facts I learned about the planets by sorting my cards using this piece of evidence were:

2 questions I have about the planets are:

1 planet I would like to learn more about is:

3 facts I learned about the planets by sorting my cards using this piece of evidence were:

2 questions I have about the planets are:

1 planet I would like to learn more about is:
Comparing and Contrasting Earth and

How are the Earth and ________________ the same?

How are the Earth and ________________ different?

Comparing and Contrasting Earth and

How are the Earth and ________________ the same?

How are the Earth and ________________ different?
Comparing and Contrasting Earth and ______________________

How are the Earth and ___________________ the same?

How are the Earth and ___________________ different?

Comparing and Contrasting Earth and ______________________

How are the Earth and ___________________ the same?

How are the Earth and ___________________ different?
Gravity

Gravity is the _________________ that draws all things to the _______________ of the Earth. Gravity is the _________________ that _______________ the parts of the Solar System together. Gravity causes objects in the _____________________________ to _____________________________ around the Sun.