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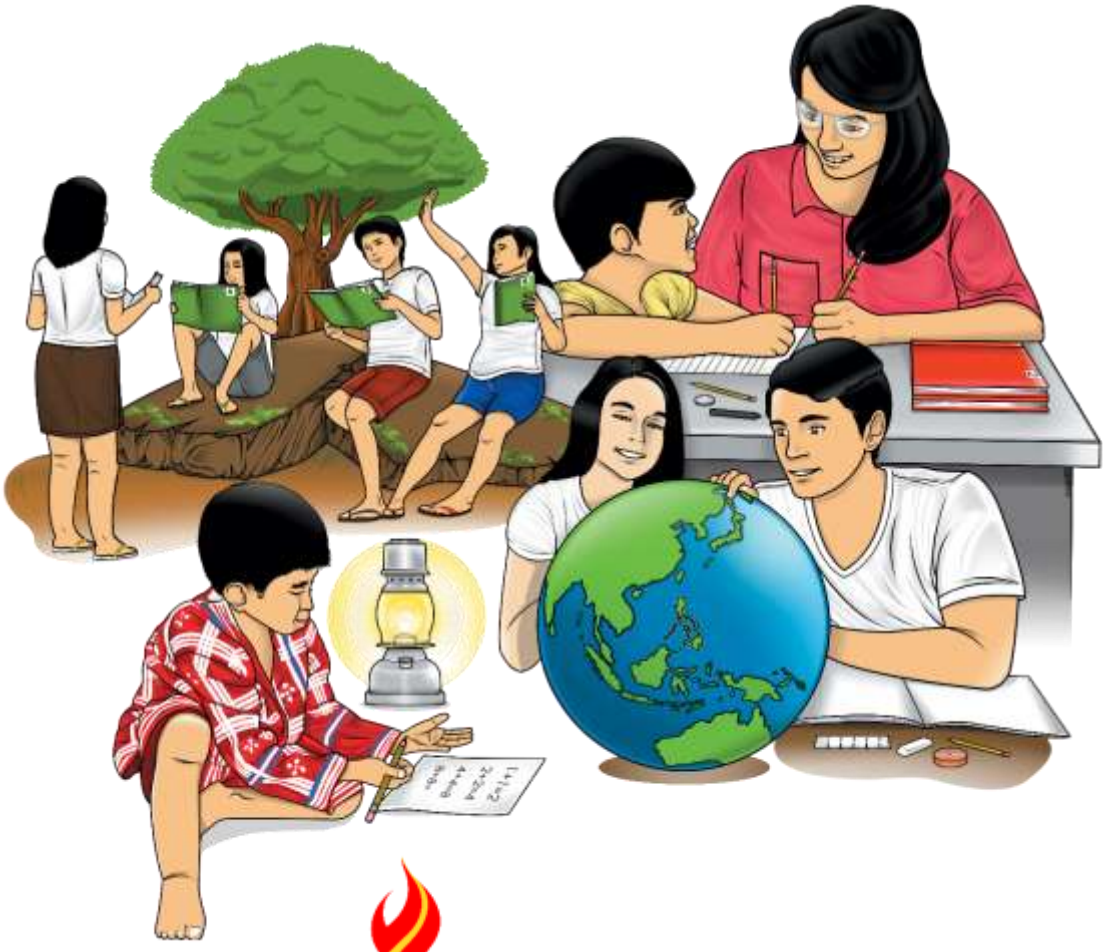
DEPARTMENT OF EDUCATION

Science

Quarter 3 – Module 6
Constellations at Different Times of the Year



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ADM

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Science

Quarter 3 – Module 6: Constellation at Different Times of the Year

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

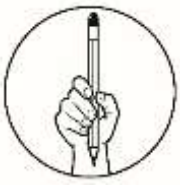
This module was designed and written with you in mind. It is here to help you master the different constellations that we observe at the different times of the year. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

The module focuses on achieving this learning competency:

Show which constellations may be observed at different times of the year using models. (S9ES – IIIj34)

After going through this module, you are expected to:

1. describe a constellation and its origin;
2. identify some constellations observed in the northern and southern hemisphere;
3. describe the position of a constellation in the course of night;
4. explain why some constellations are not seen at certain months;
5. identify constellations that may be observed at different times of the year in the Philippine sky; and,
6. discuss whether or not popular beliefs and practice with regard to constellations and astrology have scientific basis.



What I Know

Directions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. Which statement is TRUE about stars?
   A. Starts are made of dust particles.
   B. Stars are made of liquid substances.
   C. Stars are made of different solid rocks.
   D. Stars are made of hydrogen and helium gas.

2. What is the closest star to Earth?
    A. Antares
    B. Rigel
    C. Sirius
    D. Sun

3. Which statement is TRUE about the color of stars?
    A. It indicates the surface temperature of stars.
    B. It indicates the location of stars in the galaxy.
    C. It indicates the amount of oxygen in each star.
    D. It indicates the distance of stars from the Earth.

4. Which stars do we always see at night?
    A. Stars on the horizon
    B. Stars over the North Pole
    C. Stars in bigger constellations
    D. Stars in smallest constellations

5. Which of the following statements BEST describes the Polaris?
    A. It is the North star straight overhead.
    B. It is the brightest north star in the sky.
    C. It is the star in the northern horizon.
    D. It is the star that appears near the north celestial pole.

6. Why do stars appear to move in the sky? Because _____.
    A. the new stars are born
    B. the night sky is rotating
    C. the Universe is expanding
    D. the Earth is rotating on its axis

7. Which statement BEST describes constellations?
    A. It is a group of high energy stars in the sky.
    B. It is a recognizable pattern of stars in the night sky.
    C. It is a collection of stars, dusts, and rocks in the sky.
    D. It is a group of clouds and dust particles that formed patterns in the night sky.

8. How are the constellations originally named?
    A. From the groups of brightest stars
    B. From the geometric coordinates resembled
    C. From the Latin words of the location of the Earth
    D. From the names of known persons or animals resembled

9. Which constellation is known as the Hunter?
    A. Cassiopeia
    B. Leo
    C. Orion
    D. Ursa Major

10. Which constellation includes the Big Dipper?
    A. Cassiopeia
    B. Orion
    C. Ursa Major
    D. Ursa Minor

11. How do early people use the constellations?
    A. to navigate the sea
    B. to locate the other stars
    C. to keep track of the calendar
    D. All of the above

12. Which statements is TRUE?
    A. At the equator, stars seem to rise in the west and seem to set in the east due to earth's rotation and revolution around the sun.
    B. At the equator, stars seem to rise in the east and seem to set in the west due to earth's rotation and revolution around the sun.
    C. At the equator, stars seem to rise in the north and seem to set in the east due to earth's rotation and revolution around the sun.
    D. At the equator, stars seem to rise in the north and seem to set in the south due to earth's rotation and revolution around the sun.

13-15. Write:
    A. If the first statement is correct and the second statement is incorrect.
    B. If the first statement is incorrect and the second statement is correct.
    C. If both statements are correct.
    D. If both statements are incorrect.

13. I. Constellations may be only visible during certain seasons because the Earth orbits around the sun.
    II. All constellations are visible in the sky throughout the year.

14. I. People located in the northern hemisphere will see the same constellations as those in the southern hemisphere.
    II. The stars appear to rotate in the sky near the poles.

15. I. Ursa Major is also called great bear and is one of the largest constellations.
    II. Ursa Major, Ursa Minor, and Orion are the three important constellations.

Lesson 1 Constellations at Different Times of the Year

This module provides you with scientific knowledge about the history of constellation of stars as well as their origin and unique symbols.

Here are some key questions for you to ponder after finishing this module:

1. Are stars the same in terms of size, color, and brightness?
2. What is a constellation?
3. Why do some constellations appear once in a year?
4. How different beliefs regarding constellations affect our lives?

What's In

Let us recall your understanding about the solar system. Write T if the statement is TRUE and F if the statement is FALSE. Write your answer on a separate sheet of paper.

1. Sun is the main source of energy on Earth.
2. Sun is the nearest star~~s~~ to Earth.
3. Moon is also considered as star that emits its own light.
4. The rotation of the Earth on its axis causes the change of seasons.
5. Stars are members of the Solar system.

What's New

According to Anaxagoras, the purpose of life is the investigation of the sun, the moon, and the heavens. In the Philippines, believing in horoscopes and zodiac signs are one of the unique culture of Filipinos, because they believe that each zodiac sign has an impact in making decisions whether for business and love life. *But are these zodiac signs helpful and useful in making a sound decision?* Or perhaps, it is just a normal phenomenon that happens every day. In this module you will learn about constellations, its origin and beliefs. But before that, try to name at least five zodiac signs including the specific month.

Directions: Give at least 5 zodiac signs including the month.

Zodiac Sign	**Month**
1.	
2.	
3.	
4.	
5.	

Guide Questions:

1. What are the animals or objects associated to zodiac signs?
2. What zodiac sign is represented by the water and covers the dates from January 21 to February 19?
3. What sign of the zodiac is known as 'The Twins'?

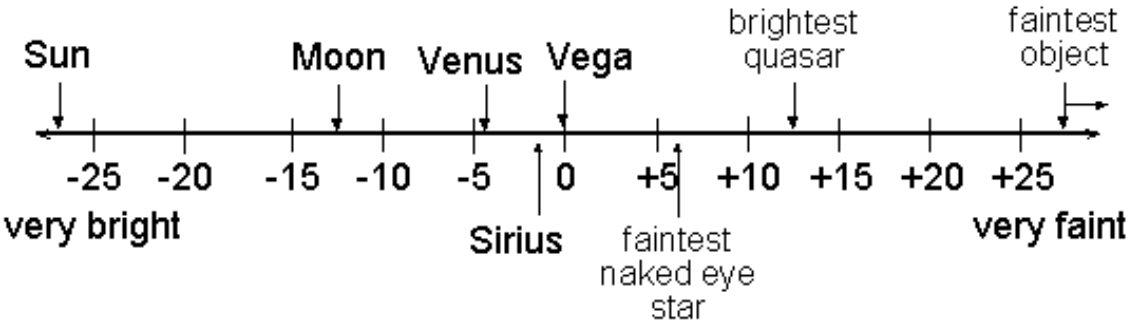
What is It

Do you know that a person can see approximately 3,000 stars on the average? These stars differ in brightness, size, and color. The colors of stars are blue, oranges, red, white, and yellow. Each color indicates its approximate surface temperature as shown in the table below.

Colors of Star and the Approximate Surface Temperatures

Color	Surface Temperature	Example
Red	3000 K	Betelgeuse
Orange	4000 K	Aldebaran
Yellow	6000 K	Sun
White	10,000 K	Vega
Blue	25,000 K	Spica

The brightness of stars as seen from Earth is based on the apparent magnitude or brightness of stars as observed from Earth and the absolute magnitude or brightness of stars at a standard distance of 10 parsecs or 32.6 light-years from Earth. The apparent brightness depends on the location of the observer.

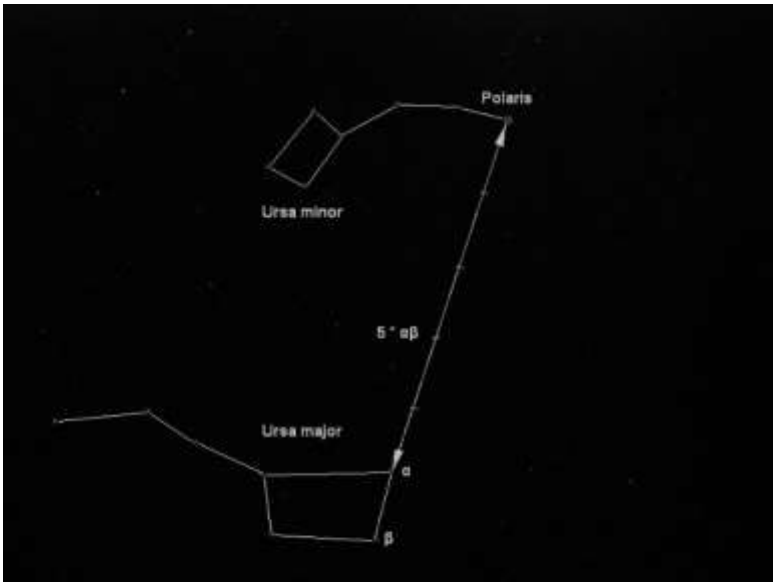


Apparent brightnesses of some objects in the magnitude system.

This image is courtesy of Nick Strobel
https://www.astronomynotes.com/starprop/s4.htm

Have you seen patterns in the sky at night? Due to the difference in apparent magnitude of the stars, you are able to see patterns in the sky and these patterns are called constellations. The word constellation from the Latin word "*con*" means Group and "*stella*" means stars. However, constellations are more than just patterns in the sky. The International Astronomical Union (IAU) defined constellations as boundaries in the sky to aid determining locations of newly discovered astronomical objects. The more recognizable patterns of stars are known as asterism. Big Dipper is an example of an asterism that is in the constellation Ursa Major. This history of constellation is passed from generation to generation including the beliefs about sun and moon, however due to some circumstances this information about stars were not preserved. As of today, we have 88 constellations that astronomers studied and most of these stars are based on Greek groups and there are also 48 accredited constellations recorded in Ptolemy's almagest.

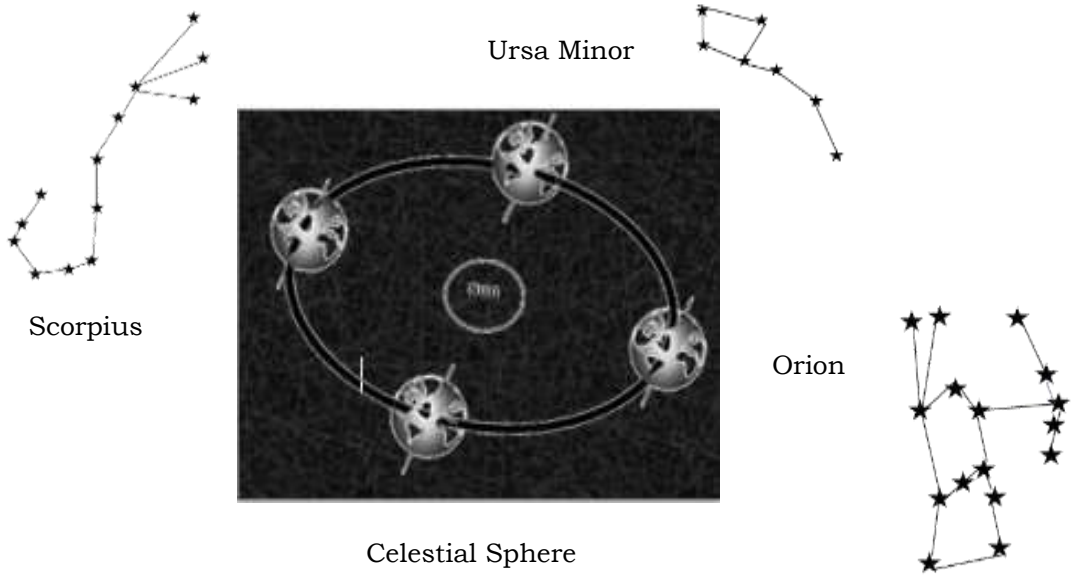
There are billions of stars in the night sky and stargazing could be an exceptional way to explore it. Many people are having difficulty on recognizing stars and constellations. Ursa Major is an easily recognizable constellation in the night sky that looks like a large spoon. It is composed of seven bright stars. Another constellation is Ursa Minor, composed also of seven stars that resembled a small spoon.



Source:
https://commons.wikimedia.org/wiki/File:Ursa_Major_-_Ursa_Minor_-_Polaris.jpg

Stars are distant celestial bodies from Earth and Sun is the nearest star. Stars and constellations are visible depending on the location of an observer and the season in that place. Some stars and constellations are only visible at a specific month. *Why do stars appear to move to move in the sky?* This is because Earth rotates on its axis, thus the stars appear to move across the night sky from east to west, and the sun seems to rise in the east and set in the west. The stars that are close to celestial poles, appears to move a little in the night sky. Polaris is the North star because it is located close to the north celestial pole. Stars that are around a celestial pole are called circumpolar stars forming recognizable patterns known as

circumpolar constellations. The northern circumpolar constellations are Ursa Major, Ursa Minor, Cassiopeia, and Draco. The southern circumpolar constellations are Carina, Centaurus, and Crux. The circumpolar stars remain in the night sky and stay visible all year from the northern hemisphere. All stars observed from the equator are not circumpolar for it appears to rise in the east and set in the west.



Illustrated by Jaquilyn A. Floriano

People living in the northern or southern hemisphere can observe constellation that are to the north or south of Earth while those in the equator can observe constellations depending on their distance to the equator. As the Earth rotates around the sun the visibility of constellations changes throughout the year. As shown in the illustration of celestial sphere, people in the northern hemisphere can see Ursa Minor throughout the year but this constellation not visible to those in the southern hemisphere.

Why do we see different constellations at different times of the year? This is because the Earth orbits around the sun from west to east making the star seems to rise in the east and set in the west. The rotation of the Earth on its axis causes the observed movement of the stars in the night sky while the revolution allows the observer to see a certain part of the sky at different months of the year.

There are some constellations in Northern and Southern Hemisphere that varies from March to December. The constellations that are visible from late March to late June (Northern Spring/Southern Autumn) are listed as follows:

Antlia	*Centaurus*	*Leo*	*Sextans*
Bootes	*Corvus*	*Lynx*	*Ursa Major*
Cancer	*Crux*	*Musca*	*Ursa Minor*
Canes Venatici	*Hydra*	*Pyxis*	*Virgo*

Late June to late September (Northern Summer/Southern Winter):

Apus	*Circinus*	*Pavo*	*Scutum*
Aquila	*Draco*	*Sagitta*	*Serpens*
Ara	*Equuleus*	*Sagittarius*	*Telescopium*
Capricornus	*Hercules*	*Scorpius*	*Delphinus*

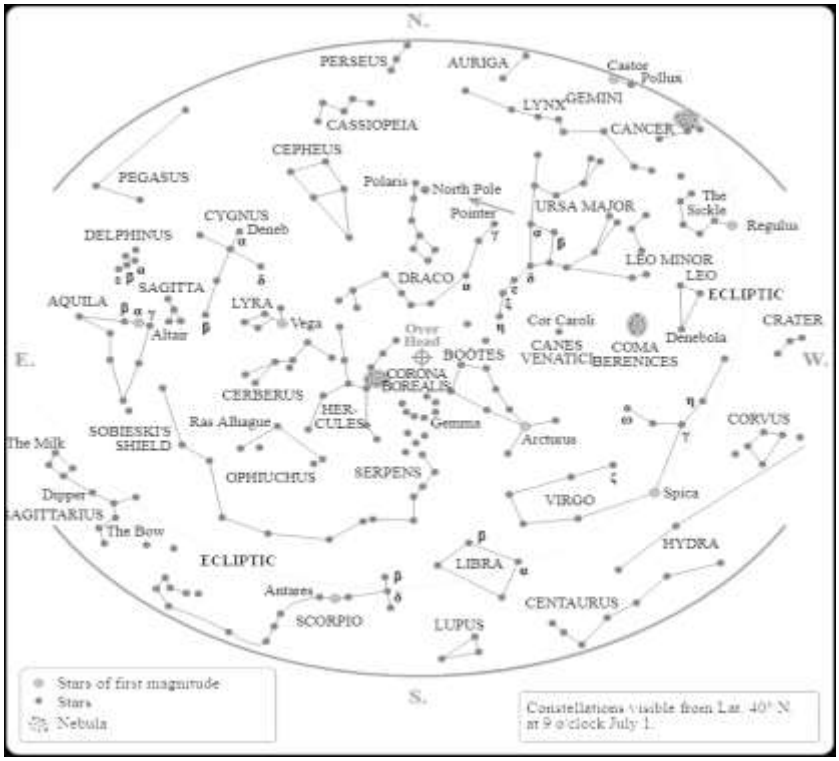
Late September to late December (Northern Autumn/Southern Spring):

Andromeda	*Cepheus*	*Octans*	*Sculptor*
Aquarius	*Cetus*	*Pegasus*	*Triangulum*
Aries	*Grus*	*Perseus*	*Tucana*
Cassiopeia	*Lacerta*	*Phoenix*	

Late December to late March (Northern Winter/Southern Summer):

Auriga	*Eridanus*	*Hydrus*	*Reticulum*
Caelum	*Fornax*	*Lepus*	*Taurus*
Camelopardalis	*Gemini*	*Orion*	*Vela*
Canis Major	*Horologium*	*Pictor*	*Volans*

Try finding the constellation mentioned above in this illustration.



Source:

https://commons.wikimedia.org/wiki/File:Field_Book_of_the_Stars-053 Constellations_of_Summer.svg

In ancient times, people believed that constellations have practical uses such as relating their God's message of love, care, blessing, and anger on the different positions of stars in the sky. They also used constellations to keep track on the calendar of when to plant and harvest the crops, for example if the constellation Orion is visible then, the winter season is coming while the appearance of summer triangle indicates the summer season. These patterns allowed farmers to plan ahead for agriculture. The constellations helped in navigation and aided sailors to travel across the oceans by finding the Polaris or North star and estimating its height to figure out the north and south latitude. This allowed the discovery of known great civilizations and cultures.

Here in the Philippines, Filipino ancestors considered observing the stars as guide towards making major decisions such as selecting the right month to plant and harvest, warning for the coming of kaingin period, and other sacrifices. This belief was passed through generations and made every citizen unique. The Balatik and Moroporo are among the constellations and asterisms that were recognized in the archipelago. The Balatik constellation appears in December. It was used by the tribal hunters in the country to foretell the coming of kaingin period and time for planting while other tribes used the constellation as a reminder of the time of sacrifices. The Moroporo was used for sea navigation and to signal the beginning of the planting season. History reminds people that our ancestors believed on the patterns of stars in the sky.

What's More

ACTIVITY 1. FACT OR BLUFF!

Direction: Read carefully the statements below. Mark it with ☺ if it is a fact about the stars and constellations while mark it with ☹ if it is a bluff or not a fact. Write your answer on a separate sheet of paper.

_____ 1. All the stars in the in the galaxy orbit around the sun every 100 million years.

_____ 2. Constellations are far away from each other.

_____ 3. The word constellation came from a Latin word which means set of stars.

_____ 4. Stars give off energy as heat and light.

_____ 5. As the earth rotates on its axis, the constellations appear to be rotating clockwise in the sky.

_____ 6. Spica is the hottest because it gives off a bluish light while Betelgeuse is the coolest because it gives off a reddish light.

_____ 7. Sun is the hottest star.

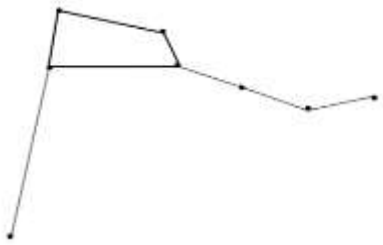
_____ 8. Ursa Major is the largest northern constellation and the third largest in the night sky. The brightest stars of this constellation form an asterism known as the Big Dipper.

_____ 9. The visible stars in each constellation are closer to planet earth.

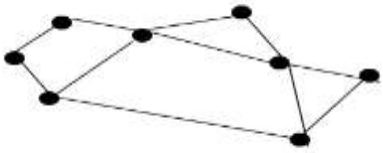
_____ 10. Constellations may be only visible during certain seasons due to the Earth's revolution around the sun.

ACTIVITY 2. WHAT IS THE NAME?

Direction: Identity the name of constellations below. Write your answer on a separate sheet of paper.

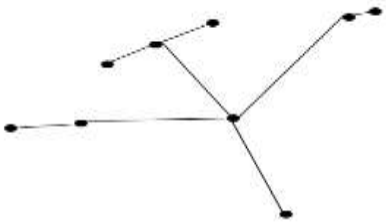


1. _____



5. _____

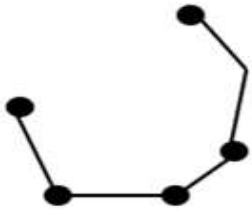
2. _____



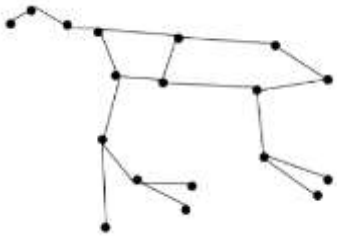
6. _____

3. _____

7. _____



4. _____

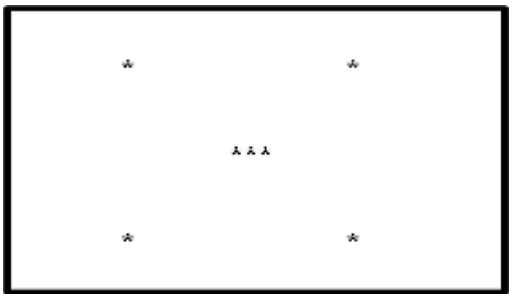


8. _____

ACTIVITY 3. REVEAL MY IMAGE

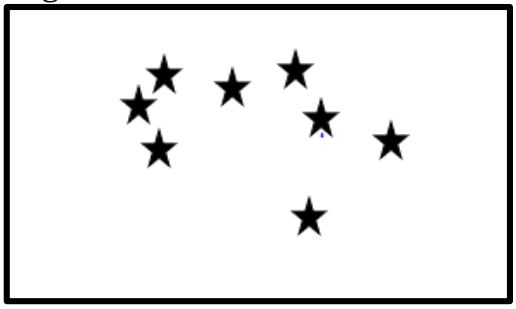
Direction: Properly connect the stars to reveal the constellation. Draw your answer on a separate sheet of paper.

1. Orion

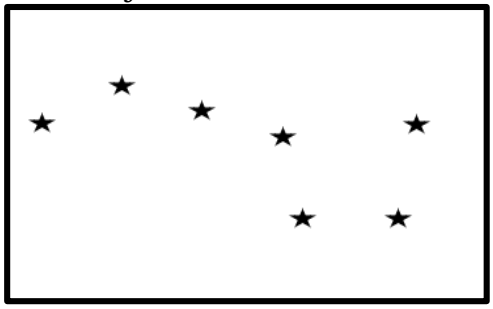


5. Leo

2. Sagittarius

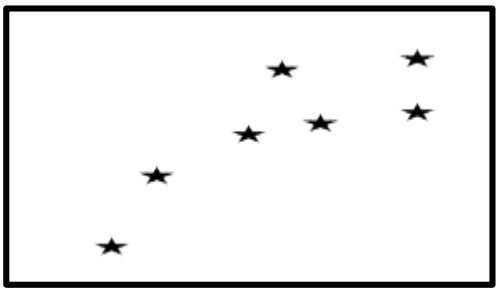


6. Ursa Major

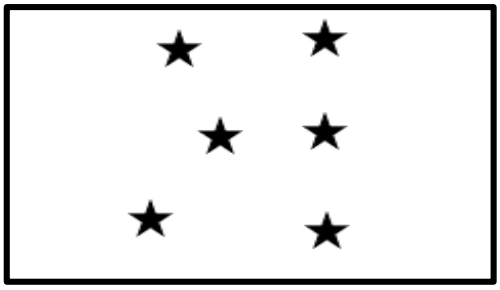


3. Cassiopeia

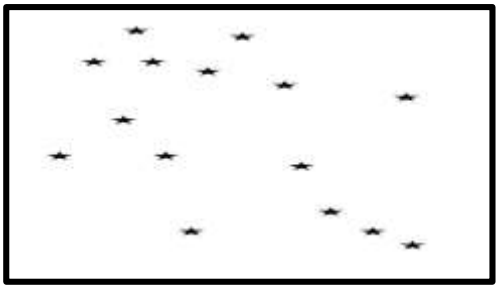
7. Ursa Minor



4. Hercules

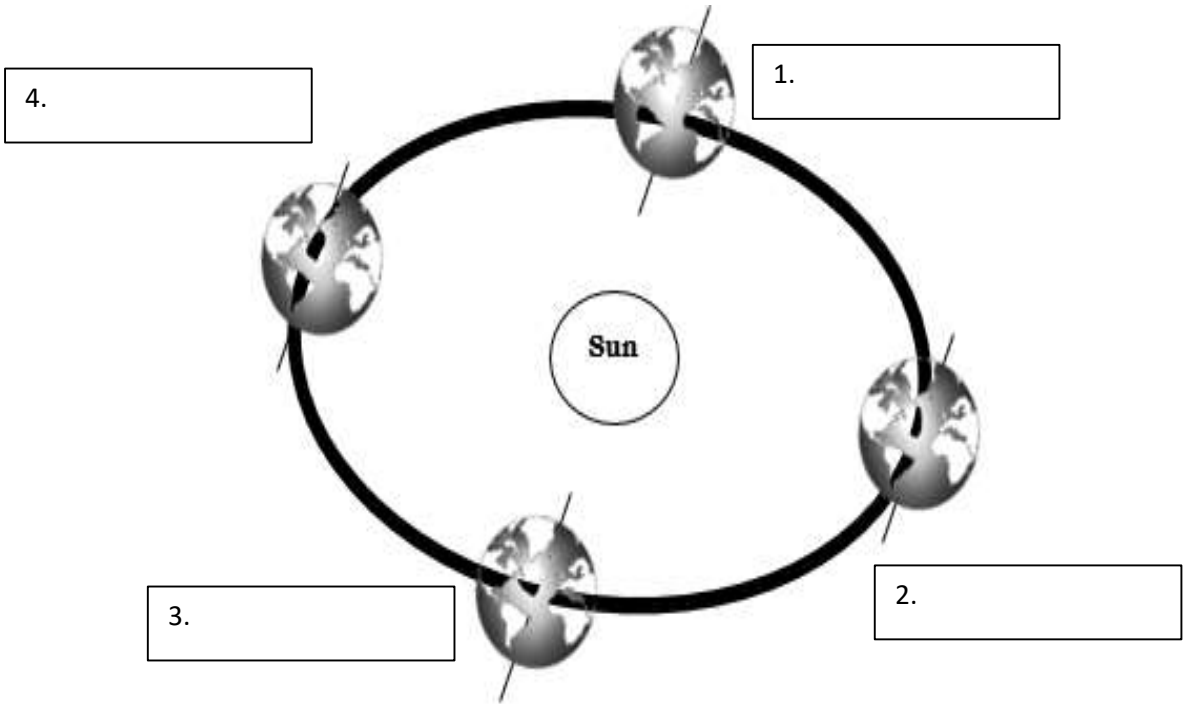


8. Gemini



ACTIVITY 4. VISIBLE AND INVISIBLE

Direction: Identify at least one visible constellation in the correct position of Earth as it revolves around the sun. Write the correct answer on a separate sheet of paper.



Illustrated by Jaquilyn A. Floriano

What I Have Learned

Direction: Determine the word that completes the statement. Write your answer on a separate sheet of paper.

1. _____is a ball of plasma held together by gravity. Its color ranges from red to blue. The color of the star indicates its _____.

2. _____is the star that is closest to Earth.

3. _____is commonly known as North Star. It is the brightest star in the constellation_____.

4. The _____of the Earth on its axis causes the nightly movement of the stars across the sky.

5. The _____is responsible for the visibility of the different parts of the sky at different parts of the year.

6. As the Earth revolves around its orbit, the stars that were concealed by the bright light of the Sun in the previous months will appear in the _____.

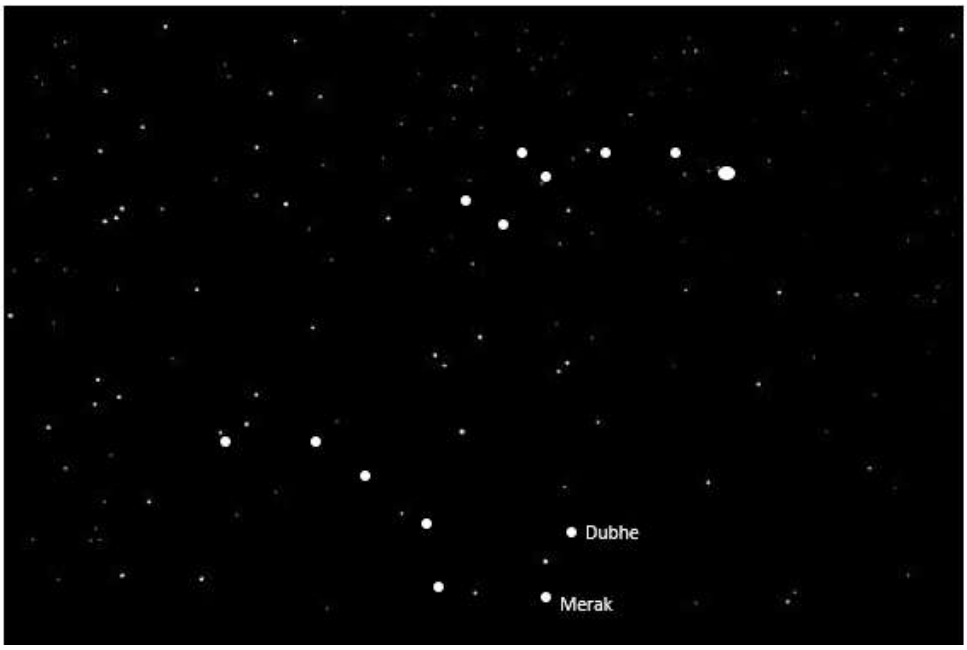
7. _____is a group of visible stars that forms a perceived pattern, usually representing an animal, mythological person, or an object.

What I Can Do

Finding the Polaris

Polaris is the North star because it is located close to the north celestial pole. It is one of the well-known stars and it usually serves as a guide by seafarers.

Let us find out its location in the star map by following the directions given below:



Source:

https://pixabay.com/illustrations/nightsky-astronomy-stars-background-16967/

1. Trace the Big Dipper. Locate the stars Dubhe and Merak, these two stars outline the outer part of the Big Dipper's bowl.
2. Trace a line from Merak through Dubhe and to the Polaris.
3. Remember that Polaris is part of the Little Dipper or Ursa Minor. This constellation is composed of seven stars, three in the handle and four in the head of the spoon. The Little Dipper is found above Big Dipper. Polaris is the last star in the handle of the Little Dipper.

Assessment

Directions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1.Which of the following statement is TRUE about constellations?

A. The patterns of asteroids viewed from earth that resembled different images.
B. The earth-based interpretation of two-dimensional star patterns on the sky.
C. The patterns on the sky made up of stars with different brightness and distances from earth.
D. Both B and C.

2. Are all the constellations visible from anywhere on Earth in the entire year?

A. No, because as the Earth revolves around the sun.
B. No, because there are times that stars do not give off light.
C. Yes, because all constellations can be found in a one place.
D. Yes, because all the constellations do not change its position.

3. How do ancient Greeks name stars within the constellation?

A. according to figure
B. according to distance
C. according to brightness
D. according to their position in the constellation

4. How are constellation being used?

A. in navigation
B. in keeping track of the calendar
C. in assessing when to plant crops
D. all of the above

5. Why are most of the constellations visible at night?

A. Because stars travel at night.
B. Because the sun is too bright.
C. Because they only appear at night.
D. Because of the motion of earth in its orbit around the sun.

6. Can you see the same stars every night?

A. Yes, stars do not change position.
B. Yes, we are seeing the same stars every night.
C. No, the stars travel from one place to another.
D. No, as the earth rotates the part of the sky you can see changes.

7. Why are some constellations not seen in certain months?
   A. Because the earth revolves around the sun.
   B. Because the brightness of the sun outshines their visibility.
   C. Because of the gravity that affects the rotation and revolution of the earth.
   D. Because of the tidal waves attracting each other, creating a huge tsunami that washed out the constellation.

8. Is the sun the biggest factor why there are less visible constellations during daytime?
   A. No, because the sun has nothing to do with it.
   B. Yes, because it is closer, and brighter as seen on earth.
   C. Yes, because it helps transform them into other celestial bodies.
   D. No, because the sun is the one responsible to give light to the moon.

9. Which of the following statements BEST describes why Polaris is used widely in navigation?
   A. It can be seen easily.
   B. It changes its position every night.
   C. It is often situated in a good position in the sky.
   D. It does not change its position at any time of the night.

10. Knowing the altitude of Polaris will determine your latitude. If you are at the north pole, how many degrees is the north star above the horizon?
   A. 45
   B. 90
   C. 180
   D. 360

11. Which determines a good view of constellation from earth?
   A. The position of the earth in its orbit
   B. The location of the person
   C. The movement of the earth
   D. None of the above

12. Why do we get to see particular zodiac constellation at specific times of the year?
   A. Because the earth rotates.
   B. Because the sun seems to rise and set.
   C. Because the earth revolves around the sun.
   D. Because the zodiac constellations have its own path.

13. Why is Polaris considered a circumpolar constellation?
   A. Because Polaris seems to rise and set.
   B. Because Polaris is visible at night all year round.
   C. Because Polaris is only visible in the polar regions.
   D. Because Polaris is part of the zodiac constellations.

14-15 Write:

A. If the first statement is correct and the second statement is incorrect.
B. If the first statement is incorrect and the second statement is correct.
C. If both statements are correct.
D. If both statements are incorrect.

14. I. Constellations are group of high energy stars in the sky.
II. Constellations are collection of stars, dusts, and rocks in the sky.

15. I. The name of constellations came from the groups of brightest stars.
II. The name of constellations came from the geometric coordinates resembled.

Additional Activities

Directions: Write a short essay on how early Filipinos used the constellations and how it affected their way of living. Write your answer on a separate sheet of paper.

Rubrics for Essay

Indicators	**4** **(Very Good)**	**3** **(Good)**	**2** **(Fair)**	**1** **(Poor)**
Content	*All major points of the topic are stated clearly and supported with specific examples.*	*Some major points of the topic are stated and supported with specific examples.*	*Few major points of the topic are stated but lacks specific examples.*	*Major points stated are not clear and lack specific examples.*
Organization and Structure	*The ideas show high degree of attention to logic and reasoning and leads to strong conclusion.*	*The ideas show high degree of attention to logic and reasoning but leads to weak conclusions.*	*The ideas are misplaced and shows poor logical organization that leads to vague conclusion.*	*The ideas lack logical organization and conclusion.*
Mechanics	*There is no error in spelling, punctuation, capitalization, sentence structure and grammar.*	*There are few errors in spelling, punctuation, capitalization, sentence structure and grammar, and thought is not obscured.*	*There are frequent errors of spelling, punctuation, capitalization, sentence structure and grammar; and thought is obscured.*	*There are more errors in spelling, punctuation, capitalization, sentence structure and grammar; and lacks thought.*

Answer Key

What's More
Activity 2
What is the Name?

1. Ursa minor
2. Cassiopeia
3. Cygnus
4. Corona Borealis
5. Saggitarius
6. Aguila
7. Lyra
8. Big Ber

What's More
Activity 1
Fact or Bluff

1. 😊
2. 😊
3. 😊
4. 😊
5. 😊
6. 😊
7. 😊
8. 😊
9. 😊
10. 😊

What's New
(Guide Questions)

1. Aries – Ram
   Taurus – Bull
   Cancer – Crab
   Leo – Lion
   Scorpio – Scorpion
   Capricorn – Goat
   Pisces – Fish
2. Aquarius
3. Gemini

What's New

Aries – Marcg 21 – April 20
Taurus – April 21 – May 20
Gemini – May 21 – June 20
Cancer – June 21 – July 22
Leo – July 23 – August 22
Virgo – August 23 – September 22
Libra – September 23 – October 22
Scorpio – October 23 – November 22
Sagittarius – November 23 – December 21
Capricorn – December 22 – January 19
Aquarius – January 20 – February 19
Pisces – February 20 – March 20

What's In

1. T
2. T
3. F
4. T
5. T

What I Know

1. D
2. D
3. A
4. B
5. D
6. D
7. B
8. D
9. C
10. C
11. D
12. B
13. A
14. B
15. C

What's More
Activity 2
Reveal My Image

What's More
Activity 4
Visible and Invisible

1. Leo, Libra, Hydra
2. Orion, Gemini, Taurus
3. Pegasus, Pisces, Andromeda
4. Scorpius, Sagittarius, Cygnus, Lyra

What I Can Do

What I Have Learned

1. Star, temperature
2. Sun
3. Polaris, Ursa Minor
4. Rotation
5. Revolution
6. Night Sky
7. Constellation

Assessment

1. D
2. A
3. D
4. D
5. D
6. D
7. A
8. B
9. D
10. B
11. A
12. C
13. B
14. D
15. B

Additional Activities

Rubrics for Essay

Indicators	4 (Very Good)	3 (Good)	2 (Fair)	1 (Poor)
Content	All major points of the topic are stated clearly and supported with specific examples.	Some major points of the topic are stated and supported with specific examples.	Few major points of the topic are stated but lacks specific examples.	Major points stated are not clear and lack specific examples.
Organization and Structure	The ideas show high degree of attention to logic and reasoning and leads to strong conclusion.	The ideas show high degree of attention to logic and reasoning but leads to weak conclusions.	The ideas are misplaced and shows poor logical organization that leads to vague conclusion.	The ideas lack logical organization and conclusion.
Mechanics	There is no error in spelling, punctuation, capitalization, sentence structure and grammar.	There are few errors in spelling, punctuation, capitalization, sentence structure and grammar, and thought is not obscured.	There are frequent errors of spelling, punctuation, capitalization, sentence structure and grammar, and thought is obscured.	There are more errors in spelling, punctuation, capitalization, sentence structure and grammar, and lacks thought.

References

Liza A. Alvarez, et al. 2017. *Science Learner's Module 9, pp. 211-227.* Pasig City: Department of Education (DepEd-BLR).

Wikihow. n.d. *How to Identify Stars.* Accessed January 27, 2021. https://www.wikihow.com/Identify-the-Stars.

Bonč, *Ursa Major - Ursa Minor - Polaris.jpg*, https://commons.wikimedia.org/wiki/File:Ursa_Major_-_Ursa_Minor_-_Polaris.jpg. Creative Commons Attribution-Share Alike 3.0 Unported.

Goran tek-en, *Field Book of the Stars-053-Constellations of Summer.svg,* https://commons.wikimedia.org/wiki/File:Field_Book_of_the_Stars-053-Constellations_of_Summer.svg. Creative Commons Attribution-Share Alike 4.0 International.

iStock, *Nightsky Astronomy Stars Background Black Cosmos,* https://pixabay.com/illustrations/nightsky-astronomy-stars-background-16967. Pixabay License.

Nick Strobel, *"Magnitude System,"* Astronomy Notes, August 13, 2014, https://www.astronomynotes.com/starprop/s4.htm

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