

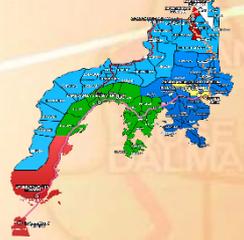


Republic of the Philippines
 Department of Education
 Regional Office IX, Zamboanga Peninsula



- JANUARY
Makugihon
- FEBRUARY
Mahigugmaon
- MARCH
Matinabangon
- APRIL
Matinahuron
- MAY
Mahapsay og Malimpyo
- JUNE
*Maabtik og Musunod sa
Dhaklong Oras*
- JULY
Maantigo og Maabilidad
- AUGUST
*Maginhuhunyon
para sa Uban*
- SEPTEMBER
Madaginton
- OCTOBER
Matinud-anon
- NOVEMBER
Masaligan
- DECEMBER
Maalampon

4



Zest for Progress
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Science

Quarter 3 - Module 4

Describing How Light Travels



Name of Learner: _____

Grade & Section: _____

Name of School: _____

Science – Grade 4
Support Material for Independent Learning Engagement (SMILE)
Quarter 3 – Module 4: Describe How Light Travels
First Edition, 2021

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Development Team of the Module

Writer:	Gemma M. Regencia
Editors/Reviewers:	Gina D. Regencia Haris T. Liong
Layout Artist:	Ronald G. Mandas
Management Team:	Virgilio P. Batan Jr. - Schools Division Superintendent Lourma I. Poculan - Asst. Schools Division Superintendent Amelinda D. Montero - Chief Education Supervisor, CID Nur N. Hussien - Chief Education Supervisor, SGOD Ronillo S. Yarag - Education Program Supervisor, LRMS Edgardo S. Cabalida - Public Schools District Supervisor Leo Martinno O. Alejo - Project Development Officer II, LRMS Bernie P. Laranjo - Public Schools Division Supervisor Melanie B. Bantilan - School Principal (DPDS)

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Zamboanga del Norte, 7100
Telefax: (065) 212-6986 and (065) 212-5818
E-mail Address: dipolog.city@deped.gov.ph

Lesson 4

Describe How Light Travels



What I Need to Know

Most of your daily activities involve the use of light, heat and sound energy. You would not be able to do things you do now without them. Have you ever wondered how each of them travel? In this lesson, you will study first how light travels and what happened as it leaves its source.

After going through this module, you are expected to:

- Describe how light travels.

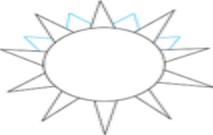


What's In

In your previous grade, you learned about different sources of light. Can you still remember them?

Activity 1 Let's Do Us Try

Directions: Identify each source of light. Encircle the natural source and box the artificial source of light.

 <small>Sun White Png Clip Fre 61658-PNG I...pnga.com</small>	 <small>Incandescent Light Bulb FAVPNG.com</small>	 <small>easydrawingguide.com</small>
 <small>gg62115888 GoGraph.com</small>	 <small>Aesthetic Stars Overlay,HD-P...pngitem.com</small>	



What's New

Do you know that light has a unique property? This time you will do an activity.

Activity 2. Word Shop

Directions: Use the letters in the boxes to complete the words. Given clues will help you.

- 1. ALET ○ R ○ V ○ ○ S
- 2. GNYE E ○ ○ R ○ Y
- 3. ERTGHIA S T ○ ○ I ○ ○ T L ○ N ○
- 4. VEA W ○ ○ S
- 5. LIT ○ G H ○

go from place to place
 usable power
 free from curves
 swell on the surface of a sea
 makes vision possible

Activity 3.

Do the activity

(Get a flashlight or penlight and aim it at a distant)

Turn off the light to make the room dark.

Shine a flashlight on the wall.

Observe the part of the wall that is lighted.



flashlight <https://www.google.com/url?sa=i&>

Directions: Answer the questions.

Draw ☺ for Yes and ☹ for No

1. Is the lighted part of the wall bigger than the bulb in the flashlight?

Yes ○ No ○

2. Does the light spreads out?

Yes ○ No ○

3. Move away from the wall. Is the light as bright as when the flashlight was near the wall?

Yes ○ No ○

4. Did the light form a straight line when you aimed it on the wall?

Yes ○ No ○



What Is It

Light is a form of energy

Many scientists have been studying the nature of light some say that light moves like a wave. Other scientist say that light behaves like a group of particles.

Light rays always travel in a straight line / path when going through a single medium or completely unless any material through which a light wave can travel. Its brightness decreases as it goes farther from the source.

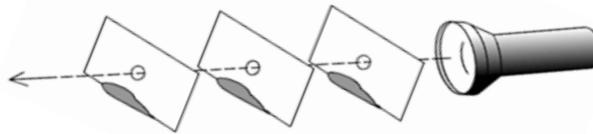


What's More

NOTE: Best to do this activity at night to get the exact observation.

Activity 4

<https://www.ducksters.com>



Directions: Read and follow the procedures carefully.

- * Cut 3 rectangular cardboard and mark it as A, B, and C.
- * Make a small hole at the center of the cardboard at the same horizontal level.
- * Glue or tape the cardboard horizontally on top of the table in such a way that the 3 holes are in a straight line.
- * Get a flashlight/penlight and aim it through the 1st hole.
- * Close one of your eyes. Make sure that your eye, the hole in the two cardboards and the source of light are in straight line.
- * Now observe the light through the hole.

Directions: Answer the questions that follow, check the appropriate box of your answer.

1. When you aligned the cardboard with holes, was the light able to pass through?

a. With the three holes aligned, yes the light was able to pass through it.

b. With the three holes aligned, No the light was not able to pass through it.

2. Did the light form a straight line?

a. No, It curves around corners.

b. Yes, it travels in a straight line.

3. Move the first cardboard a little to one side. Do you see the light through the hole?

a. No, there was no light.

b. Yes, there was a light.

4. Why did the light not able to pass through the hole?

a. It was blocked by the cardboard.

b. It was blown by the wind.

5. What can you say about the way light travels?

a. Light always travels in a straight line.

b. Light travels in a crooked line.



What I Have Learned

Activity 5: Fill in the blanks

Complete the paragraph by filling in the missing words. Choose your answer from the box.

particles	spreads out	decreases
straight line	waves	increases

Light is a form of energy. It moves as _____ or behaves like a group of _____. Light always travels in a _____.

It _____ from its source. Its brightness _____ as it goes farther from its source.



What I Can Do

Activity 6 Create Me

Direction: Show your creativity through drawing on what have you learned about how light rays travel. Follow the rubrics below as your scoring guide.

Draw a picture of your garden during daytime. Emphasize the direction of the sun's rays.

RUBRICS

CONTENT	5	4	1
		Draw completely what is required	Draw partially what is required
Originality / Creativity	Draw on his / her own	Draw using models from the internet or any resources	Draw irrelevant figure
Neatness	Work is very neat with no smudges	Work is neat with a few smudges	Work has several smudges



Assessment:

Direction: Encircle the letter of your answer.

1. Which of these describes how light travels through an empty space?

- a. It travels straight but may change direction to avoid objects.
- b. It changes direction often even if there are no objects.
- c. It comes to a stop after it travels a certain distance.
- d. It travels in a straight line without stopping.

2. What kind of path does light take?

- a. It travels in a straight line until it hits something or goes through it.
- b. It travels around corners and goes through all kinds of objects.
- c. It travels in any direction and bounces off all objects.
- d. It travels in curves around all objects

3. Which may best describe how light moves?

- A.  B.  C.  D. 

4. How does light travel

- I. Waves** **II. Particles** **III. Pulses**
- A. I and III B. II and III C. I, II, and III D. I and II

5. What happens to light as it leaves its source.

- I. It goes around III. brightness decreases as it goes farther
II. Spreads out IV. brightness increases as it goes nearer

A. I, III B. I, IV C. I, II, III, IV D. II, III

Direction: Write **T** if the statement is true and change the underlined word if the statement is false to make it true.

- _____ 1. Light travels in a straight line when it pass through a single medium.
- _____ 2. The brightness of light decreases when it goes nearer from its source.
- _____ 3. Light form a broken line when aimed on the ceiling.
- _____ 4. Light rays travel in straight path as long as nothing blocks their way.
- _____ 5. Light needs any material to carry its energy along.



Additional Activity

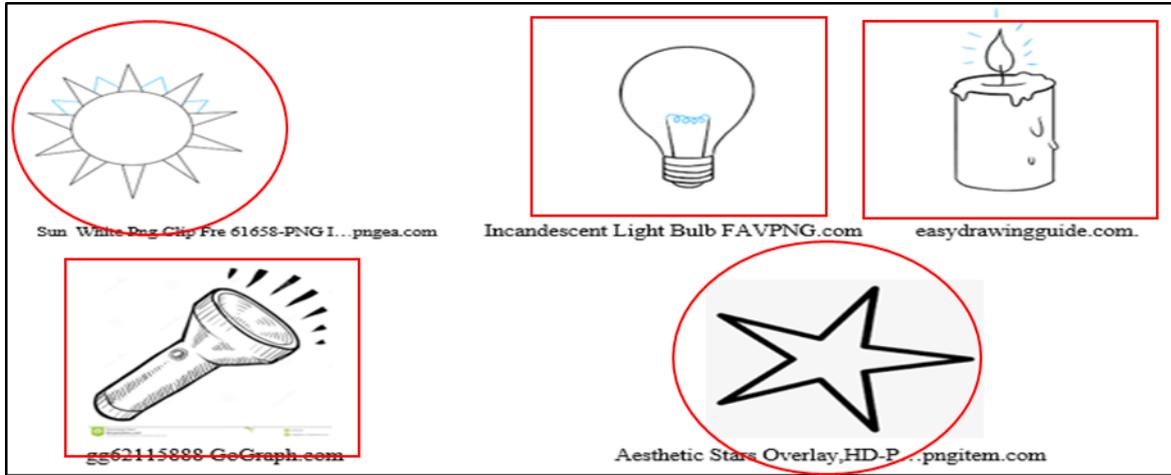
Apply what you have learned

Direction: Answer the question briefly.

What will most likely happen if the light used by big buses or other mode of transportation was placed on the sides of the vehicle instead of being placed in front?

Answer Key

What's In
Activity 1:



What's New

Activity 2

1. travels
2. energy
3. straight line
4. waves
5. light

What's More

1. a. /
2. b. /
3. a. /
4. a. /
5. a. /

What I Have Learned

- waves
- particles
- straight line
- spreads out
- decreases

Activity 3

1. yes
2. yes
3. No
4. Yes

Assessment

- | | | | |
|----|------|----|------------------|
| A. | 1. d | B. | 1. T |
| | 2. a | | 2. farther |
| | 3. b | | 3. straight line |
| | 4. d | | 4. T |
| | 5. d | | 5. does not |

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Real-Life Science Abiva Publishing House, Inc

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Flashlight Aiming 3 Cardboard Holes

https://www.ducksters.com/science/experiment_light_travel.php

Flashlight Aiming at the Wall

<https://www.google.com/url??sa=I&url>

Incandescent Light Bulb Drawing Lamp

FAVPNG.com

Aesthetic Stars Overlay,

HD-P...pngitem.com

Flahlight

Gg62115888 GoGraph.com

Sun White

Png Clip Fre 61658-PNG I...pngsea.com

Candle

Easydrawingguide.com

Region IX: Zamboanga Peninsula Hymn – Our Eden Land

Here the trees and flowers bloom
Here the breezes gently Blow,
Here the birds sing Merrily,
The liberty forever Stays,

Gallant men And Ladies fair
Linger with love and care
Golden beams of sunrise and sunset
Are visions you'll never forget
Oh! That's Region IX

Cebuanos, Ilocanos, Subanons, Boholanos, Ilongos,
All of them are proud and true
Region IX our Eden Land

Here the Badjaos roam the seas
Here the Samals live in peace
Here the Tausogs thrive so free
With the Yakans in unity

Hardworking people Abound,
Every valleys and Dale
Zamboangueños, Tagalogs, Bicolanos,

Region IX
Our..
Eden...
Land...

My Final Farewell

Farewell, dear Fatherland, clime of the sun caress'd
Pearl of the Orient seas, our Eden lost!,
Gladly now I go to give thee this faded life's best,
And were it brighter, fresher, or more blest
Still would I give it thee, nor count the cost.

On the field of battle, 'mid the frenzy of fight,
Others have given their lives, without doubt or heed;
The place matters not-cypress or laurel or lily white,
Scaffold or open plain, combat or martyrdom's plight,
T is ever the same, to serve our home and country's need.

I die just when I see the dawn break,
Through the gloom of night, to herald the day;
And if color is lacking my blood thou shalt take,
Pour'd out at need for thy dear sake
To dye with its crimson the waking ray.

My dreams, when life first opened to me,
My dreams, when the hopes of youth beat high,
Were to see thy lov'd face, O gem of the Orient sea
From gloom and grief, from care and sorrow free;
No blush on thy brow, no tear in thine eye.

Dream of my life, my living and burning desire,
All hail ! cries the soul that is now to take flight;
All hail ! And sweet it is for thee to expire ;
To die for thy sake, that thou mayst aspire;
And sleep in thy bosom eternity's long night.

If over my grave some day thou seest grow,
In the grassy sod, a humble flower,
Draw it to thy lips and kiss my soul so,
While I may feel on my brow in the cold tomb below
The touch of thy tenderness, thy breath's warm power.

Let the moon beam over me soft and serene,
Let the dawn shed over me its radiant flashes,
Let the wind with sad lament over me keen ;
And if on my cross a bird should be seen,
Let it trill there its hymn of peace to my ashes.

Let the sun draw the vapors up to the sky,
And heavenward in purity bear my tardy protest
Let some kind soul o'er my untimely fate sigh,
And in the still evening a prayer be lifted on high
From thee, O my country, that in God I may rest.

Pray for all those that hapless have died,
For all who have suffered the unmeasur'd pain;
For our mothers that bitterly their woes have cried,
For widows and orphans, for captives by torture tried
And then for thyself that redemption thou mayst gain

And when the dark night wraps the graveyard around
With only the dead in their vigil to see
Break not my repose or the mystery profound
And perchance thou mayst hear a sad hymn resound
'T is I, O my country, raising a song unto thee.

And even my grave is remembered no more
Unmark'd by never a cross nor a stone
Let the plow sweep through it, the spade turn it o'er
That my ashes may carpet earthly floor,
Before into nothingness at last they are blown.

Then will oblivion bring to me no care
As over thy vales and plains I sweep;
Throbbing and cleansed in thy space and air
With color and light, with song and lament I fare,
Ever repeating the faith that I keep.

My Fatherland ador'd, that sadness to my sorrow lends
Beloved Filipinas, hear now my last good-by!
I give thee all: parents and kindred and friends
For I go where no slave before the oppressor bends,
Where faith can never kill, and God reigns e'er on high!

Farewell to you all, from my soul torn away,
Friends of my childhood in the home dispossessed!
Give thanks that I rest from the wearisome day!
Farewell to thee, too, sweet friend that lightened my way;
Beloved creatures all, farewell! In death there is rest!

I Am a Filipino, by Carlos P. Romulo

I am a Filipino—inheritor of a glorious past, hostage to the uncertain future. As such I must prove equal to a two-fold task—the task of meeting my responsibility to the past, and the task of performing my obligation to the future.

I sprung from a hardy race, child many generations removed of ancient Malayan pioneers. Across the centuries the memory comes rushing back to me: of brown-skinned men putting out to sea in ships that were as frail as their hearts were stout. Over the sea I see them come, borne upon the billowing wave and the whistling wind, carried upon the mighty swell of hope—hope in the free abundance of new land that was to be their home and their children's forever.

I am a Filipino. In my blood runs the immortal seed of heroes—seed that flowered down the centuries in deeds of courage and defiance. In my veins yet pulses the same hot blood that sent Lapulapu to battle against the first invader of this land, that nerved Lakandula in the combat against the alien foe, that drove Diego Silang and Dagohoy into rebellion against the foreign oppressor.

The seed I bear within me is an immortal seed. It is the mark of my manhood, the symbol of dignity as a human being. Like the seeds that were once buried in the tomb of Tutankhamen many thousand years ago, it shall grow and flower and bear fruit again. It is the insignia of my race, and my generation is but a stage in the unending search of my people for freedom and happiness.

I am a Filipino, child of the marriage of the East and the West. The East, with its languor and mysticism, its passivity and endurance, was my mother, and my sire was the West that came thundering across the seas with the Cross and Sword and the Machine. I am of the East, an eager participant in its spirit, and in its struggles for liberation from the imperialist yoke. But I also know that the East must awake from its centuries sleep, shake off the lethargy that has bound his limbs, and start moving where destiny awaits.

I am a Filipino, and this is my inheritance. What pledge shall I give that I may prove worthy of my inheritance? I shall give the pledge that has come ringing down the corridors of the centuries, and it shall be compounded of the joyous cries of my Malayan forebears when first they saw the contours of this land loom before their eyes, of the battle cries that have resounded in every field of combat from Mactan to Tirad Pass, of the voices of my people when they sing:

"I am a Filipino born to freedom, and I shall not rest until freedom shall have been added unto my inheritance—for myself and my children and my children's children—forever."