



5



SCIENCE

Quarter 3 – Module 3

Relate the Ability of the Material to Block, Absorb or Transmit Light to Its Use



Name of Learner: _____

Grade & Section: _____

Name of School: _____

JANUARY	Makugihon
FEBRUARY	Mahiguimaon
MARCH	Matinabangon
APRIL	Matinahuron
MAY	Mahapsay og Malimpyo
JUNE	Maabtik og Musunod sa Ohsakitong Oras
JULY	Maantigo og Maabilidad
AUGUST	Maginhunahunon Para sa Uban
SEPTEMBER	Madaginton
OCTOBER	Matinud-anon
NOVEMBER	Masaligan
DECEMBER	Maatampoon

Science – Grade 5

Support Material for Independent Learning Engagement (SMILE)

Quarter 3 – Module 3: Relate the Ability of the Material to Block, Absorb, or Transmit Light to its Use

First Edition, 2021

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Printed in the Philippines by

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Lesson

1

Relate the Ability of Material to Block, Absorb and Transmit Light to Its Use



What I Need to Know

The main source of light on Earth is the Sun. Light or visible light is electromagnetic radiation within the portion of the electromagnetic spectrum that can be perceived by the human eye. Visible light is usually defined as having wavelengths. To understand light further, we have to study the ability of certain material to block, absorb or transmit light.

This module was designed and written to help you master the skill in **relating the ability of the material to block, absorb or transmit light to its use (S5FE-IIIe-5)**. The scope of this module allows it to be used in many different learning situations.

After going through this module, you are expected to learn the;
Lesson 1: Transparent, Translucent and Opaque Materials
Objective: Relate the ability of the material to block, absorb or transmit light to its use



What's In

Imagine, you are in a dark room, no light. Can you see completely?

Light from the source falls on the object and travels to our eyes that's why light help us see objects however it depends on the materials that block, absorb or transmit light to its use. Now, let's have an activity to examine if you are ready with the new lesson.

Directions: Study the pictures below. Identify how the light interacts to the different materials. Write **B** if it blocks the light, **A** if it absorbs some of the light and **T** if I transmits light on the space provided for.



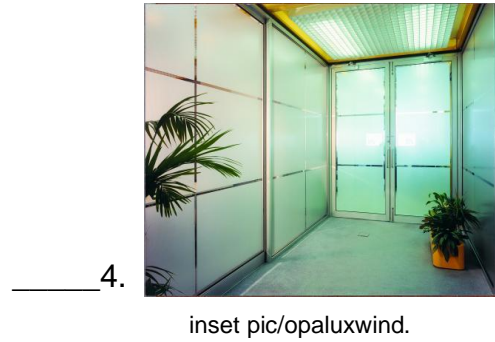
1.

insert pic/streaming.discoveryeducation.com



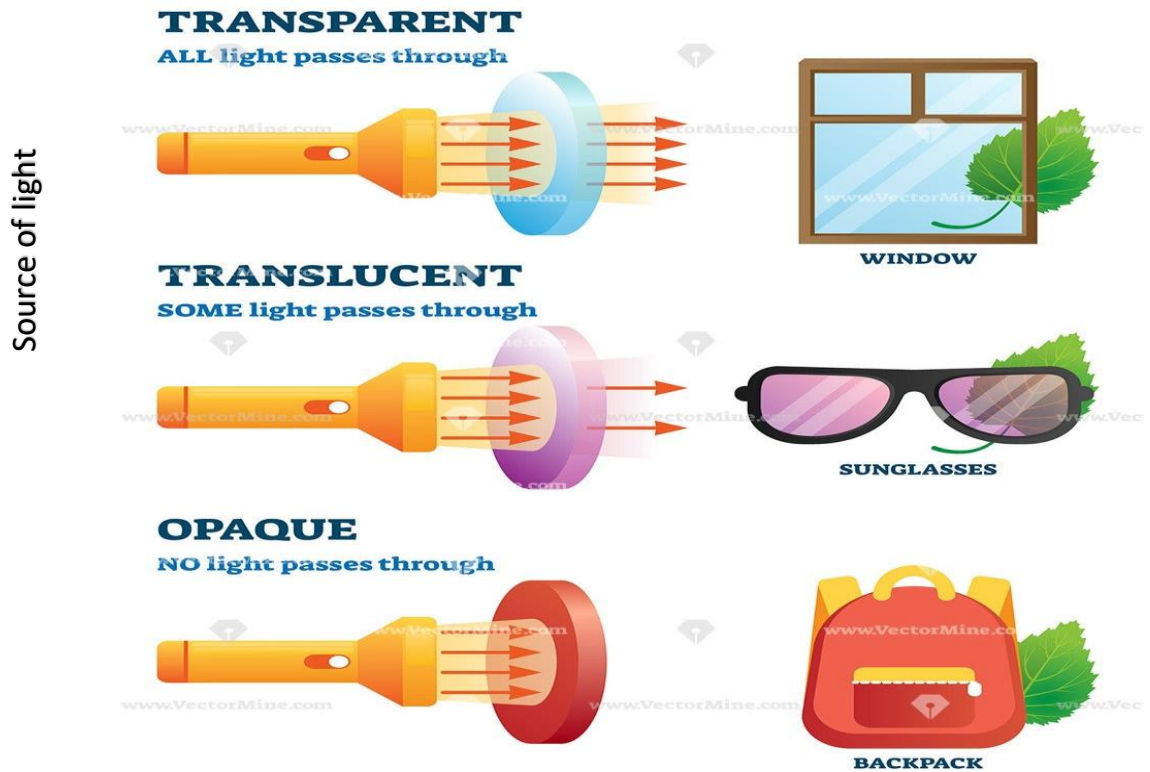
2.

insert pic/simple.wikipedia.org



What's New

Figure 1: Study the illustration to relate material that blocks, absorbs or transmits light to its use through a **transparent**, **translucent** and **opaque** material. Then, do the activities below



<https://vectormine.com/item/transparent-translucent-or-opaque-properties-explanation-vector-illustration>

Activity 1:

In this hands-on activity, you need the following:

- *Illustration board
- *Flashlight
- *Rubber band
- *Aluminum foil
- *Clear cellophane
- * Wax paper
- * plywood
- * Tissue paper
- * clear glass

What to do:

- Using a rubber band, cover the flashlight using the different materials as stated then turn the flashlight on.



insert pic/clipartmag.com



insert pic/almetalscom.wordpress.com



insert pic/pngimg.com

- Point the flashlight to the wall or illustration board and observe what happens to the light. Then do the same to the rest of the materials as you cover the flashlight's protective glass.
- Answer the table by putting a check mark (/)

Material	Does the light pass through?		
	All light	Some light	No light
1. Aluminum foil			
2. Clear Cellophane			
3. Wax paper			
4. Plywood			
5. Tissue paper			
6. Clear glass			

Activity 2:

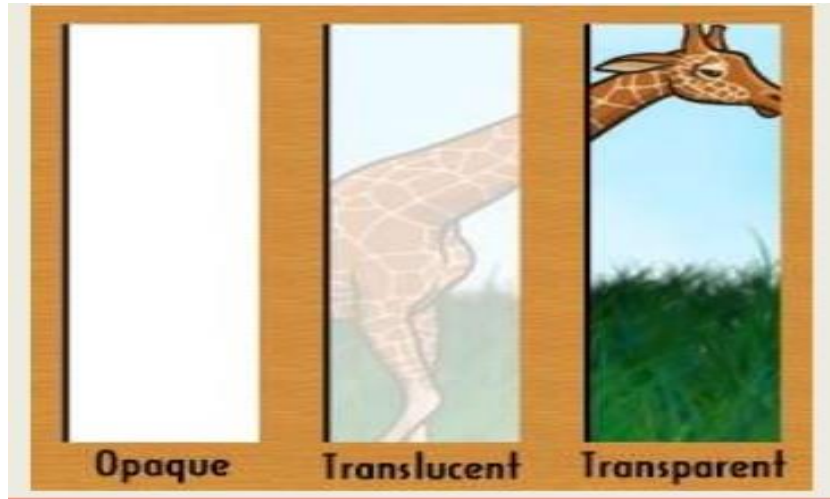
Directions: Write the items or the materials used in Activity 1 on the chart provided based on your observation if it let the light through (transparent materials), let some light through (translucent materials) or let no light through (opaque materials).

TRANSPARENT MATERIALS	TRANSLUCENT MATERIALS	OPAQUE MATERIALS



What Is It

A material can be



[google search/scienceerulzmrsvoris.weebly.com](https://www.google.com/search?q=scienceerulzmrsvoris.weebly.com)

Opaque objects block light from traveling through them. Most materials are opaque. When light strikes an opaque object none of it passes through. Most of the light is either reflected by the object or absorbed and converted to heat. Materials such as wood, stone, and metals are opaque to visible light.

Translucent objects allow some light to travel through them. Materials like frosted glass and some plastics are called translucent. When light strikes translucent materials, only some of the light passes through them. The light does not pass directly through the materials. It changes direction many times and is scattered as it passes through. Therefore, we cannot see clearly through them; objects on the other side of a translucent object appear fuzzy and unclear. Because translucent objects are semi-transparent, some ultraviolet rays can go through them.

Transparent objects allow light to travel through them or allow the transmission of light waves through them. Materials like air, water, and clear glass are called transparent. When light encounters transparent materials, almost all of it passes directly through them. Glass, for example, is transparent to all visible light. The color of a transparent object depends on the color of light it transmits. If green light passes through a transparent object, the emerging light is green; similarly if red light passes through a transparent object, the emerging light is red.



What's More

Directions: Identify the following materials that block, absorb or transmit light to its use if it is **transparent**, **translucent** or **opaque** object. Write your answers on the space provided for.

- _____ 1. wooden blocks
- _____ 2. vegetable oil
- _____ 3. cemented wall
- _____ 4. aquarium glass
- _____ 5. stained glass windows of a cathedral
- _____ 6. brown envelope
- _____ 7. reading glasses
- _____ 8. frosted sliding door
- _____ 9. thick dark curtain
- _____ 10. newspaper sheet



What I Have Learned

Directions: Relate your understanding of the lesson in this module by supplying the blanks in the following sentence with a word or a phrase.

I learned that when light encounters (1)_____ materials, almost all of it transmit directly through them. Materials such us (2)_____ and (3) _____ are examples of transparent materials. If light strikes on (4)_____ materials, only some of the light passes through them. It changes direction many times and is scattered as it passes through and an example of them are (5) _____ and (6)_____. While (7)_____ materials block light from traveling through them such as (8)_____, (9)_____ and (10) _____.



What I Can Do

Directions: Name materials that block, absorb or transmit light through transparent, translucent or opaque objects on the table provided for.

Transparent Materials	Translucent Materials	Opaque Materials
1.		
2.		
3.		
4.		
5.		



Assessment

Directions: Read the questions carefully. Write the letter of the correct answer on the blank before the number.

- ____ 1. Which is an example of opaque material?
- A. clear plastic
 - B. frosted window
 - C. wooden door
 - D. white curtain
- ____ 2. What kind of object that blocks all the light from passing through it?
- A. transparent
 - B. translucent
 - C. opaque
 - D. mirror
- ____ 3. Which of these objects is translucent?
- A. a brick wall
 - B. eyeglass lenses
 - C. liquid water
 - E. stained glass window
- ____ 4. It is blurry to see through this type of material. What type of object is it?
- A. transparent
 - B. translucent
 - C. opaque
 - F. wooden door

____5. What type of material in your room's window that can block the light and heat coming from the sun?

- A. transparent material
- B. translucent material
- C. opaque material
- D. transform material

____6. Your mother has plants in her kitchen. They need lots of light. What type of windows should she installed in it that will be best for her indoor plants?

- A. opaque windows
- B. translucent windows
- C. transparent windows
- D. no windows, just walls

____7. Some light is passing through a glass of milk. What type of object is it?

- A. opaque
- B. translucent
- C. transparent
- D. hard

____8. While playing hide and seek, I was able to find my friend easily because I could see right through the window where she is hiding. What type of window does it show?

- A. Opaque
- B. Transparent
- C. Translucent
- D. Steel

____9. What are some examples of transparent material?

- A. Clear glass, water and air
- B. Waxed paper and frosted glass
- C. Wood, metal and fabric
- D. Concrete wall and wooden door

____10. Why does an opaque object cause a shadow?

- A. Transparent objects block the light causing a shadow.
- B. Translucent objects block the light causing a shadow.
- C. Because objects block the light causing a shadow.
- D. Because the object is shining brightly.



Additional Activities

Directions: Observe the pictures carefully. Write five sentences based on your understanding of the lesson relating the ability of materials to block, absorb some light or transmit light on a transparent, translucent or opaque window.



<https://windoor.en.made-in-china.com//product/YSamzEDAmPpk/China-Modern-Aluminum-Glass-Window-Aluminum-Profile-Window-Aluminum-Doors.html>



<https://pixers.us/wall-murals/closed-wooden-window-35311209>



<https://www.alamy.com/stock-photo/frosted-glass-window.html>

Science 5 Quarter 3 Module 3 Key Answers

What's In:

1. T
2. T
3. B
4. A
5. A

What's More:

1. opaque
2. translucent
3. opaque
4. transparent
5. translucent
6. opaque
7. transparent
8. translucent
9. opaque
10. opaque

Assessment:

1. C
2. C
3. D
4. B
5. C
6. C
7. B
8. B
9. A
10. C

What's New:

Activity 1

1. Aluminum foil – No light
2. Clear cellophane – All light
3. Wax paper - Some light
4. Plywood – No light
5. Tissue paper – Some light
6. Clear glass – All light

Activity 2:

***Transparent Materials**

- Clear cellophane
- Clear glass

***Translucent Materials**

- Wax paper
- Tissue paper

***Opaque Materials**

- Aluminum foil
- Plywood

What I Have Learned:

- (1) transparent
- (2-3) Answers vary
- (4) translucent
- (5-6) Answers vary
- (7) opaque
- (8-10) Answers vary

Additional Activities:

*Answers may vary

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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,

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

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

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

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

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."