Grade 6 Light Shadows and Reflection Worksheets

A. Rearrange the boxes given below to make a sentence that helps us understand opaque objects.

OWS	AKE	OPAQ	UEO	BJEC	TSM
SHAD					

B. Classify the objects or materials given below as opaque, transparent or translucent and luminous or non-luminous. One has been done for you:
air, water, a piece of rock, a sheet of aluminium, a mirror, a wooden board, a sheet of polythene, a CD, smoke, a sheet of plane glass, fog, a piece of red hot iron, an umbrella, a lighted fluorescent tube, a wall, a sheet of carbon paper, the flame of a gas burner, a sheet of cardboard, a lighted torch, a sheet of cellophane, a wire mesh, kerosene stove, sun, firefly, moon.

Opaque	Transparent	Translucent
	air	

Luminous	Non-luminous

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	air

C. Answer the following questions in short:

1. Can you think of creating a shape that would give a circular shadow if held in one way and a rectangular shadow if held in another way?
2. In a completely dark room, if you hold up a mirror in front of you, will you see a reflection of yourself in the mirror?
3. Name the property of light travelling in a straight line.
4. What do you understand by reflection? Give examples.
5. Describe the working of a pinhole camera.
6. Opaque objects cast shadows, isn't it? Now, if we hold a transparent object in the Sun, do we see anything on the ground that gives us a hint that we are holding something in our hand?
7. We saw that changing colour of opaque objects does not change the colour of their shadows. What happens if we place an opaque object in coloured light? You can cover the face of a torch with a coloured transparent paper to do this. (Did you ever noticed the colours of evening shadows just as the Sun is setting?)

D. Tick (✓) the Correct Option:

1. Shadows form because:
(a) opaque objects reflect light
(b) opaque objects do not allow light to pass through them
(c) light travels in one direction from a source
(d) light bends around an opaque object

2. objects do not allow any light to pass through them.
(a) Transparent

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(b) Translucent
(c) Opaque
(d) Luminous

3. Which of the following is a non-luminous body?
(a) Moon
(b) Sun
(c) Bulb
(d) Burning candle

4. The colour of a shadow is :
(a) black
(b) green
(c) grey
(d) cannot say

5. The speed of light in vacuum is :
(a) 3×10^8 m/sec
(b) 2×10^9 m/sec
(c) 1.5×10^8 m/sec
(d) none of these

E. Fill in the Blanks:

1. Light is a form of …….. .
2. A glowing tubelight is an example of …… source of light.
3. The shadow of an object is always of ……. colour.
4. The …… is a luminous object.
5. Light travels in a …….. line.

F. State True or False:

1. The moon is a natural source of light. …….
2. Light always travels in a straight line. …….
3. Pinhole camera works on the principle of rectilinear propagation of light. ……..
4. Stars are luminous bodies. ……
5. Shadow of an object is formed in the direction. opposite to that of the light source. …….

G. Match the following:

'A'	'B'

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1. Brick	a. A natural source of light
2. Tubelight	b. Region of partial darkness
3. Sun	c. Shadow cast by heavenly bodies
4. Eclipse	d. An opaque object
5. Penumbra	e. An artificial source of light

H. Write the letter in the blanks given below with the help of corresponding hints.

1. T _ _ _ S _ _ _ _ _T.
Hint: Through these objects, we can see but not very clearly.

2. _ _M _ N _ _ S.
Hint: Sun is in this category of sources of light.

3. S _ R _ _ _.
Hint: We can't obtain an image without this.

4. R _ _ _ C _ _ _ _ .
Hint: Mirror gives us clear images because of this phenomenon.

I. Look around you and collect as many objects as you can — an eraser, plastic scale, pen, pencil, notebook, single sheet of paper, tracing paper or a piece of cloth. Try to look at something far away, through each of these objects. Is light from a far away object able to travel to your eye, through any of the objects? Record your observations as shown in Table given below:

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Object/material	View through the object possible (fully/ partially/not at all)	Object is opaque/ transparent/ translucent
Pencil		
Rubber ball		
Sheet of writing paper	Not very sure?	

J. Daayan-Baayan—Take a comb in your right hand and bring it up to your hair and look at yourself in the mirror. There is your familiar face, grinning

at you .

Wait, try and find out which is the hand holding the comb, in your mirror reflection. Is it the right hand or the left? You were holding it in your right hand, isn't it?

While a pin hole camera seems to be giving us upside down images, a mirror seems to be turning right hand into left hand and the h ii 3 right hand. We will learn more about this in the higher classes.

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