

## UNIT-6

# Shadow and Light

### ACTIVITY - 1

#### *My Shadow*

by Robert Louis Stevenson

1. I have a little shadow that goes
2. in and out with me.
3. And what can be the use of him is
4. more than I can see.
5. He is very, very like me from the
6. heels up to the head;
7. And I see him jump before me,
8. When I jump into my bed.
9. The funniest thing about him
10. is the way he likes to grow
11. Not at all like proper children,
12. which is always very slow;
13. For he sometimes shoots up taller
14. like an India-rubber ball,
15. And he sometimes gets so little that
16. There's none of him at all.
17. One morning, very early,
18. before the sun I was up,
19. I rose and found the shining dew
20. on every buttercup;
21. But my lazy little shadow,
22. like an arrant sleepyhead.
23. Had stayed at home behind me and was
24. Fast asleep in bed.

#### **New Words**

Work with your teacher and classmates to understand the meanings.

Proper

India-rubber

Dew

Buttercup

Lazy

Arrant

**Did you find more new words? Write them here to help you remember them.**



## ACTIVITY - 2

**Work with a group or partner to write the numbers of the lines from the poem that match each meaning. You might need more than one number for a meaning.**

- \_\_\_\_\_ The shadow is similar to the poet.
- \_\_\_\_\_ Children don't get tall quickly.
- \_\_\_\_\_ Some balls bounce very high.
- \_\_\_\_\_ The shadow shrinks.
- \_\_\_\_\_ The poet doesn't think the shadow is useful.
- \_\_\_\_\_ The poet sometimes wakes before dawn.

In a funny way, the poet describes something that everyone has seen. We all know that our shadow cannot be seen when there is no light, but is it true that the shadow was asleep while the poet was outside awake in the morning?

What else could the poet imagine happened to his shadow? **Work with your group or partner to make a new story about where the shadow goes when you can't see it. Give your new story a title. Make your poem rhyme or not, but try to think of a new idea that no one else has thought of.**

The title of my story is \_\_\_\_\_.

One morning, very early, before the sun was up, I ...

But my shadow....

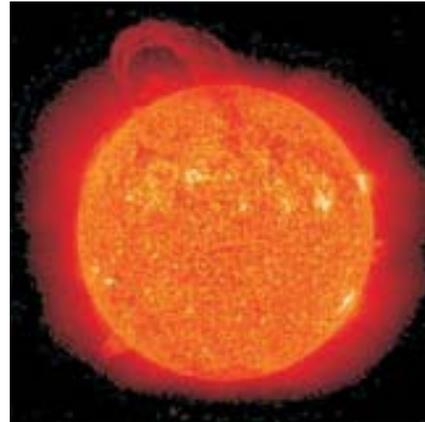
Share your story with your classmates. Which story was the most unusual?

### ACTIVITY -3

Do you know that it takes some time for the light from the sun to reach the earth?

**How long do you think it takes?**

**Read carefully to find out.**



If you know how to divide, you can figure out how long it takes for the light from the sun to reach the earth. Read carefully and follow these directions. The sun is very far away from earth. It is one hundred and fifty million kilometres away. Write down 150 followed by six zeros. Now that you know the distance, you need to know the speed of light. Light is very fast. It travels at three hundred thousand kilometres per second. That is 3 followed by five zeros. If you divide 150 million by 3 hundred thousand, you get the number of seconds that it takes for light to travel to earth from the sun. How many seconds is that?

### ACTIVITY - 4

**Did you read carefully? Do the math here to find out how long it takes for the light from the sun to reach the earth. Check your understanding with other classmates. If you have different answers, read again more carefully until you all agree that you have the right answer.**



## ACTIVITY - 5

Have you heard of shadowgraphy? It's the art of using the hands to make interesting shadow shapes on a screen. The art has been around a long time. European travellers learned it when visiting China, but, at that time, people used puppets. Later some people started doing shows with hand shadows. A boy, named Félicien Trewey, left home at 15 years old to become a performer and a magician. He became very popular for his hand shadows. He liked to make his hands look like the shadows of famous people!

There is scientific evidence that doing hand shadows activates a part of the brain called Broca's area. This part of the brain helps with language. So, doing hand shadows may help you speak English!

If you'd like to try making some hand shadows, start with a nice bright light in a dark room, and shine the light so that your shadow shows on a blank wall.

One of the easiest hand shadows to start with is a bird. You can easily make the bird fly by moving your fingers. Try it and see!



### New Words

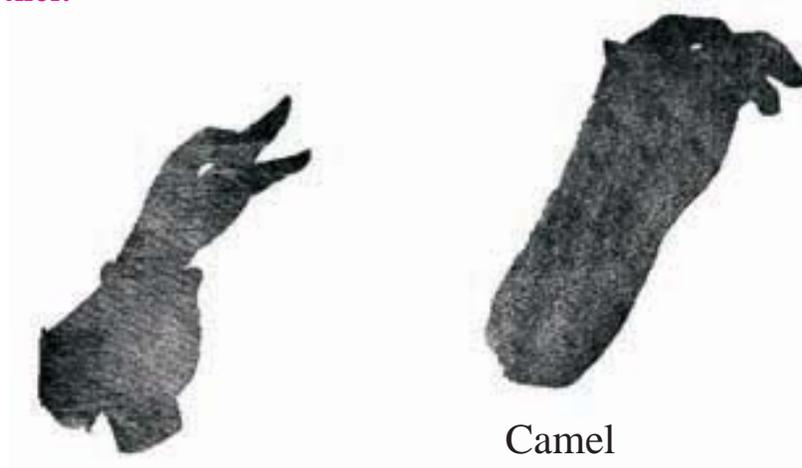
Shadowgraphy:

Broca's Area:

## ACTIVITY - 6

Let's activate Broca's area and practice some English at the same time!

**Work with a partner. Sit back to back so you can't see each other's hands. You choose one animal shadow and your partner chooses the other.**



Goose

Camel

Work out on your own how your hands should be to make your animal. Then practice your English by describing the position of your hands to your classmate. You might need phrases such as

“my thumb is over my”

“bend the ring finger”

“put your left hand under your right hand”

If you can see your shadows, you can check to see if your animal shadows match. If you can't, you can both try to match the position of your hands and then look to see if they match. Take turns describing and matching.





## ACTIVITY - 7

### A Moth with a Dream

adapted from "The Moth and the Star," by James Thurber

Once upon a time, a young moth fell in love with a beautiful star. He told his mother one day, he would reach the star, but she told him he should dream of something closer, something easier, like a nice lamp.

"Stars aren't the kind of thing you should be working for," she said. "Lamps are the thing. Find a nice lamp."

Moth's father said, "Yes, you can easily reach a lamp. You'll never be able to reach a star." But the moth did not listen to his mother and father. Every evening, when the star came out, he would start flying toward it. Every morning, he came back home worn out from flying all night.

One day, his father said to him, "You haven't burned a wing yet, boy, and it looks to me like you never will. What's wrong with you? All your brothers have burned their wings flying around street lamps. All your sisters have burned their wings flying around house lamps. Come on, now, this is what we do. You aren't afraid of a little burn, are you?"

The moth wasn't afraid, but he didn't want to fly around street lamps or house lamps, so he left his father's house. He never changed his dream. When he grew up, he continued to believe.

Every night, he went right on trying to reach the star. Of course, this star was four and one-third light years, or 40,000,000,000,000 kilometres, away, but the moth did not know that.

The moth thought the star was just caught in the top branches of a tall tree.

The moth went right on trying, night after night, but he never did reach the star. Finally, when he was very, very old, his mind began to play tricks, as minds sometimes do. He began to believe that he really had reached the star. Often, he told stories of his adventure catching a star. No one listened, but he was happy anyway. For his entire long life, the moth believed in his dream and he lived to be a very, very old moth. He was happy, but his mother, father, brothers, and sisters all burned to death when they were quite young.

## ACTIVITY - 8

Look carefully at the story “A Moth with a Dream”. The story has many words in it that help tell the reader **WHEN** something happens, such as

Once upon a time  
Every night  
Every morning  
Often

**Look for all the ways that the writer tells you **WHEN** something happens. List all these words and phrases.**

Count all the words and phrases you found that you think tell the reader **WHEN** something happens. How many did you find?

\_\_\_\_\_

**Compare your list to other classmates' list. Did someone find more than you did? Can you help someone find one they did not?**

Write three sentences that tell about something you did that use the phrases you see in the story.






### ACTIVITY - 9

We began our unit on Shadow and Light with a poem about shadows. Let's finish our unit with some poems about light. These poems are about light and the first letter of every line spells light. Poems like this are called acrostics. **Read the poems.**

<b>L</b> end me a candle.	<b>L</b> ook how dark it is.	<i>L</i> ight
<b>I</b> ll set it alight.	<b>I</b> don't have a torch.	<i>I</i> n sun's rays
<b>G</b> ive me your hand.	<b>G</b> o to the wall.	<i>G</i> o up, down, and around
<b>H</b> old it tight.	<b>H</b> ere is the switch.	<i>H</i> it, bounce, and bend
<b>T</b> ogether we walk out of the dark.	<b>T</b> urn on the light.	<i>T</i> o make my shadow dance.

### ACTIVITY - 10

**Write your own acrostic using the word "light". Decorate your letters any way you wish.**

**Share your poem with your classmates.**

## Helpline

### *Going Beyond the Textbook*

*Use the internet or library resources to collect more information on light and shadow and other topics you've read about in your textbook. You can learn more about moths [http://www.wpclipart.com/education/coloring\\_pages/connect\\_the\\_dots/connect\\_dots\\_moth\\_page.png](http://www.wpclipart.com/education/coloring_pages/connect_the_dots/connect_dots_moth_page.png)*

*You can watch a video of a wonderful show made with hand shadows here <http://www.youtube.com/watch?v=ugNKGTnGIA0>. You may visit the textbook website, [www.onlinetextbook.info](http://www.onlinetextbook.info) for more activities related to light and shadow.*

Remember during the math activity that this is not a math class. Allow students time to read carefully and to compare their understanding with the understanding of others. The math problem is their way of checking their own understanding of the reading. Allow them time to re-check their reading, rather than be concerned about the answer they get.

The poem, My Shadow, is broken into short numbered lines to make it easier to read and discuss. Teachers of advanced students may wish to show students the original poem and allow students to decide if they think there is a difference in meaning or feeling.

The hand positions and diagrams for making more shadows are on the [www.onlinetextbook.info](http://www.onlinetextbook.info) site. Encourage students to have fun with trying to describe their hand positions and to experiment with other shapes. If at all possible, try to have a small, bright lamp pointed at a wall so they can test their shadow shapes. If it's not possible at school, encourage them to try at home.

There are a number of additional texts and activities prepared on this theme on the textbook website, including an alternate version of the moth fable and a series on how light works. Download them for use in your classroom on [www.onlinetextbook.info](http://www.onlinetextbook.info).

## Formative Assessment

Throughout the use of the this textbook, the goal is to encourage students to notice and produce language so that they move from a novice stage of comprehension to an intermediate stage of production. Throughout the book, the teacher's focus is on facilitation of the activities. The teacher facilitates by continually supporting students in understanding the text and questions. The teacher is never responsible for teaching the content of the lessons or for eliciting certain answers from students. Assessment should reflect this goal. Where possible, assessment should be conducted via interview or via open ended essay questions so that teachers and parents can see that students are becoming more and more proficient in producing language at an intermediate level.

The key to assessment using this design is to assess what students would know how to DO after they have accomplished the language tasks in the book. Remember that the goal in using the this design is never to test content. Students will certainly learn from the content, but content is merely there to be interesting and to give students something to focus on while learning to use the target language.

A few assessment samples are included in the Revision section of this text. Teachers can download more free, printable assessment items on [www.onlinetextbook.info](http://www.onlinetextbook.info).

