

# Storytelling with Light

Students explore concepts of science, engineering, technology and arts as they use light and shadow to tell stories in fun and creative ways.

## Prepare the materials

### Necessary materials

Tracing paper  
Sign pen  
Character cut-outs  
White A4 paper  
3V White LED  
AA battery  
AA battery holder  
Masking Tape  
Scissors  
Stage template

### Optional materials

Popsicle stick  
Cardboard  
Rubber bands  
Construction paper  
Thread

*Note: Underlined materials are to be shared among the students.*

## Curiosity

Divide students into groups of 2 each. Ask if they like stories. Get them to share names of some stories they love. Use this discussion to let them know that even movies, cartoons, shows are forms of stories, being told in different manners.

Tell them that today's class will be about storytelling using light.

Demonstrate a short *storytelling with light* example that takes less than a minute. Watching the demonstration will make them curious and will give them a model to base their ideas on.

During the demonstration, make sure you include the following:

- Changing backdrops
- Moving characters
- Change size of a character (by moving it closer/farther from the stage)
- Using color filter (to evoke certain emotions using colors)

## Activity

### Creating the story

Ask students to decide a story to tell. They will get ideas from watching the demo shown to get them curious. They can create their own story or they can also pick a story that they like.

Hand them the characters cut-out so that they can get ideas for their story and plan it accordingly.

While students are discussing stories, move around and hear them. If any group wants to work on an ambitious story, ask them to consider time and other resources, and get them to tone down the story.

## Setting up light and stage

Get students to set up their lights and stage so that they can rehearse their stories while they are working. Hand them the stage template, and the electronic components (LED, batteries and battery holder)

Ask them to refer to the student guide for help with the connections and the set up.

## Adapting story into play

Ask students to work on the storytelling part. They need to

- Create backdrops on tracing paper
- Prepare cut-outs from the template
- Prepare color filters

This segment will take some time. Get students to distribute work among themselves to make sure they work efficiently.

Encourage students to test their work using their stage set up and make changes they desire.

## Experimentation

Ask questions to get students to try different approaches..

- What kind of effects would you like to try? [examples of effects are changing size of shadows, using color filters etc]
- Can you add something to make the storytelling even more impactful?

## Presentation

Get students to rehearse their stories before presenting and figure out the challenges that can arise during storytelling. Focus students on getting their synchronization right.

After the rehearsal, ask groups to take turns to present their stories in front of the class. If the available time is less, two groups can pair up and present their stories to each other. Get other students to stop their work and pay attention to the presentations.

After the presentation, ask questions to get them to discuss in their groups.

- Did it go as you had expected? What was different?
- What do you want to improve in your storytelling?

## Suggestions for the facilitator

We found these insights and tips to be helpful while facilitating this session.

- This activity usually requires more time as students need to create many things – story, backdrops, set up lights, and they also need to rehearse to get their coordination right.
- When creating their own characters, students often don't cut them out cleanly along the borders, which makes the shadows look different from what they had intended.
- Students can find it difficult to set up the lights; especially if they haven't worked with electronics before.
- Some students, who weren't able to create a satisfactory story in their given time, might feel discouraged by seeing the good stories by other groups.
- Students aren't often clear about the way colors evoke emotions. Helping them associate colors with emotions can help them make better use of the color filters.

## Thinking

### Reflection

Ask questions to help students reflect on their learning.

- How has your perception of movies and theater changed after this activity?
- What challenges did you face while creating your storytelling activity? How did you overcome them?

You can also provide structures to support their thinking.

- Two things I learnt are \_\_\_\_\_
- I used to think \_\_\_\_\_ and I now think \_\_\_\_\_
- The most interesting part for me was \_\_\_\_\_ because \_\_\_\_\_

To get students interested in thinking about the reflection questions, merge 2 or 3 groups to form larger groups. Give each group a task to make a simple poster on A4 paper or chart paper. The poster will summarize the lesson and their learning experience, giving them an incentive to reflect.

### Think like a ...

Ask thought provoking questions to make students think from the perspective of a professional

#### Think like a physicist

- Why does the size of the shadow change with the object's distance from the screen?
- Why does the color of light change when it passes through a filter?

#### Think like an engineer

- Why is tracing paper being used to draw backdrops? Can we use opaque A4 sheets instead?

#### Think like an artist

- How can the choice of colors impact the story being told?

#### Think like a director

- What is the role of dialogues and narration in a play?

- What kind of effects can you add to make the storytelling more impactful?
- How is writing a story different from portraying it in the form of a play?

## Sample lesson plans

### 1. A 60 minute class

#### Learning Objectives

To get students to experience the play based learning approach by adapting stories into plays using light. The emphasis is on getting them to create something and play with it.

#### Classroom context

This sample lesson is designed for grade 8 students. The time available for the class is 60 minutes.

#### Lesson Flow

##### Curiosity (10/10 mins)

Talk to students about their favorite stories. As they begin to name stories they have read or heard, point it out that even movies, cartoons and comic books are stories. Get their responses and tell them that they are now going to see a different, fun way to tell stories.

Demonstrate a storytelling activity you have prepared for them. Include the following things in your demo:

- Changing backdrops
- Moving characters
- Change size of a character (by moving it closer/farther from the stage)
- Using color filter (to evoke certain emotions using colors)

##### Activity (30/45 mins)

###### Story

Give students 5 minutes to pick a story they want to adapt into a play. Provide them with the characters template to help them get ideas about the story. Due to time constraints in the 60 mins class, let them pick a story they have already heard. However, if a group wants to create their own story, allow them but emphasize on being quick.

###### Set up

Distribute the template and electronic components, and get students to set up the stage and light. Ask them to refer to the student guide for help. Give them 10 minutes to complete this.

###### Adapting the story into play

Provide students with tracing paper, colors, plastic strips and colored plastics. Let them create the backdrop, color effects, and get the characters ready.

If any groups want to create any props for their story, they can use additional materials available. Give them 15 minutes for this.

**Presentation**

Ask students to present stories to their neighbors. If they have time, they can also present stories to more groups and watch their stories too.

**Thinking (5/60 mins)**

Ask questions to help students reflect on their learning experience. Students will discuss these questions with their group members, write the key points on sticky notes and paste them on the board.

- What are two things you learnt in today's lesson?
- What wonderful ideas did you have while creating your storytelling activity?

**2. Two 45 minutes classes****Learning Objectives**

To get students to experience the play based learning approach by telling stories using light and shadow. The emphasis is on getting them to think creatively and observe the connection between science, technology and arts.

**Classroom context**

This sample lesson is designed for grade 7 students. The time available for the lesson is two 45 minutes classes, not necessarily consecutive.

**Lesson Flow****Class I****Curiosity (10/10 mins)**

Talk to students about their favorite stories. As they begin to name stories they have read or heard, point it out that even movies, cartoons and comic books are stories. Get their responses and tell them that they are now going to see a different, fun way to tell stories.

Demonstrate a storytelling activity you have prepared for them. Include the following things in your demo:

- Changing backdrops
- Moving characters
- Change size of a character (by moving it closer/farther from the stage)
- Using color filter (to evoke certain emotions using colors)

**Activity (30/40 mins)****Story**

Give students 10 minutes to pick a story they want to adapt into a play. Provide them with the characters template to help them get ideas about the story. If a group wants to create their own story, allow them

but emphasize on not being too ambitious.

### **Set up**

Distribute the template and electronic components, and get students to set up the stage and light. Ask them to refer to the student guide for help. Give them 15 minutes to complete this.

### **Adapting the story into play**

Provide students with tracing paper, colors, plastic strips and colored plastics. Let them create the backdrop, color effects, and get the characters ready.

Students will continue their work in the next class.

### **Thinking (5/45 mins)**

Ask questions to help students reflect on their learning experience. Get them to discuss with their partners.

- What was the most enjoyable part of the activity? Why?
- Mention two things you learnt in this lesson.

## **Class II**

### **Recalling (5/5 mins)**

Get students to sit in the same groups from the last class. Ask them to discuss among group members and recall their work from the previous class. You can get a couple of volunteers to share with the class.

### **Activity (30/40 mins)**

#### **Adapting the story into play**

Provide students with tracing paper, colors, plastic strips and colored plastics. Let them continue their work from the last class. Give them 15 minutes to complete it. Encourage students to test their work on the stage as they make progress.

When they are done, get them to rehearse their work before the presentation.

#### **Presentation**

Get groups to take turns to present their story in front of the class. They can carry their stages in front of the class. To make the story clearly visible for the whole class, use the flashlight of your cellphone to illuminate the backdrop.

Not every group needs to present. Pick a few groups who are eager to share their work.

### **Thinking (5/45 mins)**

Ask questions to help students reflect on their learning experience. Get them to discuss in groups and note their insights on sticky notes, and paste them on the board.

- How has your perception of movies and theater changed after this lesson?
- What challenges did you face while doing this activity? How did you overcome them?

