

## Light, Shadow and Reflection – Riddles - Shadow Puppet - EBSB

**Subject: Science- Language - Art/Craft -EBSB**

**Grade VI-Group 3**

### Learning Outcome

- Analyze how shadows are formed.
- Make predictions about the way light travels and determine whether the predictions are correct.
- Demonstrate an understanding of the terms “translucent,” “opaque,” and “transparent” through the creation of shadow puppets.
- Test the way light interacts with matter by way of transmission, absorption, and reflection.
- Create different shadow effects with a light source, puppet and screen to demonstrate an understanding that the properties of a shadow are determined by the intensity and position of the light source and the distances and angles between the light, object and surface.
- Collaborate to write an imagined narrative with a sequence of events in a shadow play.
- Perform a shadow play in front of an audience.

### Abstract:

Active learning is the best part to make students learn the concepts. From the Shadow Puppet making activity students are made aware of how light interacts with matter through the creation of puppets in shadow plays. Shadow puppetry is a wonderful art form that allows children to bring out their creativity, and builds many skills including language, drama, finer motor, and kinesthetic skills. It also describes what students can learn from making shadow puppets by implementing Project based learning (PBL).

### A. Introduction

**Icebreaking activity :** To find out the answer for Riddles.

- 1) What is dark made out of light?
- 2) Only one color, but not one size.  
Stuck at the bottom, yet I easily fly.  
Present in the sun, but not in rain.  
Doing no harm, and feeling no pain.  
What Am I?
- 3) What spends all the time on the floor and never gets dirty?

Ans: SHADOW

### B. Development:

**Interviewing and questioning:** On how light interacts with matter through picture or by holding objects in front of the screen of the class Projector to elevate critical thinking.

1) Transparent

All of the Light passes through the material

2) Translucent

Some of the light passes through the material.



3) Opaque

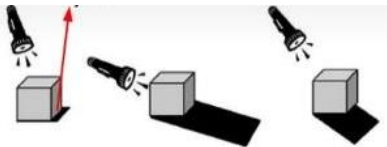
None of the Light passes through the material

4) Reflective

Light Bounces of the materials



Length of the Shadows



Examples



Size of Shadows



**C. Practice:**

**Visual Observation:** To experiment by creating a shadow puppet by using paper, cardboard , plastic or any of the waste material creatively with the help of a projector and its screen (*utilization of current technologies in the creative process.*)

1) [https://drive.google.com/file/d/1ebnEfqOrwX\\_-OWF5jYn2v\\_4\\_0N8QVSec/view?usp=drivesdk](https://drive.google.com/file/d/1ebnEfqOrwX_-OWF5jYn2v_4_0N8QVSec/view?usp=drivesdk)

2) [https://drive.google.com/file/d/1YctBYSgJKpxyY\\_KEiAyIfibSz2T8dyvu/view?usp=sharing](https://drive.google.com/file/d/1YctBYSgJKpxyY_KEiAyIfibSz2T8dyvu/view?usp=sharing)

**Method:** 21 century teaching methods - Project based learning, Design thinking, competency based learning.

**Conclusion:**

**Shadow Puppet Showcase:** 1) Invite students to perform shadow puppetry shows to check how students have made use of their understanding on how light interacts with matter through the creation of puppets in shadow plays.

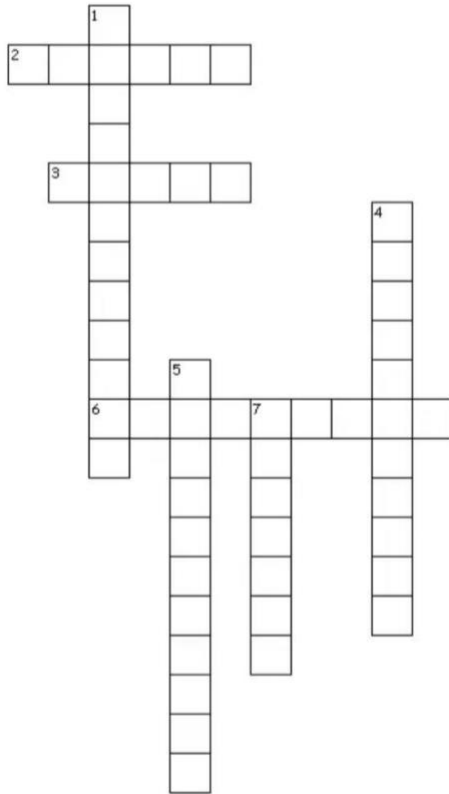
2) To form a group and perform a mini shadow puppet show by combining the various shadow puppet characters in a group that are formed in the classroom.



Mini Shadow Puppet show conducted in the class

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**Checking for Understanding:** To solve the crossword



**Across**

- 2. These objects does not allow light to pass through them
- 3. it travels in straight line
- 6. it is a device to see hidden corners

**Down**

- 1. This device uses reflection to create beautiful picture
- 4. These objects allows light to pass fully
- 5. These objects allow the light to pass partially
- 7. It is formed when opaque objects come in the path of light

Answers:

- 1 Kaleidoscope 2. Opaque 3. Light 4. Transparent
- 5. Translucent 6. Periscope 7. Shadows

**Closure:** Students will create riddles assuming themselves as a shadow.

Few examples-

- 1) I can only live where there is light. But I die if the light shines on me.
- 2) I am bigger than you but don't weigh anything.
- 3) I follow you during the day but disappear at night.

**To conclude:** We can connect the Subject Integration with Art Integration on the concept of **EK Bharat Shreshtha Bharat (EBSB)** by giving the information and showing the traditional Puppetry art from the Southern states namely Kerala, Karnataka, Tamil Nadu and Andhra Pradesh and the Eastern state of Orissa that are having their own distinct type of shadow puppetry Art.

- 1) **Tholpavakoothu** is a form of shadow puppetry that is practiced in Kerala, Tamil Nadu, India.
- 2) **Rabana Chhaya** is a form of shadow puppetry from the eastern Indian state of Odisha.

**UN's SDG: Goal 4** - (Quality Education) Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

**Goal 15** - ( Life on land) To showcase the artistic work depicting the thought of preservation of life on land.



**Educator:** Mrs. Kranti C Kulkarni  
Visual Art Teacher - GD Arts, ATD

**School Name:** S. B. Patil Public School Ravet, Pune.

## Paper Presentation on Art Integration

### Characteristics of Sound with Music

**SUBJECT: Physics and Music**

**CLASS/GRADE: Grade 9 – Group-4**

#### **LEARNING OUTCOMES:**

- Infer and demonstrate that sound is produced due to vibration of different objects.
- Explains properties/ characteristics of sound in order to differentiate materials/ objects.
- Understand frequency, amplitude and speed of a sound wave.
- Identify and perform various rhythmic patterns.

#### **ABSTRACT: A. Introduction:**

Teacher begins the lesson by showing compressions and rarefactions with the help of slinky . Teacher explains to students that sound waves are made up of alternate compressions and rarefactions. Also she shows the vibration produced in the tuning fork.

Sound through solid



Waves by slinky



Vibration by tuning fork



Compressions and rarefactions



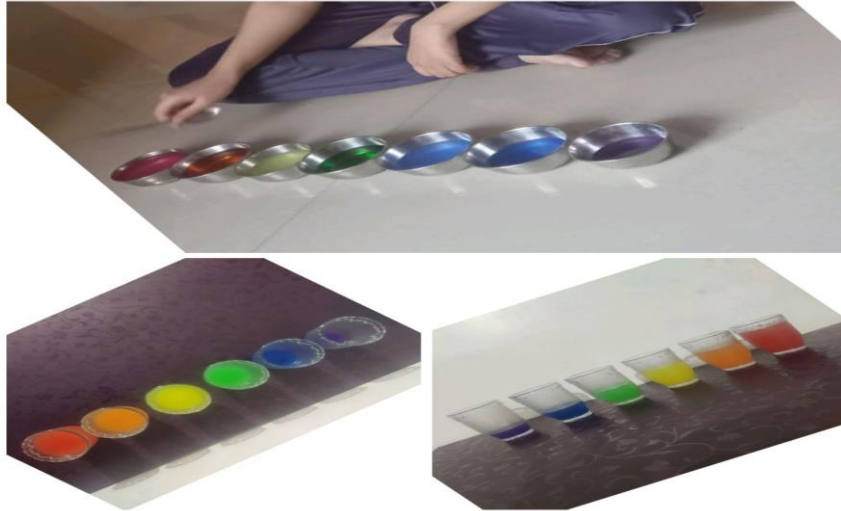
Link for the videos :

<https://drive.google.com/file/d/18dzmRPvT51A-cY6rbjE7HZ0NqvJLkjni/view?usp=sharing>

**B. Development:** Students will be taken to Torrins room to see how music is produced by percussion, wind, stringed, and electronic instruments. Students produce sounds with the help of Jaltarang and understand frequency, amplitude and speed of a sound wave .

## Teachers Got Talent – Season 2

### Paper Presentation on Art Integration



Jaltarang video:

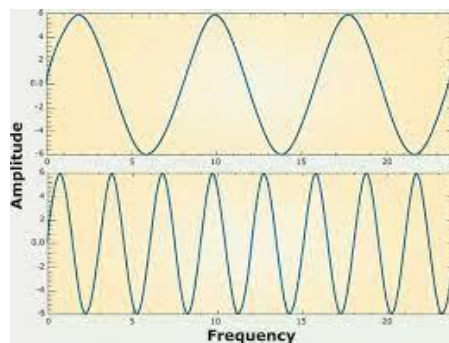
<https://drive.google.com/file/d/1h5H453MBrOXu781vchpXRjtESjIoUPzX/view?usp=sharing>

**C. Practice:** Students create the different beats with the help of infinite drum machine software.

[https://drive.google.com/file/d/15uF4ueuwn6\\_dJ9zAn-NBuWuqhPxR7-Zr/view?usp=sharing](https://drive.google.com/file/d/15uF4ueuwn6_dJ9zAn-NBuWuqhPxR7-Zr/view?usp=sharing)

**Conclusion:** In absence of medium Sound is not being propagated.

**Checking and Understanding:** Students draw the waves with different amplitude and frequency.



UN's SDG Goal – 3 (Good health and well-being) listening to music can reduce anxiety, blood pressure, and pain as well as improve sleep quality, mood, mental alertness, and memory.

**Closure:** Sound waves are longitudinal in nature.

### Paper Presentation on Art Integration

**Your Pic:**



**TEACHER' NAME: Ms. Trupti Zarkar**

**DESIGNATION: Secondary Teacher.**

**SCHOOL NAME & City: | S.B. Patil Public School,  
Surv. No. 110, Gat No. 1, Ravet, Pune - 412101**

**SIGNATURE: Trupti Zarkar**



## Teachers Got Talent – Season 2

### Paper Presentation on Art Integration

# Unlock the world of chemistry by using the joy of art and bubbles

Classroom activities to show the interconnectedness, integration and mutual reinforcement of Chemistry with bubble art, craft, SDG 6 and SDG 4 for leading the learning process from perceptual to conceptual understanding.

**SUBJECT:** Chemistry, Visual and performance Arts

**CLASS/GRADE:** Grade 10 – Group-4

**Lesson - 4** Carbon and its compounds

**Sub topic** - Soap and detergents

**Subject integration** - Science and art (Visual Arts - bubble art, photography, Performing and Language Arts- dance, Role play, and Advertisement)

→

### LEARNING OUTCOMES:

Students are able to

1. Describe the process of micelle formation in order to understand how soaps work with the help of dance form.
2. Identify and correctly use vocabulary related to chemical composition & structure of soap & detergents through role play and advertisement.
3. Use artistic and aesthetic sensibility in day-to-day life situation.

### ABSTRACT:

This integrated lesson plan for grade 10 has been conducted including chemistry and art in the form of two learning pathways - from art to chemistry (to construct understanding) and from chemistry to art (to demonstrate understanding).

#### A. Introduction: From Art to Chemistry -

1. **Artistic ice breaker activity** - Commence the lesson and surprise the students suddenly with the giant soap bubbles (preparation is given at the last). Then give students a chance to prepare the bubbles and enjoy (15 min).
2. **'5-3-1 activity' (questioning through Art):** First, students are asked to pose at least 5 general questions inspired by the giant bubble art, after which there is a discussion round in class where students are encouraged to share their questions while other students try to answer them. Then they are asked to pose at least 3

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### Paper Presentation on Art Integration

chemistry-related questions also inspired by the bubbles and share them in a second round of peer interaction. In general, here students raise questions about the materials used in the bubble making, why the bubbles show rainbow colors, why the bubbles are round only, or the techniques used to keep the bubbles long lasting. Last, the teacher asks each student to raise one proper research question and to plan the experiment through which this question can be tested.

#### B. Development:

**Expressive dance form:** After the discussion regarding hydrophobic and hydrophilic end of soap molecules with students, the teacher divides the students into groups of 10 students and asks students to show soap molecule structure by pretending each member as either carbon, hydrogen, hydrophobic or hydrophilic end. Teacher guided all groups to turn into micelle by doing the common dance steps on some music beat.

#### C. Practice:

**Design experiment for Visual Observations:** Teacher utilizes hard water and distilled water to prepare soap solution and detergent solutions and ask students to prepare bubbles and draw conclusions to study the comparative cleaning capacity of soap and detergent.

#### Conclusion:

1. **Reflective Art and craft:** encourage students to draw the structures of hydrocarbons, soap, detergent molecules and micelle using native Rangoli art and colorful 3D models/structures with the help of clay and biodegradable materials ( as the home work)
2. **Photography:** Ask students to use the skill of photography and try to think more outside the box and come away with more creative photography ideas at home with giant bubbles.

#### Checking for Understanding:

**Role play and advertisement (I am soap / detergent):** Ask students to pretend themselves as soap or detergent and do advertising or marketing using learned chemistry terms incorporating their creativity into a tangible expression of understanding. During the performing art of role play, the teacher may observe the initiatives taken by the participants, their communication skill, cooperation,

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understanding and clarity of topic, creativity in presenting the things, ability to connect and improvise the things accordingly.



#### Closure:

1. **Visual Storytelling:** Encourage students to illustrate their learning in their journals, transforming words into vibrant visuals by telling story of soap (From factory to as waste water).

**UN's SDG Goal – 4 (Quality Education), 6(clean water, sanitation):** Art and craft is the engine of quality education for student's participation through creativity which is a pillar for the basic principles of sustainable development. Connect the lesson to the use of soap for proper sanitation and Ensure healthy lives.



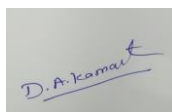
**TEACHER' NAME: Ms.Darshana Atul Kamat**

**DESIGNATION: Secondary Section Coordinator**

**SCHOOL NAME & City: S B Patil Public School,**

**Pune**

**SIGNATURE:**



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# SYMPHONIES IN THE SIGN

## FINDING THE INHERENCY OF ART IN SIGN LANGUAGE, AND USING VISUAL AND PERFORMING ARTS AS A MEDIUM OF INSTRUCTION FOR SIGN LANGUAGE



### FACULTY

1. **Dr. Rohit Sarkar:** Media and Publishing Department Executive, Writer and Editor-in-Chief
2. **Dr. Bindu Saini:** Principal



### INSTITUTE

S.B. Patil Public School  
Surv. No. 110, Gat No. 1  
Ravet, Pune - 412101  
Maharashtra



### TARGET AUDIENCE

Students of Grades IX to XII (Group 4)



### ABSTRACT

Understanding how art is inherently fused in sign language, and using visual and performing arts to teach the basics of sign language.



### ART FORM INTEGRATED

Visual and performing arts: drawings, videos and music/ songs/ poems/ rhymes.



### UNITED NATION'S SDG INCORPORATED

**Goal #4:** Quality Education | Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.



### SIGN LANGUAGE USED IN INSTRUCTION

American Sign Language (ASL)



### LEARNING OBJECTIVES

- ✓ Learning the ASL letters of the alphabet, and numbers from 1 to 30, 100, 1000, million and billion.
- ✓ Understanding sentence structure, i.e. Time + Subject + Verb + Object (+Time).
- ✓ Learn basic words.
- ✓ Form simple sentences used in everyday conversation.



### TEACHING METHODOLOGY

- ✓ Using verbal interaction and a PPT to provide an overview of sign language.
- ✓ Incorporating mix of blackboard teaching and video lessons to teach letters of the ASL alphabet and numbers.
- ✓ Using video lessons to teach words and phrases used in everyday life.
- ✓ As assignment, asking students to select their favourite songs/ poems/ rhymes, and translate that into sign.



### LEARNING OUTCOMES

- ✓ Learning the ASL letters of the alphabet and numbers.
- ✓ Ability to sign basic everyday words and phrases such as "Please, thank you, I go home, I eat lunch, etc."
- ✓ Development of sensitivity and empathy (equality, equity and accountability) towards those with hearing and speaking impairments as part of inclusive education.
- ✓ Learning sign language will not only be a foreign language learned but will imbibe 21<sup>st</sup> Century skills in learners via the ability to communicate with people with hearing and speaking impairments.