

Whole Class Assembly/Presentation

Topic

Light – incorporating Diwali. Ideal for performance late October to mid November.

For class size

20 to 40. In classes with fewer children some will need to take more than one of the smaller speaking parts.

Summary

The assembly begins by considering various sources of light, and how light is important in our daily lives. Following a short lesson about how we see there is a demonstration of how light can be blocked (forming shadows), or can pass through materials depending on whether they are translucent, transparent or opaque. We move on to look at how light can be reflected and how mirrors are useful in various situations. There follows a short dramatic presentation of the story of Rama and Sita and the origins of Diwali, the Hindu festival of lights. An optional prayer and then a song, 'Let There be Light', close the assembly.

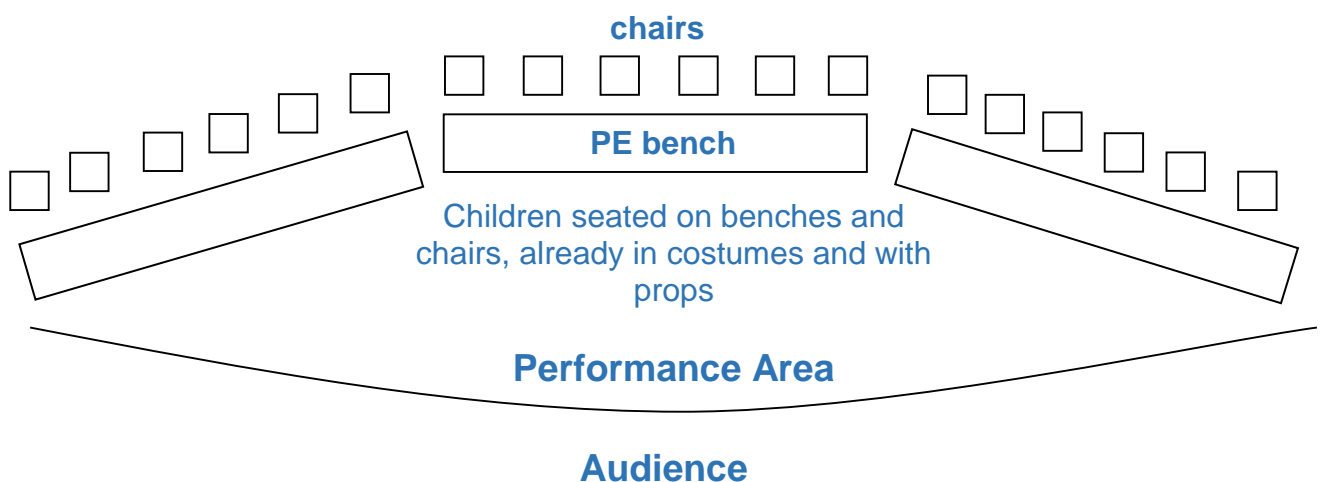
Duration

20 – 25 minutes

Props/costumes to make or collect

For the demonstration of sources of light you will need a candle and match/lighter, a torch, an apple, a cardboard box and a duvet/blanket. Make A1 size cut-outs of the sun, a house and an eye for the explanation of how we see. For the section on light and materials you will need a powerful torch, a white board, an A3 card cut out (any shape), a transparent and a translucent sheet of plastic or cellophane and 3 sturdy sticks of dowel. A large mirror and display board are required for the reflection demonstration. For the Diwali play children should be dressed in traditional Indian garments. For Ravana cut ten holes in a sheet for ten children to put their heads through, and give them ghoulish masks to wear. Hanuman will need a monkey mask, and all children should have a decorated paper lantern.

Seating



(4 children and the teacher stand at the front facing the audience. If possible your hall curtains should be shut. The lights are switched off.)

Child 1 Let there be light!

(The teacher strikes a match, lights a candle held by child 2 and stands beside him/her.)

Child 2 Fire is a source of light!

(Child 3 points at the ceiling as someone switches on the hall lights.)

Child 3 Electric bulbs are a source of light!

(Child 4 points at the windows as others open the curtains.)

Child 4 The sun is a source of light!

(The teacher blows out the candle and resumes his/her place.)

Child 1 Now that's better isn't it. We can all see what we're doing. Welcome to our assembly which is all about...yes, you've guessed it....Light!

Child 2 As you've just seen, light can come from various sources. A source of light is something which gives out, or generates light.

Child 4 Since the dawn of time the sun has been the earth's major source of light. Although it is approximately 150 million kilometres away its light has helped the earth to evolve and sustain many living organisms.

Child 3 Only very recently have humans introduced other sources of light to the planet. First fire, which was really only needed for warmth and cooking, and then electric light which enabled our waking hours to continue long after the sun set.

Child 1 So what's so great about light? Let's look at a few examples of how it brightens up our lives.

(The 4 sit down and 3 more take their places. Child 5 has a box on his/her head, child 6 holds an apple, and child 7 is under a duvet or blanket with a torch. Child 5 staggers aimlessly and bumps into child 6!)

All OI! TAKE THE BOX OFF YER 'EAD!

Child 5 *(removing the box and blinking)* Ooh! That's better. The major benefit of light is that it is the reason we can see. Without light it would be impossible to get things done. OK, moles and earthworms seem to manage without light and sight, but I want more out of life than crawling around eating bugs and dirt!

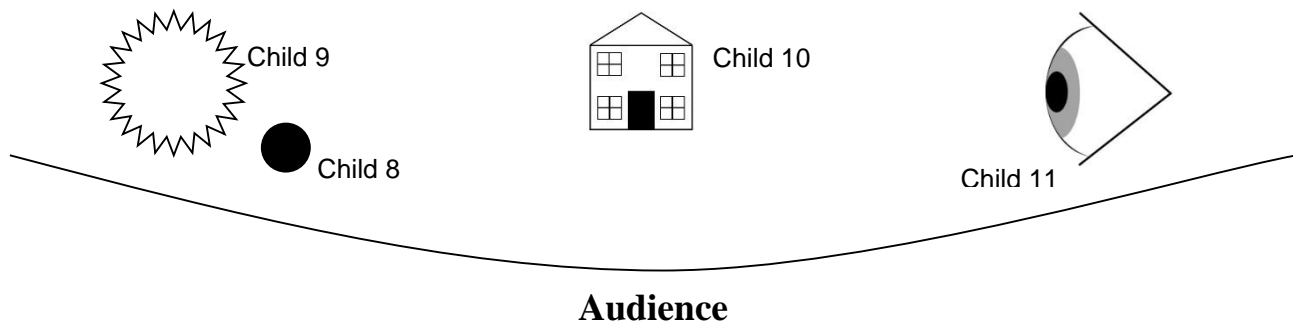
Child 6 Without light nothing on our planet would grow. It's not a coincidence that it's in the warmer months of the year, with more daylight, that our crops grow. Photosynthesis is the process these crops use to feed themselves, and this word literally means 'made using light'. So without light we'd all starve! (*bites apple*)

Child 7 (*emerging from beneath the duvet with a torch*) Many years ago people would go to sleep when darkness fell. But nowadays electric light lets us carry on with the day's activities long after dark, which is helpful because I forgot we've got a spelling test tomorrow and I haven't learned my words.

Hidden voice It's midnight! Go to sleep!

Child 7 (*going back under the duvet*) I guess I'm in for a long night!

(*These 3 sit down and 4 more take their places as shown. Child 9 holds a diagram of the sun, child 10 one of a house, and Child 11 one of the human eye.*)



Child 8 Let's take a closer look at the important part light plays in letting us see things around us. Our eyes are obviously the parts of our body which see objects, but it isn't the objects themselves which go into our eyes. That would be pretty painful! It's all to do with the movement of light.

Child 9 Firstly, a source such as the sun gives out rays of light. These rays of light travel in perfectly straight lines in all directions, and incredibly fast – around 300km per second!

(*Child 8 moves from the sun to the house.*)

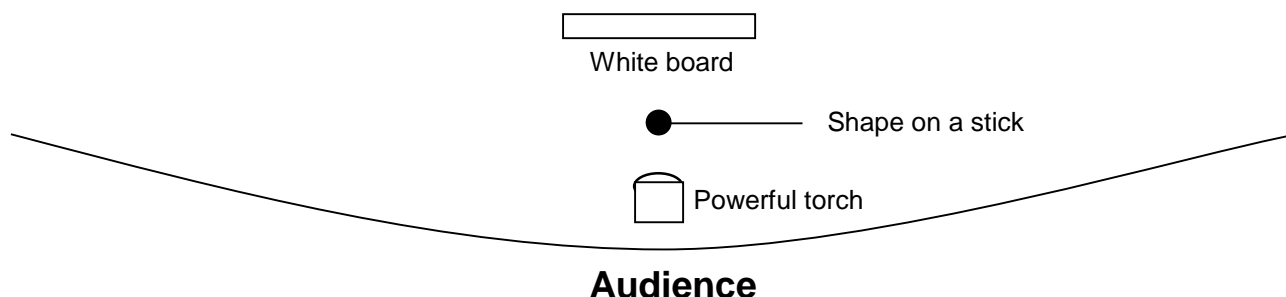
Child 10 These rays then hit any and every object that can be reached in a straight line, in this case a house. They then bounce off the object and carry on travelling in straight lines. If a person is facing the object some of the light rays will travel into their eyes, if they are open.

(*Child 11 moves from the house to the eye.*)

Child 11 The light rays travel into the eye through a hole called the pupil. The lens then focuses them, and a perfect image of the thing we are looking at is projected onto the retina at the back of the eye, which is a bit like a movie screen. Information about this image travels down the optic nerve to the brain, which makes sense of the object we're looking at.

Child 8 That's why it's impossible to see in total darkness. Unless light is bouncing off objects and entering our eyes, we don't know where things are.

(These 4 sit down and 4 more take their places. They position powerful torch in front of a white board or white-covered display board as shown.)



Child 12 An interesting thing about light is the fact that it can be blocked by certain materials, depending on their properties. Here we have torch which is shining light onto the surface of this white board. All the light from the bulb is reaching the board.

Child 13 But watch what happens when I put this shape, cut from card, in the way of the light on its journey from the torch to the white board.

(A cut-out shape on a stick is held between the torch and the white board, so a shadow can be clearly seen.)

The card is what we call opaque. This means it doesn't let any light pass through it. The light rays hitting the shape are blocked and cannot travel onwards to the board, which is why you can see a dark area which we call a shadow. This shadow is exactly the same shape as the object which is blocking the light.

Child 14 ~ If (*child 13's name*) moves the shape nearer to the light watch what happens... ..the shadow gets bigger because more light rays are blocked. If s/he moves away from the light source and nearer to the board watch what happens.....the shadow gets smaller because fewer light rays are blocked. And when the opaque shape is removed completely from the passage of light rays.....the shadow is no more, as all the light can reach the board.

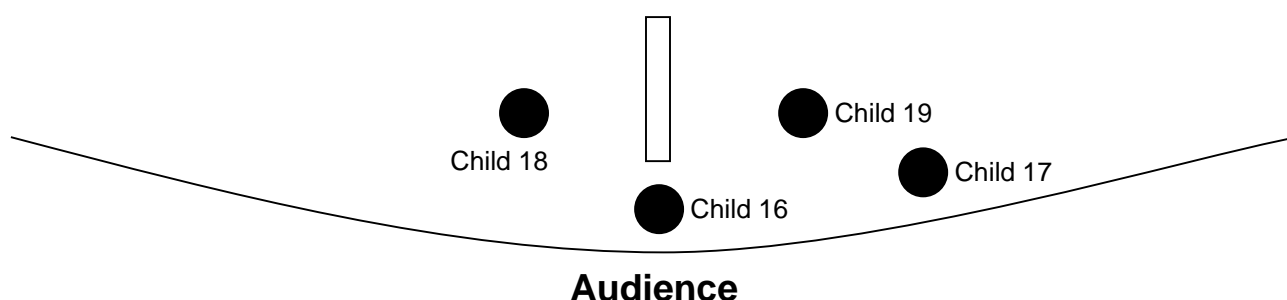
Child 15 Now watch what happens when I put this sheet of clear plastic in the way of the light on its journey from the torch to the white board.

(An A4 transparency sheet on a stick is held between the torch and the white board. The shadow of the stick will be visible, but not the sheet.)

The clear plastic is what we call transparent. This means it lets all the light rays pass through it, and they travel onwards to the board without casting a shadow. The stick, however, is opaque and blocks the light, which is why you can see its shadow. Transparent materials like glass are used for windows or car windscreens so you can see everything on the other side of them, if they are clean of course!

Child 12 Look at this material (*holding a stiff, coloured cellophane sheet attached to a stick*). This material is what we call translucent. It lets some light rays through but blocks others. If you look at the white board you'll see a coloured area where some light has been blocked. We can tell that some light is passing through because the shadow is not colourless and dark like the one cast by the card cut-out. You can see through translucent material but everything on the other side will appear coloured or frosted. (*Holding cellophane to face and peering through*) Actually, looking at you lot out there, I wish this was an opaque material! Eurgh! Horrible!

(These 4 sit down and 4 more take their places as shown. Child 16 has a large mirror. The torch is removed and the screen is moved to a new position as shown.)



Child 16 Now, some opaque materials not only block light, but actually bounce it back again! We call this reflection. To do this they have to have a very shiny surface, and a mirror, like this one, is the best thing in the world for reflecting light.

Child 17 How it works is like this. When you stand in front of a mirror a light source shines rays onto you, the object. These rays bounce off you and travel to the mirror. The mirror's shiny surface bounces these rays back at you and into your eyes, so what you see is the object the light rays first hit – which is you! Hey presto, a reflection.

Child 18 Depending on the position of the object being looked at and the angle of the mirror, the light can bounce off the surface in a different direction, so someone other than the person holding the mirror can see the reflection. For example, if I want to see what (*child 19's name*) is doing on the other side of the screen I can use the mirror that (*child 16's name*) is holding....like this.

(Child 16 holds the mirror facing the screen. Child 17 stands by Child 19 who waves.)

Child 19 Light from a source hits me then bounces off in all directions. You can see me out there because some of the light bouncing off me is travelling straight to your eyes. It can't reach (*child 18's name*)'s eyes, however, as the screen is in the way. But some light rays do hit the mirror....(*child 17 moves from child 19 to the mirror in a straight line to show the direction of the rays*). Then they reflect off the shiny surface at the same angle they hit it and travel straight to (*child 18's name*)'s

eyes. *(child 17 moves from the mirror to child 18 in a straight line to show the direction of the rays).* S/he can then see that I am.....

Child 18 ...waving!

Child 16 Just to prove we're not making this up we'd like two volunteers from the audience.

(Two volunteers are chosen and take the places of children 18 and 19.)

Child 17 *(to first volunteer)* Now, you make gesture with your hands. Any gesture as long as it's not rude!

Child 19 Light hits you and travels to the mirror. It reflects off the shiny surface at the same angle they hit it and travel straight to *(2nd volunteer's name)*'s eyes. S/he can then see that *(1st volunteer's name)* is.....

2nd volunteer*(s/he says whatever volunteer1 is doing)*

Child 16 Without mirrors there would be so much we couldn't do. Reverse our cars into a parking space, for example. Have a nice, close shave. Make sure our bottoms don't look too big in a new dress! We'll let you reflect for a moment on just how important mirrors can be!

(These 4 sit down and 5 narrators stand to one side.)

Narrator 1 The religious festival of Diwali, celebrated at this time of year by Hindus and Sikhs around the world, has light as its central theme – indeed it is referred to as the 'festival of lights'. The lighting of lamps or 'diwas' symbolises the hope and happiness of new beginnings.

Narrator 2 A main feature of Diwali is the famous story of Prince Rama and his beautiful wife Sita, as told in a book called the Ramayana. We would like to tell you this story.

(A king and queen sit on two thrones in the centre of the performance area, Rama and Sita sit on two stools to the left, and Bharat and Lakshman sit on two stools to the right. As they are introduced they stand.)

Narrator 3 Rama was a strong and handsome prince who lived a long time ago. He had married Sita after proving his strength to her father by bending a heavy bow and breaking it into many pieces.

Narrator 4 Rama had two brothers, Prince Bharat and Prince Lakshman. Their father and mother, the king and queen, were elderly and the day soon came when they needed to discuss the future of the kingdom.

King My dear family, as the months pass I feel myself becoming weaker. Rama, I am too old to rule this land so I would like you to become the new king in my place.

Narrator 5 But the queen did not like Rama, and had other plans for who should sit on the throne.

Queen Husband, your choice of successor displeases me. Give the throne to Bharat instead, and banish Rama and Sita to the forest.

Narrator 1 Not wanting to upset the queen the king did exactly as she asked of him.

King Rama, although it saddens me, you must take Sita and leave the kingdom. Do not come back for fourteen years.

Narrator 2 So Rama, Sita and Lakshman too left the palace and were banished to the forest.

(They exit to one side, whilst the king exits to the other, leaving Bharat and the queen alone.)

After some time the king sadly died.

Queen Bharat, my favourite son, your time has come. Now you are king.

Bharat No, Mother! This is not right. Father wanted Rama to be king and I must respect his wishes. I will go and find my brother and bring him home.

(They both exit and the thrones are pushed to the side. Rama, Sita and Lakshman enter and sit on the floor. Bharat then joins them)

Narrator 3 So Bharat searched the forest until he found Rama, Sita and Lakshman.

Bharat Oh, what joy to find you at last! Brother, our father the king is dead. It is time for you to do as he wished, and return to take the throne.

Rama Brother, I cannot. My father told me to stay away for fourteen years and I must obey him.

Bharat Then give me your golden sandals, Rama. I will put them on the throne in your place, and there they shall stay until you return as king.

(Bharat takes Rama's sandals and places them on the throne, then exits.)

Narrator 4 So Bharat did just this, and promised to care for the people of the kingdom until the rightful king came home.

(Ravana – see notes on costume – enters and stands to one side, watching Sita.)

Narrator 5 Now, back in the forest an evil 10-headed demon named Ravana was secretly watching Sita. He wanted her for his own wife and was waiting for a chance to take her.

Lakshman Come, Rama. We are in need of food and must go hunting.

(They exit leaving Sita. Ravana approaches her.)

Narrator 1 Ravana saw his chance and approached Sita.

Ravana Beautiful Sita, The forest is no place for you. Come to my home and live in splendour as my wife.

Sita Never! I'd die before I betrayed my husband for a monster such as you.

Narrator 2 So Ravana captured Sita and took her, screaming and kicking, to his far away island, where he kept her prisoner.

(Ravana drags Sita to the side. Rama and Lakshman return, surprised at Sita's absence.)

Rama Sita! Where are you? We have food. Come and eat.

Lakshman I sense all is not well, Brother. It is not like Sita to wander off.

Narrator 3 As the two searched for Sita, the monkey king, Hanuman, who had seen Ravana take her to his island, told Rama of the fate of his beautiful wife.

Hanuman I can lead you to where Sita is held captive. I am at your service should you need help in rescuing her.

(The three walk a circuit of the performance area, until they reach Ravana, who has moved to the centre. Sita still crouches to one side.)

Narrator 4 So Rama, Lakshman and Hanuman travelled to Ravana's island in search of Sita. When they arrived Rama challenged the demon.

Rama Release my wife you evil brute, or face the consequences!

Ravana Never. The girl is mine. Return to where you came from and disturb me no more.

(A violent struggle follows in which Rama slays Ravana.)

Narrator 5 A ferocious battle followed. Rama, Lakshman and Hanuman fought like heroes until Ravana was eventually slain. Rama and Sita were overjoyed to be reunited.

Sita Oh my dear husband! I knew you would save me. Please let us now return home where we can be safe.

(Everyone holds up their lantern. The thrones are brought to the middle.)

Narrator 1 Rama had been away for fourteen years. It was at last time for him to return home and become king. He and Sita, followed by Lakshman, made the long journey back to the palace. As they approached the people held lanterns so the new king and queen could find their way.

(Rama and Sita sit on the thrones.)

Narrator 2 Rama and Sita ruled over a happy and prosperous kingdom, and from that day until now their return has been celebrated each year with the lighting of lanterns, in the festival we call Diwali.

(Everyone but Narrator 3 goes back to their seat.)

Narrator 3 Let us pray.

Dear God, thank you for the gift of light and for all the benefits it gives us. Help us to bring a little light and warmth to those whose lives are darker and colder than ours. Bless everyone who is, at this time, celebrating Diwali, and let their hopes be fulfilled as they make new beginnings. Amen

Song – Let There Be Light

The End

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