

The roots of ritual



Botanic Garden Lesson Plan

Lesson title	The roots of ritual
Learning objective	Pupils understand the importance of plants in rituals and how plants' properties have inspired their religious use and also the manufacture of new everyday products
Pupils will:	■ Learn about Hinduism rituals and symbols that feature the lotus plant (<i>Nelumbo nucifera</i>) ■ Explore in small groups through experiments why the lotus plant is the symbol of purity in Hinduism ■ Appreciate the lotus plant for its properties (lotus effect) and how it has helped to improve our everyday lives
Key words	Hinduism, Lotus, <i>Nelumbo nucifera</i> , lotus effect, purity, self-cleaning glass

Plan	Resources
<p>Introduction</p> <p>Ask pupils: 'Do you know of any plant that is a symbol in religion or humanism and is also used in a ritual/celebration?' Following their responses explain that today they will learn about a plant that is very important in Hinduism. It has been researched by scientists and has inspired the making of items that improve our everyday lives.</p> <p>Show the pupils a variety of images (Resource 1) and ask them if they can identify any similarities. Do not include the captions of the images so that the pupils think for themselves about what the images illustrate. Encourage them to think about the images in a variety of ways, for example to think if there are any similar shapes/colours. After the pupils express their opinion tell them that all the images are linked in one way or another to the lotus plant (<i>Nelumbo nucifera</i>).</p> <p>Use the information below to explain the links between the images and show how Hinduism is linked to the lotus plant:</p> <ul style="list-style-type: none">● The Hindu temple Akshardham in Delhi, India includes a garden which is shaped according to the lotus flower (indicate the links with the image <i>Nelumbo nucifera</i> flowers)● The towers of the Hindu temple Angkor Wat, in Cambodia, are based on the shape of the lotus bud (indicate the links with the image	<p>Resource 1: Images of the lotus plant and how it is used in Hinduism</p>



Plan

Resources

Bud of *Nelumbo nucifera*)

- Lakshmi is one of the important deities in Hinduism and is often depicted holding lotus flowers in her hands and standing on a fully bloomed lotus flower. Lakshmi, is the goddess of wealth, prosperity (material and spiritual), light, wisdom, fortune, fertility and generosity. It is also mentioned in the Mahabharata (epic of ancient India) that Lakshmi emerged from a lotus which grew from the forehead of Lord Vishnu, and a garland of 108 lotus seeds is today used for the worship of Lakshmi (indicate the links between the image *Nelumbo nucifera* flowers and the lotus plant depicted on the image of Lakshmi)
- Lotus position: The lotus position is a cross-legged sitting posture which is commonly used for meditation in Hindu Yoga. The position, which is said to resemble a lotus flower, encourages proper breathing. It is associated with meditative practice and is said to foster physical stability. The lotus position is adopted by those who want to reach a higher level of consciousness (indicate how the lotus position looks like a lotus flower)
- Puja is a religious ritual performed by Hindus which is based on the idea of giving a gift or offering to a deity or an important guest and receiving their blessing. During puja, flowers are offered to the deity including lotus flowers.

After discussing the links between the images ask the pupils to describe the lotus plant as it appears on the images *Nelumbo nucifera* and *Nelumbo nucifera* flowers. Then point out to the pupils that the plant grows in aquatic environments but stands high above the water surface. That phenomenon has been used as a metaphor in Hinduism. In the Bhagavad Gita, man is suggested to be like the lotus-he should work without attachment, dedicating his actions to God-untouched by sin like water on a lotus leaf and the beautiful flower standing high above the mud and water.

Ask pupils to describe the lotus plant. Explain that the plant (*Nelumbo nucifera*) is also known as the Indian Lotus or Sacred Lotus of India. It is an aquatic perennial which is native to Tropical Asia and Queensland, Australia and is cultivated in water gardens. The roots of the plant are planted in the soil of the



Plan	Resources
<p>pond or the river bottom while the leaves and the flowers usually rise above the water surface. The plant is often used as ornamental especially its flower head in flower arrangements, while the flowers, seeds, young leaves and rhizomes are all edible and are used in the cuisine of Asian countries.</p> <p>Ask pupils to say if the lotus plant reminds them of any other plant that they know of? Explain that the lotus plant has been often mistaken as being associated to the water lily. However, they do not belong to the same family/group of plants. Lotus leaves and flowers rise above the water level while leaves of water lily float on the water surface. Also, the lotus flower has a structure at the centre which develops into a distinctive circular seedpod and water lilies do not have that structure.</p>	
<p>Activity 1 Explain to the pupils that in Hinduism the lotus plant is the symbol of beauty, non-attachment, purity, fertility and perfection. Ask the pupils 'Why do you think the lotus plant is the symbol of purity in Hinduism?'</p> <p>Split the class into four groups and explain that they will find out the answer to that question through a series of experiments. Note: Before the lesson starts you need to prepare four workstations with the relevant resources on each table (Resource 2).</p> <p>Give each group one worksheet and pencil (Resource 3) and tell them to find one workstation each and conduct the experiment using the available equipment. Each experiment is based on a different research question and they will need to record their findings on their worksheet. One person from the group will be allocated to record the findings.</p> <p>Each group will have 10 min to spend in each workstation and then they will move to the next workstation in a rotational way. Tell the pupils that by conducting all the experiments together they will be able to determine why the lotus plant is the symbol of purity in Hinduism.</p>	<p>Resource 2: Materials for experiment workstations</p> <p>Resource 3: Experiment worksheets</p> <p>Resource 4: Explanations on the workstation experiments</p>



Plan	Resources
<p>Note: It doesn't matter whether a group starts from No1 workstation or No3 workstation but it is recommended that they move from one to the next in a rotational system.</p> <p>When all groups will have finished conducting all the experiments (in all four workstations) ask them to remain in their seats and each one to present their findings only from their last workstation. That way each group will report their findings on a different workstation. The other groups can also add comments. Use the information provided in Resource 4 to complement and discuss further the findings that each group presents. In the end ask the pupils: 'Why do you think the lotus plant is the symbol of purity in Hinduism?'</p> <p>After pupils give the responses, explain that the lotus plant because of its self cleaning property, called by the scientists as lotus effect, has become the symbol of purity in Hinduism and has been used in many Hindu rituals. Point out that during the experiments pupils had the opportunity to explore the amazing property of the plant and its importance not only for the plants survival but also for improving materials that we use in our everyday life such as the self-cleaning glass, paint for buildings, waterproof fabrics etc.</p>	
<p>Plenary: (Noughts and crosses game)</p> <ol style="list-style-type: none"> 1. Draw up on the board a noughts and crosses grid. 2. Split the class into two groups. 3. Pick a team leader from each team to come to the board 4. Ask questions about the Roots of ritual lesson. 5. Pupils will have to put up their hand if they know the answer 6. First team to put hands up gets to answer the question 7. With correct answer, the team leader puts a mark in the grid. A wrong answer means a handover to the other team. 8. Anyone who cheats (whispers the answer is out) 9. The team that gets three in a row is the winner. <p>Questions to ask about the lesson include:</p>	

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Plan

Resources

- What is puja and how is it linked to the lotus flower?
- Name a Hindu goddess who is related to the lotus and explain how.
- Identify two ways that Hindu temples have used the lotus plant
- What is the lotus plant a symbol of in Hinduism (name 3 symbolisms)?
- What is the Latin name of the lotus plant?
- What is the lotus effect?
- Name two other plants that demonstrate the lotus effect.
- What happens when you pour liquids on a lotus leaf?
- How has the lotus leaf inspired the manufacture?
- Why do the lotus leaves have a very special leaf structure?