

# **Plantastic! exhibition - Education package**

**13 February to 3 September 2010 at World Museum**

## **Background**

Working in partnership with museums in Belgium, Holland and France, National Museums Liverpool has developed a new interactive science exhibition exploring the fascinating world of plants, the critical role they play in sustaining life on earth, and their importance in securing the future of our planet.

This innovative touring exhibition brings plants to life and enables young people to explore how plants affect our everyday life. Following the National Curriculum for Science (life processes and living things), it complements the education of children aged 7-14. Presented in a fascinating and accessible way, 'Plantastic!' brings the environment to life for children and adults alike.

## **Education Session**

We are offering a demonstrator-led session for KS2 children using handling collections, practical activities and photographs. Students get a chance to learn about life processes in plants by looking at Bamboo in some detail. By focusing on this versatile example we can see how plants have vital roles in our everyday life.

For instance, uses of bamboo include:

- Scaffolding and building materials.
- Cooking utensils.
- Feeding the world: as part of the grass family which feeds the majority of the world's population (Wheat in Europe, Maize in the Americas and Rice in Asia).
- Research into use as a sustainable fuel with neutral CO2 output.
- Clothing.

Bamboo has an interesting life-cycle when compared with many other plants. For example:

- Bamboo is the fastest growing woody plant - up to 60cms a day.
- Flowering is gregarious, infrequent and in some cases a reaction to environmental conditions.
- One plant can have a very long life span, as long as 120 years.

We will also cover the following topics:

- The variety of plants and what makes it important to identify them and assign them to groups.
- How plants adapt to diverse and different habitats.
- The parts of the flower and their role in the life cycle of flowering plants.
- Pollination, seed formation, dispersal and germination.
- The effect of light, air, water and temperature on plant growth.

Sessions last approximately 40 minutes and are based in the 'Plantastic!' exhibition. They are for classes of up to 35 students. A tour of the gallery can be an optional part of a visit, but is not part of the demonstrator-led session.

We are also offering the choice of two projects that can be completed back in the classroom for which we supply all the material and instructions.

### **Project 1**

#### **Making a key with pine cones**

How to make a key

How locally occurring plants can be identified and assigned to groups

### **Project 2**

#### **Duckweed - how much can you grow?**

The effect of light, air, water and temperature on plant growth

The role of the leaf in producing new material for growth

**Sessions are available at 10am, 11am and 12noon, Monday to Friday during term time.**

**All sessions are free and are suitable for students studying at Key Stage 2.**

**For further information or to book a session, please telephone 0151 478 4296.**

## 'Plantastic!' KS2 Lesson Plan

Learning objectives covered in the session are highlighted in red

Meet the students and give an introduction to the learning package.

**5 minutes**



Introduce and explain the importance of the grass family. Talk about bamboo as an economically important member of the group.

**5 minutes**

**The variety of plants makes it important to identify them and assign them to groups**



Talk about the uses of bamboo throughout the world as building material, clothing, scaffolding, food, and in medicines.

**10 minutes**

**To show how plants adapt to diverse and different habitats**



Mix and match practical activity – show images of plants along with pictures of their uses. Then see if the children can match the plant to its use.

For example, a picture of a cotton plant would match a picture of a t-shirt.

**10 minutes**



Inform children about the unusual life-cycle of bamboo, and show how this compares to the life-cycles of other flowering plants.

**5 minutes**

**Parts of the flower and their role in the life cycle of flowering plants**



Provide children with different fruits and seeds to look at and discuss the differences and similarities, e.g. size, shape, colour etc.

**5-10 minutes**

**Pollination, seed formation, dispersal and germination**



Inform children about how plants move – towards the sun, growth rhythms etc.

Show a video of 'Arabidopsis' circadian rhythms.

**5 minutes**

**The effect of light, air, water and temperature on plant growth**



Plenary session and discussion of the follow-up activity **5 minutes**