MUSEUM OF SCIENCE & INDUSTRY

Electricity Gallery

Guidance Notes for KS1 Teachers

These notes outline a sequence that KS1 teachers (or adult helpers) could use to guide a group of children around the Basement and First Floor of the Electricity Gallery. The notes suggestion how you can focus the children's observations and structure discussion but you are of course free to adapt the guidance to meet the specific needs of your children.

The notes for each exhibit include:

- learning objectives;
- suggestions for questions and explanations;
- specialised vocabulary;
- background information on the exhibits.

You should allow between 30 to 45 minutes, depending on how the discussion develops, to follow the sequence described. You will find it easier to manage the discussion with children by dividing the class into smaller groups.

How does this guidance relate to the National Curriculum?

It principally intended to support KS1 teachers working on:

- electricity in the science curriculum;
- way of life (homes, domestic appliances) in the history curriculum.

The questions provide opportunities for pupils to:

- identify differences between ways of life at different times;
- find out about the past using artefacts.

They could also be used to support activities in English by encouraging pupils to develop and communicate their knowledge and understanding through speaking and listening, and reading and writing activities.

What else is there at MoSI that is relevant?

The Collections Centre, our open storage gallery, (open Tuesday to Saturday) contains a range of domestic electrical appliances.

The Textiles Gallery includes an area about laundry that contains electrical appliances.

What could I do to prepare the children?

It would be helpful if the children have looked at the uses of electricity in modern homes and attempted activities to develop their awareness of homes and domestic objects in the past.

How can I enhance the children's experience of the gallery visit?

Activity Sheets for use with the 1930s and 1950s room sets in the gallery can be downloaded from the education section of the Museum's website. The sheets require children to identify and record the electrical appliances in the room sets according to their

purpose and to think about what the electricity makes (heat, light, sound, movement etc) as it is used.

Follow up work back at school could focus on the uses of electricity in the home or explore how domestic household tasks were done in the recent past. Suggested activities could include:

- the safety aspects of mains electricity and batteries,
- things that use batteries and how they work,
- investigating magnets,
- constructing simple circuits,
- investigating various light sources including electrical,
- convert role play corner into 1930/1950 room,
- construct now and then 3D models of homes.

<table>
<tr><th colspan="2">The Basement: Interactive Exhibits</th></tr>
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<td>• that electricity takes a number of different forms (mains, batteries, static and plasma)
• that electricity makes sound, light and movement
• that electricity can be generated using magnets</td>
<td>Allow the children time to explore the interactives.

As they do this discuss their observations and explanations of the phenomena exemplified by the interactives.

You could extend their experiences of the interactives by explaining that:

• early scientists were very interested in electrical phenomena and the display cases nearby contain scientific equipment used in their investigations. It is because of work done by scientists that we are able to use electricity to make our lives easier today.

• the generating equipment on display nearby in the basement makes electricity by rotating magnets within coils of wire and that the mains electricity we use today is made in power stations in this way. (You may want to take the children to see the generating set in the turbine hall on the upper ground floor of the Electricity Gallery to give them a sense of the scale of electricity generation.)

Background information

The following interactives are in the Basement area.

Racing circuits : Move a ring along a zigzag rod without touching the rod. Touch the rod and a bulb lights and a buzzer sounds when the circuit is completed.

Static electricity : Rub a plastic case containing polystyrene to generate static electricity.

Be a battery : Put both hands on metal discs to complete an electric circuit.

Make electricity : Move a magnet in and out of a coil of wire to generate a current.

Lightning ball: A glass filled sphere of lightning!

Jumping ring : Press a button that generates a current. This creates an electric field causing a ring to jump up a column.</td>
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First Floor: Electricity in the Home; Room Sets	
• to identify and recognise electrical appliances made and used in the past • how electricity was used in homes in the past • about the similarities and differences between old and modern homes	Ask the children to look at the rooms. What do they notice? Explain that the rooms are intended to show how people used electricity at two points in the past. How are the rooms similar to, and different from modern homes? Which of the appliances on display use electricity? What jobs would they do? How would you do those jobs without electricity? Who would do that work? How are the appliances in the rooms similar to and different from those in modern homes? What appliances do you have in your home that are not on display, i.e. that had not been invented at this period (e.g. microwave, computer, CD player, DVD player, etc.)? Activity sheets are available to help the children focus on the appliances in the rooms. **Background Information** There are four room sets of 'ideal homes' from the 1930s and 1950s with a range of domestic objects in context. 1930s Kitchen: cooker, fridge, iron, washing machine, vacuum cleaner, ceiling light and fire. 1930s Sitting Room: fire, toaster, ceiling light, lamp, radio, television, kettle. 1950s kitchen: washing machine, cooker, kettle, food mixer, transistor radio, fridge, coffee percolator, spin dryer, dishwasher, toaster, ceiling light (see below). 1950 Sitting Room: ceiling and wall lamps, telephone, radiogram (a combined radio and record player), hairdryer, sewing machine, vacuum cleaner, fire, television.
	

First Floor: Electricity in the Home; Early Appliances Display Case	
• to identify and recognise electrical appliances made and used in the past • to identify the similarities and differences between electrical appliances made and used in the past and their modern counterparts	Explain that the display case contains electrical appliances from the past. Ask the children to identify the objects. What are they? What job do they do? Which of these things do you have in your home? How are they similar to the electrical appliances that we use in our homes today? How are they different from modern electrical appliances? You could extend this by asking children to draw and/or make notes about one, or more, of the items in the case. **Background Information** The display case contains the following appliances dating from the early twentieth century: radio, "televisor", electric heaters, boiling ring, lamps, iron, bell pushes, kettle, washing machine with wringer, cooker, vacuum cleaner. There is a handling table nearby containing contrasting pairs of old and modern appliances (toasters, kettles, irons, bell pushes and washing machines).
First Floor: Electricity in the Home; Selling Electricity videos	
• to identify and recognise electrical appliances made and used in the past • to be aware of similarities and differences between domestic life today and in the past	The 4-minute *News by Wire* (1938) film shows the following domestic appliances being used in context; teasmaid, toaster, fridge, cooker, waffle grill, electric food mixer, dishwasher, drying cupboard, iron, air conditioning, sewing machine, television, electric fire, beauty equipment and a water heater. Explain that the film is an advert and when it made many people did not have electricity in the home. Those who did have very few appliances. Watch the film and explore it as an historical source. Why is it in black and white? How many objects in the film used electricity? Have you seen any of these in the Museum's displays? Which ones? (You could extend the children's learning by discussing the house furnishings and clothes wore by the characters and the domestic roles of the male and female characters.) **Background Information** The film was made to promote the take up of electricity. Other films are: *Well I Never*, 1934 (4 minutes) Buying a cooker. *Willing does it*, date unknown (3 minutes) Planning a kitchen. *Plenty of Time for Play*, 1934 (4 minutes) A look forward to the electrical home of the 1955. *'Twas on a Monday Morning*, 1945 (2 minutes) A look at electrical laundry equipment in a block of London council flats. *Their Invisible Inheritance*, 1945 (2 minutes) The problem of having too few sockets. *Into the Light*, date unknown (4 minutes) A musical fantasy about improving the lighting in the home