



Steam Pumping Station, Hatfield Road, Langford,
Maldon, Essex CM9 6QA

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Visit plan: The story of Water (KS 1 and 2)

Time	Session	Summary	Resources
09:45	Arrival	Bags and coats to schoolroom Housekeeping brief from museum staff	
09:50	Teaching session in classroom	L.O. To describe and understand key aspects of the water cycle 1 Explain each stage of the water cycle using pictures and diagrams (15 min) 2. Introduce and explain key vocabulary: evaporation, transpiration, condensation, precipitation, filtration, purification. (10 min using word cards if there is time)	Word cards Pictures of the water cycle
10:15	Activity: 1. Build a water filter (15 min)	Split into twelve groups to build a simple water filter National Curriculum objectives covered: <ul style="list-style-type: none"> • make predictions using scientific knowledge and understanding • use appropriate techniques, apparatus and materials paying attention to health and safety • make observations, evaluate the reliability of methods and suggest possible improvements • use knowledge of solids and liquids to decide how mixtures might be separated, including through filtering 	Activity sheet Flower Pot Gravel Sand Paper filter Dirty water Bowl
10:30	Activities: 2. Water cycle model (15 min) 3. Explore water pressure (15 min)	Split into twelve groups to complete each of the following activities 6 groups: 2. Visit water cycle model in engine hall with worksheet. Discuss the model, ask questions and complete the work sheet. 6 groups: 3. Use a leaky bottle to observe how water pressure varies with depth. Measure and compare the different water flows involved National Curriculum objectives covered: <ul style="list-style-type: none"> • taking measurements using a range of scientific equipment with increasing accuracy and precision • make observations, evaluate the reliability of methods and suggest possible improvements 	2. Work sheet: The Water Cycle 3. Activity sheet Empty bottle Tape Water Tray Ruler

10.45	Swap groups on activities 2 and 3		
11:00	Break	Snack and toilet break	
11:20	Water Power Activities: 4. Build a water wheel (25 min) 5. Build a water engine (25 min)	Introduction: where do we get power from. Cost and limited global availability of gas, coal and therefore electricity. Alternative renewable energy sources: wind and water. (5 mins) Split into twelve groups to complete each of the following activities 6 groups: 4. Build a water wheel and see how it can be used to do useful work. Weather permitting, test the water wheel outside using water guns. 6 groups: 5. A table-top exercise to build a simple water engine National Curriculum objectives covered: <ul style="list-style-type: none"> (old NC - geography) recognise how and why people may seek to manage environments sustainably (old NC - PSHE) recognise that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment	4. Activity sheet Plastic plates Plastic cups Tape & string Pencil & straw 5. Activity sheet Coke bottle Straws String Water tray
11.45	Swap groups on activities 4 and 5		
12:10	Lunch	Lunch taken in the schoolroom (children free to explore exhibits in Engine Hall under supervision)	
13:00	Activity 6. Erosion (20 mins) All groups together	6. Study the cause and effect of water erosion. Visit the river Blackwater on site to see river bank erosion in action. (If weather inclement then complete a table top experiment to simulate erosion using sand and water) National Curriculum objectives covered: <ul style="list-style-type: none"> understand the key processes in physical geography relating to rocks, soils, weather and climate, rivers and coasts 	6. Activity sheet Watering can Sand in sand tray Water
13:20	Move location	Collect materials for next activity and move to wooded area	
13:40	Availability of water Activity: 7. Build a Tippy Tap (30 min)	Introduction: Water is a precious resource that is readily available in developed countries such as ours. Problems in having access to safe drinking water in developing countries. (5 min) Split into 6 groups 7. Weather permitting, move outside to build a Tippy Tap as used in some developing countries where there is no running water. Explain the health and other benefits including water conservation and reduction in the spread of disease. End by prompting thinking on how to save water	7. Activity sheet Two forked sticks Straight stick

		<p>(7a. Inclement weather alternative: build a water pump using syringes to demonstrate how water is distributed under pressure and, as an aside, how power can be transferred from one place to another in a hydraulic system)</p> <p>National Curriculum objectives covered:</p> <ul style="list-style-type: none"> • (old NC - geography) recognise how and why people may seek to manage environments sustainably • (old NC - PSHE) recognise that resources can be allocated in different ways and that these economic choices affect individuals, communities and the sustainability of the environment 	<p>Water carrier String Bar of soap</p> <p>(7a. Activity sheet Tubing Syringes Bowl)</p>
14:10	Transfer to schoolroom		
14:15	Departure	Collect bags etc from schoolroom and return to car park	