

Lesson 4 –Ships and Shipbuilding

Lesson Objectives: understand the impact of developments in steam powered shipping; raise awareness of Brunel; raise awareness of the heritage of the Scottish shipbuilding industry; understand and evaluate the effectiveness of the propeller and its various designs.

Time	Activity	Learning objective	Resources
Starter			
10 min	<ul style="list-style-type: none"> Working in pairs, students make a list of the ways in which a vessel can be powered to travel over or through water: how many of these methods might have been available in the 1830's; the reasons why anyone might be interested in building ships to travel more quickly. 	<ul style="list-style-type: none"> The social and economic forces driving shipbuilding developments. 	<ul style="list-style-type: none"> Ships and Shipbuildings worksheet p1.
5 min	<ul style="list-style-type: none"> In pairs, students look at the map of the transatlantic crossing and discuss the demands that this would make on both a sailing ship and a steamship. 		
Main			
5 min	<ul style="list-style-type: none"> Teacher sets the context of Brunel and the challenge between the Great Western and the Sirrus. 	<ul style="list-style-type: none"> Awareness of Brunel and steam power, and the challenges in a long voyage. Link the benefits of developments in shipping How a propeller might work and effective designs 	<ul style="list-style-type: none"> Worksheetp2 Worksheet p3
10 min	<ul style="list-style-type: none"> In pairs, students complete the blank fill to reconstruct the history of the 'race' 		
5min	<ul style="list-style-type: none"> Students discuss the benefits that iron ships and propellers brought to shipping. 		
15 min	<ul style="list-style-type: none"> Students read the principles by which a ship's propeller works. Teacher checks for understanding. Students discuss and then select which propeller shape would be most effective. 		
Worksheet p3			
Plenary			
5 min	<ul style="list-style-type: none"> What have you learned today question and answer. 	<ul style="list-style-type: none"> Clarify learning points. 	

Extension			
Time	Activity	Learning objective	Resources
10 min	<ul style="list-style-type: none"> Using the drawing, students create their own annotations to check their understanding of the principles. 	<ul style="list-style-type: none"> Students self check knowledge 	<ul style="list-style-type: none"> A4 paper Worksheet p4