

Lesson 2 – The Supersonic Age: Lightning and Concorde

Lesson Objectives – Explore the concept of supersonic flight; learn about forces operating on an object in flight; understand the characteristic of a supersonic aircraft in flight; distinguish the different requirements of civil or military aircraft systems.

Time	Activity	Learning objective	Resources
Starter			
5 min	<ul style="list-style-type: none"> Teacher introduces topic with refresher of RJ Mitchell and Spitfire. 	<ul style="list-style-type: none"> Setting context for supersonic flight.. 	<ul style="list-style-type: none"> The Supersonic Age worksheet p1
5 min	<ul style="list-style-type: none"> As individuals, students list the things that they find amazing and conclude with a name for a supersonic aircraft. 		
Main			
10 min	<ul style="list-style-type: none"> Teacher reads through 'Forces operating on an object in flight' explaining where necessary. 	<ul style="list-style-type: none"> Understand thrust, weight, drag, lift. Link observations with aeronautic principles. Check understanding of supersonic. 	<ul style="list-style-type: none"> Worksheet p2 A variety of objects such as balls, paper glider, brick etc. Worksheets p3 Worksheet p4
15 min	<ul style="list-style-type: none"> In groups, students devise experiments which show the practical application of these forces. 		
10 min	<ul style="list-style-type: none"> Students present these experiments to the class. 		
10 min	<ul style="list-style-type: none"> Working in pairs, students complete blank-fill explaining how an aircraft responds travelling supersonically. 		
5 min	<ul style="list-style-type: none"> Students discuss the possibilities and dangers for supersonic flight. 		
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"> Students discuss and note down the differences in systems required by military or civilian aircraft. They may add a caption to the cartoon. 	<ul style="list-style-type: none"> Students note the different purposes of aircraft and the changes to the onboard systems. 	<ul style="list-style-type: none"> Worksheet p5,6