Chemistry	**Lesson 7: Siting an aluminium smelter**			
Curriculum Key:	AQA 12.2	OCRA C1	OCRB C2b	Edexcel topic 7

Objective(s) 1. Recap structure and operation of an aluminium cell. 2. Consider factors which affect the decision about the location of a new aluminium smelter.	**Resources needed:** PowerPoint presentation (and copies for each group). Worksheets for each group. OHTs and pens.
Starter: *5-10 minutes* Talk through the process of aluminium production. There is a slide focusing on the electrolysis cell and a sequencing activity based on production of aluminium from bauxite. Label and annotate the cell.	**Teacher input/assessment** Talk through the process and aluminium cell, check labelling and sequence order of cards.
Main Activity 1: *15 minutes* Listen to the background information about the aluminium smelter location. Look at map of island and listen and discuss features.	**Teacher input / assessment** Visit the website of Kitimat aluminium smelter if required. Discuss the siting of the plant. Talk through the map and engage students in discussion. Highlight the features of the island.
Main Activity 2: *20 minutes* Split into groups. Explain the roles within the groups (see teacher notes) • CGC overview the whole island. Gather information from PoE. • ASDT prepare case in support of their location. Researcher visits the PoE to gather more information. • PoE read through their briefs and adhere to the rules! • Prepare a short presentation or poster in support of their site. • CGC make a decision and present the prize!	**Teacher input / assessment** Split class into groups as per teacher notes. Circulate.
Plenary: *15 minutes* Plenary slide on the presentation.	**Teacher input / assessment** Present slide. Force students to choose each linking word in order and try to complete the statement.
Learning Outcomes: **All students must**: Make some attempt to join in the decision making process and contribute to the discussions. Understand some of the factors that need to be considered when siting a smelting plant. **Most students should**: Choose and assimilate information into a coherent argument in support of their chosen site. **Some students could**: Feedback to the CGC about their choice with supporting evidence.	
Key Skills: Communication, presentation skills **Key words:** aluminium, smelting, environmental factors **Homework:**	**Differentiation**: **More able:** Take a leading role in developing and presenting information. **Less able:** Help with preparation of presentation.