

Sample MYP Concept-based Lesson Plan

Nevine Safire teaches the MYP. She has developed a concept-based unit around the central question “When does population growth become ‘overpopulation?’” To focus this unit she has chosen the key concepts of interactions and change from the MYP subject group guides. She is facilitating inquiry into the central idea **“human/environmental interactions can become unbalanced, leading to changes with unintended consequences”**. Ms Safire has identified related concepts from science and the humanities to use in developing some supporting ideas to facilitate greater conceptual depth and understanding throughout the inquiry. Some of these concepts she found in the MYP subject group guides; others she extrapolated from the content she will be teaching:

Migration	Environments	Overpopulation
Location	Scarcity	Climate change
Population	Equilibrium	Conflict
Natural resources	Trade	Sustainability

Ms Safire developed five or six supporting ideas to guide the formative unit work. One of her supporting ideas for this unit was “overpopulation can lead to conflict over scarce natural resources”. Within the lesson Ms Safire asks students to analyse both local and global contexts for population density. We will identify aspects of concept-based pedagogy as we follow some of Ms Safire’s thoughts during a concept-based lesson related to this supporting idea.

Classroom Actions	Ms. Safire’s thoughts
Ms Safire: We have been learning about population growth in our unit. In this lesson we are going to think about the effects of overpopulation. What does the term “overpopulation” mean to you?	I want to check students’ prior conceptions of the term and draw out a clear definition that we can build on.
Students view the video “World Population” by Population Connection.	This world map, adding the points of light representing increasing population growth over time, is an nforgettable visual of the growing problem.

<p>Students work in table groups using a graphic organizer to predict the possible effects of rapidly increasing population density on the following: land, animal populations, plants, natural resources.</p>	<p>I wonder if students can foresee the potential problems that may be caused by rapidly increasing populations.</p>
<p>Analyse the graphic organizer and discuss the question “At what point might population growth be considered ‘overpopulation’?”</p>	<p>This provocative question requires students to articulate the destructive effects of an imbalance between the human and natural world.</p>
<p>View and discuss the video “Overpopulation and Its Effects on Our World”. http://www.youtube.com/watch?v=mWHO_ega0RU</p>	<p>This video supports, and further extends students’ understanding of the effects of overpopulation.</p>
<p>Teacher questions: Factual: Does our state (country, region) have areas of dense population? What issues in our region would suggest the danger of overpopulation? What areas of the world have very dense population centres? (Note: Ms Safire engages students with a research activity on overpopulation in different parts of the world and uses guiding questions to develop understanding.) Conceptual: Why do nations develop concentrated “population centres”? What would indicate that a population centre is “overpopulated”? How do increasing human/environmental interactions change the environment? How might these interactions lead to scarce natural resources? How do communities with scarce natural resources meet their survival needs? How can scarce natural resources lead to conflict between groups of people or nations? Provocative/Debatable:</p>	<p>I will ask students to bring their questions to the inquiry, but I also developed some factual, conceptual and provocative, debate questions for the lesson. I want to move students’ thinking beyond the local examples to the global perspective so that students can see the parallelism between local and global issues of concern. I want students to know which areas of the world have the greatest and least availability of natural resources; and to understand that scarcity of natural resources can lead to conflict.</p>

<ul style="list-style-type: none"> • How can governments ensure that their citizens have the necessary natural resources for survival? • Should nations with plentiful natural resources be required to share with nations who have scarce natural resources? Be prepared to defend your position. 	
<p>We have been inquiring into the idea of overpopulation. The following concepts have entered into our discussion. In your table groups see how many concept statements you can develop by showing relationships between the concepts below. Remember that these concept statements must transfer through time and across situations.</p> <ul style="list-style-type: none"> • Environment • Interactions • Change • Overpopulation • Natural resources • Conflict • Cooperation • Scarcity <p>Be ready to cite specific factual examples to support your understandings.</p>	<p>I know that students will necessarily use synergistic thinking in this learning experience as they use the factual examples to support the construction of their conceptual understandings. I will be interested in seeing the relationships they find.</p>
<p>Assessment task: You are the leader of a task force that has been commissioned by the city council to propose solutions to the problem of scarce water supplies caused by severe droughts in your area. A neighbouring area, which has also been affected by the drought, has blocked the downstream flow of water from a major source to ensure that all of their agricultural and industrial uses of water can be met. This blockage of water to your area has</p>	<p>This authentic performance task will help students learn to collaboratively problem solve using a local issue that has global implications. The task connects back to the supporting idea that scarce natural resources can lead to conflict and supports the IB aim of taking principled action to solve a community problem.</p>

led to a heated conflict. You are to make a presentation to the city council that describes the water problem, and suggests creative and viable solutions—including a way to work with the neighbouring area to collaboratively develop a win-win solution. You can choose your mode of presentation.	
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As we read Ms Safire's thoughts during the lesson we can see her attention to concept-based pedagogy through the following:

- **checking for prior understanding of concepts**
- **engaging synergistic thinking**
- **encouraging predictions**
- **assessing for conceptual understanding as well as facts and skills.**
- **using different kinds of questions (factual, conceptual, debatable) to move thinking beyond the facts**

MYP Concept-based Lesson Plans Reflection

- What is the Statement of Inquiry (central idea/ enduring understanding)? And inquiry question(s)?
- How do the inquiry questions connect to the Statement of Inquiry?
- How does the content and objectives help to explore the big idea?
- How do the learning experiences allow students to gain deep conceptual understanding (move beyond facts)?
- What is the evidence of Instructional Practices? IP1-3
- What is the Differentiated Instructional Strategy? How does it support the big idea?
- What could be revised or added?