



Megacities

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Introduction

In 2018, 55 % of the world’s population lived in urban areas, and that figure is set to rise to 68 % by 2050, according to the UN Department of Economic and Social Affairs. The world now has 33 **megacities**, cities with a population greater than 10 million residents, and this number is set to rise to 48 by 2050. Many of these cities are leading centres of commerce and politics in the emerging economies of the global south, and preparing young people to understand the world they live in involves understanding this new kind of urban environment.

In this unit, pupils will learn about the factors driving the growth of megacities, as well as finding ways to envisage life in a megacity through statistics. They will explore one of the major issues of life in large cities by carrying out an investigation into air pollution, and will engage with the work of designing these environments by exploring skyscrapers. Finally, they will examine the technological and legislative drive towards more sustainable urban living.

Unit Outline



| Lesson Number | Title and brief description | Disciplines | Es & Os |
|---------------|--|--|--|
| 1 | Rise of the Megacity Understanding urbanisation, leading to the megacity, and the large number of megacities in the developing world. | Geography | I can explain the development of the main features of an urban area in Scotland or elsewhere and can evaluate the implications for society concerned. SOC 4-10b |
| 2 | Understanding Megacities How can we describe the major features of life in megacities through statistics? What is the most appropriate way of presenting these statistics? What issues are there in collecting and interpreting such statistics? | Mathematics | I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others. MNU 4-20a |
| 3 | Air Pollution Part 1 Understanding of the chemistry of air pollution (non-metal oxides, photochemical smogs, carbonaceous soots etc). Investigation of air pollution in our own environment (making a particulate trap to collect particulates around the school). | Chemistry | I can monitor the environment by collecting and analysing samples. I can interpret the results to inform others about levels of pollution and express a considered opinion on how science can help to protect our environment. SCN 4-18a |
| 4 | Skyscrapers Exploring the design principles of skyscrapers. Skyscraper model building. | D&T | I can solve problems through the application of engineering principles and can discuss the impact engineering has on the world around me. TCH 4-12a |
| 5 | Air Pollution Part 2 Examining particulates and exploration of why different areas have more particulates. Exploring the consequences of poor air quality for human health. | Chemistry Biology | I can monitor the environment by collecting and analysing samples. I can interpret the results to inform others about levels of pollution and express a considered opinion on how science can help to protect our environment. SCN 4-18a I can explain how biological actions which take place in response to external and internal changes work to maintain stable body conditions. SCN 4-12a |
| 6 | Sustainable Cities Research on how cities may be made to be more sustainable. Includes technological developments, legislation, philosophy. | Geography Physics Biology Modern Studies Religious and Moral Education | By contributing to an investigation on different ways of meeting society’s energy needs, I can express an informed view on the risks and benefits of different energy sources, including those produced from plants. SCN 4-04a I can assess the impact of developments in transport infrastructure in a selected area and can contribute to a discussion on the development of sustainable systems. SOC 4-09b I can contribute to a discussion on the extent to which people’s needs should be met by the state or the individual. SOC 4-16a |