# Video: Rise of the Continents Teacher Resource

**Documentary Series**: Rise of the Continents presented by Professor Iain Stewart

**Student Worksheets**:

1. Episode 1 – Africa
2. Episode 2 – Australia
3. Episode 3 – The Americas
4. Episode 4 – Eurasia

## Professor Iain Stewart

Iain Stewart is Professor of Geoscience Communication at Plymouth University. He is a geologist who writes and presents information about planet Earth. His documentaries are engaging and weave together stories of geology, chemistry, physics and biology. They showcase some of the best examples of geological and biological processes and he clearly explains how these processes have shaped the Earth.

## Series Overview

**Episode 1 – Africa – Duration 58 minutes**

This episode about the formation of Africa focuses on the pyramids, wildebeest migrations, whale evolution and diamonds. These themes are linked to how the continent was formed and what the future of the continent may be.

The scenery is breath taking and Iain engages the audience throughout the episode. He starts the episode with a leap into the water at the top of the 100 metre waterfall at the top of Victoria Falls. He climbs to the top of Ol Doinyo Lengai, a volcano in Tanzania that produces unique natrocarbonatite lava which provides the nutrients for the vast grasslands that support wildebeest migrations.

The story of diamond formation and mining in Sierra Leone is explored, along with the formation of cratons and the start of plate tectonics. The final theme is the evolution of whales, from land-dwelling mammals in the shallow seas of the early African continent.

**Episode 2 – Australia – Duration 59 minutes**

This episode focuses on the history of the continent of Australia. It explores how the journey north, as it broke away from Antarctica, has affected Aboriginal history, mining and the evolution of the koala.

The episode starts with the search for a platypus and describes the features that it shares with reptiles, mammals and a common ancestor that is now extinct.

Fossils of Glossopteris in coal from sea cliffs near Sydney are explored as a remnant of a forest of extinct trees. This is linked to Captain Falcon Scott's expedition to Antarctica and the Glossopteris fossils they found.

Opals and mining in Coober Pedy are used to describe how the vast underground aquifer of the Great Artesian Basin was formed. The importance of this inland water source, which has sustained Aboriginal culture for thousands of years, is explored.

The separation of Australia from Antarctica led to the evolution of the filter feeding whales and a change in climate. This also led to the rapid evolution of the koala.

Finally, the future of Australia is explored through evidence in the rocks and landforms of Indonesia.

**Episode 3 – The Americas – Duration 59 minutes**
This episode focuses on how North and South America were formed. The episode starts in New York and links the current layout of skyscrapers to ancient mountains of the past supercontinent Pangaea.

He explores the geology of the Grand Canyon. Footprints in rocks of the Grand Canyon link to early reptiles and their evolution.

He travels to Bolivia to the Cerro Rico mine and explores the mineral wealth, including lithium which is necessary for battery technology. In the heart of an extinct volcano the process of subduction is revealed. Subduction is shown to have created the continental mountain range of the Andes.

Finally, he explains how the Llama and other wildlife that originated in North America has been able to move into South America, after the two island contents were joined three million years ago.

**Episode 4 – Eurasia – Duration 59 minutes**
This episode focuses on the formation of Eurasia. The episode starts with oil in Turkey which is evidence of the ancient seafloor of the Tethys Ocean.

Iain explains the collision of India and the formation of the Himalayas from rocks of the ancient Tethys Ocean seafloor. He explores the formation of ancient civilizations in the region. He then travels to Italy to visit Mt Stromboli, an active volcano, to show that the region is still active. He shows the subduction processes below Eurasia leading to the closing of the Mediterranean Sea.