

## Surface forces that shape the Earth

### The impact of people on soil erosion

- Rock on the Earth's surface slowly breaks down into small pieces in a process called weathering.
- Weathering creates the small rock particles that make up soil. Minerals in the weathered rock particles provide nutrients in the soil for plants.
- Weathering can be physical, chemical or biological.
- Physical weathering is the breakdown of rock by physical forces, for example frost shattering and exfoliation.
- Chemical weathering occurs when chemicals in the air or water interact with chemical substances in the rock.
- Biological weathering results from the action of living things. It can be chemical or physical.
- Human activities can increase weathering. Mining and quarrying expose underground rock to air and water, and so to chemical weathering.
- Erosion is the process by which rocks and soil particles are worn away and moved somewhere else.
- Erosion is done by moving agents of erosion.
- When agents of erosion stop moving, they deposit the material they are carrying (their load).
- Erosion and deposition form distinctive features.
- River erosion forms valleys, interlocking spurs and waterfalls.
- River deposition forms flood plains, across which the river meanders, sometimes forming an oxbow lake.
- Erosion by the waves of the sea forms bays, headlands, caves, arches, stacks and stumps. It wears cliffs back, forming a wave cut platform.
- Sand is moved along the coast by longshore drift. Deposits of sand form beaches, spits and sand bars.
- Ice moves on land in valley or continental glaciers, called ice sheets.
- Glacial erosion forms striations in rock, and u-shaped valleys and horns.
- When glaciers melt, they deposit large boulders called erratics, and also moraines. If a glacier moves over a moraine, it shapes it into a drumlin.
- Wind erosion creates depressions in the desert, some of which reach ground water, and form oases. It also shapes rocks into strange shapes.
- Sand dunes are formed by wind deposition.
- Water and wind erode soil by picking it up and carrying it away.
- Soil erosion is increased where wind and water move fast over the land, where there is a great volume of water, and where soil structure has been damaged.
- Human activities such as agriculture, construction and mining increase soil erosion.

### Activity 8

Answer questions about how sugar cane farming can contribute to erosion.

Work in groups. Read the information given in the text and pictures about sugar cane farming in Kwa-Zulu Natal.

- 1 Identify all the practices that contribute to soil erosion.
- 2 Explain why each practice increases soil erosion.
- 3 Why have some farmers changed their practices?
- 4 Describe what changes they have made, and why each change is helpful.
- 5 What else do you think sugar cane farmers could do to contribute less to erosion?
- 6 Why do you think some farmers are reluctant to change their practices? Do you think they should be forced to change? Discuss your ideas with your class.

### Sugar cane farming

The coastal areas of Kwa-Zulu Natal have good conditions for sugar cane. The rolling hills there are covered with rows of canes, many growing straight right up and down even the steepest slopes, as you can see in the picture.

### CASE STUDY Sugar cane farming

Sugar cane is water loving, and so in many places, wetlands have been cleared to grow the cane. In order to use as much land as possible, farmers have cleared the indigenous bush along the river courses and planted cane right up to the river banks. At planting time, fields are ploughed up by heavy machines. When the cane is harvested, it is burnt to remove the leaves and make cutting easier. The cut cane is loaded into trucks, and taken to the sugar mill for processing.



These practices have led to massive soil loss, and so some farmers have begun to change their ways. Here is what one member of a group of these farmers has to say:

*"No cane on my farm grows right up to the river banks, or in wetlands. I have replaced the cane that was once there with thousands of indigenous trees, shrubs and grasses. We no longer burn the leaves of my crop. Instead, we cut them off by hand, and spread them over the soil when we harvest. The rows of cane now go along the contours of the hillsides. We no longer plough deep furrows in the land, but plant using low-till methods that do not disturb the soil as much. It costs more money to farm this way - but, if there are floods, I know my farm will be okay. The battle now is to convince others."*

# Turning points in modern South African history since 1948

## The Universal Declaration of Human Rights after World War II

- The United Nations Organisation was formed to ensure the basic human rights of all people would be respected.
- The main aims of the UN are to maintain peace in the world, promote economic and social development and protect fundamental human rights.

## The definition of racism

- One way in which people's rights have been abused is through discrimination based on race.
- Studies in evolution and genetics have proved that there are no genetic differences between the different races. Race is a myth.

## 1948: The National Party and apartheid

- During World War II many black workers took over the skilled work of white soldiers, who were fighting in the war. Black workers began to demand better pay and working conditions.
- The National Party introduced a policy called apartheid, which involved the separation of each race group.
- The National Party government introduced many new laws to enforce the system of apartheid (eg. the Group Areas Act).
- The government forced three and a half million people to move into the overcrowded and very poor homelands.

## 1950s: Repression and non-violent resistance to apartheid

- Protests and resistance against the apartheid laws started immediately.
- In 1949 the ANC adopted a Programme of Action to resist apartheid laws.
- In 1950 the government banned the Communist Party.
- In 1952, opposition groups started a Defiance Campaign, a programme of peaceful mass protest in which people would deliberately break apartheid laws.
- In 1955, opposition groups joined together in the Congress Alliance which drew up the Freedom Charter.
- In 1956, FEDSAW organised peaceful anti-pass demonstrations to present petitions and protest letters to the government.

## Source A An extract from an article about Sandra Laing

An extract from an article *"The tragic story of how a white girl being born black tore a family apart"* by Catherine O'Brien, December 2008

Although both Sandra Laing's parents were white South Africans, she looked black.

Sandra Laing had been doing her sums quietly when a boy was sent to fetch her from her classroom. "I'm afraid you're going to have to leave us," the principal told her. He offered no explanation, and nor did the police officers who escorted her off the premises.

Her parents, Abraham and Sannie Laing, were white and members of the Nationalist Party regime – yet their daughter undeniably looked black, with her brown skin and tightly curled hair. The story of

Sandra Laing – of how she was reclassified as "coloured" by the government and how her parents, insisting that she was their biological child, took their battle to keep her "white" all the way to the Supreme Court – caused an international uproar.

Source: When She Was White, The True Story Of A Family Divided  
By Rac

## Source B Photograph of Sandra Laing with her parents



A family photograph of Sandra and her parents, taken when she was about ten years old.

Source: [http://afroeuropa.blogspot.com/2009\\_09\\_01\\_archive.htm/](http://afroeuropa.blogspot.com/2009_09_01_archive.htm/)

## Questions

Refer to Source A.

- 1.1 Identify and explain the apartheid law which would have affected Sandra Laing's education when her race classification was changed from white to coloured. (1 + 3 = 4)
- 1.2 How do you think Sandra felt when the principal told her she was going to have to leave? Explain your view. (2)
- 1.3 Provide evidence which implies that Sandra's parents were supporters of apartheid. (2)
- 1.4 Identify the apartheid law/ act which influenced Sandra Laing's race classification. (1)
- 1.5 Sandra Laing was reclassified as 'coloured'. How does this action show the absurdity of race classification during apartheid? (2 × 2 = 4)
- 1.6 Use your knowledge to explain why Abraham and Sannie Laing insisted that their daughter should be reclassified as white. (3 × 2 = 6)

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Refer to Source B.

- 2.1 How would the following people have reacted to this photograph?
  - 2.1.1 An anti-apartheid activist such as Helen Joseph. (2)
  - 2.1.2 The apartheid prime minister when Sandra Laing was 10 years old – BJ Vorster. (2)
- 2.2 How useful is this source to a historian studying Sandra Laing's story? (3)
- 2.3 One way in which people's rights have been abused is through discrimination based on 'race'. But you have learnt that race is a myth. Write a post on Sandra Laing's social media page in which you briefly explain why race is a myth. (Please use full sentences.) (4)

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Total: 30 marks