HISTORY
The Mineral Revolution in South Africa

UNIT 2
Deep-level gold mining on the Witwatersrand 1886 onwards

Learner’s Book • Grade 8 Term 2
WEEK: 2
TIME: 1 HOUR

IN THIS UNIT, YOU WILL LEARN THE FOLLOWING:

- Why gold is valuable
- The discovery and mining of deep-level gold on the Witwatersrand
  - How gold is mined
  - Conditions underground
  - The Randlords and formation of the Chamber of Mines
  - Migrant workers
  - Increasing burden of women on the reserves
  - Skilled and unskilled white workers
  - Anti-Indian legislation
  - Forms of labour resistance
  - The city of Johannesburg
- The Mineral Revolution as a turning point in South African history
  - Shifting balance of power
  - Southern Africa in 1913 compared with 1860

WHY GOLD IS VALUABLE

Gold is a mineral that came from meteorites that crashed into Earth millions of years ago. It cannot be made by man or nature, so it is limited and therefore relatively rare. Gold has value because it:

- does not corrode or rust – it can be used for jewellery, decoration, statues and so on and will still look the same in years to come;
- is malleable – it can be easily made into objects;
- is pretty – people like to use gold for jewellery because it is attractive;
- is versatile – aside from jewellery and decoration, it can be used for practical everyday items such as wiring and parts in electronics; and
- mixes easily with other metals – it can be used in a variety of objects.

Gold was originally used as a backing for currency – this was known as the ‘gold standard’. This meant that banks had to have in their possession the equivalent amount of gold for the currency (paper money and coins) that they issued. If they wanted to print more money, they had to buy the same amount worth of gold. The price of gold was fixed, meaning it was the same all over the world. Even if expenses on a mine increased, the price of the gold could not increase to compensate. America and Europe had to import gold, as they needed a steady supply to increase the circulation of their currencies. These countries did not produce any gold of their own.
Activity 1
1. Explain how the American and European economies affected the economy of South Africa during the early 1900s. (3)
2. Discuss the concept of the ‘gold standard’. (2)
3. Why do you think countries were not allowed to print out as much money as they wanted? (2)
4. Discuss three reasons why gold is so valuable. (3)

WEEKS: 3–7
TIME: 7

THE DISCOVERY AND MINING OF DEEP-LEVEL GOLD ON THE WITWATERSRAND
Gold was first discovered in South Africa in 1886 at Langlaagte, in an area then called the Transvaal. Although gold had been used by indigenous people in southern Africa for centuries, gold reserves had always been very small and ran out quickly. The discovery of gold in 1886 was different because of the amount of gold that was found – gold seams ran for kilometres underground. This discovery was made by George Harrison, an Australian prospector who had left the diamond fields of Kimberley to find better mining opportunities.

At the time, South Africa was not one country but rather four states, controlled by different groups of white people. British colonies held the Cape Colony and Natal, while the Boers controlled the Transvaal and the Orange Free State. The goldfields of the Witwatersrand were controlled by the Boer Republic of the Transvaal. The Boers passed a law stating that only white people could hold claims to mine gold; black people were only allowed on mines as workers.

This statue shows George Harrison holding a lump of ore containing gold. It is found in present-day Langlaagte, Johannesburg.
DEEP-LEVEL GOLD MINING

At first, gold was mined close to the surface by labourers who broke the ground with picks and sifted through the rock to find pieces of gold.

It then became necessary to dig deeper to reach the gold. Mining underground is dangerous and new machinery had to be invented and built to make this possible. Deep shafts were dug for kilometres underground, allowing workers to travel deep into the Earth’s surface to find gold.

Thousands of people from around Africa and the rest of the world came to the Witwatersrand in search of gold. They travelled by ox wagon or on foot, walking hundreds of kilometres from their homelands.

The gold rush began South Africa’s Industrial Revolution. New machines were invented to facilitate the deeper mining of gold. Railway tracks were laid down to transport gold and goods between gold mines and harbours at Durban, Cape Town and Port Elizabeth.
The map shows railway lines in 1892. Solid lines were completed tracks.

<table>
<thead>
<tr>
<th>Years</th>
<th>Kilometres of line laid</th>
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</thead>
<tbody>
<tr>
<td>1860–1869</td>
<td>109</td>
</tr>
<tr>
<td>1870–1879</td>
<td>1 250</td>
</tr>
<tr>
<td>1880–1889</td>
<td>1 704</td>
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<tr>
<td>1890–1899</td>
<td>3 274</td>
</tr>
<tr>
<td>1900–1909</td>
<td>4 763</td>
</tr>
</tbody>
</table>

Source C: The table shows railway lines laid throughout South Africa between 1860 and 1909.

Activity 2

1. How many years after the discovery of diamonds near Kimberley was the major gold discovery in the Witwatersrand? (1)
2. Gold had been used all over Africa for centuries before the discovery in Langlaagte. Why did this trigger such a massive ‘gold rush’? (2)
3. Explain why people went so far as to walk hundreds of kilometres to reach the goldfields. (2)
4. Black people were not allowed to own claims.
   a. What other mine fields had the same law? (1)
   b. Explain why the Boers put this law in place. (3)
5. Refer to Source B. Explain why it became necessary to dig deep-level shaft mines. (3)
6. Refer to Source C.
   a. In which period was the greatest increase in the length of railway tracks laid? (1)
   b. Discuss the reason for this. (2)

Total: 15
HOW GOLD IS MINED
To start a gold mine, a lot of money is needed. To dig deep into the Earth, specialised machinery is required and this machinery is expensive. In order for the mine to be completely safe, experts need to be available to oversee construction and operation.

Once gold was discovered at Langlaagte, diamond mine owners used their profits from the diamond mines to purchase claims and open gold mines. Overseas investors also put money into opening mines.

Gold is found inside rock that is called ore. The ore in the Witwatersrand area is of a low grade, which means that large amounts of ore contain very little gold. This ore has to be mined in large quantities in order to find worthwhile amounts of gold.

Because of the amount of ore required, the machinery needed and the expense of skilled workers, mining gold was not easily profitable. The price of gold was fixed, so mine owners could not build higher costs of running a mine into their sale price. Because of this, they needed a large supply of very cheap labour. Because black people were not allowed to own claims and had been dispossessed of their land, they had no choice but to work in the gold mines for very little pay. This is one reason why the goldfields in South Africa became so successful; no place else in the world with such low-grade ore would have been mined because of a lack of cheap labour.
The diagram on the right shows a basic example of a deep-level shaft mine.

1 - An air vent carries away harmful gases released by the rock and fumes from chemicals and explosives
2 - An elevator carries workers into the mine and carries ore out
3 - A pulley lifts and lowers the elevator
4 - A horizontal tunnel dug into the ore seam
5 - Carts carry ore that has been broken away from the tunnel wall
6 - Crushed ore is left as waste
7 - A mineral seam

In the mine, rocks are broken up and carried out to the processing plant on the surface. Ore is crushed and smelted (heated up to melt the gold). The image on the right shows conveyor belts that carried crushed ore to be cleaned and sifted by machines to separate the gold.

The crushed ore is dumped outside the mine and the remaining gold is poured into moulds in the shape of bars. After removing and crushing about 2 000 kg of ore, just 21 grams of gold is collected.

Source F: Mine dumps in Johannesburg (indicated by the arrow in the image on the left) and Krugersdorp (right).
Activity 3
1. Refer to Source D. Critically analyse the differences in the way the artist has depicted the supervisors and managers compared to the skilled and unskilled workers, and discuss what the artist is implying. (9)
2. Explain why South Africa had such an abundant supply of cheap, unskilled labour. (3)
3. Refer to Source E. Which part or parts of the mine do you think would be the most dangerous? Give reasons for your choices. (3)
4. Explain the term ‘low-grade ore’. (2)
5. Why is low-grade ore bad for profits? (2)
6. Refer to Source F. Discuss two negative aspects of the mine dumps. (4)
7. Why do you think the mine dumps are still there today? (2)

Total: 25

CONDITIONS UNDERGROUND
Digging mines deep underground is dangerous and must be done carefully. The area to be dug is surveyed by skilled people and digging is done by specialised machinery. South Africa’s gold mines are the deepest in the world, some going as far as 3 km below the surface. So deep down, it gets very hot (up to 60 oC!) and mines must be ventilated and air-conditioned to keep the miners safe. There can be harmful gases released in the rock, as well as by explosives used to break rock free. The ventilation system must carry these gases away from the miners. In the tunnels there is always a danger of collapse, as the rock above the tunnels is heavy and puts immense pressure on the roof of the tunnel. Deep underground, the floors of the mine tunnels would often be covered in stagnant water, which can carry disease and creates the danger of slipping.

Explosives were used frequently in mines and presented multiple dangers:
• Miners could be caught in an explosion.
• Rocks could collapse unexpectedly, crushing people or blocking tunnels.
• The dust left in the air was breathed in and caused lung damage and diseases such as silicosis.
• In such close quarters and with little fresh air, tuberculosis spread quickly.

Source G: (From top left, clockwise) Men lining up to enter the mine for a day’s work; workers hunch down in low-roofed tunnels; workers and their supervisor showing early tools and machinery; black, white and Chinese men working in a tunnel.
Activity 4

1. Describe three dangers associated with working underground. (6)

2. Refer to Source G.
   a. Describe the clothing worn by the men in the mines. (2)
   b. Do you think that they were well protected? Explain your answer. (2)
   c. What can you say about the walls and roof of the mine tunnels? (2)
   d. How do you think the workers in the top right image felt at the end of the day? Explain your answer. (3)

Total: 15

THE RANDLORDS AND THE FORMATION OF THE CHAMBER OF MINES

Starting a gold mine required a large amount of money for:
- purchasing the land claim;
- developing new technology;
- buying specialised machinery; and
- hiring skilled workers from around the world.

Very few individuals had enough money to pay for all of this on their own. Cecil Rhodes and Barney Barnato had money from the diamond mines in Kimberley. Alfred Beit was another diamond mine owner who had made a lot of money. They formed a partnership and opened mining companies together. They became known as the ‘Randlords’. Other wealthy investors from overseas soon joined in and many mining companies were formed and mines opened in the Witwatersrand gold belt. The Randlords had a big task – they had to carefully decide where to open mines, what to spend money on and how to operate the mines to ensure that they made a profit.

CHAMBER OF MINES

On 5 October 1889, the mine owners joined together to form an association called the Chamber of Mines. The association aimed to protect mine owners’ interests and promote favourable legislation. They also aimed to exchange information on mining and mining practices with public and private organisations in both South Africa and other countries. They worked together to find solutions to problems such as sourcing labour, minimising labour costs and getting government to pass laws in their favour.

Activity 5

1. Explain why gold mines were not owned by a single person, the way the diamond mines had been. (3)

2. Who were the Randlords? (1)

3. Refer to Source H. Describe the appearance of these Randlords. What does it tell you about the mine owners in general? (2)

4. Did the Chamber of Mines benefit the people working in the mines in any way? Explain your answer. (2)

Total: 8
MIGRANT WORKERS

Black labourers came from all around South Africa to work on the mines. Because they worked away from where they lived, they were called migrant workers. They would travel long distances to the mines, where they would stay for a few months, and then travel back to their homes in rural areas. White mine employees were allowed to settle in the town that was being built around the mines – Johannesburg. Black men were neither allowed to settle permanently in the town nor bring their families with them. Instead, they had to live on closed compounds such as the ones in Kimberley.

In order to keep costs low to increase profits, mine owners needed a plentiful supply of very cheap labour. Only black people would work in the dangerous and difficult conditions in the mines for such little pay. This was because of methods the mine owners used to ensure that the black people had no choice.

- **Taxes:** The government instituted ‘hut tax’, which was R1 per year for every hut in which they lived. Because mine workers earned between 5c and 19c a day, this amount was quite a lot. It would take three months of work to pay hut tax. This meant that the men had to work to be able to pay their tax.

Another tax was called ‘poll tax’, which was an amount of R2 per year that every man (including white men) over the age of 18 had to pay.

Once they had finished their work on the mines and returned home, they had to pay their chief a tax as well.

“It is suggested to raise the Hut Tax to such an amount that more natives will be induced to seek work, and especially by making this tax payable in coins only; each native who can clearly show that he has worked for six months in the year will be allowed a rebate equivalent to the increase that may be determined by the state.”


- **Recruitment:** Mine owners realised that although many black men migrated from their villages to the Witwatersrand for work, they often arrived and then sought work in other places. In an effort to ensure a steady supply of labour, recruiters were sent to villages to encourage men to work on the mines. Chiefs were paid to recruit men and the recruiting agents travelled with the new workers to the mines to ensure that they did not try to find work in other places.
Contracts: Knowing that many men would likely leave the mines after experiencing the terrible conditions, all the workers had to sign contracts that ensured that they would work for several months. If a worker broke a contract, he would be fined and arrested. This gave them no choice about continuing to work even if they felt unhappy.

Pass laws: The Transvaal government introduced pass laws to help mine owners secure labourers. Each migrant looking for work had to get a three-day pass while they searched for a job. If they did not find work by the third day, they either had to leave or were forced to work in the mines.

Activity 6
1. Explain why mine workers could not bring their families with them when they went to the Witwatersrand in search of work. (2)
2. Refer to Source I.
   a. Explain what you see in the image. (2)
   b. Suggest and discuss hardships this man may have experienced on his journey. (4)
3. In a paragraph, fully discuss the methods used by the government and Chamber of Mines to force black people to work in dangerous mines. (10)
4. Do you think black people benefitted in any way from the gold mines? (2)

Total: 20

Increasing Burden on Women in the Reserves, Erosion of Families

Roles of men and women were very specific and different in indigenous communities. When the men left to find work, the women were left behind to fill both their traditional roles and those of the men who were gone. Women had to take care of their children and the elderly, cook, clean, plant and tend to crops, make baskets and pottery and collect firewood, among other things. They then had to do the work the men would usually do as well: milking cows, butchering animals, working leather, tending to livestock, thatching, and other hard physical labour. The rural areas where these women lived became known as the ‘reserves’.

Communities that were once strong and thrived broke down and became poor. With men away for months at a time, adapting to a new way of life in cities, families and family life eroded. As white settlers took over more land, black people struggled to grow crops and raise cattle. Soil erosion meant that crops could not grow. Cows that lost much of their grazing land became thin and stopped producing milk. Families were then forced to buy food and supplies from stores, which created a new reliance on money for the things that they needed. This continued to force men to seek jobs in towns and mines, ensuring that the rich got richer and the indigenous people became poorer.

Skilled and Unskilled White Workers

White men also came from around the country to work on the mines. Skilled workers from other countries such as Australia and Britain were given higher-paying supervisory jobs because of their experience and expertise. Unskilled white workers often did the same work as black workers, but they were paid more and were given authority over black people. White people were allowed to settle in the growing town of Johannesburg and generally had better lives than the black people. Living separately, earning different wages, being held to different laws and being treated differently are what laid the foundation for the system of racial segregation in South Africa.
Activity 7

1. Compare and contrast how the lives of black men and women changed during the 1890s and 1900s because of the gold mines and new laws. (10)

2. Explain how rural communities went from being self-sufficient to relying on money. (3)

3. Refer to Source J.
   a. Explain the difference between skilled and unskilled labour. You may use a dictionary to help you. (3)
   b. Why were skilled labourers paid more than unskilled men? (2)
   c. Suggest why unskilled white men were paid more than black men even if they were doing the same job. (2)

4. Discuss the factors that led to racial tension and segregation during the gold rush and for years to come. (5)

Total: 25

ANTI-INDIAN LEGISLATION

The Transvaal government was opposed to Indian people. Like many others, Indian people came to the goldfields in search of work. They were met with hostility and several laws were designed to prevent them from working and settling in Johannesburg. They were not allowed to live in ‘white’ areas and were never given citizen rights. Indians had to carry passes like black people, but they were not allowed to work on the gold mines. Marriages between Indians and white people were prohibited and, like all people of colour, they were prohibited from walking on pavements.

FORMS OF LABOUR RESISTANCE

Workers did not respond well to their poor treatment and terrible pay. To protest their situations, they acted out in a number of ways. Some workers would break their tools deliberately, and then pretend that they did not understand orders. Because they were so unhappy and could not go anywhere, many of them drank too much over the weekends and were slow to work on Mondays, which slowed down production. Some of them simply broke their contracts and left the mines altogether.
They tried to follow the British workers and form trade unions, but organising black workers was difficult, especially on closed compounds.

**Activity 8**

1. Compare and contrast the treatment Indian people and black people experienced. (4)
2. List three ways in which workers protested against their poor treatment. (3)
3. Explain why it was difficult for black people to form unions. (3)

**Total: 10**

**THE CITY OF JOHANNESBURG**

Before the discovery of gold, the area that we now call Johannesburg was nothing more than open land. With the gold rush came the need to house and provide for mine owners, their families and the workers. Soon, a thriving town formed. This grew over the years into a highly populated, world-class city.

![Jeppestown 1888.](image)

![Commissioner Street, Johannesburg in 1899 (left) and today (right). The building indicated by the arrow is the same in both photos.](image)
At first, the Boers maintained control of their lands, as they had more weapons and struck first. Soon, the British brought in soldiers and supplies. Before long, the British had control over the Orange Free State and Transvaal. The Boers did not relinquish control over their land willingly, and so Britain declared war. In 1899, the Anglo-Boer war broke out between the Transvaal and Orange Free State on the Boers’ side and the Cape Colony and Natal on the side of the British. Black people fought on both sides in the war.

At first, the Boers maintained control of their lands, as they had more weapons and struck first. Soon, the British brought in soldiers and supplies. Before long, the British had control over the Orange Free State and Transvaal. The Boers did not give up and began to use guerrilla tactics, surprising the British with attacks and wearing plain clothes to blend in. The British retaliated by blocking off areas with barbed-wire fences and moving Boer families to concentration camps, where many adults and even more children died of disease.
The Boers surrendered on 31 May 1902; the war had lasted two years and seven months. During the war, the gold mines shut down, as workers were needed to fight and nobody wanted to be caught in-between battles.

Activity 9
1. Discuss the reasons for the Anglo-Boer War. (2)
2. Why do you think black people fought in the war? (3)
3. Explain how the British won the war. (3)
4. Explain what the war did to the balance of power in the Witwatersrand region. (2)

Total: 10

AFRICAN POLITICAL ORGANISATION, 1902
After the Anglo-Boer War, the British government and leaders of the former Boer territories met to discuss the future of South Africa. Coloured people at the Cape realised that a white-controlled state was being planned and formed an organisation called the African Political Organisation (APO). The leader of APO was Abdullah Abdurahman, pictured here. They protested peacefully and appealed to the government for the right to vote.

TRANSVAAL INDIAN CONGRESS, 1903
The Transvaal Indian Congress was an organisation formed by Mahatma Ghandi to protest against anti-Indian legislation. The movement focused on passive, non-violent resistance. They marched and wrote petitions to appeal to government to change the anti-Indian laws.

BAMBATHA REBELLION, 1906
Chief Bambatha was a Zulu chief who started a rebellion against British rule in Natal. He was not happy about losing his land and being forced to pay taxes. He demanded that his land be returned and poll taxes lifted. Although he had followers, the rebellion was crushed and Chief Bambatha was killed in battle. There was never again an armed black resistance to colonial rule.
**THE UNION OF SOUTH AFRICA, 1910**

The four independent states in South Africa, the Orange Free State, Transvaal, Natal and Cape Colony, were joined together as one country called the Union of South Africa in 1910. Some Boers worked with the British and formed a new government, led by Jan Smuts and Louis Botha. The government was made up of only white people, though educated coloured people and Africans living in the Cape were allowed to vote.

![Louis Botha and Jan Smuts.](image)

**FORMATION OF SOUTH AFRICAN NATIVE NATIONAL CONGRESS, 1912**

The South African Native National Congress (SANNC), later named the African National Congress (ANC), was formed in response to discrimination against black people by the government of the Union of South Africa. John Dube (in the centre of the photo), the first SANNC president, led a delegation of SANNC leaders to England in 1914 to protest against the 1913 Land Act.

![Formation of South African Native National Congress, 1912.](image)

**SATYAGRAHA CAMPAIGN OF 1913–1914**

Mahatma Gandhi believed in protesting and resisting passively and peacefully. Under the new government in the Union of South Africa, anti-Indian legislation continued and expanded. Indian marriages were not recognised by law, Indians were not allowed to move freely in the Transvaal area and all Indians had to pay additional taxes. In 1913 and 1914, many Indians joined the peaceful protest movement. They were met with violence and many went to prison. In 1914, the Union government agreed to recognise Indian marriages, abolish the tax and allow Indians to move freely. In exchange, Gandhi agreed that the Satyagraha Campaign would come to an end.

![Satyagraha Campaign of 1913–1914.](image)
THE LAND ACT, 1913
In 1913, the government of the Union of South Africa passed the Land Act. Black people were moved to areas that made up 13% of the total land of the country, although they made up 70% of the population. The remaining 87% of the land was reserved for white ownership and occupation. This unequal access to land was a contributing factor to racial tensions and the segregation that later became apartheid.

Activity 10
Draw a timeline showing the events that took place in South Africa from 1899 to 1913. Write one sentence with each event to describe what happened.

MAP OF SOUTHERN AFRICA IN 1913 COMPARED WITH 1860
In 1860, many African kingdoms still had claim to their lands. The British had control over the Cape Colony and Natal and the Boers oversaw the Transvaal and Orange Free State. By 1913, the Union of South Africa had formed and the Land Act of 1913 had resulted in black people being forced to live in certain places.

The shaded areas on the map of South Africa show the ‘native reserves’ allocated to black people in 1913.

Image reference list
- Image page 3: https://goo.gl/DSRi8q (accessed 19 February 2018); https://goo.gl/1MXi8F (accessed 19 February 2018)
- Source D page 6: Adapted from https://goo.gl/hJSGDd (accessed 20 February 2018)