

# CLIMATE CHANGE LESSON PLAN - Biodiversity and climate change

## For Grade 6

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**Description of Activity:** Learners are given a copy of Appendix A to introduce the lesson of biodiversity. They compare the biodiversity of the world with that of South Africa and formulate their own conclusions

This lesson should be completed over 3 40 min lessons or over 1 week.

<b>Learning Area/s:</b> Natural Science	<b>Learning Outcomes:</b> NS: LO1 & LO3
<b>Assessment Standard/s:</b> NS - LO1: AS 3 Evaluate data and communicates findings: relates observations and responses to the focus question. LO3 AS2: Understands the impact of science and technology: suggests ways to improve technological products or processes and to minimise negative effects on the environment	<b>Subject Integration:</b> Social Sciences (Geography and History)
<b>Background knowledge required by learners:</b> Learner has an understanding of ecosystems	<b>Materials Needed:</b> Appendix A
<b>Activity Procedure:</b>  <b>Lesson 1:</b> Learners are introduced to the lesson on Biodiversity and given a copy of Appendix A. Explain the term biodiversity and biomes. Why are their different biomes in South Africa and around the world; links this to the different climates. What will the consequences be if climates change - for example if the average annual rainfall increases or decreases by 500mm over the next 10 years? Will this change the vegetation, the animal habitats etc.  <b>Lesson 2:</b> Learners are divided into groups and each group is given a specific biome in South Africa to investigate. What are some of the interest facts about that biome?; What type of weather is common in that area? Are there any plants or animals that are only found in that biome?  <b>Lesson 3:</b> As a class and with the guidance of the educator, learners look at world biodiversity. They compare the findings with those of their findings of South Africa Biodiversity. Why is it important to conserve our biodiversity? How could climate change affect South Africa and the World as a whole?	
<b>Assessment Method:</b> Teacher assessment of group discussions and investigations	

# WORLD BIODIVERSITY

## HABITATS WITH THE HIGHEST SPECIES DIVERSITY

### Tropical rain forests

One-third of all plant matter occurs here. Rain forests have the highest biodiversity in the world. More than half the known species occur here.

### Tropical coral reefs

These have a high diversity of marine life. The many species of coral create different habitats for other animals – especially fish.



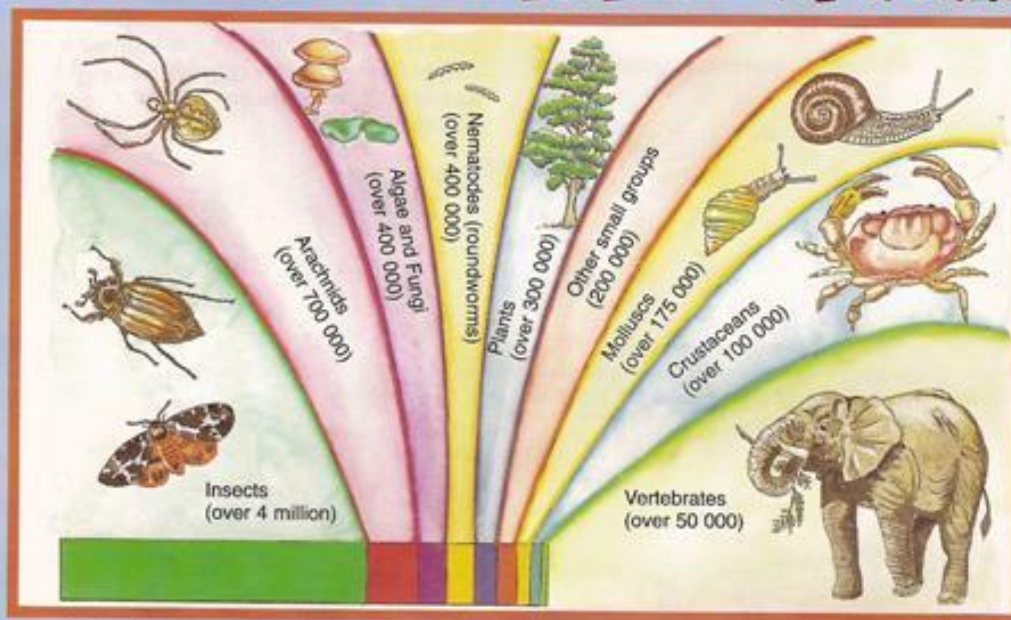
### Cape fynbos

The fynbos has the highest concentration of plant species in the world outside the tropics. Of the 9 000 plants, 9 000 are endemic.

## HOTSPOTS

Areas of high biodiversity with over 1 500 endemic (found nowhere else) plant species, and where at least three-quarters of the original vegetation has been lost, are called biodiversity hotspots. Of the 25 hotspots in the world, South Africa has two – the Cape fynbos and the Succulent karoo.

## HOW MANY KNOWN SPECIES IN THE WORLD?





# BIODIVERSITY IN SOUTH AFRICA

South Africa houses more than 10% of the world's known species! These occur in 8 different types of habitat, or biome. To conserve these species we need to make sure that we protect parts of each biome. At present all our indigenous forests are protected, but only 13% of fynbos, 8% of savanna, 10% of marine and about 1% of karoo and grassland is protected.

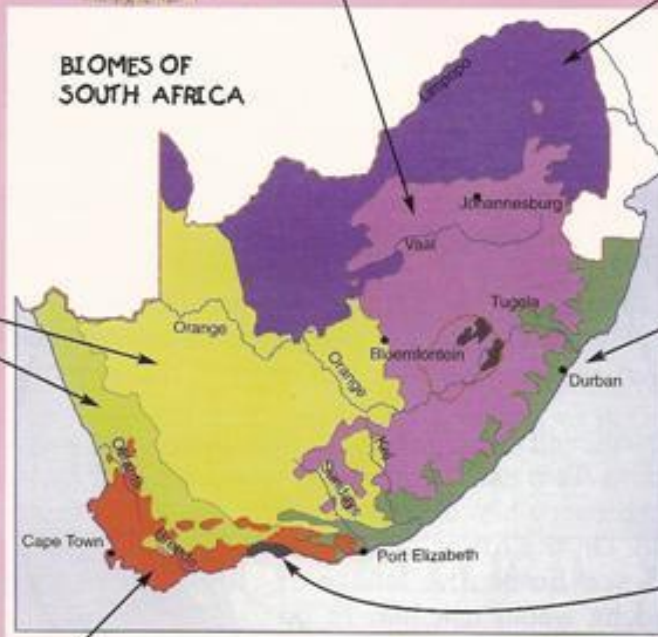
Rivers and wetlands should be areas of high biodiversity. Wetlands are one of the most threatened habitats in the world.



The karoo is our largest biome and is made up of the Nama karoo and Succulent karoo. The Succulent karoo is our second most biologically diverse area, and the only arid-land biodiversity hotspot in the world!



Grasslands have the third highest species diversity in South Africa.



Savanna covers one-third of our country and consists of wooded grasslands.



Our marine biome is important. It has 11 130 known species and many more undescribed. One-third of these species occur only in South Africa!



We have few indigenous forests left. Forests provide homes for many animals and plants.

Fynbos is the most threatened of the world's 6 floral kingdoms. It is also the third most biodiverse area in the world. Fynbos plants are adapted to survive dry, windy conditions, poor soils and frequent fires.



## HOW MANY SPECIES IN SOUTH AFRICA?

