MARINE SCIENCES

Dear Grade 12 Marine Sciences learner,

A love for the oceans and an enquiring and critical mindset are what will make you successful in Marine Sciences.

Subject Requirements
- Black or blue pen
- Pencil and eraser for graphs and drawings
- Ruler, protractor and compass to draw a pie chart
- Non-programmable calculator

Content Checklist
Below is a checklist you should use to ensure that you have covered the Grade 12 content (including the Grade 11 content that is in the exam) in full.

1. Chemical and Physical Oceanography
- Chemistry of sea water (Topic 45 Grade 11)
- Diving sciences water and gas laws
- Waves

2. Geographical Oceanography
- Global ocean circulation
- SA shorelines
- Coastal formations
- ENSO

3. Harvesting of Ocean Resources
- Archaeological evidence of early human relationships with the sea and seafood (Topic 58 Grade 11)
- Overfishing (Topic 59 Grade 11)
- Aquaculture
- Commercial use of marine algae
- Harvesting of ocean energy

4. Climate Change and Ocean Acidification
- Climate change
- Ocean acidification

5. Invertebrates
- Echinoderms and echinoderm classes
- Chordata: Urochordata

6. Vertebrates
- Vertebrate introduction
- Agnatha
- Chondricthyes
- Osteichthyes
- Terrestrial vertebrates
- Marine reptiles
- Marine birds
- Marine mammals

7. Biomimicry

8. Ecology: Rocky Shores
- Rocky and sandy shores (Topic 56.2 Grade 11)

9. Ecology: Estuaries and Kelp Forests
- Estuaries
- Kelp forests

10. Ecology: MPA's and Ecotourism
- Marine Protected Areas (MPA's)
- Ecotourism

11. Skills
Scientific inquiry, graphs and drawings, calculations and essay synthesis

The following formal assessment tasks are compulsary:

Term 1	Term 2	Term 3
Practical	Practical	Practical
		Project
Test	June Exam 2 Papers x 150 marks	Trial Exam 2 Papers x 150 marks

The final external examination papers are structured as follows:

Paper 1	150 marks
Chemical and Physical Oceanography	30 marks
Geographical Oceanography	45 marks
Harvesting of Ocean Resources	35 marks
Climate Change and Ocean Acidification	15 marks
Skills	25 marks

Paper 2	150 marks
Invertebrates	15 marks
Vertebrates	50 marks
Biomimicry	10 marks
Rocky and Sandy Shores	12 marks
Estuaries and Kelp Forests	10 marks
MPA's and Ecotourism	28 marks
Skills	25 marks

Tips for Success
- Ask your teacher for the National Exam Guideline. This will give you a clearer picture of the layout of the NSC question papers.
- Practice essay writing.
- Practice comparing vertebrate classes.
- Work through past papers.

SCAN ME!
Marine Sciences Overview