

**NORTHBROOKS
SECONDARY SCHOOL**
SOARING YET ROOTED

*Sec 2 Subject
Information:
Science
(NT)*



Science subjects for NT stream:

N(T) Science

N(A) Level Science (Physics/Chemistry)*

N(A) Level Science (Biology/Chemistry)*

*for students eligible for SBB at Upper Secondary



N(T) Science

Overview

- provides authentic contexts that students can relate to and draw them into asking questions and seeking knowledge that can help them gain a deeper understanding of the content in each module

Module	Machines Around Us (II)	Food Matters	Our Body and Health (II)
Topic	<ul style="list-style-type: none">• Energy• Electricity• Wave• Effects of Force	<ul style="list-style-type: none">• Sources of Food• Food Chemistry• Food Safety	<ul style="list-style-type: none">• Staying Healthy• Digestion• Breathing• Blood Circulation

N(T) Science

Scheme of Assessment

<p>Paper 1: E-Examination (1 h 15 min, 50 marks)</p>	<p>Paper 1 consists of two sections: Section A will carry 40 marks and consists of 30 multiple-choice questions (30 marks) and 2 to 5 selected response questions (10 marks). Section B will carry 10 marks and consists of 2 to 3 selected-response, short-answer and/or structured questions with video, animation or interactive stimuli. Selected response questions in Paper 1 may include matching, checkbox, drag and drop and fill-in-the-blanks. Candidates answer questions on a computer for Paper 1.</p>
<p>Paper 2: (1 h, 50 marks)</p>	<p>Paper 2 will carry 50 marks and consist of a variable number of compulsory short-answer and structured questions. One of the questions is a data-response question, requiring candidates to interpret, evaluate or solve problems using data and/or observations. This question will carry 8-12 marks.</p>



N(A) Science (Physics) Overview

- provides students with a coherent understanding of energy, matter, and their interrelationships
- develops in students investigative and problem-solving skills, effective communication of theoretical concepts and appreciation of the contribution physics makes to our understanding of the physical world

Section
I. Measurement
I. Newtonian Mechanics
III. Thermal Physics
IV. Waves
V. Electricity & Magnetism
VI. Radioactivity

N(A) Science
(Physics)
Syllabuses
and Topics

Section	N(A)-Level Science(Physics)
I. Measurement	1) Physical Quantities, Units and Measurements
II. Newtonian Mechanics	2) Kinematics
	3) Forces and Pressure
	4) Dynamics
	5) Energy
III. Thermal Physics	6) Kinetic Particle Model of Matter
	7) Thermal Processes
IV. Waves	8) General Wave Properties (I)
	9) Electromagnetic Spectrum
V. Electricity & Magnetism	10) Electric Charge and Current of Electricity
	11) D.C. Circuits
	12) Practical Electricity
VI. Radioactivity	13) Radioactivity

N(A) Science (Biology)

Overview

- enables students to deepen their interest in biology for future learning and work
- develops a way of thinking to understand how living organisms work to sustain life and use the disciplinary ideas in biology to approach, analyse and solve problems in biological systems

Section
I. Cells and Chemistry of Life
II. The Human Body – Maintaining Life
III. Living Together – Plants, Animals and Ecosystems



N(A) Science
(Biology)
Syllabuses
and Topics

Section	N(A)-Level Science(Biology)
I. Cells and the Chemistry of Life	1) Cell Structure and Organisation
	2) Movement of Substances
	3) Biological Molecules
II. The Human Body – Maintaining Life	4) Nutrition in Humans
	5) Transport in Humans
	6) Respiration in Humans
	7) Infectious Diseases in Humans
III. Living Together – Plants and Animals	8) Nutrition and Transport in Flowering Plants

N(A) Science (Chemistry)

Overview

- enables students to appreciate practical applications of chemistry in the real world
- develops in students a way of thinking to approach, analyse and solve problems by explaining macroscopic characteristics and changes in chemical systems

Section
I. Matter – Structures and Properties
II. Chemical Reactions
III. Chemistry in a Sustainable World



N(A) Science
(Chemistry)
Syllabuses
and Topics

Section	N(A)-Level Science(Chemistry)
I. Matter – Structure and Properties	1) Experimental Chemistry
	2) The Particulate Nature of Matter
	3) Chemical Bonding and Structure
II. Chemical Reactions	4) Chemical Calculations
	5) Acid-Base Chemistry
	6) Qualitative Chemistry
	7) Patterns in the Periodic Table
III. Chemistry in a Sustainable World	8) Organic Chemistry
	9) Maintaining Air Quality

N(A) Level Combined Science

Assessment Objectives

Papers 1, 2, 3, 4, 5 and 6

- A** Knowledge with Understanding, approximately 45% of the marks with approximately 20% allocated to recall.
- B** Handling Information and Solving Problems, approximately 45% of the marks
- C** Experimental Skills and Investigations, approximately 10% of the marks*

*new – students should be able to select and use techniques, apparatus and materials, take readings and record observations, interpret and evaluate experimental data and observations, and evaluate methods and suggest possible improvements



N(A) Level Combined Science

Scheme of Assessment

The pair of Papers 1 and 2, 3 and 4, 5 and 6 will be taken in one session of 1 hour 15 minutes.

Paper	Type of Paper	Duration	Marks	Weighting
1	Multiple Choice (Physics)	1 h 15 min	20	20.0 %
2	Structured (Physics)		30	30.0 %
3	Multiple Choice (Chemistry)	1 h 15 min	20	20.0 %
4	Structured (Chemistry)		30	30.0 %
5	Multiple Choice (Biology)	1 h 15 min	20	20.0 %
6	Structured (Biology)		30	30.0 %



Frequently Asked Questions

Q1: Which combination should my child choose?

Q2: Can my child continue to take SBB Science at Upper Secondary?
[for N(T) students offered N(A) Level Science]

Q3: Can my child convert back to N(T) Science if he/she is not able to cope with the demand of the N(A) Level Science?
[for N(T) students offered N(A) Level Science]



Q₁: Which combination should my child choose?

A1:

- Your child should choose the combination based on his/her
 - > **interest** towards the Sciences disciplines (Physics / Biology)
 - > **preferences** of post-secondary courses or future pathways

Notes

- As Chemistry is a subject pre-requisite for most Science courses, the school offers it as a compulsory discipline for Combined Science.
- Across the three Science disciplines, Physics would require more application of formulae to solve problems, while Biology would require more memory work in order to write quality descriptions and explanations.
- Kindly refer to Slide 3, 5 and 7 (overview) for the nature of the Sciences.



Q2: Can my child continue to take Subject-Based Banding (SBB) Science at Upper Secondary?

A2:

- Your child will be offered to consider taking Science at a higher level, if he/she meets the eligibility criteria:
 - > **Attained at least 50%** for Science
 - AND**
 - > **Passed promotion criteria**
- Students who are eligible for SBB Science at a higher level should also consider their
 - > **manageability** of Science, as well as other subjects
 - > **interest** towards the Sciences disciplines
 - > **preferences** of post-secondary courses or future pathways



Q2: Can my child continue to take Subject-Based Banding (SBB) Science at Upper Secondary?

- Different categories of NITEC courses come with **different entry requirements**.
- GCE 'N' Level holders applying for admission to full-time NITEC courses must first **satisfy the entry requirements including passes in the pre-requisite subjects** for the courses applied. Admission is **merit-based**, and posting to a course is based on **aggregate of best 4 GCE 'N' Level subjects**, including pre-requisite subjects and bonus points where applicable and is subjected to availability of vacancies.
- For N(T) students who are interested to apply for NITEC Science courses via **Early Admission Exercise (EAE)**, taking N(A) Combined Science may help to build their portfolio.



Q3: Can my child convert back to N(T) Science if he/she is not able to cope with the demand of the N(A) Level Science?

A3:

- Your child is **strongly encouraged** to complete the two years curriculum of the course of the more demanding course, if he/she **meets the criteria and chooses** to be offered the subjects.
- The syllabuses covered at Secondary 3 **differs significantly** for N(A) Combined Science and N(T) Science. It is not advisable for your child to convert back to N(T) Combined Science and he/she is required to make up for the syllabus missed, if he/she converts back to N(T) Combined Science.
- Your child may only convert to N(T) Science (at the end of Secondary 3) on a **case by case basis**, with special considerations.



Examination Syllabus of N(T) and N(A) Sciences

N(T) Science (Syllabus 5148)



<https://go.gov.sg/2024syllabus5148>

N(A) Combined Science

Science: Physics, Chemistry
(Syllabus 5105)

Science: Chemistry, Biology
(Syllabus 5107)



<https://go.gov.sg/2024syllabus5107>



Thank you.

You may email or contact us at **6752 4311**, if you have other queries.

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