To: **Parents/Caregivers of Year 10 Students 2022**

Re: Junior Examinations: Wednesday 15 June to 21 June.

Please find below information regarding the topics to be assessed during the upcoming examinations in the four 'core' subjects for junior students. Further assessment information, and copies of previous examination papers for some subjects, can be found on subject Stratus pages - http://stratus.pnbhs.school.nz/, your son will need to use his school username and password to log in.

10 English

There are three sections to the exam:

Literary Essay - Written Text

- Students are expected to write on a written text e.g. poetry, short story, novel or biography that they have studied in class this year.
- All questions begin with "Describe….and Explain…" The essay will need an introduction and one extended paragraph.
- Essays are marked on the ideas presented by students, supporting examples and their relevance to the question, and the depth of understanding demonstrated in a student's explanations.
- Students should expect to spend around 45 minutes planning and writing their essay.
- The essay represents 40% of the overall mark.

Unfamiliar Text

- Students will read pieces of short fiction and poetry texts. They will answer a variety of short answer questions that focus on:
    - surface comprehension and inference skills
    - parts of speech and sentence types
    - identifying and explaining the effects of language features
    - demonstrating understanding of ideas
- Students should expect to spend approximately 40 - 45 minutes on this section.
- This section represents 40% of the overall exam mark.

Punctuation and Grammar

- This section assesses students' knowledge of basic punctuation and grammar including:
    - full stops, commas, apostrophes.
    - capital letter use.
    - complete and incomplete sentences, dependent and independent clauses.
    - homophones, parts of speech.
    - subject-verb agreement.
- This section represents 20 % of the overall exam mark. Students should expect to spend 15-20 minutes in this section.

10 Mathematics

Students are expected to have a ruler, calculator and pens. **Your son will be at a huge disadvantage without a calculator.**

Students can find previous mid and end-of-year examinations on Stratus – please focus only on the sections below:

Short Answer Section

- Basic number knowledge/strategies and algebraic skills.

Number Section

- Addition, subtraction, multiplication and division equations and application problems involving whole numbers and decimal numbers.
- Fractions - simplifying, mixed/improper, ordering of, converting to decimals, adding/subtracting/multiplying and dividing), application problems.
- Percentages – converting %, fractions and decimals, % increases and decreases, % of an amount, % difference, finding the original amount, GST, rates and ratios.

Algebra Section

- Combining like terms.
- Simplifying expressions involving multiplication and division, including exponents.
- Expanding and factorising single brackets.
- Simplifying expressions involving all 4 operations and single brackets.
- Substitution.
- Rearranging equations.
- Solving linear equations.
- Algebraic Fractions.
- Writing expressions for word problems and vice versa.

10 Social Studies - Treaty of Waitangi

There are four sections in this examination.

Resource interpretation

- There are 30 marks for this section on the Treaty of Waitangi. Students need to have studied and understand:
    - The reasons for the need for an agreement between Maori and Tauiwi (non-Maori newcomers).
    - The meanings of the articles of the Treaty of Waitangi.
    - Current issues relating to the Treaty of Waitangi.

- There will be interpretation questions based on the content learned in class (a and b) and questions based on the interpretation of resources that are provided in the exam (c).

Paragraph Writing

- This section is worth 15 marks.
- Students are to complete two paragraphs from a choice of questions based on

  Either:
  - the cause and effect of a New Zealand War.

  Or
  - The significance of a New Zealand War/s.

- There will be no stimulus material provided in the examination paper for this section – student responses rely on their preparation and revision of content.
- Paragraphs will require extended and appropriate statements and explanations, and students should use PEEL paragraph structure. Please note that this is not the exact question - questions will be based on these topics.

Skills

- This section is worth 15 marks.
- Students will be required to:
  - Create a line graph.
  - Read information from graphs and tables of information.
  - Recognise basic patterns and / or relationships and / or trends from graphs and tables of information.
  - Make reasoned statements (infer) based on information provided.
- This section is based on skills ability – not memory preparation. Skills practice is the way to prepare.

Current Events

This section is worth 10 marks and will involve:

- Matching lists of headlines, events, places, or people to a current event from early 2022 to now.
- Recognising people from a current event from early 2022 to now.
- Writing sentences to explain a current event from early 2022 to now.

10 Science

Materials needed : 2 blue or black pens, pencil ruler, calculator, eraser and a sharpener. Total marks available 120.

Stratus Science Year 10 course page has past examinations, vocabulary lists, and plenty of resources for revision.

Students will learn and be tested on the following three units:

Unit 1: Medical Science (Multiple choice, long and short answer – 40 marks)

- Understand that cells form the basis of all living organisms
- Understand and describe how the human body is made of different organ systems.
- Investigate and understand relationships between structure and function in living organisms.
- Identify, name and describe the major bones of the skeleton and describe their functions (support, shape and protection).
- Describe and understand the concept of antagonistic muscles and how they work to make movement possible.
- Use examples to help describe how antagonistic muscles work.
- Label the main parts of a synovial joint.
- Describe the movement and location of the hinge and the ball and socket joints.
- Identify and label the features of the human heart (chambers, veins and arteries).
- Describe the flow of blood through the heart (must identify and name the heart valves.
- Identify and describe the major features and functions of arteries, veins, and capillaries.
- Outline and describe the composition of blood (major components).
- Describe the mechanics of breathing - inhalation and exhalation.
- Identify the diaphragm, intercostal muscles and ribs and describe the role of each during breathing.
- Define excretion and relate this to what is excreted via the lungs
- Identify and describe the different parts of the lungs.
- Describe how diffusion in capillaries occurs, including gas exchange.
- Distinguish the difference between breathing and respiration.
- Describe the basic process of respiration.
- Understand and be able to describe the differences in the process of aerobic versus anaerobic respiration.

Unit 2: Forces and Motion (Multiple choice, long and short answers – 40 marks)

- Describe and define what each of distance, speed, acceleration and time are.
- Describe how each of distance, speed, acceleration and time are measured, and in what units.
- Be able to convert between different SI units of distance and between hours, minutes and seconds.
- Use the formula $v = d/t$ and the formula $a = v/t$.
- Draw d-t graph and interpret motion from a d-t graph.
- Understand and describe what a force is.
- Understand that we cannot see forces, but we can understand them by their effects.
- Some understanding of direct forces and forces at a distance.
- Describe how force is measured, and in what units.
- Be able to depict one or more forces (as vectors) being applied on an object.
- Describe the difference between balanced and unbalanced forces.
- Understand that applying an unbalanced forces to an object will result in a change in motion.

- Predict the direction of acceleration when two forces are applied (in one dimension).
- Describe how forces can cause acceleration.
- The formula F = ma will not be examined Apply these concepts when the force is friction.
- Not assessed but students need to have this knowledge – use lots of contextual examples.
- Understand that applying an unbalanced forces to an object will result in a change in motion.
- Predict the direction of acceleration when two forces are applied (in one dimension).
- Describe how forces can cause acceleration.
- The formula F = ma will not be examined. Apply these concepts when the force is friction.
- Newton's 3rd Law visited.
- Describe the difference between mass and weight.
- Gravity causes objects to accelerate.
- Relate an objects mass to its weight using the formula Fw = mg (on the Earth only).
- Describe how less force is required to do work when simple machines are used and understand how these simple machines work.
- Machines include: lever, inclined plane, wedge; can mention wheel and axle, screw and pulley.
- Not assessed but students need to have this knowledge – use lots of contextual examples.

Unit 3: Atomic structure and the Periodic Table (Multiple choice, long and short answers, - 40 marks)

- Understand and describe the atomic structure: sub-atomic particles, mass and atomic numbers and electron arrangement.
- Understand that the atom is the smallest particle of matter.
- Understand the difference between an element, compound and a mixture.
- Understand and be able to explain how all the elements are classified based on their properties and are arranged in the Periodic Table.

Please note: The Year 10 Science Portfolio done internally will have a 20% weighting (instead of the originally proposed 40%) making the mid-year examination have a 80% weighting for this half of the year.