Preparing for National Examinations

- Mathematics
- Science
- Social Studies
Mathematics
Preparing to excel at the National Examinations
# O-Level Elementary Mathematics Curriculum

<table>
<thead>
<tr>
<th>Sec 1</th>
<th>Sec 2</th>
<th>Sec 3</th>
<th>Sec 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Numbers &amp; its Operations</td>
<td>1. Indices &amp; Standard Form</td>
<td>1. Linear Inequalities</td>
<td>1. Matrices</td>
</tr>
<tr>
<td>2. Ratio, Rate &amp; Speed</td>
<td>2. Rate, Ratio &amp; Proportion (include map scales)</td>
<td>2. Solutions to Quadratic Equations</td>
<td>2. Probability</td>
</tr>
<tr>
<td>8. Functions &amp; Graphs</td>
<td>8. Pythagoras’ Theorem</td>
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<td></td>
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<tr>
<td>9. Mensuration 1 (Areas &amp; Volumes)</td>
<td>9. Trigonometric Ratios</td>
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<tr>
<td>10. Geometrical Constructions</td>
<td>10. Statistics 2</td>
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<tr>
<td>11. Statistics 1</td>
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</table>
O-Level Elementary Mathematics

Scheme of Assessment

<table>
<thead>
<tr>
<th>Paper</th>
<th>Duration</th>
<th>Description</th>
<th>Marks</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 1</td>
<td>2 hours</td>
<td>There will be about 25 short answer questions. Candidates are required to answer all questions.</td>
<td>80</td>
<td>50%</td>
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<tr>
<td>Paper 2</td>
<td>2 hours 30 minutes</td>
<td>There will be 10 to 11 questions of varying marks and lengths. The last question in this paper will focus specifically on applying mathematics to a real-world scenario. Candidates are required to answer all questions.</td>
<td>100</td>
<td>50%</td>
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</tbody>
</table>

• Paper 1 & Paper 2 are equally important.
• In fact, 1 mark in Paper 1 is worth more than 1 mark in Paper 2.

O-Level Elementary Mathematics

Scheme of Assessment – Paper 1

- Start with mostly short questions with 1-mark or 2-marks. Gradually, the questions are the longer type, ranging from 3 to 6/7-mark questions.

- Students must learn to **pace** themselves.

- Students should make sure that they **score well for the shorter questions** as they tend to be testing on basic mathematics concepts.

- The longer questions will be structured, i.e. sub-divided into parts. The **parts are generally interlinked**.
The questions are of varying length.

Generally, the shorter questions are about 6~8 marks; while the longer questions are about 10~13 marks.

**New Assessment**: The last question will focus on applying **Mathematics in a real world scenario**.
Nurul is planning a weekly exercise routine. She has read the following health advice:

Time: For optimal health benefits, aim to accumulate **150 minutes of moderate-intensity** or **75 minutes of vigorous-intensity** aerobic activity each week. Some individuals may need to accumulate **250 minutes a week** to prevent weight gain.

1 minute of vigorous-intensity aerobic activity = 2 minutes of moderate-intensity aerobic activity, e.g. 10 minutes of jogging = 20 minutes of brisk walking

She plans to go for **three brisk walks** each week. The map shows her planned route around her local reservoir.

- Knowledge of exercise.
- Idea of burning calories.

(a) Estimate the length of Nurul’s route.

(b) Nurul aims to walk at 6.5 km/h.

Does Nurul meet the weekly time target recommended in the health advice if she walks at this speed? Show how you decide.
To use more calories during the exercise, Nurul decides to jog the same route three times each week instead of walking. Nurul weighs 70 kg and she estimates that her jogging speed will be 9.5 km/h. She finds the following information on the internet.

**Approximate calories used during 30 minutes of exercise**

<table>
<thead>
<tr>
<th>Body weight</th>
<th>60 kg</th>
<th>70 kg</th>
<th>80 kg</th>
<th>90 kg</th>
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<tr>
<td>Walking 5 km/h</td>
<td>105</td>
<td>120</td>
<td>135</td>
<td>150</td>
</tr>
<tr>
<td>Walking 6.5 km/h</td>
<td>130</td>
<td>150</td>
<td>170</td>
<td>190</td>
</tr>
<tr>
<td>Jogging 8 km/h</td>
<td>240</td>
<td>280</td>
<td>315</td>
<td>350</td>
</tr>
<tr>
<td>Jogging 9.5 km/h</td>
<td>300</td>
<td>345</td>
<td>390</td>
<td>435</td>
</tr>
</tbody>
</table>

Nurul thinks that she will meet the target for time and that she will use more than double the amount of calories.

**Is Nurul correct? Justify your decision with calculations.**
Peter produces the newsletter for a sports club. Each newsletter is printed in black on both sides of four sheets of A4 paper. Peter posts the newsletter to subscribers 6 times each year.

Information that Peter needs is on the opposite page.

Peter uses a C5 envelope to post the newsletter. He finds that a C5 envelope containing 4 sheets of A4 paper weighs approximately 25 g.

(a) How much will it cost to post one copy of the newsletter?

He estimates that there will be 150 subscribers to the newsletter.

(b) How many toner cartridges will Peter need to print the newsletters for one year?

Peter needs to decide how much he should charge subscribers for the newsletter. He must make sure that he charges enough money to cover all of his costs.

(c) Suggest a sensible amount for him to charge for a one-year subscription to the newsletter. Justify the decision you make and show your calculations clearly.
How does postage works in real life?

How does economies of scale come into play here?

Are there hidden costs in real life?
## 2015-2017 TYS Analysis – E Math Paper 1

<table>
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<tr>
<th>S/N</th>
<th>Topics</th>
<th>Level</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<td></td>
<td>P1</td>
<td>%</td>
<td>P1</td>
<td>%</td>
</tr>
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<td>9</td>
<td>11.3%</td>
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<tr>
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<td>Sec1/2</td>
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<td>11</td>
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<tr>
<td>3</td>
<td>Angles, Triangles and Polygons</td>
<td>Sec1</td>
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<td>7.5%</td>
<td>4</td>
<td>5.0%</td>
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<tr>
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<td>Sec1/2</td>
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<td>11.3%</td>
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<td>5</td>
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<td>8</td>
<td>10.0%</td>
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<tr>
<td>6</td>
<td>Vectors in 2-Dimensions</td>
<td>Sec4</td>
<td>2</td>
<td>2.5%</td>
<td>10</td>
<td>12.5%</td>
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<tr>
<td>7</td>
<td>Equations &amp; Inequalities</td>
<td>Sec2/3</td>
<td>9</td>
<td>11.3%</td>
<td>2</td>
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<tr>
<td>8</td>
<td>Data Handling &amp; Analysis</td>
<td>Sec1-4</td>
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<td>5.0%</td>
<td>4</td>
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<td>11</td>
<td>Percentage</td>
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<tr>
<td>12</td>
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<td>2.5%</td>
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<td>17</td>
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<td>0</td>
<td>0.0%</td>
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<tr>
<td>18</td>
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<td>2.5%</td>
<td>2</td>
<td>2.5%</td>
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<tr>
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O-Level Elementary Mathematics
Analysis of 2015-2017 Paper 1

- Sec 1& 2 topics: approx 55%
- Sec3 & 4 topics: approx 45%

- Important Sec 1 & 2 topics:
  - Algebra
  - Mensuration
  - Angles, Triangles & Polygons
  - Ratio, Rate & Proportion, Speed & Percentage
  - Number & its Operations

- These are basic mathematics that must be scored well!
<table>
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<tr>
<th>S/N</th>
<th>Topics</th>
<th>Level</th>
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<th>2016</th>
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<td>Sec1/2/3/4</td>
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<tr>
<td>17</td>
<td>Coordinate Geometry</td>
<td>Sec2/3</td>
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<td>0</td>
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<tr>
<td>18</td>
<td>Set Languages &amp; Notation</td>
<td>Sec3</td>
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<td>0.0%</td>
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<tr>
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O-Level Elementary Mathematics
Analysis of 2015-2017 Paper 2

• Sec 1 & 2 topics: approx 30%
• Sec 3 & 4 topics: approx 70%

• Important Sec 3 & 4 topics:
  – Equations & Inequalities
  – Functions & Graphs
  – Trigonometry
  – Problems in Real World Contexts
  – Vectors

• Important Sec 1 & 2 topics:
  – Algebra
  – Mensuration
O-Level Elementary Mathematics

Scheme of Assessment – Pacing

• Paper 1: 80marks in 2h → 1.5min/mark
• Paper 2: 100marks in 2.5h → 1.5min/mark

• Students must build up the pacing such that they can complete the paper comfortably.

• Strategy:
  – **Timed Practice**
  – **Conditioning**
O-Level Elementary Mathematics
Revision Strategy – Timed Practice

• In school,
  – Topical tests
  – Timed Practice
  – SA/Prelim/Mock Exam

• Treat every timed practice session as if you are taking for the N/O-level exams.

• **Set a target** & challenge yourself

• **Review**
  – What went well?  → keep & strengthen
  – What did not go well?  → try another strategy
O-Level Elementary Mathematics
Revision Strategy – Timed Practice

• At home,
  – Timed practice e.g. Graph question – 12 marks → 18 mins
    • 1st practice: target to complete within 25 mins
    • 2nd practice: target to complete within 20 mins
    • 3rd practice: target to complete within 18 mins
  – Do it in a conducive environment
    • Keep the hand-phone, ipad away from study area
    • Stay away from computers & TV
O-Level Elementary Mathematics
Revision Strategy – TYS

• Term 1: focus on Topical TYS
  – Objective: build up the content mastery

• At home,
  – Set a specific goal e.g.
    • To complete 3xTYS P1 questions per day
    • To complete 2xTYS P2 questions per day
  – Stay focused & stick to the plan
O-Level Elementary Mathematics
Revision Strategy – TYS

• Term 2 onwards: focus on Yearly TYS
  – Objective: build up the **speed & accuracy**
  – Recommended practice
    ❖ Cycle 1 (Before SA1): Mar – May
    ❖ Cycle 2 (Before Prelim): Jun – Jul
    ❖ Cycle 3 (Before O-Level): Aug - Oct
  – Time to complete the full paper within the 2 or 2.5h.
  – All TYS come with full-worked solutions & revision notes.
O-Level Elementary Mathematics
Revision Strategy – TYS

• At home,
  – Stay disciplined during the March, June, Sept Holidays to work on the TYS
  – Do the paper as if it is in an exam condition. **Conditioning!**
O-Level Elementary Mathematics

Exam Preparation Strategy

• SA1 & Prelim timetable take reference from the national exam
• Use the school exams as a platform in preparation for actual N/O-level!
• Reflections
  – Did my revision plan work well?
  – Have I given myself sufficient time to prepare for the papers?
  – Did I perform well under examination stress?
O-Level Elementary Mathematics

Exam Preparation Strategy

• **Post-CT/SA/Prelim Actions**
  – Work on the “challenging” topics immediately!
  – Review the revision plan & strategy

• **Revision Plan & Strategy**
  – Draw out a revision plan
  – Start with the “challenging” topics
  – Stick to the revision plan
  – Check whether the revision plan is progressing well
    If not, what needs to be adjusted?
  – Have sufficient rest & sleep
  – Check the exam timetable, esp closer to the exam dates
O-Level Elementary Mathematics

Last but not least....

- Always do the paper as if it is in an exam condition.

  Conditioning!

## O-Level Additional Mathematics

### Scheme of Assessment

<table>
<thead>
<tr>
<th>Paper</th>
<th>Duration</th>
<th>Description</th>
<th>Marks</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper 1</td>
<td>2 h</td>
<td>There will be 11–13 questions of varying marks and lengths.</td>
<td>80</td>
<td>44%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Candidates are required to answer <strong>ALL</strong> questions.</td>
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<td></td>
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<td>Paper 2</td>
<td>$2 \frac{1}{2}$ h</td>
<td>There will be 9–11 questions of varying marks and lengths.</td>
<td>100</td>
<td>56%</td>
</tr>
<tr>
<td></td>
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<td>Candidates are required to answer <strong>ALL</strong> questions.</td>
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- **1st year of examination: 2014**

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<th>Chapter</th>
<th>Level</th>
<th>2014 GCE O Level</th>
<th>2015 GCE O Level</th>
<th>2016 GCE O Level</th>
<th>Average</th>
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<td></td>
<td>P1</td>
<td>P2</td>
<td>%</td>
<td>P1</td>
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<td>10</td>
<td>13.3%</td>
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<tr>
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<td>0</td>
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</table>
THANK YOU!
Future of Science and Technology

~ be prepared for what lies ahead

• What’s the future beyond O levels?
• Forging partnership with your child/ward
• What’s our role in preparing for O levels and beyond.
• Understanding raised standards in the study of science
Big Challenges of the Future

No one truly knows where we will be 20 years from now. Will there be enough jobs? .......

It depends on what we do now - what we do to develop the skills and abilities that will make our future.

If we develop the skills that complement new technologies and which cannot be easily replicated by them – the ability to work with robotic devices or AI applications, to exercise creativity, critical thinking and judgement, to work well in teams on complicated tasks, or to demonstrate empathy - we will be creating the jobs of the future. It will be a whole range of jobs, not just those requiring exceptional abilities, and they will be better jobs.

~DPM Tharman Shanmugaratnam at the NTU Majulah Lecture, 20 September 2017
The Scary and Exciting Future of Jobs
Future of Science and Technology

~ be prepared for what lies ahead

• What’s the future beyond O levels?

• Forging partnership with your child/ward

• What’s our role in preparing for O levels and beyond.

• Understanding raised standards in the study of science
Seek first to understand, then to be understood

• You may have an answer you want to hear, but you must remember it is their future, let them have a say, let them play a part.

• You may think “let them have the freedom to choose and I’ll support them fully” blindly
Examples of Tertiary Institutions and Their Prerequisites

• Catholic Junior College
• SAJC
• VJC

Polytechnics

• Ngee Ann Poly Business Course
• Singapore Poly Courses

The above are examples of prerequisites for Science Subjects offer by some Junior Colleges and Polytechnics, there are many more online. Do join your child in sourcing for further information and details about what the tertiary institutions in Singapore can offer.
Future of Science and Technology
~ be prepared for what lies ahead

• What’s the future beyond O levels?
• Forging partnership with your child/ward

What’s our role in preparing for O levels and beyond.

• Understanding raised standards in the study of science
Some suggestions....

• Strive for 100% attendance for school
  – Only when they are in school can teachers work out something with them and help support their learning.

• send her slightly earlier to bed and prepare her earlier for school
  – tip: **NO** mobile phones/ electronic devices

• encourage her to seek consultation with her teachers in school
My role as a teacher:

- Participate actively in class discussions
- Use scientific terms accurately (even verbally)
- Handle impulsivity to regurgitate knowledge. Instead, think and apply.
- Read with the intent to draw info.
- Tap on visualisation.
- Observe, question and make connections.
Your role as a student

• For Science Classes… classroom lessons
  – Keep yourself healthy to ensure 100% attendance
  – Prepare the assigned material before classes
    • Flipped-classroom
  – Take notes in class
    • Listening intently
    • Sharing with peers
  – Review the assigned material after classes
    • Create summaries – It is UNIQUELY **YOURS**!
    • Practice questions
Ebbinghaus Forgetting Curve

Normal Retention

Retention

Time/days

The Ebbinghaus Forgetting Curve illustrates how memory retention decreases over time. The graph shows the percentage retention at various time intervals:

- At 1 day, retention is about 100%.
- At 8 days, retention drops to about 90%.
- At 15 days, retention is about 70%.
- At 29 days, retention is about 50%.
- At 57 days, retention is about 20%.

The line graph demonstrates the exponential decay of memory retention over time, highlighting the importance of reviewing material periodically to maintain long-term retention.
• For Science Classes… Practicals
  – Read the details of the experiment before classes
  – Exercise the power of visualisation as you read through
  – Prepare charts and tables or even draw diagrams on expt set up
  – Be Safe!!
  – Conduct experiments and collect results
  – Data analysis (THINK!) and evaluation
• For Science … outside classes
  – Find a conducive spot
    • Individual vs group
  – **Study schedule/ routine**
    • Create objectives
  – Create study rules
  – Take breaks (exercise)
  – Recap from last study session
  – Memorising vs understanding
    • Summaries
    • Time trial
    • **Teach and encourage one another!**
  – Practice!
Future of Science and Technology

~ be prepared for what lies ahead

• What’s the future beyond O levels?
• Forging partnership with your child/ward
• What’s our role in preparing for O levels and beyond.
• Understanding raised standards in the study of science
Combined Science(5076/5078)

• Theory Paper + Practical (only for sec 4 Exp/5N)

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<tr>
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You are encouraged to click on this link for more details on syllabus and assessment details.
Pure Science (fr 2018) (6091/6092/6093)

- Theory Paper

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End-of-course Practical [NEW!!]
(with effect from 2018 Sec 4 Pure Sci students)

You are encouraged to click on [this link](#) for more details on syllabus and assessment details.
Common Issues

• I’ve already read my notes so many times but still do badly 😞

• I’m a diligent student and complete all my HW but still do badly 😞

• I’ve done my TYS so many times but still do badly 😞

• I have tuition for 6 subjects but still do badly 😞
Exam Techniques

• Read question intently, what exactly are they asking for
• Underline key info and make sense of what they imply
• Consider the number of marks given
• **Know the demands of the command words**
• Follow the PRO structure of thinking to help with presentation of explanatory questions.
• Take note of the time [comes with practice]
• Set aside time to check
  [not read through… CHECK!]
Please do submit your evaluation form at the back of the venue. Thank You!
Women of Integrity with the Passion to Pursue Excellence

Social Studies
Sharing

Sec 3-5 PTM

2 February 2018
Revised social studies syllabus tackles hot-button issues

The Ministry of Education team that worked on revising the upper secondary social studies syllabus includes (from left) assistant director Adinda Samsudin, curriculum planning officer Sandra Yam, deputy director for humanities Marilyn Lim, senior curriculum resource development officer Rashidah Kassim and curriculum planning officer Kenneth Sung. PHOTO: DIOS VINCIO JR FOR THE STRAITS TIMES

Nimby syndrome, poverty line among topics featured; aim is to promote

The ST, 6 Jan 2016
Women of Integrity with the Passion to Pursue Excellence

The ST, 21 Jan 2016

A welcome lesson in critical thinking

Revised social studies syllabus opens up topical issues for debate, some say that it could do better

What’s new in social studies textbook

ST Looks at two examples

FOREIGN WORKERS

Previous textbook:
- Discussed mainly in two pages, under a section titled “Attracting foreign talent”
- No hints of unhappiness about foreign workers

New textbook:
- Individual and citizen for all
- Foreign workers – based on a 2016 survey of people of different races, the impact of foreign workers on economic status are discussed.

SOCIO-ECONOMIC DIVERSITY

Previous textbook:
- Discussed across four chapters about living in a diverse society
- A chapter is dedicated to the “diversity in the workplace”

New textbook:
- Discussed across four chapters about social studies in the workplace

Strengthening critical thinking

Priscilla Goy

I was among the early cohorts of students who had to take social studies as an O-level subject. But as far as I’m concerned, the focus on national education, I ended up being bored by it.

However, the new textbook on national education being used for the first time by Secondary 3 students in this year is as enjoyable for its predecessor as it is for me.

The revised syllabus helps students be better informed about present-day tensions and multiple perspectives on issues.

In this age of social media, it is imperative for the new syllabus to be up-to-date with relevant viewpoints instead of just giving the government’s narrative.

Many political views are presented in two chapters – “How do we decide what is good for society?” and “How can we work for the good of society?”

Educators said they were told by MOE at a meeting to ensure that the syllabus did not “bias” students towards one political stance.

Better thinking, more heart

The revamped syllabus includes questions that challenge students to think critically and problem-solve.

Some topical issues have been presented in a way that shows both the pros and cons (see side story).

Beyond giving students greater awareness of topical issues, the new syllabus promotes critical thinking. During my training in 2008, SAIS had a module on critical thinking. This year, I was able to appreciate the meat of the module.

As a teacher, I was able to appreciate the value of the new syllabus.

I now have a better understanding of how to teach critical thinking to my students.

More space for the people

Most critically, the new syllabus encourages participatory citizenship. A section titled “What is the role of the people?” took up two pages in the previous textbook. Now, it is half a chapter.

A closer look at the guiding questions in the textbook also shows that some get students to suggest and make recommendations. Examples include: “What role should...”

Thank you for the opportunity to contribute to the debate.

goyihuy@gmail.com
How is Humanities mark calculated?

Social Studies → 50%

Elective History/Geography/Literature → 50%
## Significance of Humanities

### Table 6

**Aggregate Types Computation Criteria**

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<td>- Any GCE 'O' Level subjects</td>
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<td>(except Religious Knowledge and CCA)</td>
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Background and Overview of Social Studies
What is Social Studies?

- Social Studies syllabus helps students to understand the interconnectedness of Singapore and the world they live in, and appreciate the complexities of the human experience.

- Students explore the complex tensions that characterise issues happening around the world and in Singapore.
What is Social Studies?

- focuses on the explicit teaching of thinking skills to assess and manage real-life information in meaningful ways.
- aims to build a deep sense of rootedness to the nation.
- interdisciplinary in nature combining a number of subjects.
What is Social Studies?

- Key aims of SS in Singapore:
  - instill a sense of **national identity** as well as **global awareness/perspective**
  - develop **critical thinking and process skills**
Background to Social Studies

- Combined Humanities (or Humanities w.e.f 2016) was introduced in 2001; first year of examination in 2002
- 3 cycles of revision in Social Studies syllabus since 2001
- Latest revision was introduced in 2016 where content has been updated to make syllabus more relevant to present day context
The NEW 2016 SS Syllabus

- Content is organised around **three** Issues.
  - Issue 1: Exploring Citizenship and Governance
  - Issue 2: Living in a Diverse Society
  - Issue 3: Being Part of a Globalised World

- Each issue is organised around an **Inquiry Focus**.
The **NEW 2016 SS Syllabus**

<table>
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<th>Issue 1</th>
<th>Exploring Citizenship and Governance [Chaps 1-3]</th>
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<td>Working for the good of society: whose responsibility is it?</td>
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<tr>
<td><strong>Guiding Qns</strong></td>
<td>• What does it mean for me to be a citizen of my country?</td>
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<tr>
<td></td>
<td>• How do we decide on what is good for society?</td>
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<tr>
<td></td>
<td>• How can we work for the good of society?</td>
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</table>
What makes one a citizen of a country? What are the rights and responsibilities of a citizen?

He was born here, did NS here, and will raise kids here. So why is this man stateless?

Mr Barnabas Lim
Construction of the Cross Island Line

Who are the **stakeholders**? What are the **trade-offs** involved?

Cross Island Line is most ambitious yet

It could be first in Singapore to have trains with more than six carriages

By CHRISTOPHER TAN

SINGAPORE is embarking on its most ambitious MRT project yet: the 55km Cross Island Line (CRL), expected to be ready by 2030.

While it is not the longest line here — that is the 57km East-West Line — it could be the first in Singapore to have trains with more than six carriages.

The Land Transport Authority (LTA) would not confirm this, merely saying that the CRL will be a “heavy-load system”.

Currently the East-West, North-South and North-East lines have six-car trains while the others have three- or four-car trains. In other countries, eight- and 10-car trains are common.

The CRL will also pass through densely built up areas such as Sin Ming, Ang Mo Kio, Hougang and Clementi.

This will pose engineering challenges and raise the possibility of property acquisitions, thus lifting the overall cost.

Mr Chong Keen Siang, vice-president of the Institution of Engineers, Singapore, said: “It really depends on the exact alignment, but if you’re going through densely occupied areas, some acquisition may be unavoidable.”

But construction methods might improve in the next few years to facilitate things not feasible now.

The CRL will also cut through the Bukit Timah Nature Reserve and Central Catchment Nature Reserve.

Observers said provisions must be made to minimise the environmental impact of construction.

Mr Chong, executive officer of engineering firm Kok Tiong Holdings and former head of rail projects at the LTA, said it is not hard to ensure the plan will be sound environmentally. But he admits that a higher-capacity system and one that passes through dense developments can have cost implications.

“The first thing that struck me was that there are going to be a lot of projects going on between 2016 and 2018,” he said.

“That will affect a huge demand on resources and that will have an impact on cost.”

He would not hazard a guess as to how much the line would cost, but said it will not be less than the Thomson Line, a four-car system that costs $600 million per km.

Government Parliamentary Committee for Transport chairman Cedric Foo said: “It’s a small island state, upgrading public transport is a strategic imperative and not a choice.

“Singapore should support it by bearing with the short-term inconveniences that come with such an ambitious project.”

The National University of Singapore’s transport economist Anthony Chia added: “As we position ourselves as a liveable city competing for high-value jobs, the implications on land use will be tremendous. And we can’t afford to build many more roads.”

Commuter benefits will be significant. The line will have a fork that goes from Pasir Ris to Punggol. The first rail link between the two north-eastern towns.

Residents will be able to travel from one to the other in 10 to 15 minutes, compared with a 40-minute bus ride today.

This, according to the LTA, will form the first leg of yet another possible line: a so-called North-East line to link up to Woodlands.

Punggol resident Norleah Idris, 39, a logistics worker at Zuellig Pharma in Changi North, said: “It will be much more convenient for me in the future. Currently, I have to take two bus transfers to get to work.”

The CRL will interconnect all existing radial lines so it will relieve loads on these systems in particular the North-East and East-West lines.

But National University of Singapore transport researcher Lee Der-Horng said: “It is simply too far away for us to long for since we are talking about 17 years from now, if there is no delay.”

“It’d be great if it can be expedited.”

*ST GRAPHIC*
# Inquiry Focus

Living in a diverse society: Is harmony achievable?

## Guiding Qns

- What is diversity?
- Why is there greater diversity in S’pore now?
- What are the experiences and effects of living in a diverse society?
- How can we respond in a diverse society?
What incident is seen in the photographs below? Issue discussed in Coursebook

Little India Riots (Dec 2013)
Tensions in managing socio-cultural diversity [Case study of assimilation in France]

Burqa Ban in France in 2009
Tensions in managing socio-cultural diversity [Case study of integration in Singapore]

Common spaces in HBD estates

Ethnic Integration Policy
<table>
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<th>Being Part of a Globalised World [Chaps 8-11]</th>
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<tbody>
<tr>
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<td>Being part of a globalised world: Is it necessarily good?</td>
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</table>
| Guiding Qns | • What does it mean to live in a globalised world?  
• How do we respond to tensions arising from some economic, cultural and security impact of globalisation? |
Security impact of globalisation
Transnational Terrorism—impact & measures

Impact of terrorism

Counter-terrorism measures

Enhancing security at airport

Body scanners have been installed at Terminal 3 as part of a trial to enhance security screening.

1. Traveller stands inside the scanner, hands above his head, for a few seconds.

2. If the traveller is cleared, no image is produced. If an object is detected, an image comes up and the item is shown.

3. The security officer does a physical check.
# The SS Examination Format

## Components in the SS paper [1hr 45mins]

<table>
<thead>
<tr>
<th>Section</th>
<th>Marks</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Source-Based Case Study (SBCS)</td>
<td>35m</td>
<td>70%</td>
</tr>
<tr>
<td>- 5 sub-parts [Qns 1a-e]</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Section B:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Structured-Response Question (SRQ)</td>
<td>15m</td>
<td>30%</td>
</tr>
<tr>
<td>- 2 sub-parts [Qns 2a-b]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section A: Source-based Case Study

- Section A (SBCS) requires students to interpret and evaluate a collection of (up to 6) sources based on a societal issue.

- Can be set on any one of the three issues in the SS syllabus

- Issue/ Focus of SBCS may or may not be covered in the syllabus
Section A : Skills tested in SBCS

Objective 2: Interpreting and Evaluating Sources / Given Info

Candidates should be able to:

- comprehend and extract relevant information;
- draw inferences from given information;
- analyse and evaluate evidence;
- compare and contrast different views;
- distinguish between fact, opinion and judgement;
- recognise values and detect bias; and
- draw conclusions based on reasoned consideration of evidence and arguments.

Evaluating reliability of source(s)
Evaluating utility (or usefulness) of source(s)
## Section A: Source-based Case Study

The SBCS comprises of 5 sub-questions:

<table>
<thead>
<tr>
<th>Qn</th>
<th>Skills Tested</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)-(d)</td>
<td>Source-handling skills on specific sources</td>
<td>25</td>
</tr>
<tr>
<td>(e) (new for 2016 syll)</td>
<td>Source-handling skills requiring use of multiple sources. Students will have to consider the issue of the case study from a broader perspective.</td>
<td>10</td>
</tr>
</tbody>
</table>
SBCS- Possible types of a-d Qns

Issue: How far have S’poreans welcomed foreign manpower into the country?

Do you think the cartoonist supports the policy of using foreign manpower in S’pore? EYA.
SBCS- The ‘e’ Question

Issue: How does opening our doors to foreigners impact economic opportunities in Singapore?

N(A) Level
(e) How far so the sources in the case study show that opening our doors to foreigners impact economic opportunities in Singapore? EYA. [10m]

‘O’ Level
(e) ‘Singapore should welcome foreign manpower.’ Using sources in this case study, explain how far you would agree with this statement. [10m]
Section B: Structured-Response Qn

• Students will be required to show their understanding of societal issues when they apply their knowledge as they analyse societal issues and construct explanations.

• Emphasis on knowledge beyond factual recall and ability to construct reasoned arguments, and making informed judgement and recommendations.
Section B: Structured-Response Qn

• Provided with **three Extracts** which serve as **stimulus/ scaffold** for students to think about an issue and hence, reflect in their responses.

• Two sub-parts
  - Sub-part (a): requires consideration of issue in the context of Singapore [7m]
  - Sub-part (b): application of content found in the TB [8m]
Extract 1

Individuals are granted the legal status of citizenship by countries. In Singapore citizenship is legally granted when a person is born in Singapore and one of the person’s parents is a citizen. Citizenship can also be legally granted if a person makes an application and fulfils criteria such as having good character, an intention to reside in Singapore permanently and has elementary knowledge of one of the following languages, namely Malay, English, Mandarin and Tamil.

In 2013, the number of Singapore citizenship granted is about 20,000. Slightly more than 40% of those granted citizenship is aged 30 years and below.
SRQ- Sub-part (a)

Extract 1 states that more than 40% of the 20,000 citizens who were granted S’pore citizenship in 2013 were 30 years and below.

(a) In your opinion, why do you think more than 40% of the 20,000 citizens granted S’pore citizenship were below 30 years old? Explain your answer using one (NA)/ two (Express) reason(s). [7m]
Extract 2

One way to shape citizenship is through participation in meaningful causes. Singaporeans can participate towards building a better Singapore through individual or group involvement in working for the good of society.

Extract 3

In Singapore, citizenship can be shaped through national identity. Common practices is one way which national identity is strengthened as it enables the citizens to identify with the aspects of what makes us Singaporeans.
SRQ- Sub-part (b)

Extracts 2 and 3 reflect the role of national identity and participation in shaping citizenship in Singapore.

‘N(A)’ Level

(b) Explain how participation and national identity shape citizenship in S’pore.

[8m]

‘O’ Level

(b) Is participation more important national identity in shaping citizenship in S’pore? EYA. [8m]
How are students assessed?

• No point-by-point marking in SS

• Levels of Response Marking Scheme (LORMS)
  - rewards the level of skill or understanding displayed (i.e. quality of response)
  - covers possible responses (but needs to be justified/ supported with evidence)
How are students assessed?

Levels of Response Marking Scheme (LORMS)

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>L1</td>
<td>Answers based on provenance/ Misinterpretation Or Description of cartoon</td>
<td>e.g. Russia is trying to steal Crimea/ rob Ukraine of Crimea/ take away forcefully.</td>
</tr>
<tr>
<td>L2</td>
<td>Because of the context</td>
<td>e.g. The cartoonist drew this cartoon because he is American and America is one of the Western countries against Russia’s occupation of Crimea. This can be seen the source which shows President Obama criticizing President Putin for taking Crimea away from Ukraine.</td>
</tr>
<tr>
<td>L3</td>
<td>Submessage</td>
<td>Any attempts at msg related to Putin is a sub-msg.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. Putin is a bad leader etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. to portray Putin as a useless person [Allclia-5A]</td>
</tr>
<tr>
<td>L4</td>
<td>Message</td>
<td>Valid msg must be related to Russia’s occupation of Crimea</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Award 4m if answer is well-supported.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. Russia’s occupation of Crimea is unjustified.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. Russia is taking over Crimea forcefully.</td>
</tr>
<tr>
<td>L5</td>
<td>Impact/ Outcome Identified</td>
<td>E.g. The world will join America to condemn Russia.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>E.g. The world will support all sanctions against Russia.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. The cartoonist hopes the US President will take further actions</td>
</tr>
<tr>
<td>L6</td>
<td>Purpose</td>
<td>Award 6 marks for answers that are able to articulate that America wants to use sanctions against Russia to stop such unjustified acts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e.g. The American cartoonist drew this cartoon because he wants to convince the world that Russia’s occupation of Crimea is unjustified. This is done so that the world will join / support America and UN’s sanctions against Russia. The evidence can be seen in the cartoon which depicts Putin as a robber, forcefully taking away Crimea from Ukraine at gunpoint. Ukraine is also portrayed as an innocent lady being robbed. This shows</td>
</tr>
</tbody>
</table>
Past Years’ Topics for SBCS

GCE ‘O’ Level

• 2008: Foreign Talent in Singapore
• 2009: Saddam Hussein’s invasion of Kuwait
• 2010: Mumbai terror attack
• 2011: Population policy in Singapore
• 2012: Healthcare in Britain (NHS)
Past Years’ Topics for SBCS

GCE ‘O’ Level

- 2013: Cod Wars
- 2014: Role of the British Army in Northern Ireland
- 2015: Killing of Osama bin Laden
- 2016: How significant was the role of the UN in responding to Iraq’s invasion of Kuwait?
- 2017: How can Singapore’s interests be protected while managing haze?
Past Years’ Topics for SBCS

GCE ‘N’ Level

• 2008: Impact of the Sri Lankan conflict on relief efforts after the tsunami
• 2009: Ethnic tensions in Kenyan (December 2007)
• 2010: How effective is ERP in managing traffic flow in S’pore?
• 2011: Will IRs benefit S’pore?
• 2012: Who was to blame for the Korean War?
Strategies used in the Social Studies Classroom
Strategies used in the SS Class

1. Cascading of some skills to lower secondary History

2. Differentiated approach for NA and Express students

3. Explicit teaching of question analysis
   • Looking for clues in qns to identify the skills tested and demands of qns
Explicit teaching of question analysis

1. (a) Study Source A.
   How far does the author of this source think that the Singapore IRs will be a success? Explain your answer.

2. (b) Study Sources B and C.
   How similar are these two sources as evidence about the Singapore government’s attitudes to the IRs? Explain your answer.

3. (c) Study Source D.
   Why do you think this cartoon was drawn? Explain your answer, using details from the source.

4. (d) Study Source E.
   Does this source prove that the IRs at Marina and Sentosa will benefit Singapore? Explain your answer.
Sample of student’s annotation

Section A (Source-based Case Study)

Question 1 is **compulsory** for all candidates.

Study the Background Information and the sources carefully, and then answer all the questions.

You may use any of the sources to help you answer the questions, in addition to those sources which you are told to use. In answering the questions you should use your knowledge of the topic to help you interpret and evaluate the sources.

1. (a) Study Source A.
   
   Why do you think the Ministry of Manpower issued this advertisement? Explain your answer.

   (b) Study Source B.
   
   How useful is this source as evidence about problems facing retrenched employees in Singapore? Explain your answer.

   (c) Study Sources C and D.
   
   How similar are these two sources? Explain your answer.

   (d) Study Source E.
   
   Does this source prove that retrenched employees who have upgraded their skills through training will get new jobs? Explain your answer.
Strategies used in the SS Class

4. Use of discussions + newspaper article reflection

5. Use of scaffolds to guide student responses

6. Peer/ Self assessment
   • Helps the students to learn the mark scheme more effectively

7. Monthly Current Affairs Quiz + Weekly news sharing in class
Use of newspaper articles

CHIJ ST. JOSEPH'S CONVENT
Secondary 3 Express/Normal (Academic)
Combined Humanities - Social Studies
WS: Chapter 2 - How do we decide what is good for society?

Name: ____________________  Class: Sec. _____  Date: __________

issue: Land Transport Authority's decision to construct the Cross Island Line (CRL)

What are the implications of constructing the CRL?

(Adapted) The Straits Times: Cross Island Line debate misses elephant in the room
15 Feb 2016

The proposed alignment of the new Cross Island Line, which could run through the Central Catchment Nature Reserve, has sparked heated debate.

The basic tenet of transport infrastructure like an MRT line must be for it to serve the masses. Going by this principle alone, the proposed alignment of the Cross Island Line is flawed.

By going through a tract of primary and secondary forests, the Land Transport Authority would not only do irreparable damage to a pristine habitat nesting around our reservoirs, but it will also be rendering up to 4km of the 50km rail project void of patronage and revenue.

The Nature Society's suggestion of an alternative route is sound, even if its primary consideration is to prevent the destruction of Indigenous flora and fauna.

The route calls for the line to loop around the southern edges of the nature reserve. This actually will allow it to serve residents in Thomson, Lorne and Adam roads, not to mention the massive development planned for Bukit Brown. Align it a bit farther south, and it can even serve Bajetstyer, a bustling hub that does not have any MRT planned as yet.

The LTA says the alternative route would entail longer travelling time, higher cost, more land acquisition, and possibly bigger engineering challenges associated with going through a more built-up area. These reasons hold little merit when compared with the benefits of serving a larger community.

Admittedly, a diversion will cost more than going straight through the forest. But then again, think of the larger benefit. The higher ridership and revenue that come with a line that serves populated areas instead of an uninhabited nature reserve will pay for the higher cost over the lifetime of the line.

As for land acquisition, that is something that is unavoidable whenever we build a new rail line. The Singapore Government has never been afraid to acquire land for the larger good. And since it is now paying market rate for properties, the pain of those affected is much less than before.

The same rationale goes for any noise, dust and inconvenience that arise from a major infrastructural project. You cannot make an omelette without breaking a few eggs.

Watch the video and answer the following questions.

1. What are some benefits of constructing the CRL? List at least two benefits.

2. What are the impacts if the CRL cuts through the nature reserve?
Sample of WS with real life examples and scaffold

CHIJ St. Joseph’s Convent
Secondary 3 Express/Normal Academic
Combined Humanities-Social Studies [2204/01]
SBCS Skill: Inferring Purpose of a Source

Name: ______________________ ( ) Class: Sec. ______ Date: ________

Practice 1:
1. Study Source A.
   What is the purpose of the advertisement? Explain your answer.


Annex A

<table>
<thead>
<tr>
<th>Components</th>
<th>Write your answer in the spaces provided below</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verb</td>
<td>(e.g. convince, persuade, influence,)</td>
</tr>
<tr>
<td>Creator</td>
<td>Who put up the advertisement?</td>
</tr>
<tr>
<td>Audience</td>
<td>Who is the target audience for the advertisement?</td>
</tr>
<tr>
<td>Message</td>
<td>Study the provenance, details and the title of the advertisement carefully.</td>
</tr>
<tr>
<td>Impact</td>
<td>What is the reaction desired from the audience?</td>
</tr>
</tbody>
</table>
How can Parents help?

Strategies you can use to support your daughter in her study of Social Studies
Some common issues seen in our girls

- Lack of awareness of the world around them → inferences drawn are sometimes inaccurate or superficial
- Need to be able to see issues from different perspectives
- Poor time management (especially during examination) → inability to complete paper within duration given
2013 GCE ‘O’ Level SBSCS
Issue: The Cod Wars


„Not bad-four tons of best cod and three 45mm shells!“

Study Source A. What can you say about the attitudes of the British towards the Cod Wars? EYA.
Strategies for parents

• Encourage your child to **read widely**, especially on current affairs, as well as listen to/watch the news and documentaries

*Discuss news articles with your child*

- engage her in discussion of topics/issue related to the themes in the syllabus or in news featured on a weekly basis
- encourage her to form opinions about various issues and justify her stand with facts and concrete evidence
Strategies for parents

- Help her to learn effective **time management**
  - e.g. setting alarm for suggested amount of time needed to complete assignments
  - e.g. 10-12mins for each sub-part in SBQS + 10-12mins reading of sources
  - e.g. 15-20mins for each sub-part in SRQ
The evidence is now beyond dispute:

‘When schools work together with families to support learning, children tend to succeed not just in school, but throughout life.’

Harvard Educational Review