



CHEMICAL EDUCATION IN SINGAPORE





Introduction



Education in Singapore



Chemistry in The Science
Curriculum



Teacher Course System

INTRODUCTION



INTRODUCTION

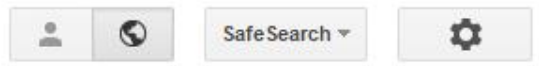
- Singapore gained independence as the Republic of Singapore (remaining within the Commonwealth of Nations) on 9 August 1965
- Composition: China (77,3%), Malay (14,1%), Indian (7,3%), others (1,3%)



children in singapore



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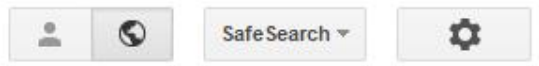


children in indonesia



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INTRODUCTION

- Buddhism is the most widely practiced religion in Singapore. The next-most practiced religion is Christianity, followed by Islam, Taoism, and Hinduism.
- Singapore has four official languages: English, Malay, Mandarin Chinese, and Tamil

INTRODUCTION

- The Chemistry curriculum in Singapore essentially follows the concept of a 'spiral' (helixical) curriculum, where simple concepts acquired at the primary levels are treated in increasing depths at the higher levels. New topics are also introduced to students as they progress from one level to the next.

EDUCATION IN SINGAPORE

- in Singapore's education system, it is used to refer to the second language, as English is the first language.
- English is the language of instruction in all public schools,¹ and all subjects are taught and examined in English except for the “mother tongue” language paper

EDUCATION IN SINGAPORE

- Education takes place in four stages:
 1. Primary School Level,
 2. Secondary School Level,
 3. Junior College/ Pre-university Education,
 4. Tertiary Level.

EDUCATION IN SINGAPORE

- Singaporean students consistently rank in the top five in the world in the two major international assessments of mathematics and science knowledge

1 TIMSS 1999

Rank	Country	Score
1	Chinese Taipei	569
2	Singapore	568
3	Hungary	552
4	Japan	550
5	Korea	549

⋮
⋮
⋮
⋮
⋮

22 MALAYSIA 492

Int'l Average

23	Lithuania	488
24	Thailand	482
	⋮	
32	Indonesia	435
	⋮	
38	South Africa	243

2 TIMSS 2003

Rank	Country	Score
1	Singapore	578
2	Chinese Taipei	571
3	Korea	558
4	Hong Kong	556
5	Estonia	552

⋮

20 MALAYSIA 510

⋮
⋮
⋮

25	Jordan	475
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Int'l Average

26	Moldova	472
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⋮

36	Indonesia	420
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⋮

45 ¹	South Africa	244
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3 TIMSS 2007

Rank	Country	Score
1	Singapore	567
2	Chinese Taipei	561
3	Japan	554
4	Korea	553
5	England	542

⋮

21 MALAYSIA 471

22	Thailand	471
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⋮

25	Israel	468
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Int'l Average

26	Bahrain	467
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⋮

35	Indonesia	427
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⋮

48 ²	Ghana	303
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4 TIMSS 2011

Rank	Country	Score
1	Singapore	590
2	Chinese Taipei	564
3	Korea	560
4	Japan	558
5	Finland	552

⋮

21	Turkey	483
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Int'l Average

22	Iran	474
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⋮

27	Thailand	451
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⋮

32 MALAYSIA 426

⋮

40	Indonesia	406
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⋮

42 ³	Ghana	306
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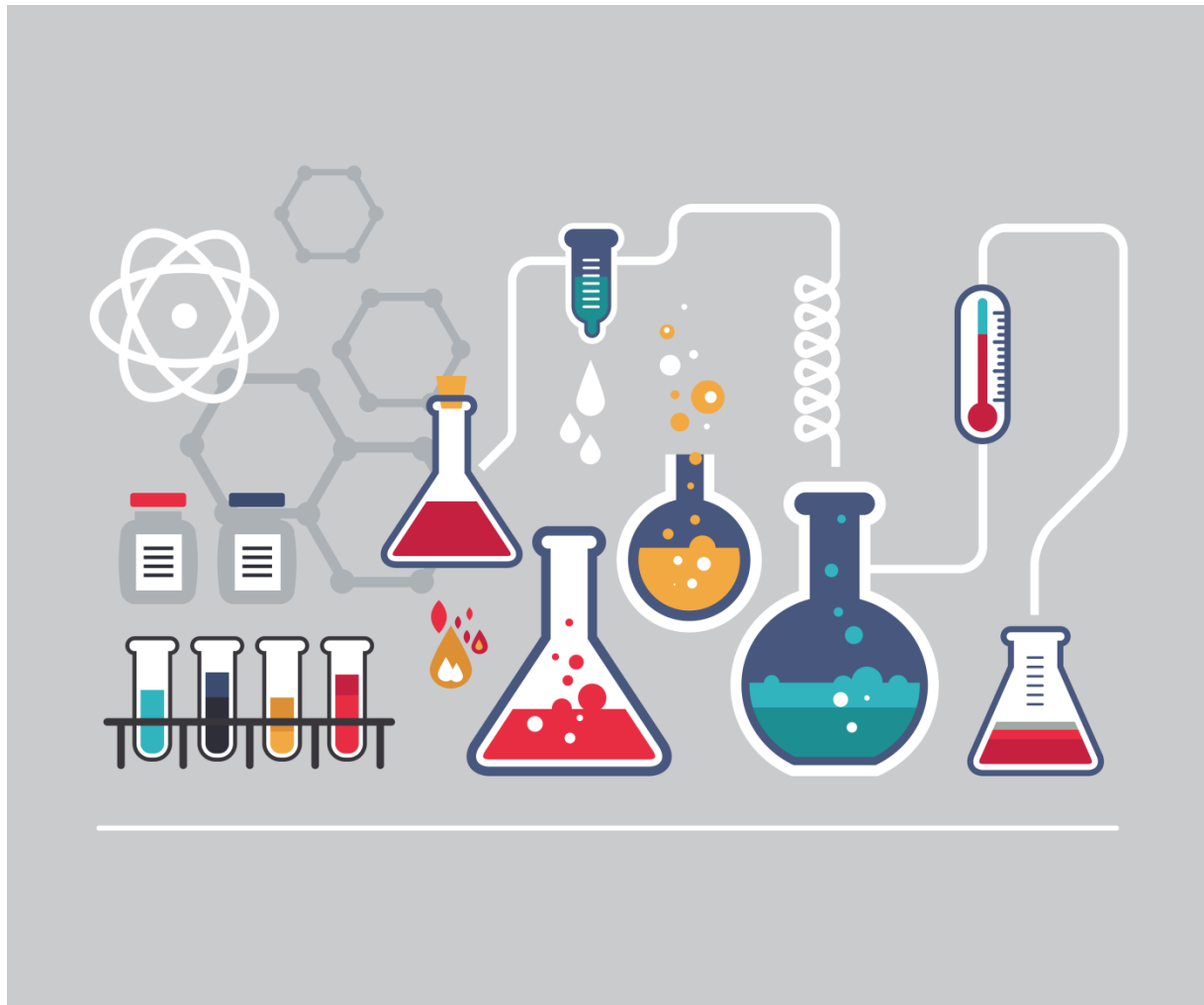
EDUCATION IN SINGAPORE

- The country's two main public universities—the National University of Singapore and Nanyang Technological University —are ranked among the top 13 in the world.

Compare with Indonesia....

Rank. Indonesia	Rank.Dunia	Universitas	Presence Rank	Impact Rank	Openness Rank	Excellence Rank
1	414	Universitas Gadjah Mada	292	224	18	2144
2	532	Universitas Indonesia	306	389	209	1874
3	622	Institut Teknologi Bandung	478	292	583	2259
4	813	Bogor Agricultural University	463	957	13	2802
5	1102	Universitas Diponegoro	981	1560	17	3095
6	1110	Brawijaya University	687	1067	57	3611
7	1210	Universitas Padjadjaran	1320	745	248	3842
8	1383	Universitas Sebelas Maret	791	673	65	5442
9	1508	Airlangga University	729	1957	767	3144
10	1647	Gunadarma University	1738	1203	196	4831
11	1688	Institut Teknologi Sepuluh Nopember	769	2273	815	3515
12	1691	Universitas Pendidikan Indonesia	450	1324	197	5442
13	1726	Universitas Negeri Semarang	1436	1069	176	5442
14	1780	Hasanuddin University	1098	2297	368	3996
15	1787	Universitas Negeri Malang	1283	1633	28	5442
16	1833	Petra Christian University	1014	2671	156	4175
17	2038	Bina Nusantara BINUS University	562	2400	92	5442
18	2043	Yogyakarta State University	1565	1812	146	5442
19	2122	Universitas Sriwijaya	1349	1514	712	5442
20	2162	Universitas Muhammadiyah Yogyakarta	2082	893	1961	5442
21	2185	Universitas Riau	2238	2892	841	3842
22	2188	Universitas Esa Unggul	3093	966	1328	5442
23	2195	Universitas Mercu Buana	1569	995	2061	5442
24	2210	Universitas Muhammadiyah	718	3237	121	5442

CHEMISTRY IN THE SCIENCE CURRICULUM



PRIMARY SCHOOL LEVEL

- Primary School are ended in six years with Primary School Leaving Examination (PSLE)
- Chemistry teaching in schools begins at the primary levels as a part of the integrated Science curriculum which begins formally from Primary 3 onwards

PRIMARY SCHOOL LEVEL

- Between Primary 3 and Primary 6 (age range approximately 8 to 12 years), students are introduced to basic materials such as air, water, metals, wood, paper, plastics and glass
- Pupils are encouraged to inquire, to explore and to discover changes in specific properties of materials, as a result of interactions with other matter or energy or both

SECONDARY SCHOOL LEVEL

- Secondary school lasts from four to five years,
- At the lower secondary level (Secondary 1 and 2, age range approximately 12 to 14 years), all children are taught General Science, with Chemistry and Physics taking about 30% each of the syllabus and Biology, the remaining 40%

SECONDARY SCHOOL LEVEL

- At Secondary 3, student select their major: Department of Arts, Science, Commerce, or Engineering
- At the upper secondary level (Secondary 3 and 4-5, age range approximately 14 to 16 years), Chemistry is available as an elective subject.
- It is offered as a single subject and as a combination with one or two other subjects

SECONDARY SCHOOL LEVEL

- Upon completion of their fourth / fifth year in secondary school, students prepare for the GCE 'O' level examinations conducted by the University of Cambridge Local Examinations Syndicate International Examinations, United Kingdom

PRE-UNIVERSITY LEVEL

- Pre-university education takes place over two years at senior schools, mostly called Junior Colleges
- At the end of the following pre-university stage, the GCE “A”-Level exams are taken

PRE-UNIVERSITY LEVEL

- In A Level, student have to select two option from eight options: Biochemistry, Chemical Engineering, Environmental Chemistry, Food Chemistry, Materials Phase Equilibrium, Spectroscopy, Transition Elements.
- In the teaching of Chemistry at this level, teachers are urged to incorporate social, environmental, economic and technological aspects of Chemistry, where relevant, throughout the syllabus

TERTIARY LEVEL

A photograph of a modern, curved glass building with multiple levels, situated on a lush green hillside. The building's facade is composed of large glass panels, reflecting the surrounding environment. The building is surrounded by dense green trees and foliage. In the foreground, there are some red flowers, possibly a gerbera, which are slightly out of focus. The sky is clear and blue.

**World class
university campus.**

Live in the serene Yunnan campus
that was home to the inaugural
Youth Olympic Games (2010).

TERTIARY LEVEL

- Some of Universities in Singapore:
 1. National University of Singapore
 2. Nanyang Technological University
 3. Singapore Management University
 4. Singapore Institute of Technology
 5. Singapore University of Design and Technology

TERTIARY LEVEL

- At the tertiary level, students continue their Chemistry studies primarily at the National University of Singapore.
- Some Chemistry and Chemistry-related studies may also be pursued by those who enrol at the National Technological University, the National Institute of Education.

TERTIARY LEVEL

- Although the Science degree course at the NUS has evolved from the United Kingdom pattern, Chemistry staff in NUS are always ready to monitor, revise and innovate to ensure an academically respectable and relevant Chemistry course

TEACHER COURSE SYSTEM



TEACHER COURSE SYSTEM

- Professional course for teachers in the area of Chemistry (as well as other courses) in Singapore is conducted by the National Institute of Education (NIE), and an institute of the National Technological University (NTU)
- For university graduates, the institute offers a one-year Postgraduate Diploma in Education.

Thank you!

The image features the words "Thank you!" in a highly decorative, hand-drawn style. The letters are thick and filled with various colors: 'T' is yellow, 'h' is orange, 'a' is green, 'n' is purple, 'k' is orange, 'y' is green, 'o' is red, and 'u' is blue. The exclamation point is also blue. The letters are surrounded by several colorful flowers in shades of blue, pink, and purple. The entire graphic is set against a light blue background.