



# CURRICULUM DEVELOPMENT IN MALAYSIA





Cultures in Malaysia



Stages of Education



Development of Science Curriculum



Impact of TIMMS and PISA

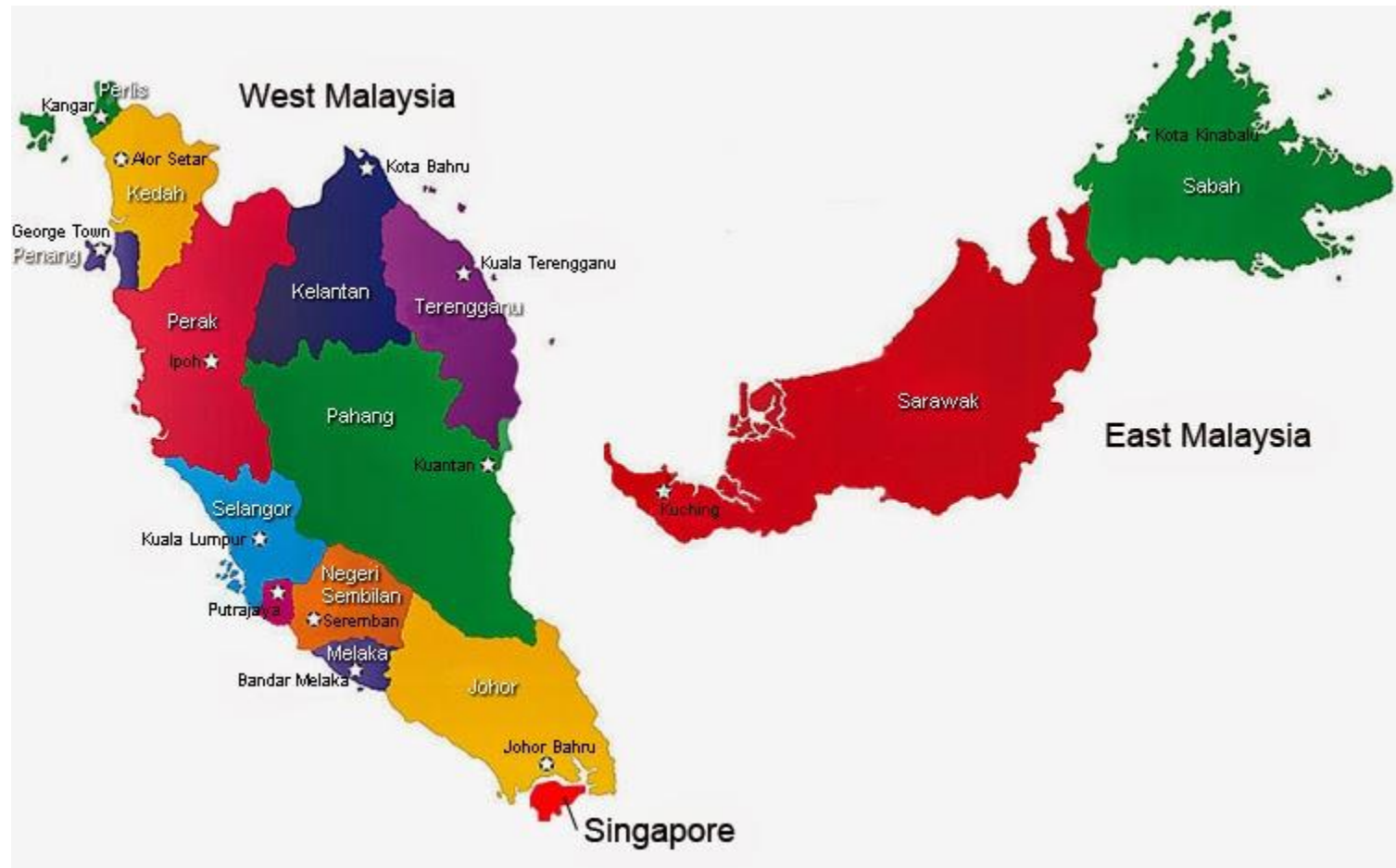


Recommend of Education Ministry

# CULTURES IN MALAYSIA



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- Malaysia gained independence from British in 1957
- Malaysian population is around 30 million
- Ethnic majority are Malays (55%), Chinese (30%), Indians (10%) and others.
- Income per capita has reached US\$ 10,000 in 2012 (2.5 fold Indonesia)
- Government system: Constitutional Monarchy under the Westminster Parliamentary System (inheritance of British)

# STAGES OF EDUCATION

- Malaysia adopted the British Education System
- The school system is divided into:
  - ✓ Pre-School Education (tadika),
  - ✓ Basic Education (sekolah rendah),
  - ✓ Secondary Education (sekolah menengah),
  - ✓ Pre-University,
  - ✓ University (pengajian tinggi)

# PRE-SCHOOL EDUCATION

- For children 4-6 year old
- Called as “Tadika”, do not belong to compulsory education





# BASIC EDUCATION

- For children 7-12 year old
- Called as “Sekolah Rendah” ended with Ujian Pencapaian Sekolah Rendah (UPSR)
- Compulsory subject: Malay, and English
- There are two kinds of Sekolah Rendah: Sekolah Kebangsaan (Malay language) and Sekolah Jenis Kebangsaan (Tamil or Chinese)



# SECONDARY EDUCATION

- Called as Sekolah Menengah
- Consist of three years lower secondary school followed by public exam and continues with another two years of upper secondary school with a final public exam known as Sijil Pelajaran Malaysia (SPM)

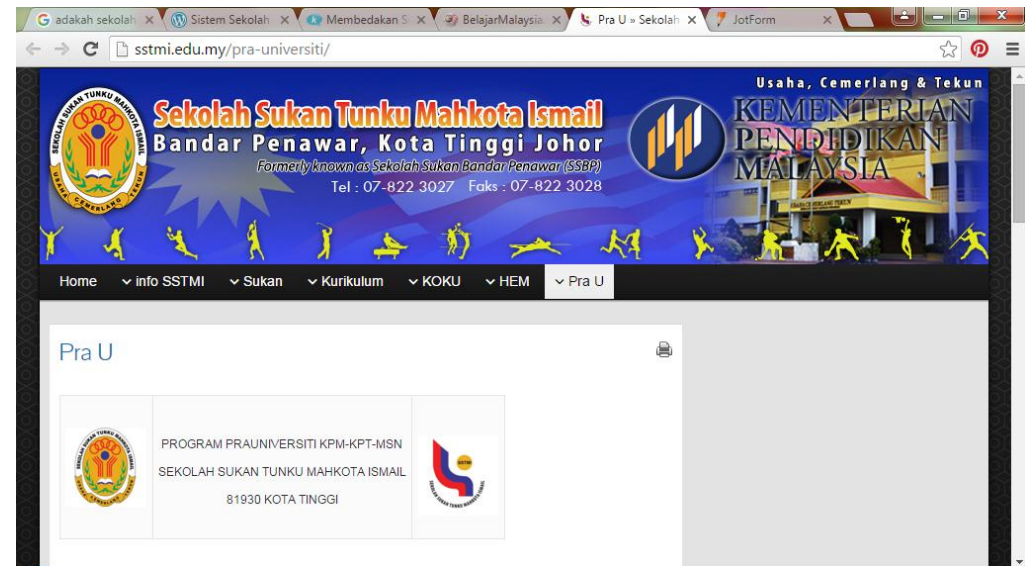


# SECONDARY EDUCATION

- Language: Malay for all subject, except Sciences and Math
- There are two majors: Sciences or Arts
- Extracurricular: Kelompok Umum (*Uniformed Groups*), Penampilan Seni (*Performing Arts*), Klub dan Kemasyarakatan (*Clubs and Societies*), Olahraga dan Permainan (*Sports and Games*).
- This stage same as O-level (ordinary level) in English System.

# PRE-UNIVERSITY

- Called as Matriculation or pursue STPM ([Sijil Tinggi Persekolahan Malaysia](#))
- Equivalent to A-level (advanced level) in English Education.
- Taken for 1.5 years



# UNIVERSITY

- Called as Pengajian Tinggi
- Managed centrally by Kementerian Pengajian Tinggi Malaysia



# DEVELOPMENT OF SCIENCE CURRICULUM

- Until 1981, Malaysia applied the science curriculum which originated from England that caused many problems when applied in the classroom.
- The trend of science curriculum in developing countries, in the absence of expert design and implementation of the curriculum, revealed that they just adopted science curriculum from developed countries without taking the effort to adapt the curriculum to suit local conditions (Thair and Treagust, 1997; 1999)

# DEVELOPMENT OF SCIENCE CURRICULUM

- Realizing this, the local education experts in Malaysia together with the ministry of education seeks a science curriculum format that could suit local needs.
- The result is a design and product of integrated science curriculum both at the primary level and high school level in the late 1980s.
- The philosophy of the new curriculum incorporated a 'child-centered curriculum'. However, as indicated by Tan (1991), the existing teaching culture is still traditional where teachers dominated the classroom.

# DEVELOPMENT OF SCIENCE CURRICULUM

- One of the exciting developments in science teaching was during the mid-1970s until the early 1980s where science teachers from Indonesia were imported to teach at various schools in Malaysia. The main reason is due to the same culture and background (*serumpun*)
- In 2014, teacher population in Malaysia around 423 thousand people (70% are females)



# SMART SCHOOL AND ENGLISH LANGUAGE POLICY

- In the 1980s and early 1990s Malaysia had national agenda to develop the Multimedia Super Corridor (MSC) to prepare for the digital economy.
- One aspect of MSC in education is the implementation of the Smart School (SS) concept started in 1999 and ended in 2002.
- The implementation was using computer technology and multimedia in learning (courseware)

# SMART SCHOOL AND ENGLISH LANGUAGE POLICY

- Difficult and expensive to put into practice then the policy changes to teach science and math in English in 2003
- Called as Pengajaran dan Pembelajaran Sains dan Matematik dalam Bahasa Inggris (PPSMI)



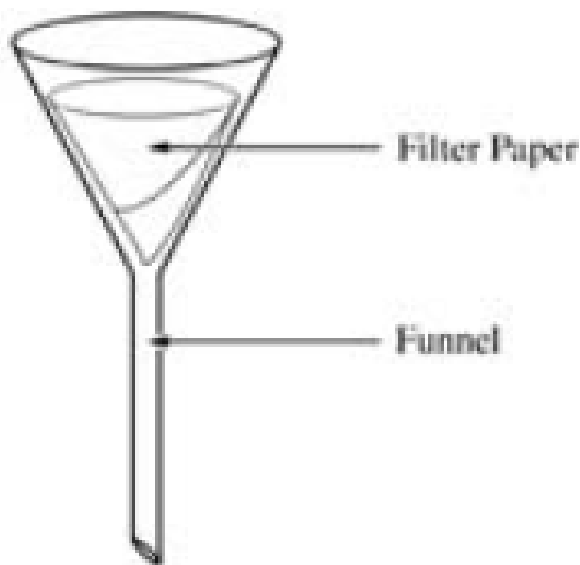
# SMART SCHOOL AND ENGLISH LANGUAGE POLICY

- Many critics appear: likely impact affecting the nation's identity, the decline in the understanding of science and math, the drop in educational achievement, unprepared teachers
- In 2009, PPSMI discontinued and it officially ended in 2012

# EFFECT OF TIMMS AND PISA

- Another development that shows the achievement of Malaysian students in science education comes from international studies such as TIMSS (Trends in International Mathematics and Science Study) and PISA (Programme for International Student Assessment)

# TIMMS QUESTION



Filtration using the equipment shown above can be used to separate which materials?

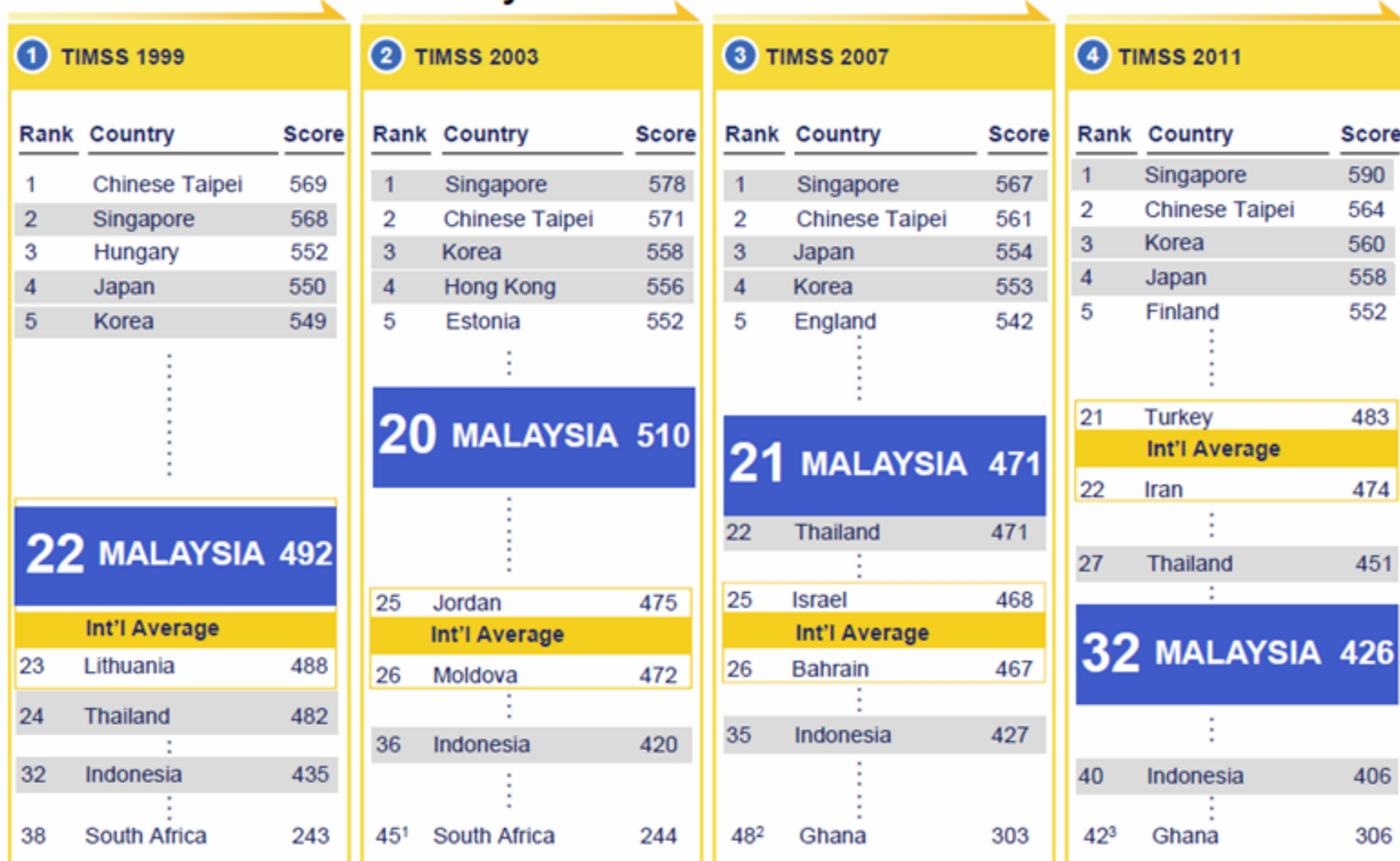
- a. A mixture of salt and pepper
- b. A mixture of pepper and water
- c. A mixture of oxygen and water
- d. A solution of silver nitrate in water
- e. A solution of sugar in water

Look at Indonesia position.....

Czech Republic	64	▲
Slovak Republic	62	▲
Lithuania	54	▲
Finland	54	▲
Latvia (LSS)	53	▲
Hungary	52	▲
Korea, Rep. of	51	▲
Russian Federation	50	▲
Canada	50	▲
Singapore	50	▲
Slovenia	48	▲
Netherlands	48	○
Chinese Taipei	46	▲
Romania	42	○
Japan	42	○
Malaysia	42	○
Australia	41	○
New Zealand	39	○
<b>International Average</b>	<b>39</b>	
United States	39	○
Cyprus	39	○
Hong Kong, SAR	38	○
Bulgaria	37	○
Moldova	34	○
England	34	○
Tunisia	34	○
Belgium (Flemish)	33	○
Israel	32	▼
Italy	30	▼
Thailand	30	▼
Philippines	29	▼
Turkey	28	▼
Macedonia, Rep. of	27	▼
South Africa	27	▼
Jordan	24	▼
Chile	21	▼
Iran, Islamic Rep.	19	▼
Indonesia	15	▼
Morocco	12	▼

# Malaysia's performance in TIMSS 8th Grade Science against other countries over four cycles

Regional peers



# EFFECT OF TIMMS AND PISA

- The rank showed that for science, Malaysian students “have very limited scientific knowledge that can only be applied to a few familiar situations.
- This was a wake-up call for the Malaysian government to do something with regards to improving the quality of science and mathematics teaching in the country.

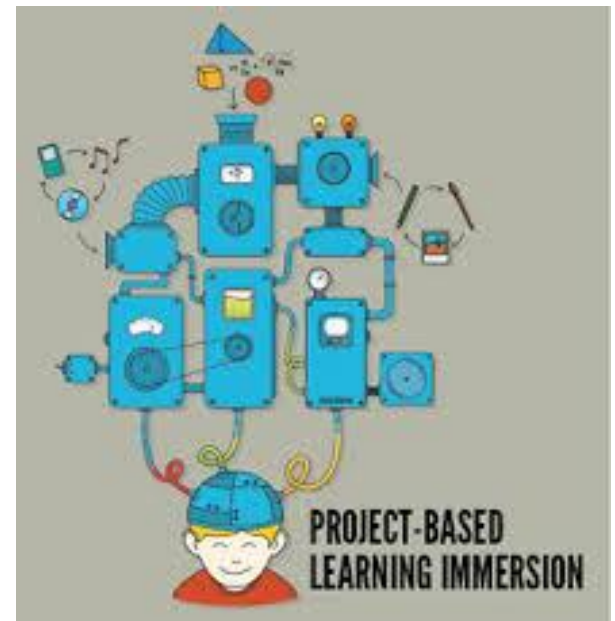


# EFFECT OF TIMMS AND PISA

- The government's intention for students to take science and social science course is on a ratio of **60%:40%**. The fact, the number has not yet reached **30%**.
- The lack of interest in science from the young generation is certainly going to be a problem in the future, as it is difficult to get talented researchers, product development etc.

# RECOMMEND OF EDUCATION MINISTRY

- In 2017 where one of the content of the new science curriculum will be to incorporate more problem-based and project-based subjects, formative assessments and an accelerated learning pathway for their secondary education in four rather than five years.

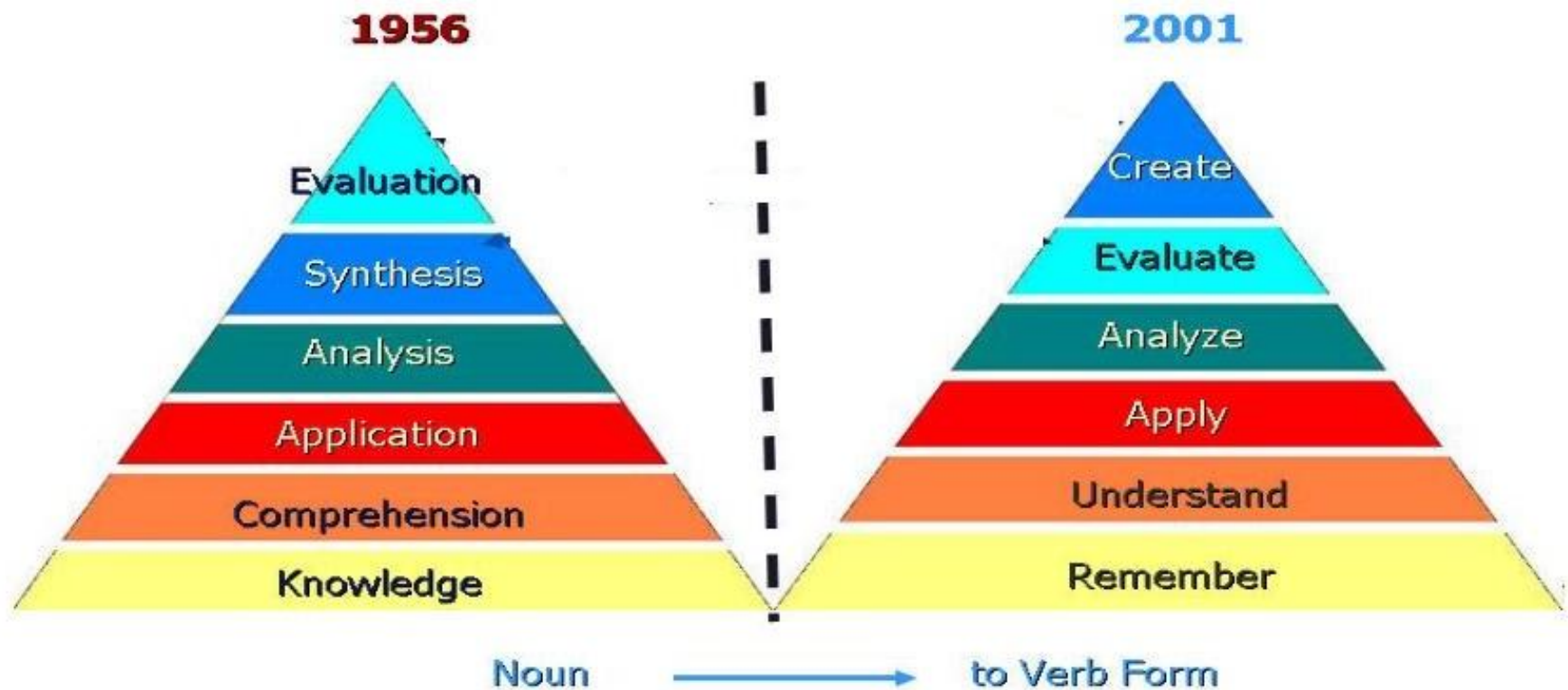


# RECOMMEND OF EDUCATION MINISTRY

- Another emphasis recommended by the Education Blueprint is that Malaysian students have to cultivate 'high order thinking skills' (called 'HOTS')



# Changes to Bloom's



# RECOMMEND OF EDUCATION MINISTRY

- As a result, public examinations with ‘high order thinking’ questions will be conducted in 2016.
- At the same time, this also will be reflected in the results of the next cycle of TIMSS and PISA.





THANK YOU