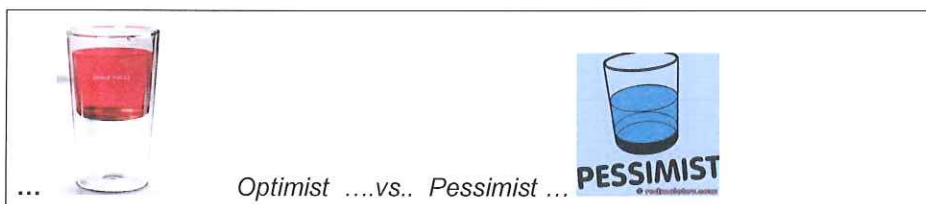


HKASME NOV-2012 Mail Pack

< A charitable institution with effect from 15 May 2010 under the Section 88 of the IR Ordinance >

Items in this pack:

- ◆ **Council News** – Are we flexible enough ? P.1-2
- ◆ Science News – *2nd edition of International Conference "New Perspectives in Science Education, 2013". P.3*
- ◆ **Chemistry News** – **Resiniferatoxin (RTX)** -- the "hottest chemical" vs. "Chemistry & Police" - and "DSE + Chemistry". *National Chemistry Week 2012 = Nanotech P.4-10*
- ◆ *Maths News* – P.11-12
- ◆ *Biology News* – P.13-14
- ◆ *Sales Order Form* – References for the "New" Curriculum...P.15-16



((~~~~~)))

Council News



More sharing, more seminars, more forums, ... This game never ends. Just like lifelong learning, that becomes lifelong consultation. What had been collated over the years? Were those information not "new" enough?

Everyone knows that the current review had been staged as two categories. ONE being for the

clarification or minor amendments to current situation in subject teaching / learning for the current and coming years' batch of students. Another being planned for the coming batch of potential NSS students (for DSE-2016). However, as our society becoming more political - especially when things are mingled with other impact factors, for example, downsizing student population in the secondary stage, instructional problems with mixed abilities and inclusion education. The issue of amending Subject Syllabuses is negligible as compared with serious consideration of operation at the higher level -- "What NSS aims for?"

Of course, all recognize the high-sounding ideology of providing flexible yet academically sound curriculum for our students. How could one brings about flexibility if schools / teachers / students are not allowed to tailor their own curriculum? One contemporary changes in our competitors, the Singapore, the UK, the US, ... all have their curriculum and related assessments (public examinations) re-designed with choices for students / schools to choose. One would argue that our teachers are professional enough to choose what's suitable for their students. Yet, if the drop of the population continue, this surely affect the teacher numbers as the number of electives offered would diminished (as seen from the cutting of Combined Science classes/groups). Would teachers be able to cope with the changing scene? Though the case may linger for a while, eventually the impact will come with some solitary subject package only as schools are not able to afford the load for enough electives for the diminishing student population.

Another serious problem is the attitude and motivation of students after the first DSE. The low level requirements for some sort of degree or AD courses will encourage students to drop elective subjects. If we are satisfied with the first batch of post-secondary arrangement (the higher than expected admissions to various courses), we are just masked by the very practical problem that students have nowhere to go (if they don't have enough funding to go overseas) and the higher % is due to the fact that the student number is decreasing.

Could the problems be solved? At least, one good start is the revision of the Qualification Framework to streamlining the AD/HD courses with certain Post-sec. Institutes to incur recognized credits across the field. The DSE could be totally revised with flexible unit choices -- yes, just like credit systems so that students could have unit-targets instead of prolonged year of study before the public assessment.

Anyway, the future turbulence still continue until the society come to a compromised scheme that is flexible enough and works for everybody.



Your comments, reviews, proposals are welcome. Just send them to our Office via any channel (email, phone, fax, ...). Hope you're fine with your schedule to complete the minimal before the Mock comes!



Update News at <http://www.icaseonline.net/>

(ICASE = "International Council of Associations for Science Education". HKASME is one of the founding member of ICASE.

Updates:-- "**WorldSTE2013**" ? ... Yes, 2013 -- The ICASE is organizing the "World Conference on Science and Technology Education" in 2013 at Borneo "Live Education, Live Learning, Create Change" during 29/9 - 3/10/2013. The United Nation "Environmental Program Committee (ENEP) will also join the Conference.

Check for details at <http://worldste2013.org/>



Sales:

-->... check for some **NEW** references, and **OLD** stock Sales in the Sales Order Form...(can be downloaded from www.hkasme.org)

((=====))

Science News

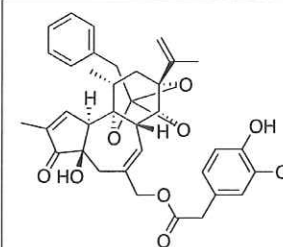


The 2nd edition of the International Conference "New Perspective in Science Education"

The captioned conference is a 2.0 of the 2011 version and will be held at Florence, Italy from 14-15 March, 2013. It has the aim to promote transnational cooperation and share good practice in the field of innovation of Science Education. The captured abstracts for the 2011 Conference could be found at ... <http://www.pixel-online.net/science/acceptedabstracts.php>

Check for updates and different portals about the second edition of this International Conference 2013 at <http://www.pixel-online.net/npsc2013/pressreview.php>

Chemistry News



Resiniferatoxin (RTX) -- the "hottest chemical" vs.



"Chemistry & Police"

... and "DSE + Chemistry" ...

Resiniferatoxin or RTX is a chemical produced by the cactus-like plant, *Euphorbia resinifera*, a plant native in Morocco. It is a ***thousand times hotter*** on the Scoville scale than pure capsaicin, the chemical that produces heat in hot peppers.

Law enforcement-grade pepper spray and the hottest hot pepper, the Trinidad Moruga Scorpion, both pack a punch of about 1.6 million Scoville heat units. Pure capsaicin comes in at 16 million Scoville units, while pure resiniferatoxin has 16 *billion* Scoville heat units.

Both the capsaicin from hot peppers and the resiniferatoxin from the *Euphorbia* can give you chemical burns ***or even kill you***. Resiniferatoxin makes the plasma membrane of sensory neurons permeable to cations, especially calcium. Initially exposure to resiniferatoxin acts as a strong irritant, followed by analgesia. Even though the chemicals may be painfully hot, both capsaicin and resiniferatoxin may be used for pain relief.



Legal Issues about Pepper Spray →

The Los Angeles Times reported in 1995 at least 61 deaths associate with police use of pepper spray since 1990 in the USA. However, the ACLU reported that may not be the primary cause of death,

though in some cases the use of spray may have been a contributing factor. Hence, there is much debate over the actual cause of death in these cases. Up to now, there have been few controlled clinical studies of the human health effects of pepper spray marketed for police use, and those studies are often contradictory.

More Legal facts -- In [Hong Kong](#), pepper spray is classified as "arms" under the "Laws of Hong Kong". Chap 238 *Firearms and Ammunition Ordinance*. Without a valid licence from the [Hong Kong Police Force](#), it is a crime to possess and can result in a fine of \$100,000 and to imprisonment for 14 years. In [India](#) pepper spray is legal and does not require any licence; however, they are sold via government-approved companies after performing a background verification. In [Iran](#), the use of pepper spray is forbidden and it is used only by the police. ...

Chemistry for our DSE students → Real "Chemistry in Action" ...

1. Could this be a good discussion initiator? An alternative Social Responsibility of Science ?

Sure! Hong Kong is perceived to enjoy a high level of civil liberties. The press for more freedom of assembly, which is restricted by the Public Order Ordinance, cause a much debated issue in our society. Could this be just balanced off by the so-called lowest level "chemical weapons"? That's debatable.

Of course, you may argue that there's no time for such debate in our lessons (as time for the DSE is entirely beyond the reality). Could this be done once or twice and together with other subjects, e.g. Languages (whether English or Chinese) and best with LS ?

Or, as an outreach program -- e.g. Exhibition / Display board / Booths / together with other Societies / Clubs?

If you want to try, you could surely find the way through it! ☺ ☺ ☺

2. Could this be an assessment ? Is the structure too complicated for our DSE students?

Yes / No. It depends on what are expected from the students.

If organic chemistry is about the study of basic hydrocarbon skeleton and typical functional groups, and then apply the appropriate principles to solve problems, you may ask questions like (a) Circle certain functional groups on the given structure; (b) Label the spotted functional groups; (c) Could the molecule form hydrogen bonds? Would it be soluble in water (... could water relieve the pain?)? (d) If the compound is subjected to alkaline conditions, what happens (check the ester group)?

As the philosophy of our DSE emphasises more on the application rather than rote-memory, that would be the direction of what we teachers have to plan, and value for. Surely, you could dig out more from this "complicated molecule" and have "fun" with your students while learning organic chemistry. ☺

You could share your ideas via the Mail Pack -- just email us what you have in your mind.



((=====

National Chemistry Week in US -- Theme for Fall 2012 .. "Nanotechnology"

**** 25th Anniversary ****

FREE resource package for your lessons, outreach programs and your students at ...

http://portal.acs.org/portal/PublicWebSite/education/outreach/ncw/CNBP_030513

Theme packages of previous years are also available.

((=====

Admission Grades JUPAS 2012 ...

CityU

http://www.admo.cityu.edu.hk/hkdse_scores/scores_2012

HKBU

http://buar2.hkbu.edu.hk/pros/admiss_schemes/jupas_hkdse/admiss_grade/2012/

PolyU

http://www38.polyu.edu.hk/aseprospectus/jsp/entrance_req.jsp?websiteld=1&schemeld=201210&langld=1

CUHK

<http://www.cuhk.edu.hk/adm/jupas-grades/2012/>

HKUST

http://join.ust.hk/local/jupas/2012_adm_grades.pdf

HKU

<http://www.als.hku.hk/admission/files/applying-or-admission-info/hong-kong-students/jupas/admissions-figures/HKDSE-Scores-12.pdf>

LU

<http://www.ln.edu.hk/admissions/jupas/4-year/scores.php>

HKIED

http://www.ied.edu.hk/degree/admission_scores_dse.htm

OUHK

http://www.ouhk.edu.hk/WCM/?FUELAP_TEMPLATENAME=tcGenericPage2010&itemid=WCM2004_FT_REG_60210270&lang=eng

Key Tables to remember BEFORE Test / Exam ...

http://issuu.com/hksciblog/docs/dse_chem_key_table/1

REdox 3 cells Ans:

Hot water and universal indicator is added into the glass trough.

(i) Explain why the voltmeter has a reading of 1.1V after adding the water but was 0V initially.

(ii) State the gases collected in each test tube. Explain.

(iii) 52.7g of table salt was present. Find the number of sodium ions present.

(b) (i) Name the cell in trough A.

(ii) State the function of the porous pot.

(c) Some silver-coloured precipitate appeared on the bottom of trough B. Explain.

(d) The set-up is ran for a prolonged period. State the observations in each trough.

(e) The volume of gas collected in test tube A is less than that of test tube B. Explain.

香港中學文憑考試 — 化學科模擬考試

HKDSE — Chemistry Mock Examination

為了讓明年參加香港中學文憑化學科考試的學生能有較佳的準備，香港數理教育學會將於 2012 年 12 月舉辦一次模擬考試，使學生一方面能測試應考化學科試卷的能力，另一方面能適應在實際環境下參加公開考試的情況。

本模擬考試的範圍將涵蓋整個化學科課程，包括選修部分。模擬考試的試卷由香港數理教育學會邀請資深化學科教師根據香港考試及評核局的樣本試卷的格式編寫。

完成模擬考試後，舉辦機構將會為學生提供試卷的建議答案，同時會為學生批改試卷（卷一及卷二），並在稍後提供得分。

是次模擬考試讓學生有機會在真實環境中嘗試應考新高中課程的化學科試卷，使學生了解自己在化學知識上的不足之處，增強學生應考中學文憑考試的信心，絕對不容錯過。模擬考試的名額有限，為免錯失良機，請從速為學生報名。

測試詳情：

1. 日期：2012 年 12 月 29 日（星期六）
2. 時間：上午 8 時 30 分至 12 時
3. 地點：長沙灣天主教英文中學（九龍長沙灣福榮街 533 號 長沙灣港鐵站 C 出口）
4. 試卷：卷一及卷二（即必修部分及選修部分）
5. 費用：\$120（現場應試 + 建議答案 + 批改卷一及卷二 + 證書）
\$50 / 份（購買試卷及建議答案）
6. 名額：中文試卷 150 人、英文試卷 150 人
（每間學校最多可安排：中文試卷 10 人、英文試卷 10 人應考）

參加辦法：

1. 將 (1) 以電腦輸入方式填妥的報名表格電郵至 mockexam@hkasme.org 及 (2) 劃線支票或現金寄回或者親身交至香港數理教育學會（地址：九龍深水埗保安道 1 號寶安閣 1 樓 114 室）。註：支票抬頭請註明「HKASME Ltd」、背面則寫上學校名稱及「化學科模擬考試」。請勿郵寄現金。詳情請瀏覽網址：<http://www.hkasme.org/chem1.htm>
2. 截止報名日期：2012 年 11 月 23 日（星期五）
3. 如有查詢，可聯絡香港數理教育學會 朱小姐（電話：2333 0096）。

香港中學文憑考試 — 化學科模擬考試

報名表格

參加考試

參加人數及費用		
中文	英文	總數
人	人	人
總費用 (\$120 / 人) ⁽¹⁾ :		\$

購買試卷

購買數量及費用		
中文	英文	總數
份	份	份
總費用 (\$50 / 份) ⁽¹⁾ :		\$

學校資料：

學校：_____ 學校電話：_____

學校地址：_____

負責教師：_____ (英文) _____ (中文)

手提電話：_____ 傳真號碼：_____

電郵地址 ⁽²⁾ : _____ 支票號碼 / 現金：_____

日期：_____ 簽署：_____

參加考試學生資料：

(請往下頁。)

備註：

- (1) 如以支票付款，抬頭請寫上「HKASME Ltd」，並於支票背面寫上學校名稱及「化學科模擬考試」。請勿郵寄現金。報名費用一經收取，恕不退還。
- (2) 請提供有效的電郵地址，以便接收最新消息。
- (3) 香港數理教育學會有關拒絕接受報名或發佈結果，而毋須給予任何理由。
- (4) 香港數理教育學會將於收到報名表格後一星期內與學校聯絡確認。

— 往下頁 —

香港中學文憑考試 — 化學科模擬考試

參加考試學生名單

(為免出現錯誤，請以電腦輸入以下學生資料，然後以電郵傳送已填妥之本表格(上頁及本頁)至 mockexam@hkasme.org。)

學校：_____

	考生編號 (此欄由主辦機構專用)	英文姓名	中文姓名	身分證號碼 (頭四個位)	試卷語言 (英文 = E, 中文 = C)
	(例子)	Chan Tai Man	陳泰文	P123	E
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					



香港數理教育學會
Hong Kong Association for Science and Mathematics Education

Rm 114, 1/F., Po On Court, 1 Po On Road, Sham Shui Po, Kln.

Tel: 2333 0096, 2333 7602 Fax: 2333 3355

<http://www.hkasme.org/>

運用優質公開試題目推動課堂教學

歷屆公開試題目是學生的重要學習資源，優質的題目更是集各人的經驗和心血，就能讓學生釐清概念和定義（未必牽涉實際數值運算），方便老師把題目由特定情景推廣至一般情況。由不同的解題策略，學生能學習重要和有用的數學元素，提昇高階思維和解題能力，從而活用數學。

是次聚會，旨在與同工交流箇中心得，體驗題目背後的精神，反覆咀嚼涉及的思考過程，並於日後運用。由運用這些題目作課堂教材，寄望能增加學生對數學的興趣及解難能力，提升教學效能。

主講嘉賓：李國柱老師（香港培正中學）

日期：2012年12月8日（星期六）

時間：9:30 am – 12:30 pm

地點：香港浸會大學，教學及行政大樓，610室

內容：工作坊（參加者請自備計算機）

對象：中學數學科老師、關心數學教育工作者

報名方法及費用：

香港數理教育學會會員：免費

非香港數理教育學會會員：每位 50 元*

名額：50 人

截止報名日期：2012年12月6日。（先到先得）

詳情請瀏覽網址：<http://edblog.hkedcity.net/asmemath/>

入會申請網址：<http://www.hkasme.org/membership/form.htm>

（請填妥報名表，傳真至：2333 3355「香港數理教育學會」）

*非香港數理教育學會會員請填妥報名表，連同抬頭「香港數理教育學會有限公司」劃線支票寄回：九龍深水埗保安道1-15號寶安閣一樓114室香港數理教育學會。歡迎同時辦理入會續會手續，並以會員身份免費參加是項活動。

回條：運用優質公開試題目推動課堂教學
(2012/12/08)

請填妥報名表，請傳真至 2333 3355。

截止報名日期：2012年12月6日（先到先得）

姓名：_____ (中文) _____ (英文)

聯絡電話：_____ 電郵地址：_____

學校名稱：_____

會員號碼：_____ * (如適用)

姓名：_____ (中文) _____ (英文)

聯絡電話：_____ 電郵地址：_____

學校名稱：_____

會員號碼：_____ * (如適用)

姓名：_____ (中文) _____ (英文)

聯絡電話：_____ 電郵地址：_____

學校名稱：_____

會員號碼：_____ * (如適用)

*非香港數理教育學會會員請填妥報名表，連同抬頭「香港數理教育學會有限公司」劃線支票寄回：九龍深水埗保安道1-15號寶安閣一樓114室香港數理教育學會。歡迎同時辦理入會續會手續，並以會員身份免費參加是項活動。



香港數理教育學會

H. K. Association for Science and Mathematics Education

Rm 114, 1/F., Po On Court, 1 Po On Road, Sham Shui Po, Kln. Tel: 2333 0096, 2333 7602 Fax: 2333 3355 <http://www.hkasme.org/>

15th November, 2012

Hong Kong Biology Olympiad for Secondary Schools (2012/2013)

In order to promote the learning moral of studying the Senior Secondary Biology Curriculum, the Hong Kong Association for Science and Mathematics Education (HKASME) will organize the captioned Competition. Students of your school are strongly encouraged to participate. Details are described as follows:

- Aims**
- (a) To stimulate students' interest in learning Biology,
 - (b) To show their talents in learning Biology,
 - (c) To enhance their scientific literacy through learning of Ideas about Science (i.e. Nature of Science, Scientific Inquiry and Science-Technology-Society-Environment).
- Rules for the competition**
- (a) Each school can nominate one/two team(s) of **FIVE** students.
 - (b) The students can be in S4/S5/S6 in the year of 2012-2013.
 - (c) Each student participant attend a **1-hour test** with 60 multiple-choice questions held in **afternoon** on **December 29, 2012 (Saturday)** at **Cheung Sha Wan Catholic Secondary School** and complete the assessment **INDIVIDUALLY**.
 - (d) The test consists of questions related to four areas in Biology learning: (i) scientific inquiry (25%), (ii) nature of science (25%), (iii) science, technology, social & environment connection (25%), and (iv) content knowledge (25%). The four areas tested cover **COMMON** parts in HKDSE Biology and HKDSE Combined Science (Biology).
 - (e) Questions are set in both **Chinese** and **English**.
 - (f) HKASME reserves the rights for any amendment made.
- Academic Advisors**
- Dr. YIP, Valerie Wing-yan (Faculty of Education, The University of Hong Kong)
 - Dr. LAI, Ching (Hong Kong Association for Science and Mathematics Education)
- Awards**
- Individual Awards include First, Second and Third Class Awards.
 - Team Awards will be presented to three schools with the highest team mean marks.
 - All student participants will receive a Certificate of Participation.
- Result release** Late January, 2013
- Application Fee** HK\$150 per team (Include administration fee, marking, analysis report and certificates)
- Deadline of Application** **November 30, 2012**
(Detailed arrangement of the Competition will be notified via email after the deadline.)
- Enquiries** Enquiries regarding the Competition may be directed to **Miss CHU of HKASME at 2333 0096**.
For more details, please visit our website (www.hkasme.org)

Enclosed with this letter is the application form. We look forward to your school application!

Yours faithfully,
Hong Kong Association for
Science and Mathematics Education

Application Form
(Deadline: 30th November 2012)

Fax to: Hong Kong Association for Science and Mathematics Education
Fax no.: 2333 3355

Hong Kong Biology Olympiad for Secondary Schools (2012/2013)

I nominate the following team(s)[†] to participate:

Participating Team(s):

Team A			Team B (if any)		
Class	Name		Class	Name	
	English (in block letters)	Medium of paper		English (in block letters)	Medium of paper
		*Chinese / English			*Chinese / English
		*Chinese / English			*Chinese / English
		*Chinese / English			*Chinese / English
		*Chinese / English			*Chinese / English
		*Chinese / English			*Chinese / English
E-mail of team leader:			E-mail of team leader:		

Responsible Teacher:

Dr/Mr/Ms* _____ E-mail: _____ Mobile: _____

Signature of Principal : _____

Name of Principal : _____

School : _____

Tel. No. : _____

Fax No. : _____

Date : _____

[†] Each team should comprise **5** Secondary 4-6 students and each school can nominate two teams.
* Please delete whichever is inappropriate.

Important note: Please kindly return this form together with a crossed cheque of an appropriate amount (payable to "HKASME LTD") to us before 30th November, 2012. [Mailing address: Rm. 114, 1/F., Po On Court, 1 Po On Road, Sham Shui Po, Kln.]

X'mas Hot Teaching Items 聖誕熱賣教具

(Bulk Order (6+) on the same types of molecular model – Ask for quotation!)

Photo	Items	Mem \$ / N-mem \$
	4-in-1 Crystal Structure Model Crystal Model Molecular model (graphite + diamond + NaCl + copper)	420 / 460
	3-in-1 (Stick) Crystal Structure Model Carbon Allotrope (C60 +graphite + diamond)	200 / 220
	3-in-1 Crystal Structure Model Carbon Allotrope (C60 +graphite + diamond)	360 / 380
	C70 Structure Fullerene Carbon Model	340 / 360
	C60 (stick) Carbon Allotrope Carbon	100 / 120
	C60 Structure Fullerene Carbon Model	320 / 340
	Graphite (three unit) Crystal Structure Mode	320 / 340
	Diamond (4 levels) Model	320 / 340
	Diamond (6 levels) Model	360 / 380
	Foam balls (30mm)	\$2 / pcs \$90/100 for 50 pcs
	Teacher Organic Chemistry Models	320 / 340
	Student Inorganic/Organic Molecular Model Sets	260
	5 colored flame birthday candle (1set = 5 colours) For teaching flame test and emission spectrum	30/40
	6 m Kevlar line,220 pounds 6 m Kevlar line,180 pounds, 6 m Kevlar line,120 pounds,	30 / 40 20 / 30 10 / 20
	Electric Double Walled Calorimeter	260 / 280

	Radiometer 光動儀	200 / 220
	Air and Water Power Car	440 / 470
	Fascinating Oscillating Reaction Kit	190 / 210
	Cool Blue Light Experiment Kit	190 / 210
	Patriotic Colors Chemistry Experiment Kit - Patriotic Colors Chemistry Experiment Kit	190 / 210
	Chemistry Bits - Cool Chem-Light	100 / 110
	Chemistry Bits - Disappearing Ink	100 / 110
	Chemistry Bits - Quantum Leap	100 / 110
	Chemistry Bits - Rubber Latex	100 / 110
	Motivational Pencils - Motivational Pencils 'WOW! Highest Test Score BI O / CHEM / PHY / SCI'	170 / 190 (24 pcs) \$8 / pcs
	Heat-Sensitive Pencils	200/220 (24 pcs) \$10 / pcs
	Spectroscope	150 / 160
	Organic Fold-A-Matic (30/pk)	160 / 170
	Gold Sample	\$100 / 110
	DIY Metal detector 金屬探測器	90 / 100
	DIY Camera 相機	90 / 100
	Fire Bubbles and Exploding Toothpaste: More Unforgettable Expts that Make Science Fun	190 / 210
	Naked Eggs and Flying Potatoes: Unforgettable Expts That Make Science Fun	190 / 210
	Wonderful Life with the Elements: The Periodic Table Personified	190 / 210
	Potato Chip Science: 29 Incredible Experiments – include manual & kits	190 / 210
	The Book of Potentially Catastrophic Science: 50 Experiments for Daring Young Scientists	190 / 210