

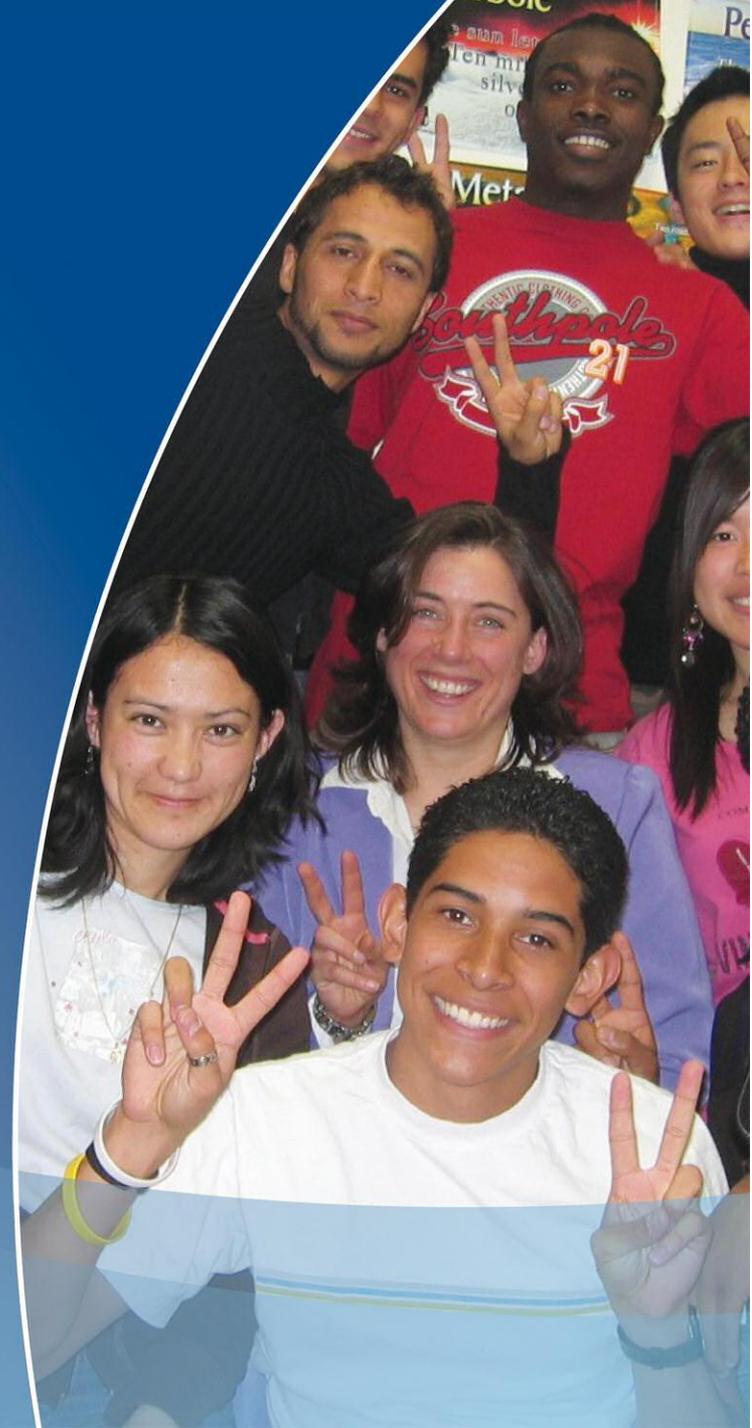
Group 4 Curriculum Review

AEM Annual Conference

The Hague 28th October 2011



International
Baccalaureate[®]



- “The aim of all IB programmes is to develop internationally minded people who, recognizing their common humanity and shared guardianship of the planet, help to create a better and more peaceful world.”
- Every IB teacher and subject has a role to play in this
 - you’re an IB teacher first and a subject teacher second

Principles of DP Curriculum Reviews

- collaborative, working with teachers, examiners, consultants and IBCA staff
- surveying teacher opinion via questionnaires on OCC
- supported by the assessment division
- reporting to the diploma review committee
- aware of the impact of a subject or group review on the hexagon as a whole
- scheduled on a seven year review cycle

Followed by

- Online moderator/examiner training
- Online and face to face teacher training
- OUP course companions
- Other publishers provided with drafts of the guides
- Partnerships for support materials on specific issues
eg GDC

Profile of participants

- participants from each IB region
- a mix of publicly funded / privately funded schools
- gender balance
- a mix of experienced and relatively new teachers
- representative senior examiners
- representatives of the three IB working languages (though meetings are normally held in English)
- potential to lead workshops on the new courses

Group 4 Review Plan

- initial group 4 questionnaire to schools in March 2010
- whole group 4 review meeting in October 2010
- subject specific questionnaires
- two subject specific meetings each year (first took place in April and 2nd will be in November)
- one IA meeting each year
- After every meeting a report is produced and published on the OCC for teachers. Comments are invited from teachers as the review progresses.

Subjects in Group Review

- Biology, Chemistry, Physics and Design Technology (Design Technology has separate but parallel development)

Not in group review:

- Sports Health and Exercise Science (currently a standard level pilot subject. The course is on open offer from September 2012, with first examinations in May 2014.)
- Environmental Systems and Societies (interdisciplinary groups 3 & 4 SL) 1st year of review.
- Computer Science moving to Group 4 from Sept 2012 as a non-elective (can count as a G4 subject)

7 YEAR REVIEW CYCLE

	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18
Teaching schedule	T ₄	T ₅	T ₆	T ₇	T ₁	T ₂	T ₃	T ₄
Review schedule	R1	R2	R3	R4 SSS		IY	IY	R1

Key:

IY - investigation year

R₁ - first year of subject review

T₁ - first year of new course

SSS - subject specific seminars

Outcomes of the curriculum review

- draft guides published December 2013
- new guides published March-June 2014
- new TSM material available May 2014
- specimen papers available May 2014
- subject specific seminars early 2014
- begin teaching September 2014
- first exams May 2016
- last exams Nov 2023

1st Group 4 Curriculum Review Meeting

Informed by:

- Reports from investigative year
- Questionnaire to schools
- Online discussion with participants
- Internal Review Committee (Senior IB Staff)

Significant outcomes

- Diploma-wide issues, TOK (including ethical implications), and international mindedness have been addressed.
- Teacher notes in the syllabus details provides useful links to these aims.

APPL- real life examples and links to other diploma subjects

Aim 8- moral, social and ethical implications

Int- international mindedness

TOK- suggestions for discussion

Significant outcomes

Number of options reduced from 2 out of 8
to 1 out of 4 at both SL and HL

Number of written papers at SL reduced from 3 to 2

New internal assessment at SL and HL

Significant outcomes

- Nature of science to be overarching theme in physics, chemistry and biology (nature of technology in Design Technology)
- Group 4 project to continue with collaboration between schools emphasized
- New science course at SL

Internal Assessment IA group 4



New Internal assessment

- “The model proposed is for one, open-ended practical investigation with new generic criteria that will allow both a wider range of activities satisfying the varying needs of the three subjects and more agreement on the marks awarded as a result of the application of the criteria. It would be 20% of the overall assessment. The criteria would need to reflect the learner profile and the overarching Nature of Science theme for the new group 4 courses.”

New Internal assessment

- **Summary of outcomes**
- The practical activities programme will remain at 40/60 hours and the group 4 project would remain and be assessed, as now, with the criterion *personal skills*.
- The IA task will be one investigation/scientific exploration similar in length and time to the new group 5 IA. It will be presented as written task (as the group 4 project already allows for wider range of presentational modes).

New Internal assessment

- The task will allow a wider range of activities than the present traditional hands on practical investigation (this latter would remain as a possible IA task but the detailed assessment of specific aspects of it would be undertaken in the written papers) :

E.g.

- Using a spreadsheet for analysis and modelling
- Extracting data from a database and analyzing graphically etc
- Simulations – must be interactive and open ended
- More qualitative work allowed

New Internal assessment

- The task will have the same assessment criteria for SL and HL but may have different grade boundaries or weighting. Moderation would probably be based on e-portfolios and e-moderated by seeding.
- The rigour of the IA would be maintained by ensuring the criteria reflect the demanding conceptual understanding required by making the nature of science (NOS) the overarching theme.

New Internal assessment

- Draft criteria are Context, Analysis, Communication, and Reflection, each on a possible 0-4 point scale.
- The tasks produced would be complex and commensurate with the level of the course. They would require a purposeful research question and the scientific rationale for it and a cognitive component - critical scientific thinking element (thinking like a scientist).

New Science course. Why?

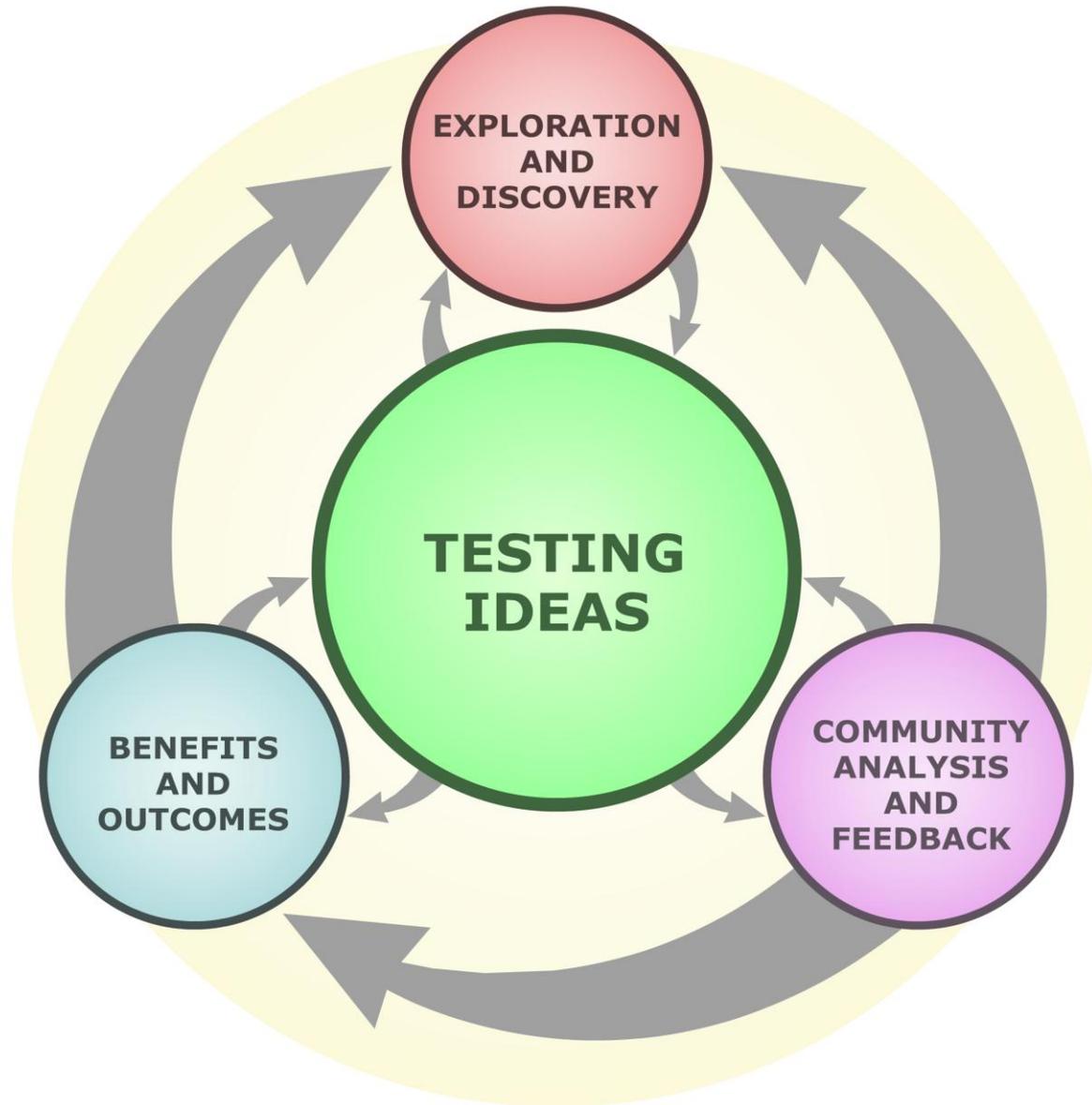
- The broad rationale for the course was accepted by DRC and DPC. i.e. for the vast majority of SL science students this may be their last experience of science education so the current single subject courses may not serve them well.
- What may be more relevant is a general education in science that will allow them to understand and make judgements on critical societal issues affecting their lives arising from developments in science and technology.

Recommendation: New SL Course

- Design a new SL science and technology course for the vast majority of students (who may not study science again) but will need to understand scientific issues arising in their lives upon which they need to make reasoned judgments. This will run alongside the existing subject specific SLs.

New Science course

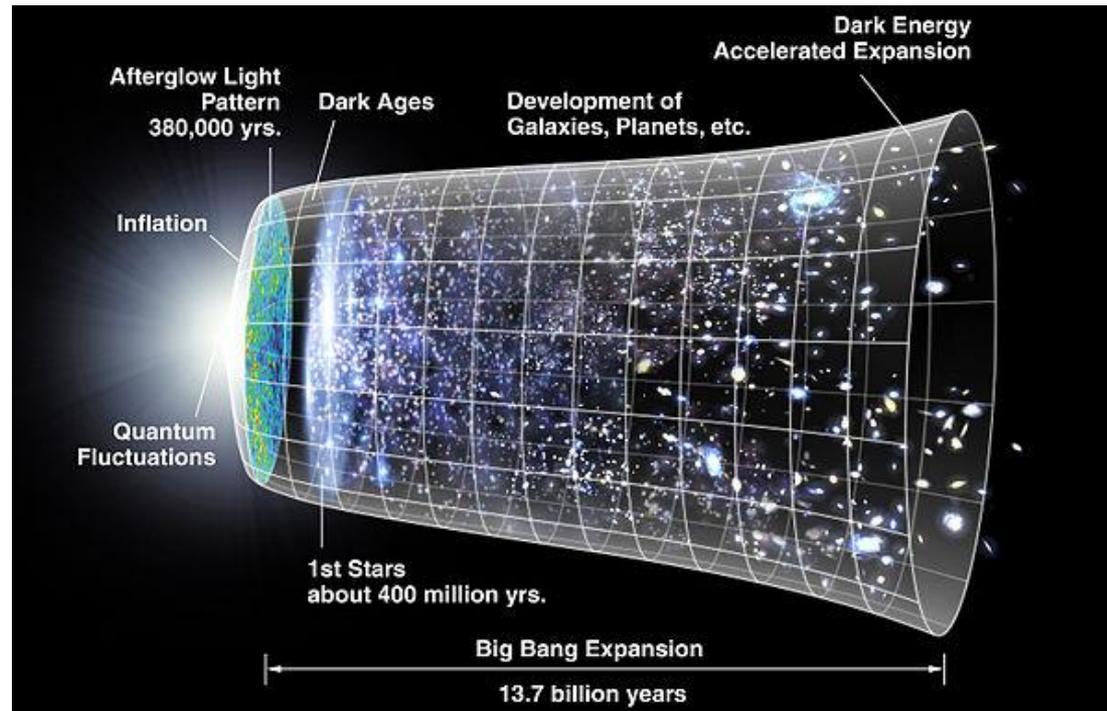
- There be an exclusion with the new physics, chemistry and biology.
- It is believed that the primary clientele would be diploma students who would not choose a science subject if free to do so and are unlikely to choose additional G4 subjects. We would not have to worry about any overlap, perceived or real. We would be free to introduce some of the ideas, philosophy and content from the science course into the new phys, chem. and bio SLs.



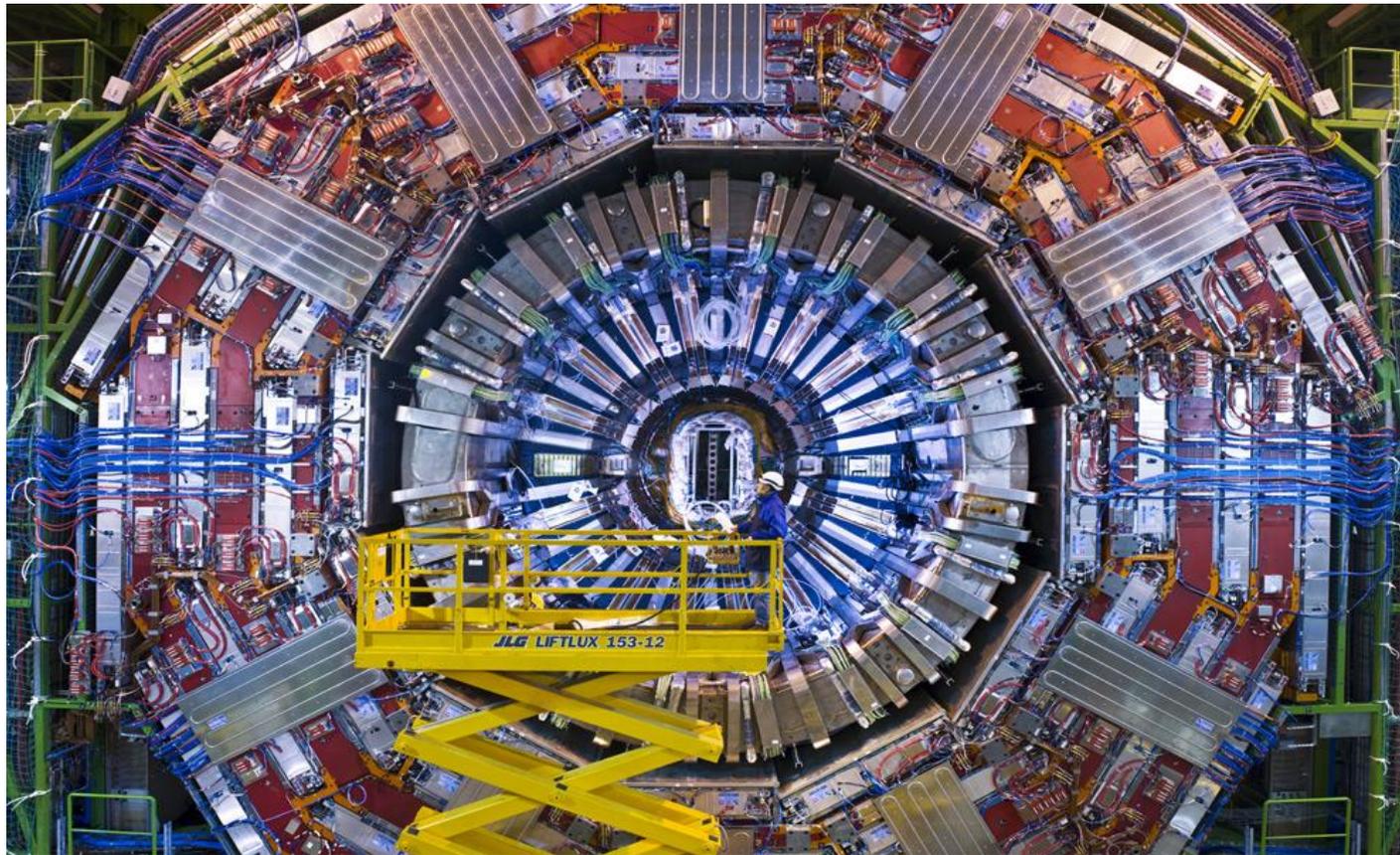
New science course

- The course philosophy is to bring forth through student centred activities, the wonder of science, its power to change the world for good or bad and its concomitant limitations.
- The aim is to explore 6 big ideas in science, illustrating in the process the nature and methodologies of science and raising the implications for society and how these affect the student's place within it.

The universe



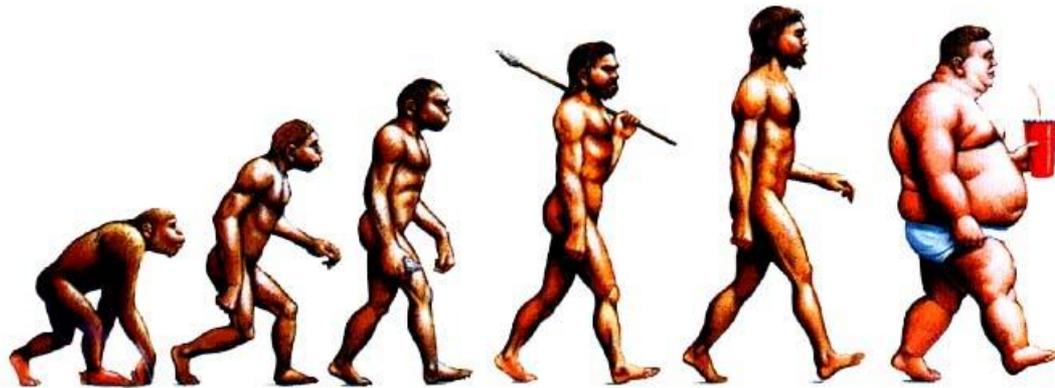
Atomic Theory



Medicine and Health

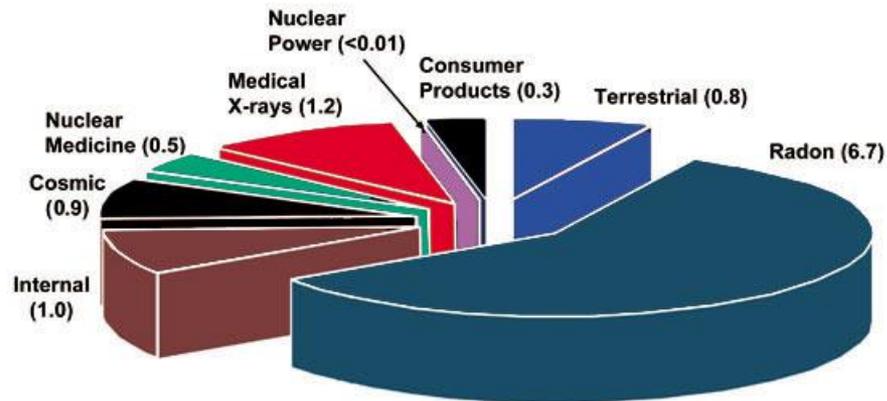


Evolution



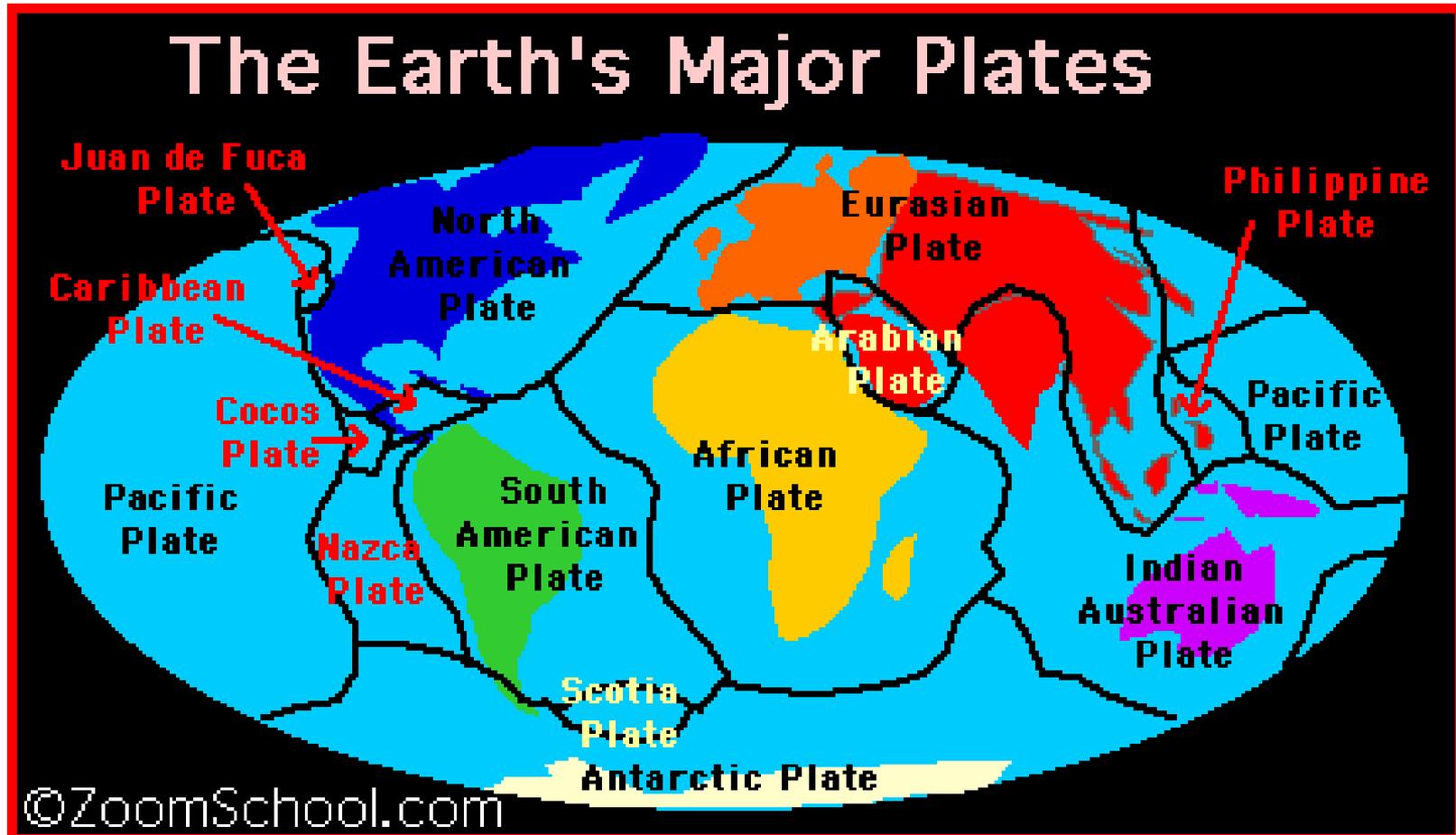
Radiation

Sources of Radiation Around Us



Total is 11.4 times the amount of radiation emitted by human body

Earth Science



Earth Science



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