

## Diving deep into science – in Singapore

# Introducing SciberDiver

**Hannah Baker** (Science Education Manager and SciberDiver Project Manager)



In April 2008, after 18 months of planning, designing and reviewing, the Biochemical Society's Education Team launched [www.SciberDiver.edu.sg](http://www.SciberDiver.edu.sg), a brand new school science web portal, in Singapore. Following the success of [www.SciberMonkey.org](http://www.SciberMonkey.org), the Society's educational online resource for Key Stage 3 science, the MOE (Ministry of Education) in Singapore commissioned the production of a similar website to coincide with the delivery of their new primary and secondary science curriculum. SciberDiver's aim is to add value to and support the implementation of the science curriculum for teachers and students in a fun, quick and simple way.

The Society encourages teachers to conduct as much group practical work and demonstrations as possible in their lessons. However, time restrictions and large class sizes (as some examples) can often put a strain on the success of certain experiments; therefore the Society recognizes that integrating IT with science can help with the delivery of a dynamic lesson. Often, resources available on the internet can highlight certain scientific concepts clearly and provide teachers with many new exciting ideas for their lessons. There are large numbers of good school science websites, but teachers have little time to trawl through search engine results to find the best information. The top resources sometimes lie deep within the Internet or as part of a larger website. Using SciberDiver saves time as the results target the exact page needed to learn about a topic, not just a website's homepage as with other portals. The 'best of the web' resources have been specially searched for and chosen by teaching professionals to ensure quality and relevance to Singapore's local science syllabuses.

### What is SciberDiver?



- SciberDiver is for science teachers and students from Primary 3–6 and Secondary 1–2 levels in Singapore schools, which is almost the equivalent to Years 4–9, spanning Key Stages 2–3 (ages 8–14), in English schools
- The featured websites have been specially selected by teachers and peer-reviewed by scientists
- Resources are mapped closely to match the themes and topics in the science syllabuses
- Resources include simulations, text, images, videos, games, quizzes and lesson plans
- The designs are clear, text use is minimal, and the site is easy to navigate

- Students should be able to use each results page on their own without the need for teacher assistance
- Parents also find SciberDiver useful to learn more about the science their children are studying at school

As a way of showcasing SciberDiver and the Society's educational activities, part of the team's visit to Singapore was to conduct science workshops using the website and show all the different ways that it can be used: as part of a science lesson, as independent student learning, for revision, as a teaching aid, for homework tasks or extension activities in class, and many more.

### CHIJ Kellock Primary School



The MOE kindly arranged a number of visits for us. We tried out the SciberDiver portal on a class of 40 Primary 5 girls (aged 10–11). Our hosts were Mrs Clara Lim-Tan, Principal, Miss Lui Ling (former Curriculum Planning Officer for the MOE) and class teacher Ms Jessica Yeo.

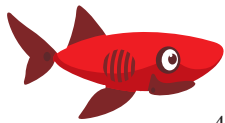
The lesson covered learning objectives from a plant cycles topic for an hour. A teacher-guided 'web quest' worksheet was



Teachers and Society staff – Hannah Baker, Jane Thomson and Sheila Alink-Brundson – after a successful SciberDiver web quest workshop on plant life cycles at CHIJ Kellock Primary School

prepared by Jane Thomson using the sites on SciberDiver within that topic. Since none of the pupils was familiar with the portal, we had an excellent opportunity to see how well pupils interfaced with the site with minimal instruction. We were pleased to see that most pupils could find their way around the portal intuitively and the pitch of the sites were appropriate to the majority of learners. Pupils were enthusiastic throughout the lesson and happy to participate in the class discussions that ensued. Around 15% attained full marks on the worksheet activity, and all pupils managed to complete over half of the activities. Fast learners were rewarded by getting to play the educational game and all participants received certificates.

### Loyang Secondary School



We also ran a similar SciberDiver lesson for a lively class of 40 Secondary 2 pupils (aged 13–14) at Loyang Secondary School.

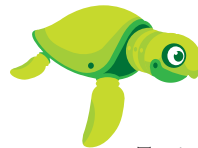
An hour-long lesson on the topic of light reflection was specified by Mr Mohammed Nasir, Head of Science. The lesson was purposely much less guided this time to suit the independent nature of the teenagers. Following a fun starter activity, the class was asked to find answers to 20 questions on a custom-made worksheet at their own pace. The activity was peer-marked, with several pupils reaching the eliminator quiz round to compete for



The SciberDiver workshop at Loyang Secondary School covered the lesson on light reflection

first prize. Pupils really seemed to enjoy the lesson and stayed on task throughout.

### Keming Primary School



Keming Primary School had been happy to take part in the SciberDiver Beta

Testing. Here we were invited to a dialogue with several teachers and receive feedback about the website, which was overwhelmingly positive. It was encouraging to observe a great lesson being taught by a teacher using SciberDiver. It really seemed as if the teachers had embraced the concept of SciberDiver and were using it in a number of ways and producing their own materials to go with the sites that they found useful.

SciberDiver was officially launched during the Primary Science HOD (Heads of Department) meeting at the MOE Edutorium on 10 April 2008. Speeches were given by Director Ms Ho Peng and myself, followed by presentations of the launch 'memento' by Ms Ho Peng to Sheila Alink-Brunsdon, Chris Tng from the Infocomm Development Agency (project partner) and deputy Director of A\*STAR (sponsor) Ms Tricia Huang.

We thank and acknowledge the efforts of Professor Chris Leaver (former Society Chair) for establishing the relationship between the Society and Singapore science. The partnership with Singapore's MOE and A\*STAR has been fruitful, and the Society would like to see this relationship and the SciberDiver resource grow over time. The Internet does not stay static, neither must we. We are currently refurbishing our own www.SciberMonkey.org web portal to cover Key Stages 1–3 and eventually beyond...

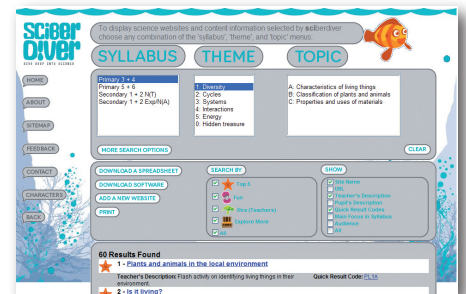
SciberDiver is primarily for Singaporean schools, but is freely accessible and can be useful to all science teachers and students. We hope any users enjoy this portal and are further enthused and inspired by science the deeper they dive! ■



SciberDiver homepage



SciberDiver for students



SciberDiver for Teachers

[www.SciberDiver.edu.sg](http://www.SciberDiver.edu.sg)