

# UNDERWATER EXPLOITS

Want to explore the underwater world? Strap on some scuba gear!

**B**OTTLENOSE dolphins dive 50m underwater and stay down for an average of three minutes. Sperm whales have been known to dive down to 3,200m and stay down for almost two hours! But for most of us, we are limited to diving 3m deep for less than two minutes.

Of course there are exceptions. The No Limits free-diving world records are held by Herbert Nitsch from Greece, who went down 214m, and Tanya Streeter from Grand Cayman, who reached

160m. They can hold their breath for up to six minutes!

In the past, exploring the underwater world was not an easy matter. With the exception of pearl divers and enthusiasts like Nitsch and Streeter, people had to be content to take the plunge and hold their breath – or

use glass bottomed boats. Those determined to see more of ocean life came up with the idea of trapping air in a capsule like a helmet or bucket. Greek philosopher Aristotle wrote descriptions of such diving bells some 2,400 years ago.

BY ELLEN WHYTE



On the whole, trapping air in wooden and metal containers wasn't terribly successful. They were hard to control, leaked and explorers could only look down at things below them.

In 1600, engineers started making wooden diving bells with glass windows. Sailors on the surface sent down barrels of fresh air at intervals, but at the most, crews could submerge for just 15 minutes.

British engineer John Smeaton fixed that problem when he fitted his diving bells with an air hose and a pumping system in 1788.

While diving suits with an air hose leading to the surface were designed from 1838 onwards, few were made.

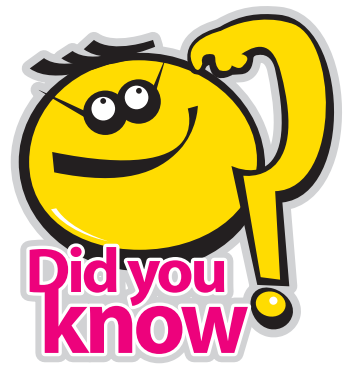
The air hose that let the divers breathe also meant they couldn't

move very far.

Diving was a difficult, dangerous business until 1943 when French naval engineers Jacques-Yves Cousteau and Émile Gagnan came up with a novel idea.

Émile Gagnan was an engineer working with specialised compressed gasses for divers, chemical companies and other industries. Jacques-Yves Cousteau began his career as a second lieutenant in the French navy. He worked as a gunner during World War II and was also a very successful spy.

Together they developed the Aqualung. This new tool was a metal cylinder filled with compressed breathing air. As the Aqualung could be carried on the diver's back, it allowed underwater explorers to move around freely for an hour or more.



## WORD TREASURE HUNT

When you're reading, you don't always need to know every word to understand the sense of an item. Check your word power by looking at the following descriptions and finding an appropriate word or phrase in the text. Want an extra challenge? Try completing this exercise from memory first!

1. Typical
2. Hat
3. Discoverer
4. Container

Answers: 1. Average, 2. Helmet, 3. Explorer, 4. Cylinder

Both men created many different tools for underwater use but the Aqualung is the most famous. Used by marine biologists, ship inspectors, engineers, and millions of underwater tourists, their invention revolutionised diving.

## FOR MORE INFORMATION

### Inventor of the Week

[web.mit.edu/invent/iow/cousteau\\_gagnan.html](http://web.mit.edu/invent/iow/cousteau_gagnan.html)

Find out more about the lives and their collaboration of Jacques-Yves Cousteau and Émile Gagnan.

### How Scuba Works

[entertainment.howstuffworks.com/scuba.htm](http://entertainment.howstuffworks.com/scuba.htm)

Find out exactly how modern scuba gear keeps you breathing safely underwater.

### Cousteau Society

[www.cousteau.org](http://www.cousteau.org)

Cousteau became a famous oceanographer, filmmaker, and avid environmentalist. Find out more about his work and legacy here.

# TIME TO RAP IT UP!

THE auditions are over and students from 40 schools have gone through a one-day workshop to help them hone acting skills and get valuable tips on staging a successful performance. The teams will now vie to be one of the two regional representatives at the national finals, to be held on April 19, at 2pm, at Dewan Bahasa & Pustaka in Kuala Lumpur.

Here, drama coach Ernie Chen shares how students were taught to make the best of themselves on stage at the workshop:

### What did you teach the DiGi Prepaid Fu-Yoh! R.A.P. regional finalists at the workshop?

The students were taught how to get the most out of being on stage. They were trained to build their confidence so that they were comfortable during the performance. We also gave them some ideas on how to increase their stage presence, in other words, tips on how they could be seen and acknowledged by the audience, as well as coached them on the when, how and what to do while acting.

### That's quite a lot! How do you do all that in a day's workshop?

The 120 students were given a lot of physical characterisation through intense activity. For example, we asked them to describe the differences between humans, animals and machines and then had the students act them out. So, they learned not through lengthy, boring lectures but fun and interesting games, simulation and discussion. We also gave the students on-the-spot comments on each activity that they did.

Sounds like fun, but also a lot of work.



Enthusiasm aplenty! Drama coach Ernie Chen and some students throwing themselves wholeheartedly into the one-day workshop.

It was great fun, and that was important for the students. By having the children read a story and act it out on stage, DiGi RAP has helped them develop a greater ability to voice their thoughts and ideas and express them in action. Once they learn to relax, they will find it quite natural to let their creative side emerge and use their boundless energy in imaginative ways. It's worth the hard work!

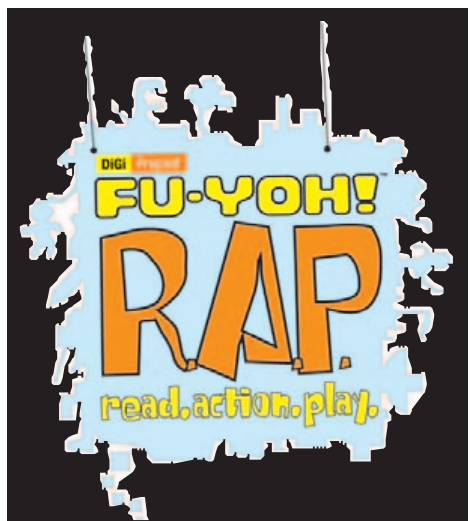
What is the most difficult thing for kids

### to overcome on stage?

The pressure to perform and win. If they can focus on bringing out a character well, then they are already successful. And there are no small roles, only small people.

### So what is your advice to DiGi Prepaid Fu-Yoh! RAP finalists?

Just relax and enjoy the experience. If you do, you will find that you can learn a lot about yourself while having fun, too.



## UPDATES ON DiGi RAP 2008

DiGi Prepaid Fu-Yoh! Read.Action.Play Challenge 2008 (DiGi RAP 2008) is a programme for students aged between 10 and 12 years. The children have to select a story from *Asian Children's Favourite Stories* and, as a team, translate it into a short stage play by writing a script, coming up with costumes and designing props and the set.

From each regional finals, two schools will be chosen to be the regional representatives at the grand finals, to be held at 2pm on April 19 at Dewan Bahasa & Pustaka.

For enquiries on DiGi Prepaid Fu-Yoh! RAP 2008, call 016-222 0496 or log on to [www.digi.com.my/fu-yoh](http://www.digi.com.my/fu-yoh)