Ammonoids

Model of ammonite ***D***

A model showing the soft parts of an ammonite is available from "Everything Dinosaur", www.everythingdinosaur.com

Feeling the septum and foramen ***A I 1 min***

Student put their fingers into a modern Nautilus and can feel the septum and the foramen.

Septa and siphuncle ***D***

A Nautilus which has been cut in half show these very well.

Septa and sutures 1 ***D***

A 30cm length of 2.5cm diameter clear plastic tube has discs of lead with the edges corrugated placed inside. The tube represents the outside of the ammonite and the discs the septa. This is used to show students the relationship between septa and sutures.

Septa and sutures 2 ***D***

A plaster cast of infilled cameral chambers is available from the Open University Learning Resources, It shows the 3D shapes of the septa.

Ammonoid sutures ***E P F 45 min***

This is a paper exercise to show how shell strength increases with increasing crinkling of the septa.

Track of rolling ammonite ***D***

The track represents the marks made by an ammonite that died, sank to the bottom and bounced and rolled. Students are asked what it is and how it was made. Available from the Open University Learning Resources.

The strength of corrugated septas A I 5 min

The greatly increased strength made by corrugating a sheet can be shown by the following:

1) students are provided with two A4 sheets of paper and a book. They are given the following challenge; they must support the book above the table on the edge of the pieces of paper. It can be done if each sheet is folded into a zigzag pattern.

2) A piece of plywood 15cm by 10cm is placed on a 6 by 6 egg tray. This will take the weight of an adult without crushing.

Ammonites and submarines D

When an ammonite pulled itself back into its shell it sank. To make a model which does this take a boiling tube and a rubber bung which will fit inside. Attach a bolt to the bung so that it can be pushed in or pulled out. Add weight to the bottom of the tube so that it just sinks when the

bung is pushed in by 3cm but rises when it is pulled out a little. The weight also keeps the tube vertical.

Up and down ***D***

This is as a visual reminder to students that ammonites were able to go up and down in the water. Photocopy the drawing of an ammonite, say Dactylioceras so that it is about 7cm across. Cut out a piece of hardboard so that the drawing fits it exactly using a fretsaw. Glue the photocopy to the hardboard. Attach it to a long spring. Hang it up in your class room and give it a pull. It will keep going up and down for quite a while. The spring can be scavenged from a toy that does the same. To get a reverse of the photocopy to glue on the other side photo copy onto acetate and the rephotocopy from that.

Size of goniatites ***A P F 30 min***

Students measure the diameter of a large number of goniatites and plot their size distribution.

Orientations of orthoceras ***A P F 30 min***

Students measure the orientation of orthocerases and then plot the results on a rose diagram.