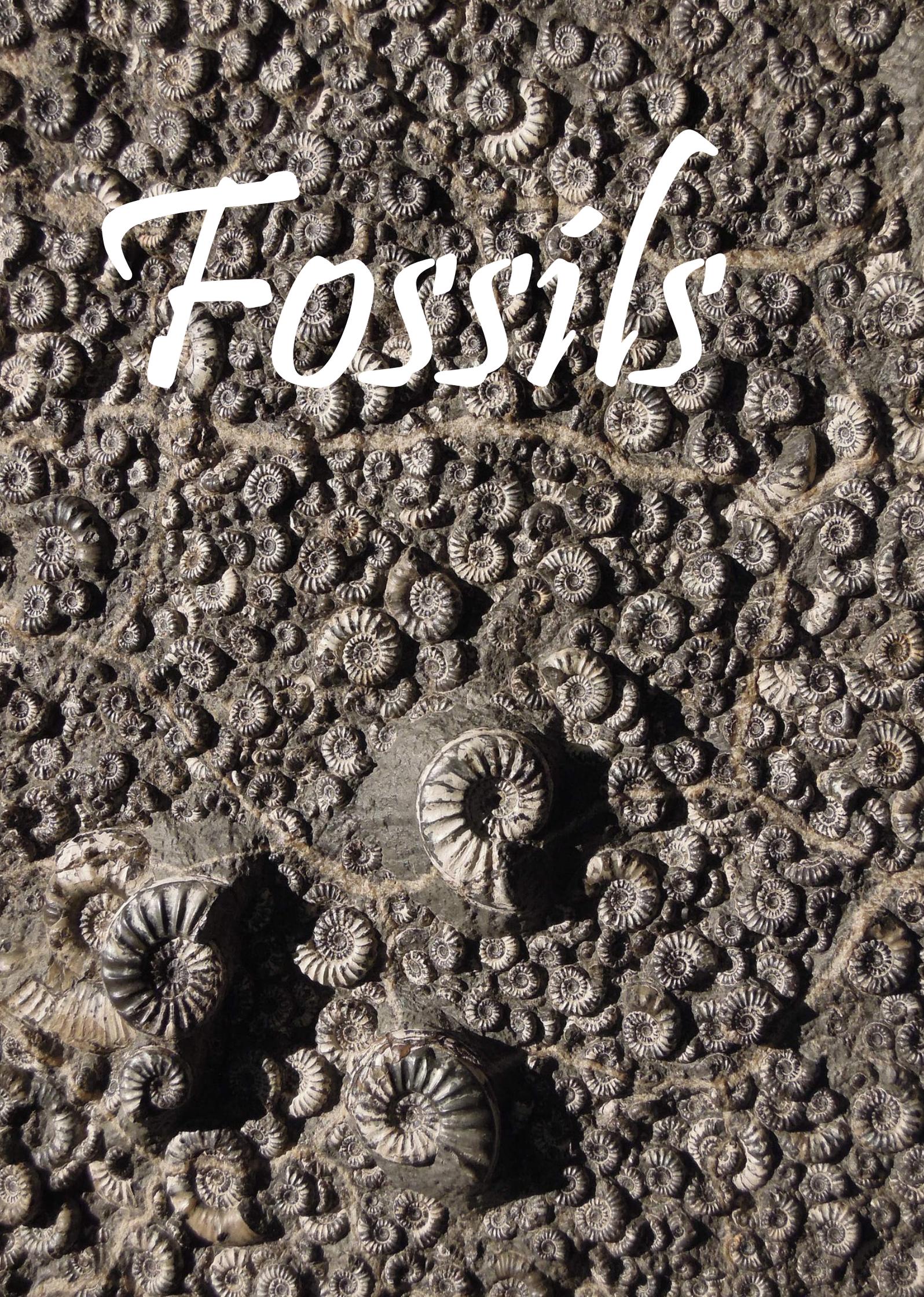
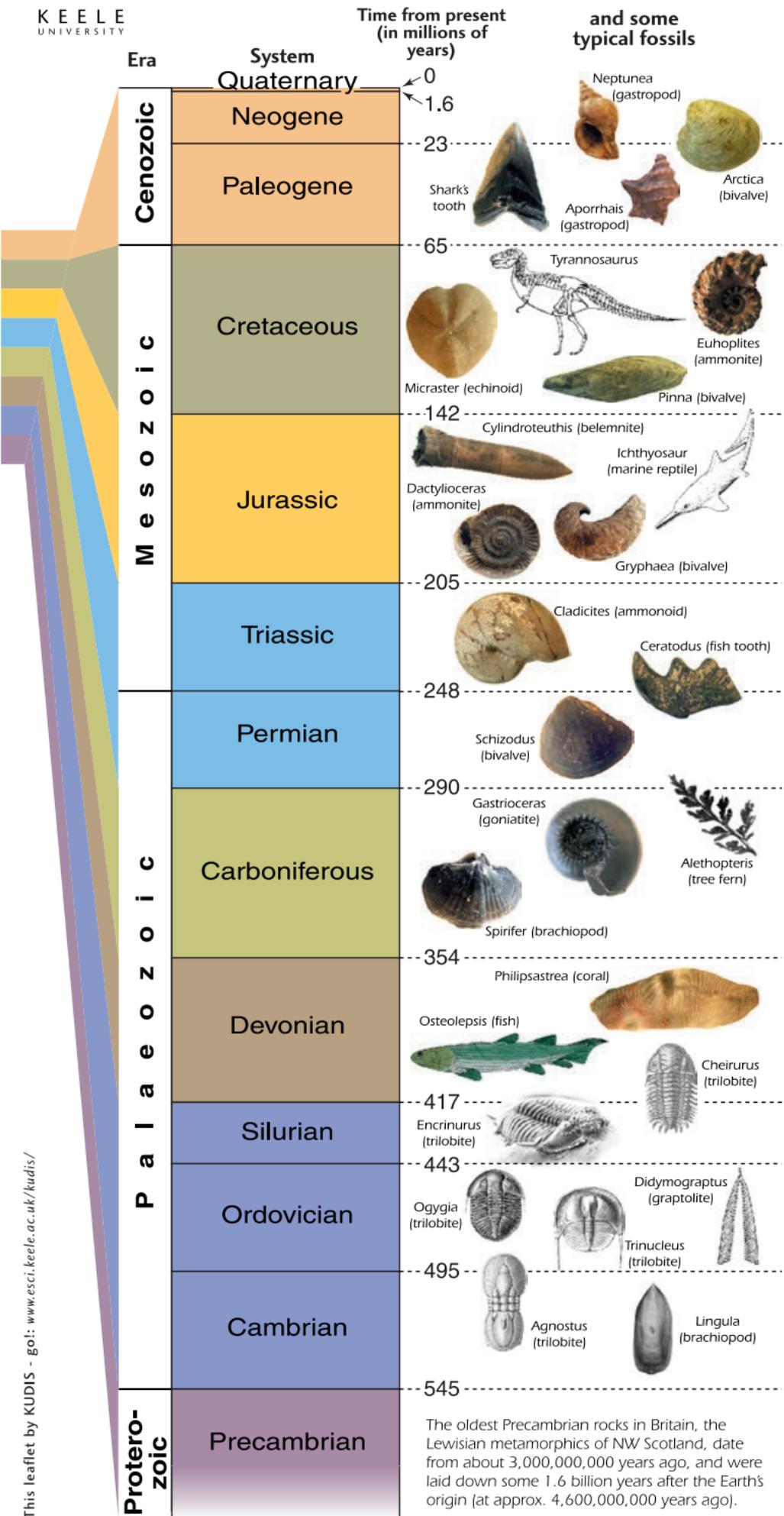


# Fossils



# Geological Time Scale



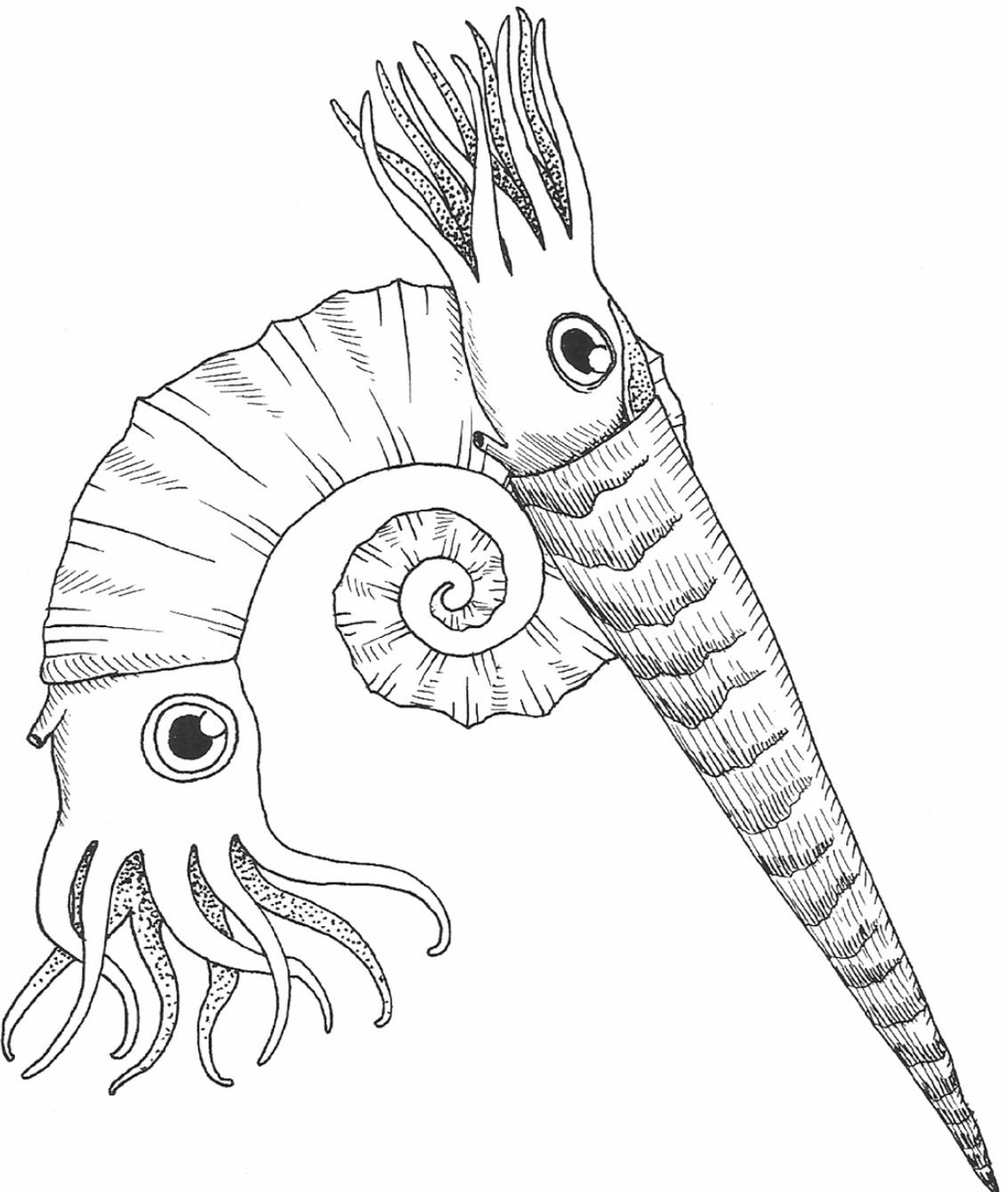
# AMMONITE - COLOUR AND CUT-OUT ACTIVITY



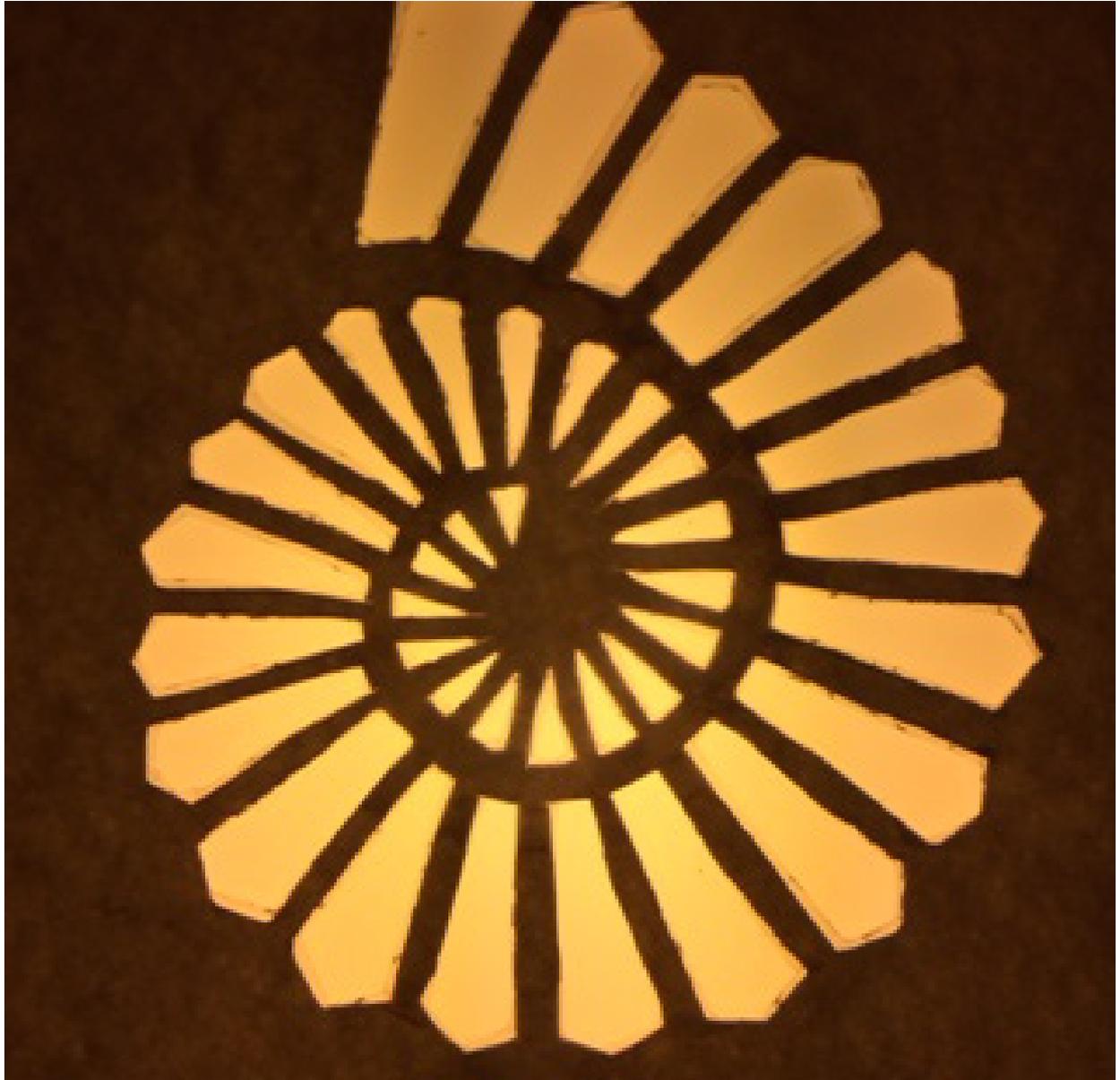
1. Print this page on card and colour in the ammonite
2. Carefully cut around the shape
3. You can make the ammonite stand-alone by attaching a piece of folded card to the back of the ammonite using tape or glue

*Ammonites are a type of prehistoric animal known only from fossils. They were **cephalopods, like modern squids and octopuses**, but unlike these creatures, they had a hard outer shell like a snail's shell. As a result, ammonites have been well preserved in the fossil record. Ammonites were around from the beginning of the Jurassic period to the end of the Cretaceous period. They were common in the oceans of the Earth for 143 million years, before disappearing at the **K-T boundary extinction event** 65 million years ago, when 70% of all animal species suddenly became extinct.*

# Ammonite and Orthoceras



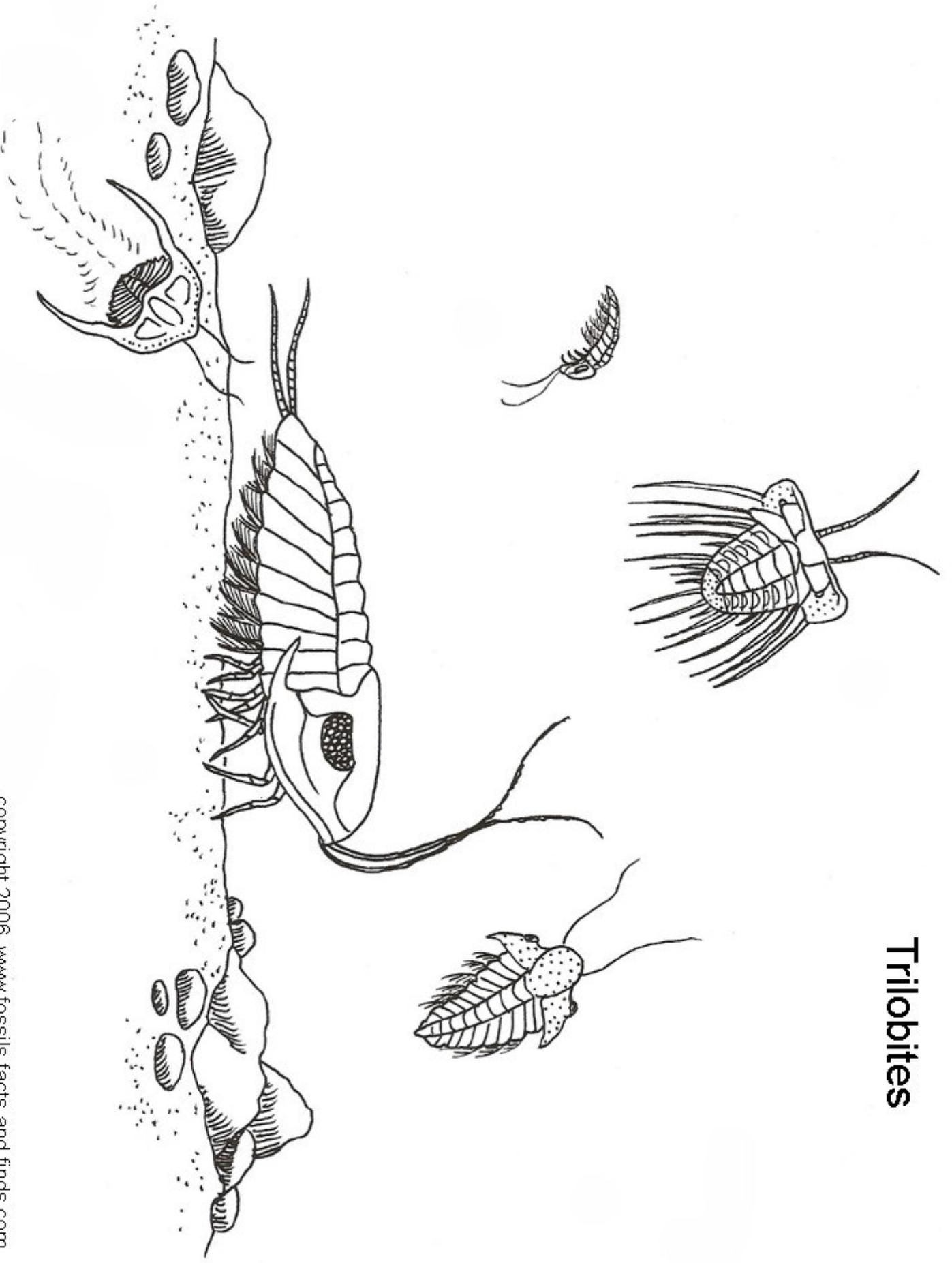
# *Ammonite stencil template*



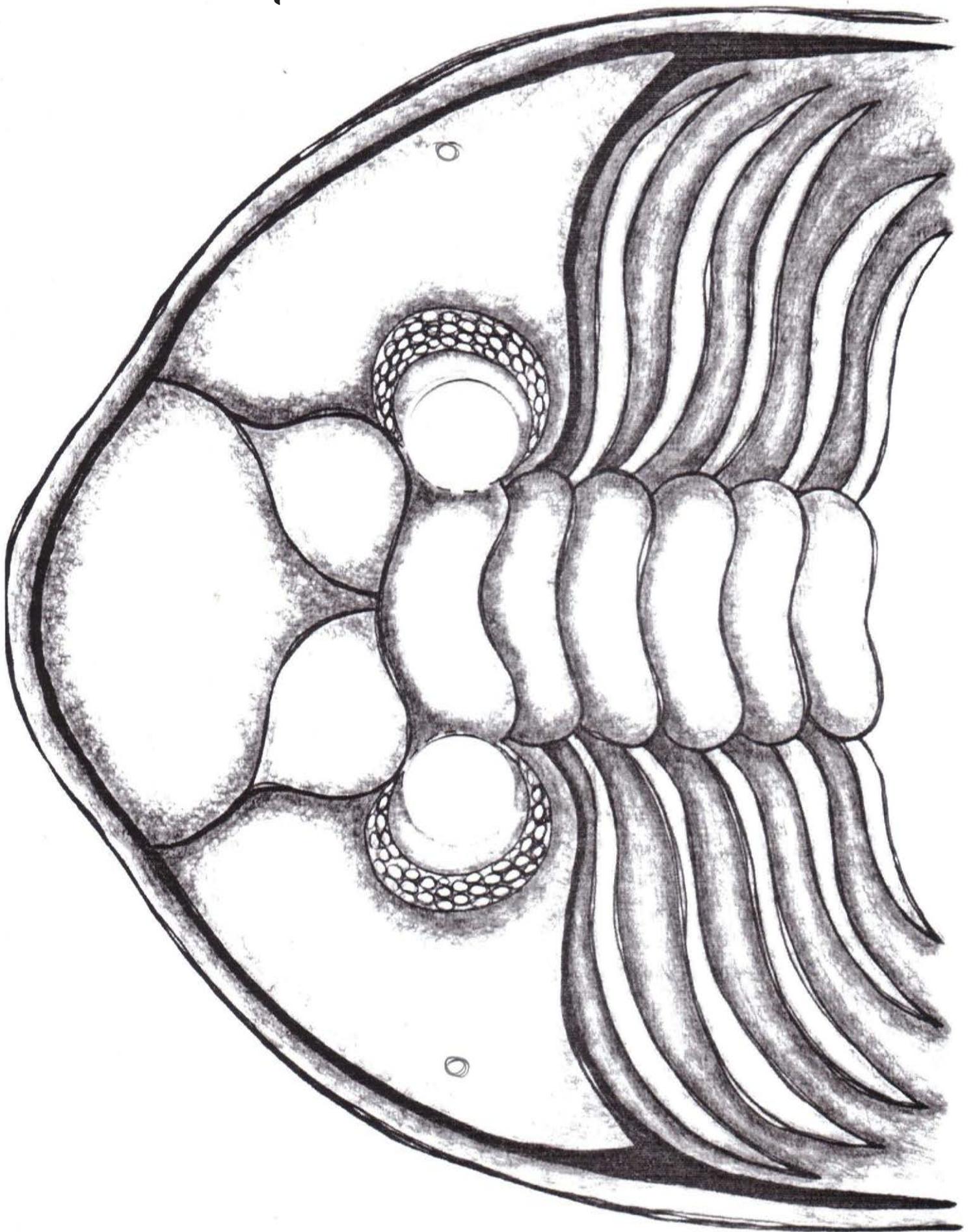
*Adults can print this out, laminate it and then cut out the shape to make the ammonite stencil.*

*Stencil in hand get painting on paper, card or fabric*

# Trilobites

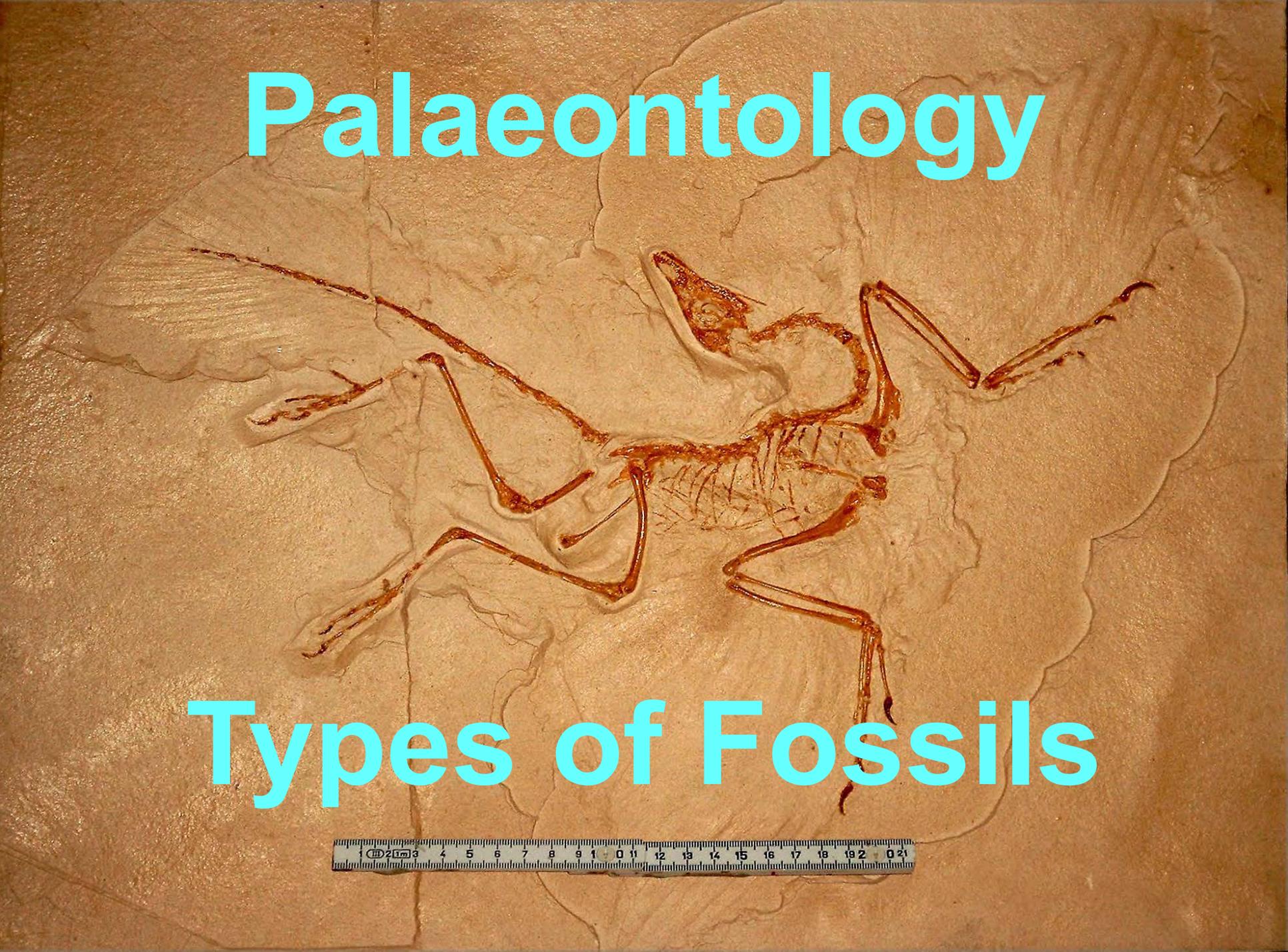


*Trilobite facemask*



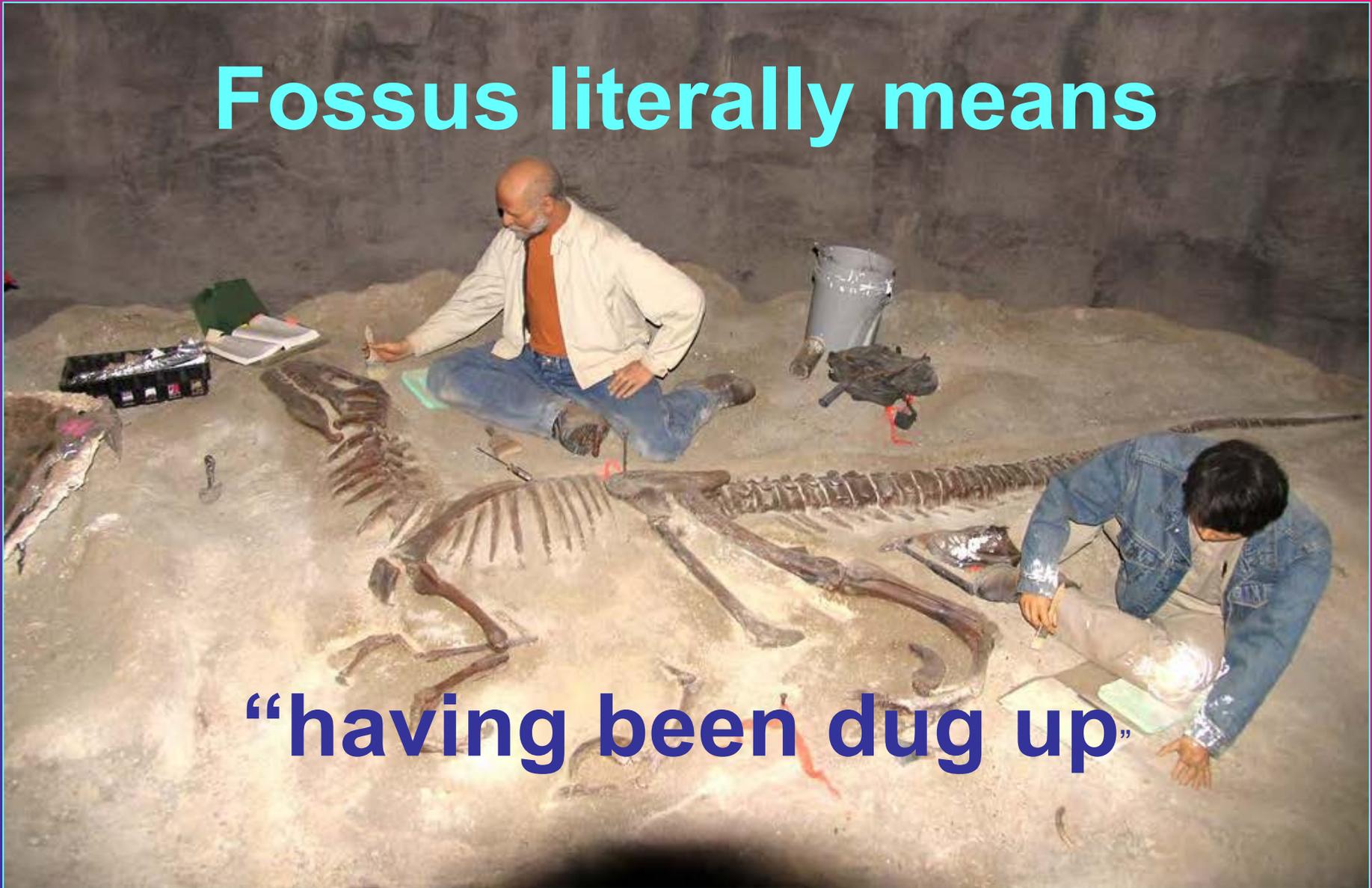
# Palaeontology

## Types of Fossils



**Fossil is derived from the latin fossus**

**Fossus literally means**



**“having been dug up”**

# Fossil - Definition

The remains of once living organisms



Or evidence of their activity

# Fossil - Definition

Must be older than 10,000 years

Lived before the end of the last Glacial period

If less than 10,000 years old it is a sub-fossil



Spruce tree carbon dated to 11,308 years Before Present



Bog man 'Red Franz' carbon dated at AD 200 to 400 from Neu Versen, GDR

# Types of Fossils 1- Body Fossils



The remains of teeth, bones, hair, scales, horn, shells and vegetation: leaves, branches, trunks



# Types of Fossils 2



## Trace Fossils



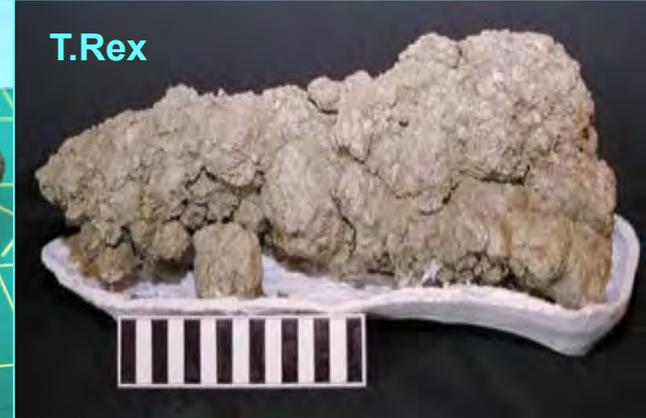
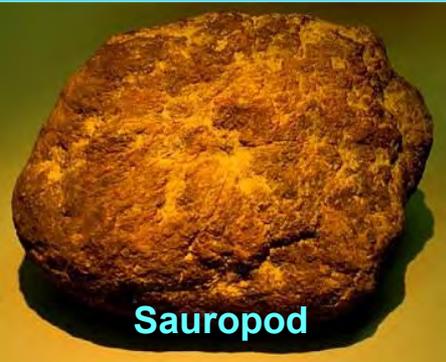
The preservation of burrows, tracks, footprints, trails, toothmarks, stone implements and gastroliths (stones from a reptile's stomach)



# Types of Fossils 3

## Coprolites

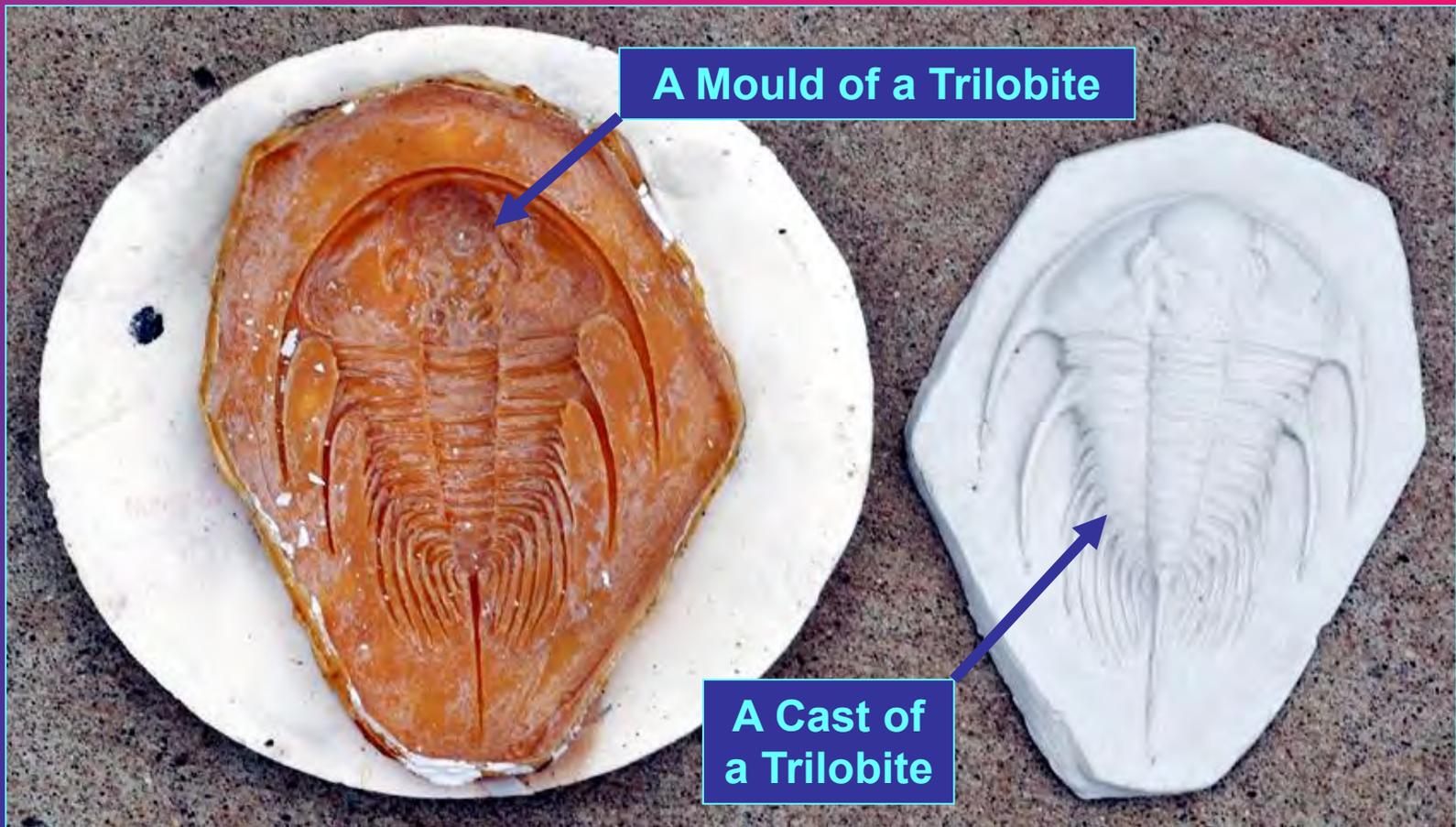
Fossilised droppings,  
excreta or faecal pellets.



Distinctive shapes or markings can  
provide information regarding the  
structure of the animal's alimentary canal

# Moulds and Casts

**Mould – A negative impression left after the organism has decayed away**



# Casts

A model of the organism in the form of a mineral, produced by the subsequent infilling of a mould by percolating waters with minerals in solution: calcite, quartz and iron pyrite being most common



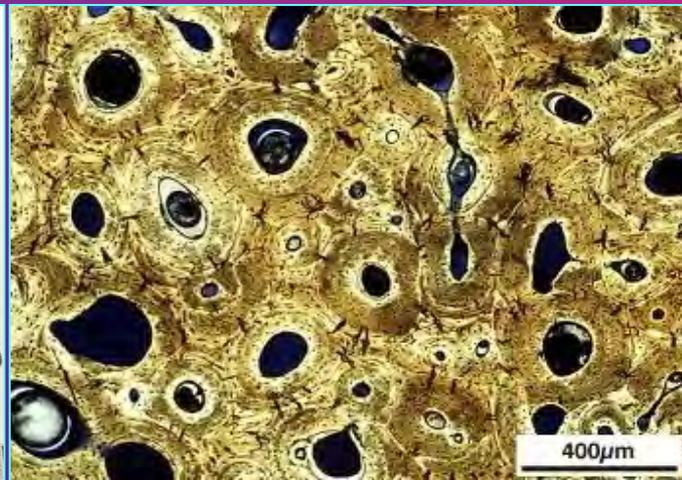
**Pyritized Ammonites from the Jurassic Coast, Lyme Regis**

# Preservation Potential of Vertebrates

Skeletons mainly bone made of collagen, a fibrous scleroprotein hardened by calcium phosphate

teeth coated in enamel

to a lesser extent hair, nails, claws, scales and horn.



# Preservation Potential of Invertebrates

**Invertebrates: shells and skeletons are most common and organisms include**

**Insects – chitin a leathery exoskeleton made of fibrous nitrogenous polysaccharide**

**Graptolites – Scleroprotein (fibrous insoluble protein)**



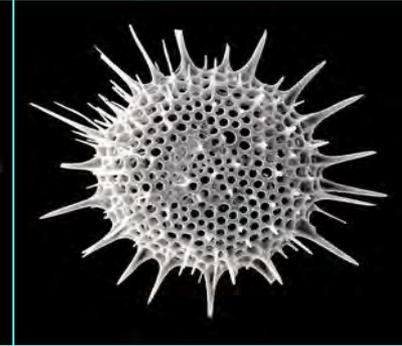
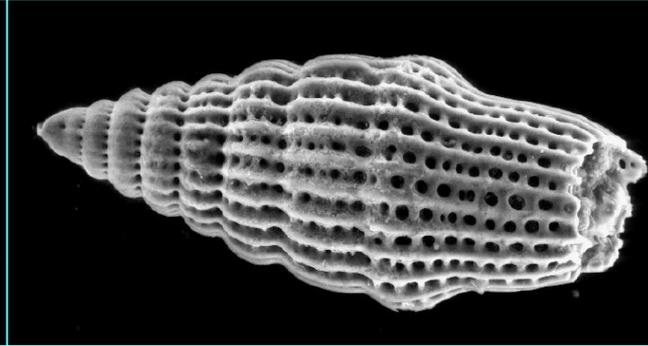
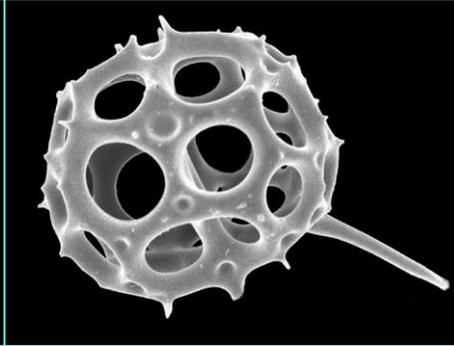
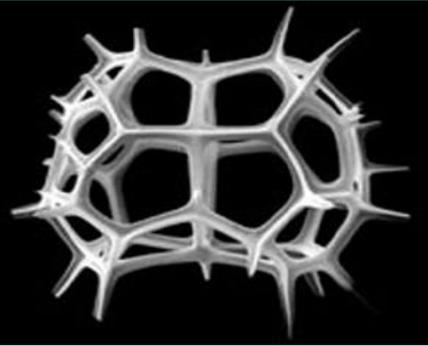
# Preservation Potential of Invertebrates

**Molluscs – Calcium carbonate (aragonite and calcite) crystals form outer protective shells.**



**Includes Bivalves, Gastropods and Echinoids**

# Preservation Potential of Invertebrates



**Sponges and Radiolaria**  
**Shells and spicules made of silica**



# Preservation Potential of Invertebrates



**Plants – Cellulose (a fibrous polysaccharide) and Lignin (the non-carbohydrate in woody tissues)**

