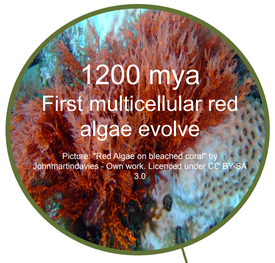
mya = million years ago



1200 mya
First multicellular red algae evolve

Picture: "Red Algae on bleached coral" by Johnmarindavies - Own work. Licensed under CC BY-SA 3.0

520-250 mya
Now extinct- 20,000 different species of these marine arthropods have been described from fossils

Trilobites

175 mya
Brown algae- the largest species can grow the width of a football pitch

Giant kelp

150 mya
Herbivorous dinosaur the size of a bus, with distinctive plates on its back.

Stegosaurus

70 mya
Large herbivorous dinosaur with head crest likely used for playing tunes.

Parasaurolophus

65 mya
Among the last non-avian dinosaurs, weighed as much as 2 tractors

Ankylosaurus

NOW

700 mya
One of the first animals with different organs, including a bell and tentacles. About 1500 species are alive today.

Jellyfish

540 mya
Marine invertebrate that secretes a hard skeleton and forms reefs

Weltsophyllia Brain Coral

540-250 mya
Now extinct- these were molluscs related to squid with straight shells that could be 2cm or 5m long.

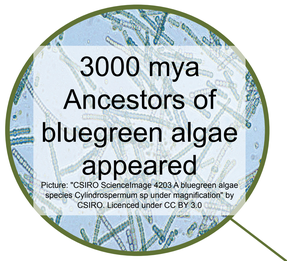
Orthocone

0.2 mya
Homo sapiens emerged only about 200,000 years ago and genetic data show we hybridized with *Homo neanderthalensis*

Mary Anning & Charles Darwin

1500 mya
Fungi diverge from other life, eventually colonising land 500 mya

Fly agaric mushroom

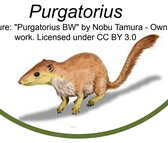


3000 mya
Ancestors of bluegreen algae appeared

Picture: "CSIRO ScienceImage 4203 A bluegreen algae species Cylindrospermum sp under magnification" by CSIRO. Licenced under CC BY 3.0

60 mya
Early primates diverged from mammals about 60 mya – this is *Purgatorius*

Picture: "Purgatorius BW" by Nobu Tamura - Own work. Licensed under CC BY 3.0



3400 mya
Fossils of microbial mats

Picture: "Runzelmarken" by Smithsdg - Own work. Licensed under CC BY-SA 3.0

400-60 mya
Related to squid and octopus, these are now extinct but their spiral shells are common fossils

Ammonite

280-265 mya
This theropsid has a sail on its back and died out 40 my before "true" dinosaurs appeared. It is more closely related to mammals than dinosaurs.

Dimetrodon

210 mya
Teleost fish emerged about this time, and now number 25000 species. These predators appeared 175 mya and there are about 800 species

Eel

470-248 mya
These were large aquatic predators called "sea scorpions" related to modern day spiders. They could be taller than a human!

Eurypterid

450 mya
These round, spiny, algae eating animals have 5 equal segments and there are about 950 species still alive today.

Sea urchin

300 mya
Winged insects appeared 300 mya and are still found today.

Dragonfly

230 mya
Therapods include *Tyrannosaurus rex*, *Allosaurus*. Their feathered relatives are still alive today, emerging about 65 mya

Penguin

160 mya
Flowering plants (angiosperms) were first found 160 mya but now make up ~80% of the earth's plant species

Sunflower

4600 mya
Earth forms

Picture: "Apollo17earth.white". Licenced under Public Domain

Put each toy in the right circle to discover when they evolved

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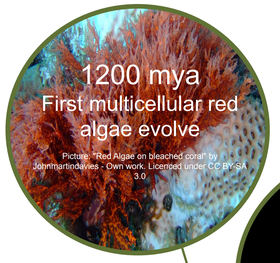
mya = million years ago

NOW

520-250 mya Trilobites
Now extinct, these are well represented in the fossil record and you can buy fossils on ebay. They existed in seas for more than 250 million years.

Picture: "Trilobite Heinrich Harder" by Heinrich Harder (1858-1935)



1200 mya
First multicellular red algae evolve

Picture: "Red Algae on bleached coral" by Johnmarindaves - Own work. Licensed under CC BY-SA 3.0

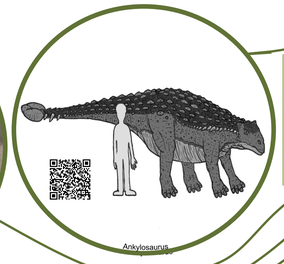
175 mya Giant kelp
A brown algae. Algae is an informal term to describe many not closely related organisms, but they all use photosynthesis.

Picture: "CAS Macrocystis 4" by I, EncycloPetey. Licenced under CC BY-SA 3.0

150 mya Stegasaurus
Herbivorous dinosaur the size of a bus, with distinctive plates on its back.

Picture: "Wookey Hole, dinosaur in the park. - geograph.org.uk - 1206637" by Ken Grainger. Licenced under

70 mya Parasaurolophus
Late Cretaceous herbivorous dinosaur with head crest likely used for playing tunes.



65 mya Ankylosaurus
Among the last non-avian dinosaurs, weighed as much as 2 tractors

700 mya Jelly fish
Are among the oldest multicellular organisms- about 1500 species are alive today.

540 mya Brain coral
Corals are colonies of small genetically identical polyps that secrete calcium carbonate

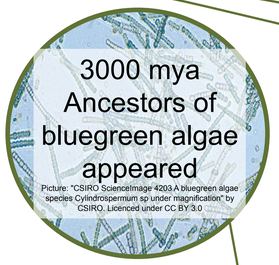
Picture: "Brain Coral (Lobophyllia sp.) (8480567963)" by Bernard DUPONT from FRANCE - Licenced under CC BY-SA 2.0

540-250 mya Orthocones
are now extinct- but are related to living Nautilus.

Picture: "Orthocones" by Archbob - http://www.goodfreephotos.com. Licenced under CC0

1500 mya Fungi
diverged from other life. They are an ancient and highly diverse group which include moulds, plant symbionts, and mushrooms. There are likely to be more than a million species.

Picture: "Amanita muscaria fly agaric 2"



3000 mya Ancestors of bluegreen algae appeared
Picture: "CSIRO ScienceImage 4203 A bluegreen algae species Cylindrospermium sp under magnification" by CSIRO. Licenced under CC BY 3.0

3400 mya Fossils of microbial mats
Picture: "Runzelmarken" by Smithsos - Own work. Licenced under CC BY-SA 3.0

4600 mya Earth forms
Picture: "Apollo17earth.white". Licenced under Public Domain

470-248 mya Eurypterids
were the largest known arthropods to have ever lived, and the first big predators.

Picture: "Haeckel Eurypterus tetragonophthalmus". Licenced under Public Domain

450 mya Sea urchins
These round, spiny, algae eating animals have 5 equal segments and there are about 950 species still alive today.

Picture: "Urchin" by Ratha Grimes from Seattle, WA, USA - Urchin. CC BY 2.0

300 mya Dragonfly
Insects are the most diverse group on the planet- half of all known living organisms are insects. Winged insects appeared 300 mya and are still found today.

Picture: "Blue Dragonfly at Hanging Rock State Park" by bobistraveling - Blue Dragonfly Hanging Rock SP NC 8291. Licenced under CC BY 2.0

400-60 mya Ammonites
are related to squid and octopus and species ranged from about 20cm in size, to about 2m

Picture: "Small ammonites preserved on rock" by Yoan

280-265 mya Dimetrodon
is more closely related to today's mammals, where as true dinosaurs are grouped with today's reptiles and birds.

Picture: "Dimetrodon gigashomog DB" by DiBgd at the English language Wikipedia. Licensed under CC BY-SA 3.0

310 mya Teleost fish
Green Moray Eel

Eels are a type of teleost fish, teleosts themselves evolved from jawless fish which were very common 540-250 mya

Picture: "Green Moray Eel (Gymnothorax funebris), Cozumel" by P.Lindgren - Own work. Licenced under CC BY-SA

230 mya Therapods emerged.
Birds are Therapods, as were Tyrannosaurs and Allosaurus. These dinosaurs didn't die out, but diversified 65 mya into the feathered birds we see today.

Picture: "Emperor Penguin Manchot empereur" by Photo © Samuel Blanc. Licenced under CC BY-SA 3.0

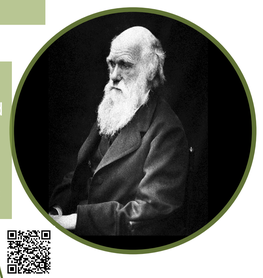
160 mya
Flowering plants (angiosperms) were first found and now make up ~80% of the earth's plant species

Sunflowers

Picture: "Sunflower from Silesia" by Pudelek (Marcin Szala) - Own work. Licensed under CC BY-SA 3.0

Homo sapiens emerged 0.2 mya
Mary Anning 1799-1847
Fossil hunter whose finds contributed to important changes in scientific thinking.

Picture: "Mary Anning by B. J. Donne"



Charles Darwin1809-1882
Naturalist who (with Alfred Wallace) described the theory of evolution by natural selection, establishing the idea that all of life has descended from a common ancestor.

Picture: "Charles Darwin 01" by J. Cameron. Licensed under Public Domain

Crochet the history of life

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