

Bealtaine – Gairdín Scoile na nDineasár

Paddy Madden continues his series of SESE tips

# May

Hands-on: the school dinosaur garden

What is it?

An area or areas on the school grounds or indoors with plants which were growing in the age of the dinosaurs.

Age of dinosaurs

Mesozoic Era	248-65 MYA
Triassic period	248-206 MYA
Jurassic period	218-144 MYA
Cretaceous period	144-65 MYA

Period

Triassic

Jurassic

Cretaceous

Plants

Cycads, club mosses, horse-tails, ferns, tree ferns, monkey puzzle, yew, ginkgos, conifers, ginkgos, cycads, club mosses, horsetails, ferns. Beginning of flowering plants  
Above plus flowering plants such as conifers, laurels, magnolias, pines, palms.

Some dinosaur facts

Most were plant-eaters. It is estimated that c.65% were herbivores and 35% were carnivores. Herbivores had blunt teeth for gripping leaves. Examples: Triceratops, Stegosaurus, Diplodocus, Apatosaurus. Carnivores had large jaws, sharp teeth, sharp claws, keen eyesight, a large brain and a good sense of smell.

Examples: Allosaurus, Megalosaurus, Tyrannosaurus rex, Giganotosaurus. Origin of word, 'dinosaur'. Deinos (terrifying); Sauros (lizard). The largest dinosaur measured over 30m in length and was up to 15m tall e.g. Argentisaurus. The smallest was about the size of a hen e.g. Compsognathus. Fossilised dinosaur dung is called a coprolite.

Literacy/Litearthacht

- ↓ **Ferns/Raithneach:** Ancient plants that reproduce by spreading spores. *Plandaí ársa a shíolraíonn trí spóir a scaipeadh.*
- ↓ **Fossils/Iontais:** Any remains, impression, or trail of a living thing of a former geologic age as a skeleton, a footprint, etc. *Aon iarsma, lorg nó rian de ní beo ó ré gheolaíoch eile – cnámharlach, lorg coise, mar shampla agus arail.*
- ↓ **Acidic soil/Ithir aigéadach:** Soil which has a pH below seven. It is suitable for growing such plants as azaleas, rhododendrons and camellias. *Ithir le pH faoina seacht. Oiriúnach do phlandaí áirithe – asáilianna, róslabhrais agus caiméilia, mar shampla.*
- ↓ **Dinosaurs/Dineasáir:** Reptiles which dominated the earth for 165 million years. They became extinct 65 million years ago. *Reiptíl a bhíodh i gceannas ar an talamh do 165 milliún bliain. Díothaíodh iad 65 milliún bliain ó shin.*  
*Buíochas do Marie Whelton (MIE) don aistriúchán*

Resources

Websites mentioned plus:

- ↓ [www.krolltravel.com/stories/ireland-valentia-tetrapod-trackway-footprints.html](http://www.krolltravel.com/stories/ireland-valentia-tetrapod-trackway-footprints.html) Information and pictures on tetrapod trackway on Valentia Island.
- ↓ [www.google.ie/#q=kidsgardening.org](http://www.google.ie/#q=kidsgardening.org) Ideas on children's dinosaur garden.
- ↓ <http://dictionary.reference.com/browse/fossil> Definition of fossil.
- ↓ [www.enchantedlearning.com](http://www.enchantedlearning.com) Good website with interesting information on dinosaurs.

Triceratops

Magnolia buds

Animated T Rex at British Natural History Museum

## Growing dinosaur plants in the school grounds

Hart's tongue fern

Ferns

*Pteridophyta* Fossil records of ferns from 360 mya. Current ones date from Cretaceous, 145 mya. Easy to grow. Prefer semi-shade. Add lots of garden compost, well-rotted dung, leaf-mould or bark mulch to soil when planting. Keep well-watered first year if weather is dry. Mulch every year with any of above.

Tree fern

*Dicksonia Antarctica* Native of Sout East Australia. Grows c.2.5cm a year. Likes slightly acidic soil so add some ericaceous compost at planting time. Water every day during warm weather. Will withstand winter temperatures to -5°. Protect below that by inserting straw into centre of plant. Place three or four bamboos around trunk and cover with fleece. (The canes allow air to circulate). Leave old fronds on to protect from cold. Feed with tree fern food.

Wollemi pine

*Wollemia nobilis* Oldest fossil of this tree dated to 200 mya. Considered extinct until specimens found in New South Wales in 1994 by David Noble. Around 100 survive in the wild. Efforts are being made to conserve it by growing them in many locations around the world. Needs slightly acidic soil and 50% shade. Frost-hardy to minus 10°.

Adding to the effect

- ↓ **Dinosaur mural:** a wall or panel fence near dinosaur garden could be painted with dinosaurs and dinosaur plants.
- ↓ Sculptures of dinosaurs could be arranged around this area.
- ↓ Make dinosaur footprints in concrete slabs for children to follow.



Tyrannosaurus rex model, Johnstown Garden Centre

Maidenhair tree

*Ginkgo biloba* 200 million years old species. Easy to grow. Add grit to 50% compost and 50% soil when planting. This tree can grow to 25m. Plant smaller ones such as *Ginkgo biloba* 'Saratoga' which only grows to 3-4m if space is limited. *Ginkgo biloba* 'Barabits' will grow in a container.

Dogwood

*Cornus spp.* Grow *Cornus alba*, *sericea* or *sanguinea* for winter stem colour. Prune these species back hard every year in February. Plant in full sun for showier stems.

Horsetails

*Equisetum arvense* Primitive plant. Reproduces from spores. Very invasive and shouldn't be planted in the school grounds. Stems could be kept in a water jar to teach children about this interesting plant.

Make dinosaur eggs

- ↓ Design big dinosaur eggs using papier mache. Make the paste by half filling a mug with flour. Mix a heaped dessertspoonful of salt into the dry flour. Add water and stir until the mixture is the consistency of yoghurt.
- ↓ For the centre of an egg scrunch newspaper into a tight ball c.30 cm long and 25 cm wide. Hold this together with masking tape. Paste on strips of newspaper c.2.5cm wide until the newspaper is completely covered with two or three layers. Leave to dry and paint white or yellow. To make the eggs waterproof apply a layer of neutral shoe polish or clear acrylic varnish all over them.



Model of dinosaur nest (British Natural History Museum)

Magnolia

*Magnolia stellata* or *soulangiana* Fossil records date back to 100 mya. Appeared before bees so many pollinated by beetles. Beautiful flowers in spring. Named after French botanist, Pierre Magnol. Needs full sun, sheltered position. Requires little maintenance.

Magnolia soulangiana

Monkey puzzle

*Araucaria araucana* Native of Chile and Argentina. Slow growing but can grow to c.40m. Can live for 1,300 years. Well-drained soil. Sharp edges to leaves so protect from children with tree-guard.

Cycad

*Cycas revoluta* Can be expensive. Common during Jurassic. Extremely slow growing. Keep indoors; bring outside in frost-free period. Keep moist. Use cactus compost. Feed with slow-release fertiliser. Leaves and seeds poisonous.



**PADDY MADDEN** lectures on SESE in MIE. He gives short courses to whole staffs on school gardening and also visits schools through the Heritage in Schools Scheme. His book, *Go Wild at School*, has recently been reprinted. Available from paddy.madden@mie.ie for €18 (Includes p&p).