

Darwin and evolution – lesson plan assignment



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Time constraints meant I couldn't cover everything I wanted to cover during 'Topic'. Other investigations that may have been included are: Artificial Selection Why are cows and sheep not extinct? Why are there so many kinds of dog? Where do red, blue and black roses come from? What are yellow bananas? Sexual Selection Why do peacocks -and many other birds - have such beautiful plumage?

A predator can find them easily, so why have they evolved that way? A festive' example (cough): Why do reindeer have antlers? 1 Do Mammals Have Emotions? Do mammals experience fear, happiness, sadness, grief? I hope to address these and other questions during Science. In the meantime, here is a collection of books which you may or may not find useful: Richard Adkins' book is a hardcore response to all who question evolution as scientific fact. Chris Stringer works at the National History Museum and is often called upon by the media to explain the origins of modern humans.

His *The Origin of our Species* is a popular and engaging read which sets out to answer all the big questions in the debate about our origins. The graphic adaptation of *Origins* by Keller and illustrator Nicolle Rage Fuller is a marvelous version of Darning's seminal work. The illustrations are drawn from Darning's own words, including his diaries and letters. The book is brought up to date with a graphic account of recent breakthroughs in evolutionary science. It would make a wonderful gift for teenagers and adults with an interest in evolutionary theory. I love it. The nutty looking book by Murphy is funny, informative and perfect for Yr 5/6 +.

I would highly recommend it for use when planning the ' Life' units in the Science SOW. The final book would be enjoyed by Yr/6 and anyone requiring a gentle introduction to Darwin and his ideas. The first lesson is a look at the Genesis account and other creation myths, but don't let that fool you into thinking this plan is creationism or so-called ' intelligent' design in disguise, it most definitely isn't! It is a celebration of Charles Darwin and evolutionary theory. I believe Darning's " dangerous idea" is one of the most important topics we'll ever teach our kids. I hope you enjoy teaching it. Kind regards,

Lou Armor Darwin, Evolution and the Origins of Life L 1/2 - All Things Bright And Beautiful Success Criteria I can write a creation myth. Intro Entry song: Sing the first verse of All Things Bright And Beautiful. What is the hymn about? Why do you think it was written? Does anybody know of any other songs, rhymes, etc that describe the rich diversity of life found on earth? Show: How God created the world. [Http://www. Youth. Com/watch? V= 7_Acquiesced=](http://www.Youth.Com/watch?V=7_Acquiesced=) related What is the little girl attempting to explain? Where did she get the explanation from? Display the relevant Genesis passage as a timetable.

What do you think about the Genesis story as an explanation of life? Are there any oddities about the Genesis account? How old do you think the world is according to Genesis? (Creationists believe the world is only 6000-10, 000 years old). Activity Entry question: All cultures have creation myths. Do you know of any? Greek, Egyptian, Norse? Rudyard Kipling? How many creation myths do you think there are? Is there any reason why any one story should be the ' correct' one? Part 1 Story Telling Task Show the clips,

complete with a brief discussion of their story features/structure between each.

Record the features, etc on the board for later use. How elephant got his trunk http://www.Youth.Com/watch?V=bishop_ICQ How Zebra got her stripes <http://www.Youth.Com/watch?V=Mississippi=related> Why Bat flies at night <http://www.Youth.Com/watch?V=pedophilia+pop=related> LA - Referring to the board prompts and pictures children plan and write their own story book from ONE of Elephant, Zebra and Baboon, Koala or Bat. MA/HA- + those LA who wish to do so - work in pairs and write an original and creative story for ONE of the following: How Tiger got her stripes How Peacock got his feathers

Leopard got his spots How Kangaroo got her pouch How Tortoise got his shell How bear got her stumpy tail How Encourage children to act out their story as a means of composing it and telling it. Inform HA children that they will be telling their story during 'Myth Time'. Activity continues overleaf. Part 2 Outdoor Task: Critical Thinking entry: a) Observation and discussion walk around the top field/Dingles Dell/flower beds, etc. Ask critical questions - lots of why and how - about 'supernatural design', leaf structure, complexity, etc without straying into Darwin and evolution.) Inform hillier that scientists estimate the world to be about 5. 1 billion years old. Create the 'The Lo Roll Timeline'. Say, Wow! ' Discuss. Take photos. C) Uri-peg two of the lines, remove their post-its and add them to the Zero end of one of the other lines so that you have one long line made up of three of the original lines. Line 1 (with it's post-its in place) + Line 2 + Line 3 = The Age of the Universe. Now take a look at the red edge! So where would the Genesis 6, 000 - 10, 000 <https://assignbuster.com/darvin-and-evolution-lesson-plan-assignment/>

years be now!!!!? Microscopic! Assessment and Look Forward IQ: Did anybody notice anything odd about Day 1 and Day 4? E below) What are your thoughts about the Genesis story in light of making the ' Lo Roll Timeline? Why would an all powerful, caring and gentle God create a wasp which seeks only to burrow into the bodies of living caterpillars with the intention of eating them from the inside? What is the point of it? For the next lesson: Ask children to bring in as many toy animals and small world vegetation as they can carry. Ask children to begin making a list in their Diaries of the types of living things they see day to day and to bring it in next lesson. Onto been - Those Diaries may have a use after all.

Talking with friends and family Does science have anything to say about life on earth? Can anyone think of any really old things that have been found, in a rock or on a beach, say? Scientific evidence tells us that the earth is over 5 billion years old. Life first originated in the oceans 3. 4 billion years ago. The dinosaurs died out 65 million years in the past. The first modern humans (Homo Sapiens) appeared 100, 000 yr ago but the recorded history of humans stretches back only 10, 000 years in time. Find out more about these things. Talk about these things with a friend for next time.

Begin making your own Evolution Journal at home (It could be a combination of literacy homework and voluntary work, so there could be an incentive of some sort I. E. Credits). Lesson Resources Writing and drawing materials. Lo rolls, tents pegs, knitting needles, long nails, post-it notes. Teaching Support Creation myths: [http://www. Magical. Com/creationism. HTML](http://www.Magical.Com/creationism.HTML) AY: God supposedly creates light and separates light from darkness, and day from

night, on the first day. Yet he didn't make the light producing objects (the sun and the stars) until the fourth day.

So how could there be "the evening and the morning" on the first day if there was no sun to mark them? Myth Time: Split the children into groups for 'Myth Time' on the carpet and around tables, etc. HA children read/act out their story to their group. On completion - if time allows - children move to another story teller. Further stories, including, Elephant, Zebra, Bat, can be told at the end of each day over the course of the week. L 3-4 Endless forms most beautiful and most wonderful None as such. The aim here is to inspire awe and wonder. Learning about classification is a bonus! 3 Introduction Endless forms most beautiful and most wonderful. Entry activity: Children place their toys and small world materials on their tables. Entry phrase: Write the above phrase on the board and read it aloud using a dramatic voice to inject a sense of wonder. Ask the children if they can figure out what this exquisite phrase refers to. Ask: If forms' means 'kinds of, what do you think is being described? (The above phrase is taken from the conclusion of Darwin's *On The Origin of Species By Natural Selection*, 1859).

Entry Sq: How many kinds of living organisms exist upon on the earth? 4 How many have been made extinct? 5 Task 1: Using toy animals, small world vegetation and large sheets of paper children to begin to make a (HUGE!) list of living organisms (use this term repeatedly throughout term). Prompt children for as wide a variety of living organisms as possible. Can children see any similarities or differences between the organisms listed/shown? Task 2: Using toy animals, small world vegetation and large sheets of paper: How can living organisms be grouped into different things?

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Children use their own grouping criteria to group them. What discoveries have they made? What problems ensue? Help by providing prompts: weeds, trees, flowers, insects, micro-organisms, marine, land and air life. How far can children keep going with the groups? Would a Venn diagram help? (MA/HA math children especially). Do any of the living things live and exist in 2 or 3 environments? (amphibians, flying insects, seabirds, otters, turtles, etc) Outdoor Competition: Teams fill a matchbox with as many different living organisms as possible.

Discuss the results. Tell me something about the lists and diagrams we have made. Help children to develop a sense of awe and wonder at the diversity of life. Finish with Where do these endless forms most beautiful and most wonderful come from? ' How is such diversity possible? Inform children that they will be learning more about the classification of living organisms during Science. For the next lesson: Ask children to bring in: a toy dinosaur, animal or doll, a box for the toy, a simple gardening tool for digging e. G. A small fork or trowel.

Darning's pod: Charles Darwin loved listening to music and dancing with pretty ladies - I know, I know but that's because people only ever see the photos of him as an old man - so we are going to begin a collection of music that Darwin would have on his pod were he alive today. Who would like to be the collector of the pod music? You will be responsible for overseeing the downloading of any requested amp track and recording the name of it's contributor. To be a contributor you will have to pay its cost - via my Amazon account - which will probably be between 50-app per track.

For example, I will pay for Louis Armstrong's 'What a wonderful World', price app. At the end of the topic we shall celebrate Darwin and have his pod playing in the back ground whilst we do so. Collectors and contributors – in role biz. The great man – could present Charles Darning's 'Galapagos Island Discs' to parents during our class-based assembly. Ask children to think about these and other questions and to discuss them with their friends before the next lesson. Ask the children to wonder what they might be learning about next time? Large sheets of paper, post-its, card for labels and drawing materials.

The scope for CIT use in every one of these lesson is enormous – interactive timeliness, natural selection games, movies, etc but the notebook are too small, too unreliable, and too few in number for all classes to be using simultaneously. And '1 between 2' tends to cause more problems than it solves? Perhaps Joy could ad many of the links to our lass web pages so kids can explore them at home? [Http://en. Wisped. Org/wick/Charles_Darwin](http://en.wisped.org/wick/Charles_Darwin) See also the resources I have put on the R: drive. In addition I have several books about Darwin and evolution which people may wish to borrow. L 5/6 – Darning's great adventure.

I know what fossils are, how they are made and what they can tell us. I can describe what Darwin saw on his voyage aboard the Beagle and some of the difficulties he faced collecting his specimens . Charles Darning's great adventure. Entry question: Hold up a Ole note and ask: Who is this? What is she famous for? Turn it over and ask Who is this? What is he famous for? Explain that he is probably the most important scientist who ever lived. And he's British! Explain that Charles Darning's theory of evolution was the first <https://assignbuster.com/darvin-and-evolution-lesson-plan-assignment/>

scientific theory to explain the appearance of not just some, but all living species.

Darwin's theory told us how all living things are related. It also explained the origin of new species, why some species became extinct and the reason for the great variety of life on earth, why there are so many "endless forms most beautiful and most wonderful". Entry Sq: Who was Charles Darwin? Give children a potted history of his early life. See below) Display pictures of the young Darwin - he was only 25 - the map of Beagle's Journey and tell the story of the Beagle's voyage and of the many wonderful things Darwin observed. Talk about Darwin's fossil finds.

Do you know what fossils are? Do you know where they are found?

[Http://www. Youth. Com/watch? V= KxDQwBZJ908](http://www.Youth.Com/watch?V=KxDQwBZJ908)= related Show fossil pictures and discuss. What are fossils? What do they tell us? What do marine fossils tell us when they are found at the top of a mountain? Describe and illustrate Darwin's fossil finds. It may help yr to remind them of their 'Mountains' epic and mountain rock layers are formed. Display the Homologous Structures picture. Chi work with a friend to solve the puzzle illustrated. What are the skeletons evidence of? What can be inferred from them? Remind chi about inferring from a text). Outdoor Task: Play at being paleontologists and fossil hunters. Children make fossils outdoors. (A day or two later they again play at being paleontologists and dig up another's fossil, taking care not to damage it, just as real scientists do). Take photos. Part 2- Darwin's observations caused him to think very deeply about Evolution. Evolution is about change over time. Specifically, it is about how species

change over time. Emphasis the excitement, wonder and scientific endeavourer of observation in such weird and wonderful environments.

What practical and/or scientific problems do you think Darwin faced? Watch the clip and answer these questions: How did such a wide variety of living organisms first appear on the Galapagos? After arriving what did many species begin to do? [Http://science. Discovery. Com/videos/Galapagos-beyond-Darwin-Charles- Darwin. HTML](http://science.discovery.com/videos/Galapagos-beyond-Darwin-Charles-Darwin.html) What does ‘ adapting mean? Can you give me an example from the clip? How do some of the organisms survive? [Http://science. Discovery. Com/videos/ Galapagos-beyond-Darwin-creatures-of-Galapagos. HTML](http://science.discovery.com/videos/Galapagos-beyond-Darwin-creatures-of-Galapagos.html) The things that help an organism survive are called traits’ and they can be passed on.

Most traits are inherited (but not all), a bit like passing on hair and eye color. Show photos of a family if it helps clarification. Ask children to think about what the fossil record and the Genesis account tell us about the age of the earth and all that live upon it. What do they make of the fact that both geology and the fossil record tell us that the earth is billions of years old, et the bible says the earth was created only 6000 years ago? Which account is based on evidence and which account is simple belief?

Help children to distinguish between scientific facts based upon other facts and overwhelming evidence, and stories which require only belief. A detective’s Who done-it’ puzzle may help (Sherlock Holmes was incorrect: it’s inductive not deductive reasoning). For the next lesson: Ask children to bring in a yoghurt tub, tongs, pegs, ladles and anything else that can be used as a pretend bird beak. The wider the range of implements the better.

We also need plastic cups cut in half, very thin milk straws remind me to get some from Nursery and Reception waste bins! , long balloons, Jelly beans, smarmiest, a couple of tins of fruit cocktail, soft fruits, berries, fruit Juice, chick peas, peas, seeds, etc for food and at least one washing up bowl and a cereal or fruit bowl per 4 children. Ask children to bring in handfuls of the food stuff and can chuck it in a class box ready for the lesson. Talk about fossils. Find more clips and videos about fossils and the Galapagos Islands and watch them together. Make one at home and put a photo of it in your Journal. Draw pre-historic fossils such as Trilobites, too. Plaster of Paris or similar.

Toy dinosaurs and dolls (undressed). Digging implements. Small brushes. A cardboard box for each toy brought in. A tent peg or nail. Post-it notes. Why are there no transitional fossils? Is a question a parent may ask. Here is an answer put in terms of a family photo album. http://www.Youth.Com/watch?V=Qywh7FOeKJO=mfu_in_order=UL This one shows evolutionary theory being used to predict which fossils should be found. Fabulous examples shown. It also explains why a crop-duck fossil (half crocodile, half duck) will never be found?

The crocodile is a favorite line of 'criticism' by creationists and dim celebrities). http://www.Youth.Com/watch?V=I_Dad_Eight=autoplay=ULQywh7FOeKJO=5=1 Re: Science: Children will be learning more about the variation, adaptation and habitats of living organisms during Science. However, their intellectual Journey will travel beyond the dreary diet of tautologies and soporific science found in the CA sow. L 7/8 - Evolution,

Natural Selection and “ the struggle for survival”. I can describe/explain how species change over time.

I can describe/explain how inherited traits enable a species to survive.

Natural Selection and “ the struggle for survival”. Entry Joke Two friends are in the woods when a bear starts chasing them. The first friend begins to run. The second shouts, Mimi can’t outrun a bear! ” The first friend looks over his shoulder and replies, “ I don’t have to. I only have to outrun you. ” Is there anything we can learn from this Joke? Entry Quotation It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change. Display the above.

Can children illustrate its meaning with an example? Polar bears? Brown hares? Cactus? Explain that organisms have adapted to survive in many different environments. The question of how they evolved (changed) was Darning’s gift to the world. Ask: What does ‘ evolution’ describe? Recall that evolution is about change. Explain Darwin was not the first to propose that species evolve (change) but he was the first to explain it. At least the first to explain it in a way that made sense and held up to scientific evidence. How does change occur? Darning’s explanation is called natural selection.

It is such a simple (but profound) incept that we can describe it in one sentence: Those living things born with traits that give some advantage in survival and reproduction, will tend on average to leave more offspring that have those very traits. That’s it. That’s why species evolve (change). That’s why large amounts of time can result in large amounts of change. So what might ‘ advantages’ look like? Display and explain Darning’s finches using

the picture from the Natural Selection PPTP. Slide. Inform children that they are about to take part in the ' Bird Beak Struggle'. Task 1: In groups of four, children play ' Bird Beak Struggle'.

Ask: Some of your ' beaks' were more successful at obtaining food than others. Why was that? What were the advantages of having beak X? What were the disadvantages of having beak X?