THEORY OF EVOLUTION

BY; MICHAEL AND PAIGE

FIRST THINGS FIRST

- THERE ARE MANY THEORIES AND IDEAS OF EVOLUTION THAT MANY SCIENTIST STILL HAVE NOT PROVEN YET. EVOLUTION IS A MYSTERY ITSELF.
- KEY MA=1,000,00 YEARS KA= 1,000 YEARS YA= YEARS

FAMOUS THEORIES

- JOHN BAPTISTE LAMARACK PROPOSED THE THEORY THAT ALL ORGANISMS CHANGED OVER GENERATIONS.
- GREGOR MENDAL OBSERVED THAT TRAITS FROM PARENTS APPEAR IN THEIR YOUNG OFFSPRINGS.
- CHARLES DARWINS FAMOUS THEORY WAS THAT ANIMALS ADAPT TO SURVIVE WHEN MAJOR CHANGES IN THE ENVIROMENT WERE AT AFFECT,.

IMPORTANT VOCAB

- FAVORABLE TRAITS: TRAITS THAT MAKE AN ORGANISM ABLE TO SURVIVE IN A PARTICULAR ENVIRONMENT. ANIMALS WITH NO FAVORABLE WILL MOST LIKELY BECOME EXTINCT.
- NATURAL SELECTION: NATURE ONLY DECIDES WHO HAS WHAT TRAIT.
- EVOLUTION ADAPTION: WHEN AN ANIMAL CHANGES OVER TIME TO ADAPT TO THE ENVIRONMENT.

THE EVOLUTION TIMELINE

THE HADEAN EON

- 4600 MA EARTH BEGAN APPROXIMATELY 4.6 BILLION YEARS AGO ATTACKED BY METEORS.
- 4500 MA EARTH COLLIDES THE PLANET THEIA FORMING MOONLET PARTICLES FROM THE 2 PLANETS WHICH EVENTUALLY JOINED TOGETHER TO FORM THE MOON. THE MOON SETS UP THE LIVING CONDITIONS FOR FUTURE LIFE FORMS.
- 4500M MA- 2500MA THE FIRSTS SIGNS OF LIVE HAS BEEN PROJECTED. RNA MOLECULES, WHICH ARE ALMOST LIKE DNA MOLECULES HAD SELF REPRODUCE FORMING THE LIFE. THE RNA MOLECULES WERE LATER TAKEN OVER BY DNA MOLECULES. ALSO CELLS THAT LOOK A LOT LIKE PROKARYOTES WERE FORMED. THEY WERE THE FIRST LIFE FORMS TO USE CARBON DIOXIDE FOR BREATHING OUT AND WERE ALSO THE FIRST TO STORE SELF NATURAL GLUCOSE OR SUGAR. BOTH STILL USED BY ORGANISMS TODAY,

THE ARCHEAN EON

- 3800MA-3500 MA. THE LAST COMMON ANCESTOR FROM ALL CURRENT ORGANISM IS BELIEVED TO HAVE LIVED.
- 3500 MA. FROM THE LAST COMMON ANCESTOR THE SPLIT BETWEEN BACTERIA AND ARCHAEA OCCURS. BACTERIA BECAME THE FIRST ORGANISM TO MAKE SELF FOOD FROM PRE-FORMS OF PHOTOSYNTHESIS. FORMED LARGE AMOUNT OF OXYGEN
- 3000MA -2500MA CYANOBACTERIA WAS A KIND OF BACTERIA EVOLVED FROM BACTERIA LEARNING TO DEVELOP PHOTOSYNTHESIS. BECAUSE OF THIS OXYGEN BECAME A WASTE PRODUCT AND SOME ORGANISMS WERE POISONED. ONLY OXYGEN CONSUMERS WERE LEFT ON EARTH. THIS WAS KNOWN AS THE GREAT OXYGENATION EVENT.

PROTEROZOIC EON

- 1850 MA PROKARYOTES EVOLVED TO THE FIRST FORMS OF EUKARYOTIC CELLS. THESE CARRIED CELL MEMBRANES WHICH PRODUCE MANY DIFFERENT CELL FUNCTIONS.
- 1200MA-1100MA SEX FIRST APPEARED INCREASING THE RATE OF EVOLUTION. ALSO MULTICELLAR OR 2 CELL ORGANISMS EVOLVED. THE FIRST MULTCELLAR WAS THE RED ALGAE. FINALLY THE FIRST SIGNS OF DINOFLAGELLATES OF MARINE PLANKTON APPEARS.
- 850MA-560MA THE SNOWBALL EARTH HAS OCCURRED DURING THIS TIME PERIOD. MANY MULTCELLULARS AND THE PHYLA AND FUNGI ADAPTED TO THE NEW COLD CONDITIONS.
- 550MA-540MA FLATWORMS WERE THE FIRST ORGANISMS PROJECTED TO HAVE A BRAIN. OTHER WORMS WERE FUNCTION AS A KIDNEY.

THE PALEOZOIC ERA

- 535 MA MANY PHYLUM THAT LIVED IN WATER CONDITIONS FORMED INTO THE FIRST FORMS OF MARINE ANIMALS WHICH INCLUDE THE CHORDATES AND THE ATHROPODS.
- 530 MA THE FIRST KNOWN PROJECTED ON EARTH WERE PRODUCE WHICH SUGGEST THAT EARLY ANIMALS AND PREDATED PLANTS WERE DEVELOPED.
- 525MA MORE PHYLUM EVOLVED TO GRAPTOLITES OR THE PREDATED SQUID AND OCTOPUS.
- 485MA-350MA MANY TRAITS THAT CURRENT FISH HAVE NOW WERE DEVELOPED INCLUDING JAWS,TEETH. OTHER ANIMALS LIKE SCORPIONS AND CRABS WERE DEVELOPED.
- 395MA. HEXAPODS/SIX LEG ANIMALS LIKE MITES, TICKS, HARVESTMEN WERE DEVELOPED AND THE FIRST KNOWN TETRAPODS/FOUR LEG ANIMALS WERE PROJECTED TO DEVELOP.
- 384MA FIRST SIGNS OF INSECT LIVE WAS DEVELOPED. SOME WERE LATER FLYING. SHARKS BECAME THE TOP PREDATOR AND VEGETABLES WERE DEVELOPED.
- 330MA-275MA THE FIRST AMPHIBIANS AND REPTILES WERE DEVELOPED DURING THE TIME PERIOD.

THE MESOZOIC ERA

251.Ma was basically the formation of marine ecosystems in which gave the ocean predators, this later formed into what we know as the food chain.

200 Ma the occurrence of viruses became global, and yet after so many years viruses are still misunderstood.

155Ma. The first blood sucking insects became present, known as ceratopogonids.

130 Ma. Was the uprising of the Angiosperms, which is a plant that attracts organisms, to spread pollen. It is said that because of this plant caused a major step through animal evolution.

68Ma. Which included the dinosaur Tyrannosaurus, it is known to be the first species of Triceratops.

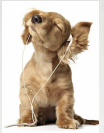
THE CENOZOIC ERA.

65.Ma occurred what is known as Cretaceous-paleogene extinction event, which was when a meteor came plugging into the ground about 65.5 million years ago, which killed dinosaurs, and all the animals that we believed existed at that time.

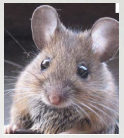
63Ma included the uprising of the creodonts, which was an important part towards the development of carnivore animals.

5 Ma introduced the sloth, and the herbivores such as zebras, elephants, lions, dogs etc.

30 Ka, which was the extinction of the first official dog which was known as Neanderthals.



THE EXPERIMENTS



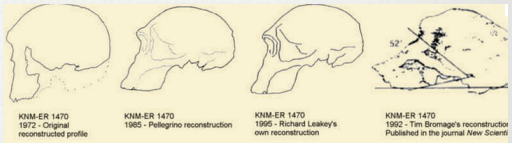
- THE TESTING OF THE EVOLUTION OF MAN IS KNOWN AS EVOLUTIONARY BIOLOGY. THE EVOLUTION OF MAN IS MOST OFTEN LOOKED UPON IN A LABORATORY. THERE, PEOPLE REGULATE, AND STUDY THE EVOLUTION OF MAN, AND ANALYZE ANY SUDDEN CHANGES THROUGH THE MALE GENDER. EXPERIMENTS THAT PEOPLE HAVE DONE TO TEST THERE THEORY ARE THROUGH PLANTS AND ANIMALS. THEY MAINLY USED DOGS DUE TO THEIR BREEDING VARIETY. ANOTHER BIG EXPERIMENT THAT WAS COMMON WAS THE ANALYZATION OF HOUSE MICE. THIS WAS BROUGHT TO ATTENTION IN 1993 BY A MAN NAMED THEODORE GARLAND.

EVIDENCE OF EVOLUTION

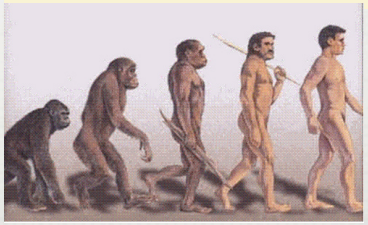
- ☐ FOSSILS: FOSSILS PROVIDE A RECORD AND BODY BONES OR PAST AND CURRENT EARTH ORGANISMS. EVOLUTION CAN BE SEEN LOOKING AT FOSSIL HISTORY.
- ☐ DNA: MANY ORGANISM HAVE VERY SIMILAR MATCHING DNA.
- ☐ PHYSICAL FEATURES: MANY PAST AND PRESENT ORGANISMS HAVE SIMILAR BODY STRUCTURES.
- ☐ PHYSIOLOGICAL FEATURES: ORGANISMS HAVE SIMILAR BODY PARTS THAT DO THE SAME THING WITH ONE ANOTHER.
- ☐ CELLS: SOME CELLS RUN IN THE SAME PATTERN WITH MANY ORGANISM.

THE GRAPH.

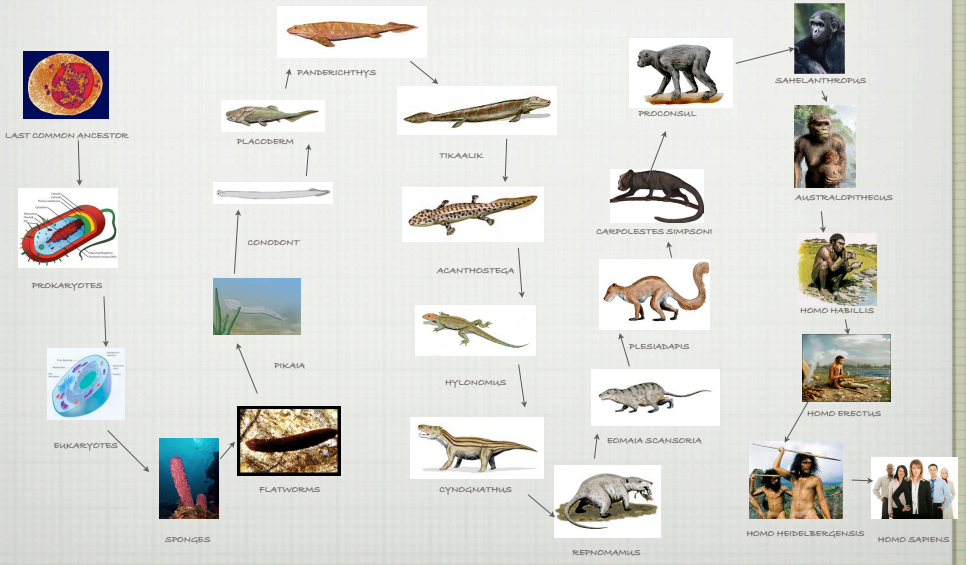
- UNFORTUNATELY WE WEREN'T ABLE TO FIND ANY SPECIFIC DOCUMENTATION ON ACTUAL DATA TAKEN FROM EXPERIMENTS, BUT WE DID COME ACROSS SOME GRAPHS THAT SHOW THE EVOLUTION OF MAN OVER TIME.



The Evolution of KNM-ER 1470

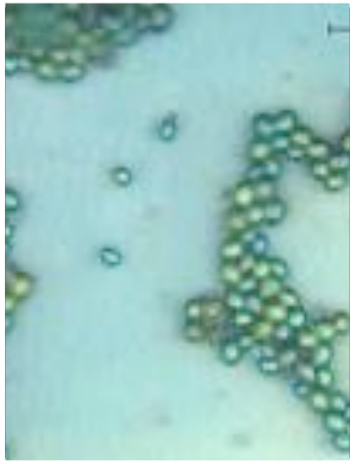


HUMAN EVOLUTION



THE BIG IDEA.

- THE BIG IDEA IS THAT ALL ORGANISMS HAVE EVOLVED AND CHANGED TO ADAPT TO THE NEW ENVIRONMENT. ALTHOUGH MOST IDEAS ARE JUST THEORIES AND HYPOTHESIS, ORGANISMS HAVE BEEN AROUND FOR 4600 MILLION YEARS OR 4.6 BILLION. THERES A MAJOR THEORY THAT ALL LIFE FORMS HAD COMMON ANCESTORS LIKE THE LUCA, LAST UNIVERSAL COMMON ANCESTOR. THEN ORGANISMS BROKE FROM THEM AND THOSE ORGANISMS BACK THEN HAVE ADAPTED TO MANY DIFFERENT ENVIRONMENT CHANGES LIKE THE SNOWBALL EARTH AND GREAT OXYGENATION EVENT.
  ITS HARD TO IMAGINE US HAVING ANY RELATION WITH MICE OR AN ELEPHANT OR A TIGER, BUT BELIEVE IT IN A WAY WE ARE LIKE COUSINS. HUMANS LIKE ALL ORGANISMS HAVE ADAPTED AND EVOLVE TO BECOME WHAT THEY ARE NOW.



LETS DO SOME EXAMPLE.....

- 1. A MOTHER LIZARD WHO LIVED NEAR THE RIVER. LATER THE TIDE IN THE RIVER INCREASE MAKING IT LESS LAND AND MORE WATER. IF THE MOTHER LIZARD HAD A SON WHO COULDN'T SWIM THIS IS AN EXAMPLE OF ?
- 2. THE REASON HUMANS ARE HUMANS NOW IS BECAUSE?
- CHARLES DARWIN'S THEORY WAS?

ANSWERS

- NON FAVORABLE TRAIT. THE LIZARD IS IN A MOST WATER ENVIRONMENT WITH LESS LAND EVERY YEAR. LATER THAT LIZARD WILL DIE DUE TO IT BEING UNABLE TO SWIM
- TO ADAPT IN THE NEW ENVIRONMENT. HUMANS USE TO BE LITTLE CELLS THAT LATER ADAPT TO DIFFERENT CLIMATE CHANGES.
- THAT ANIMALS EVOLVE TO SURVIVE. DARWIN WENT TO ECUADOR TO STUDY WHY ANIMALS CHANGED

CITATIONS/URLS

- STUDY ISLAND
- HTTP://I.DAILYMAIL.CO.UK/I/PIX/2011/10/06/ARTICLE-2045992-0E41D38A00000578-878_468X366.JPG
- HTTP://UPLOAD.WIKIMEDIA.ORG/WIKIPEDIA/COMMONS/THUMB/5/5A/AVERAGE_PROKARYOTE_CELL-_EN.SVG/300PX-AVERAGE_PROKARYOTE_CELL-_EN.SVG.PNG
- http://www.google.com/imgres?um=1&hl=en&sa=N&qscrl=1&biw=1257&bih=605&tbm=isch&tbnid=oQVzFfXrGqs8UM:&imgrefurl=http://www.terrebonneonline.com/b2eukpro.htm&docid=V6pfwzwJaAhdaM&imgurl=http://www.terrebonneonline.com/cell2.jpg&w=432&h=311&ei=hXOLT5XhK6rt0gGhwqjYCQ&zoom=1&iact=hc&vpx=86&vpy=305&dur=700&hovh=190&hovw=265&tx=117&ty=74&sig=110272631431067067676&page=1&tbnh=112&tbnw=157&start=0&ndsp=19&ved=1t:429,r:7,s:0,i:150

- http://www.amnh.org/exhibitions/permanent/humanorigins/history/images/md/tchadensis.jpg
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