

CSE-102 Class 8 Notes

CSE 102 - Class 08

Grandpa Erasmus Darwin

Very over weight - Had to cut table out so he could get to food

Darwin's dad was also a Doctor

Charles Darwin was sent to become a doctor however he didn't like blood

Dropped out of medical school

Liked to shoot birds because he loved worms - birds eat worms

He was sent off to become a preacher

Church was paid for by government so he didn't have to do anything to get paid

He couldn't find a parish to work for so his dad pulled some strings to get him a job on the Beagle sailing around the world.

It didn't pay but it fed you

5 year voyage

he brought the Bible and Lyell's book "Principals of Geology"

Churches at this time were teaching "Fixidity of the Species"

God created every single species exactly as they are seen today

As Darwin sailed around he observed that this was not true

It was his job to collect bugs and birds for a museum

Darwin said Lyell's book changed his life forever

Captain Fitz Roy was a very standoffish Christian that insisted he was right on everything and drove Darwin even further away instead of trying to win him back with gentler Christian love

Galapagos Islands

Giant tortoises - live on land

turtles - live in water

Sailors would catch the tortoise and bring them on board ship so they could eat them later.

Almost wiped them out

Darwin noticed the Finches on each island had a different beak or feet than the others

Some lived in trees and some on the ground

Some ate insects and some ate fruit

14 varieties of Finches

Originally blown off South America in a storm and landed on islands

Artificial Selection - Selective breeding (Dogs)

Natural Selection - (Finches)

Darwin breed pigeons and got hundreds of variations - still pigeons

Looked at his observations and thought "imagine what nature could have done in millions of years"

Rabbits in Alaska have more fur

Dear in Canada are larger

Eskimo's are usually short and stinky

Each adapted best for its environment

Cross breed Killer whale and dolphin and the offspring was fertile

Tiger and Lion - Liger or Tigon depending on father

Horse and Donkey - mule (Usually sterile)

Kinds can bring forth

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Original rose had 5 peddles

Someone kept mutating it until he got one with the many curled up pedals the way it is now

Micro evolution is observed

farmers depend on this to make a living

cows

Guernsey - Good Milk

Angus - Good Beef

Brahman - weather tolerance, Long life

Brangus - ok beef ok life longevity - used to breed more Angus

If all you found were bones to chiuaua and Great Dane you would never think they were the same kind of animal

fossils of caterpillar and butterfly

maggot and fly

tadpole - frog - (tale - 2 legs + tale - 4 legs + tale - 4 legs)

butterfly can reproduce - caterpillar can not

sexual dimorphism

Male and female have very different bone structure

Sea lion - small female large male

Black widow spider - large female small male

Find their fossils you would think they were different species

10 times found in Genesis

"After its Kind"

Robert Gentry - Oakridge laboratories

Lost his job due to writing his findings that questioned evolution

Micro - Macro Bate and Switch

New car for \$10 - Get there - were out of them but here is the \$20,000 model

Give example of Micro in text books and tell them that Macro happened without evidence

Variations are limited

1000 lb hog - never get it as big as Texas

Release it back into wild it won't survive

Variations usually cause problems and need to be tended to or it will die

Pesticide kills 99.9% of roaches

0.1% survive because they were already immune and produce immune offspring

Not new information -

Northwest passage searchers that died were found frozen

They already had resistance to penicillin - had not yet been invented yet.

1785 James Hutton - "Theory of the Earth" - caused doubt of age of Earth

1830 Charles Lyell "Principals of Geology" - Took away flood

Darwin - "The Origin of Species : By Means of Natural Selection or The Preservation of Favored Races in the Struggle for Life" - Took away God

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75% of kids from Christian homes will lose their faith within the first year of a secular college

Evidence for Evolution

Fossils

Structure

Molecular biology

Dating

Development

Natural Selection

Assumptions

Mutation will make something New

Beneficial mutation will take over entire population

Mutations do not create new material they just scramble existing

Polyploidy - Doubling of chromosomes

makes something twice as big - still same information

5 legged bull

Short legged sheep

Double headed turtle

4 winged fly

Game mix letters in CHRISTMAS to spell words

Never get Zebra Xerox or Queen

Natural selection works however it has nothing to do with evolution

Natural Selection can only work on biological properties that exist. It can not create properties to meet needs.

No matter how much you may want to grow a third arm, another pair of hands, a third eye, or pair of wings it won't happen.

Natural Selection is quality control

GM assembly line - picks out every defect and repairs it

How long till the car turns into airplane

tautology - sentence that means nothing

Why did this one survive - Its the fittest

How do you know its the fittest - It survived

Whale goes through school of fish - Survival of the luckiest