FOSSILS

1. MAKE A COLLECTION OF AT LEAST TEN DIFFERENT KINDS OF FOSSILS AND LABEL EACH WITH ITS NAME AND GEOGRAPHIC LOCATION.

2. HAVE A BRIEF DEFINITION OF EACH OF THE FOLLOWING IN YOUR NOTEBOOK:
A. GEOLOGY
B. FOSSILS
C. CATASTROPHISM
D. PALEONTOLOGY
E. GRAPTOLITE
F. TRILOBITE
G. DINOSAUR
H. MAMMOTH
I. MASTODON
J. CRINOID
K. LINGULA
L. CALAMITE
M. FORAMINIFERA
N. RADIOLARIA
O. PALEOZOIC
P. MESOZOIC
Q. CENOZOIC
R. PLEISTOCENE
S. PALEOBOTANY
T. PELECYPOD
U. BRACHIOPOD

3. VISIT A MUSEUM WHERE FOSSILS ARE ON DISPLAY AND MAKE A WRITTEN OR ORAL REPORT OF YOUR TRIP.

4. DESCRIBE THE PROCESS OF THE PROPER REMOVAL OF DELICATE SPECIMENS. TELL HOW A SKELETON OF A DINOSAUR OR OTHER GIGANTIC FOSSIL WOULD BE REMOVED. WHY SHOULD BEGINNERS NOT REMOVE SUCH SPECIMENS? WHAT SHOULD BE DONE BY THE BEGINNER WHEN HE FINDS WHAT IS OBVIOUSLY A VALUABLE FOSSIL?

5. EXPLAIN THE DIFFERENCE IN THE ACCOUNT SCIENTISTS GIVE FOR THE PRESENCE OF FOSSILS AS RELATED BY EVOLUTIONISTS AND CREATIONISTS.

6. FROM THE BIBLE AND WRITINGS OF ELLEN G. WHITE CITE STATEMENTS TO EXPLAIN THE ORIGIN OF THE FOLLOWING:
   A. COAL
   B. PETROLEUM
   C. FOSSILS
   D. LIMESTONE

RELATIVE GEOLOGICAL TIME SCALE

EON	ERA	PERIOD	EPOCH
PHANEROZOIC	CENOZOIC	QUATERNARY	HOLOCENE PLEISTOCENE
		TERTIARY	PLIOCENE MIOCENE OLIGOCENE EOCENE PALEOCENE
	MESOZOIC	CRETACEOUS	LATE EARLY
		JURASSIC	LATE MIDDLE EARLY
		TRIASSIC	LATE EARLY
	PALEOZOIC	PERMIAN	LATE EARLY
		PENNSYLVANIAN	LATE MIDDLE EARLY
		MISSISSIPPIAN	LATE EARLY
		DEVONIAN	LATE MIDDLE EARLY
		SILURIAN	LATE MIDDLE EARLY
		ORDOVICIAN	LATE MIDDLE EARLY
		CAMBRIAN	LATE MIDDLE EARLY
PROTEROZOIC	LATE MIDDLE EARLY		
ARCHEAN	LATE MIDDLE EARLY		
PRE-ARCHEAN			

A. GEOLOGY: THE STUDY OF THE EARTH'S CRUST, ITS HISTORY, COMPOSITION, AND FORMATION, AS WELL AS ROCKS, MINERALS AND FOSSILS.

B. FOSSILS: FROM THE LATIN WORD "FOSSILIS," MEANING "DUG-UP," A FOSSIL IS THE REMAINS OR EVIDENCE OF PLANTS AND/OR ANIMALS THAT HAVE BEEN PRESERVED IN ROCK IN THE EARTH'S CRUST.

C. CATASTROPHISM: A THEORY THAT VAST GEOLOGICAL CHANGES TAKE PLACE SWIFTLY, RATHER THAN THROUGH GRADUAL EVOLUTIONARY PROCESSES

D. PALEONTOLOGY: THE STUDY OF FOSSILS AND THE LIVES OF FOSSILIZED ORGANISMS.

E. GRAPTOLITE: AN EXTINCT MARINE COLONIAL ANIMAL ABUNDANT IN THE EARLY PALEOZOIC, FOUND OFTEN AS SAW-TOOTHED CARBON PATTERNS IN SHALE.

F. TRILOBITE: EXTINCT MARINE ARTHROPODS FROM THE EARLY PALEOZOIC, CHARACTERIZED BY A THREE-PART BODY (HENCE TRI-LOBE-ITE) ENCASED IN A CHITINOUS EXOSKELETON.

G. DINOSAUR: EXTINCT PRIMARILY TERRESTRIAL HERBIVORES OR CARNIVORES OF THE ORDER SAURISCHIA (THEROPODS AND SAUROPODS) OR ORNITHISCHIA (ORNITHOPODS, STEGOSAURS, CERATOPSIANS, AND ANKYLOSAURS) FROM THE MESOZOIC ERA.

H. MAMMOTH: EXTINCT LARGE, ELEPHANT-LIKE HARRY MAMMALS FROM THE PLEISTOCENE EPOCH, CHARACTERIZED IN PART BY RIGID MOLAR TEETH.

I. MASTODON: EXTINCT LARGE, ELEPHANT-LIKE HARRY MAMMALS FROM THE MIOCENE AND PLEISTOCENE EPOCHS (AND BEYOND IN NORTH AMERICA), CHARACTERIZED IN PART BY KNOBBY MOLAR TEETH (HENCE THE NAME MASTA MEANING NIPPLE AND DON MEANING TOOTH).

J. CRINOID: FROM THE PHYLUM ECHINODERMATA, CRINOIDS ARE COMMONLY CALLED SEA LILIES, LOOKING SIMILAR TO A FLOWER. CRINOIDS ARE COMPOSED OF THREE MAIN SECTIONS, A HOLD-FAST, A STEM MADE UP OF CALCAREOUS DISC SEGMENTS (COLUMNALS) AND A CALYX, THE "FLOWER" ON TOP.

K. LINGULA: A POINTED OR TEAR-DROP FINGERNAIL-SHAPED INARTICULATE BRACHIOPOD (MEANING THAT THERE IS NO HINGE LINE OR HINGE TEETH, BUT RATHER A MUSCLE HOLDS THE VALVES TOGETHER). ANIMALS OF THE GENUS LINGULA ARE STILL AROUND TODAY.

L. CALAMITE: FOSSIL PLANTS OF THE GENUS CALAMITES, GROWING TO 15 METERS TALL. CALAMITES ARE RELATED TO MODERN-DAY HORSETAILS, HAVE REGULARLY SPACED NOTES ON THE TRUNKS WITH VERTICAL RIBS BETWEEN, AND ARE A MAJOR COMPONENT OF COAL.

M. FORAMINIFERA: ALSO CALLED FORAMS FOR SHORT, THESE MICROFOSSILS ARE OF TINY PROTOZOA WHICH SECRETED CHAMBERED SHELLS MADE OF CHITIN, SILICA OR CALCIUM CARBONATE.

N. RADIOLARIA: ANOTHER MICROFOSSIL PROTOZOA WITH A SILICA SHELL IN A RADIATING PATTERN.

O. PALEOZOIC: LITERALLY MEANING "ANCIENT LIFE," THE PALEOZOIC ERA BY THE GEOLOGICAL TIME SCALE RUNS FROM APPROXIMATELY 600 MILLION YEARS AGO TO 230 MILLION YEARS AGO. MUCH OF THE FOSSIL RECORD FOR THIS ERA IS MARINE ORGANISMS, AS WELL AS THE EMERGENCE OF LAND PLANTS AND REPTILES.

P. MESOZOIC: LITERALLY MEANING "MIDDLE LIFE," THE MESOZOIC ERA BY THE GEOLOGICAL TIME SCALE RUNS FROM APPROXIMATELY 230 MILLION YEARS AGO TO 63 MILLION YEARS AGO. THIS IS THE AGE OF DINOSAURS.

Q. CENOZOIC: LITERALLY MEANING "RECENT LIFE," THE CENOZOIC ERA, BY THE GEOLOGICAL TIME SCALE, RUNS FROM APPROXIMATELY 63 MILLION YEARS AGO TO THE PRESENT. THIS IS THE AGE OF MAMMALS.

R. PLEISTOCENE: THE EARLIEST EPOCH WITHIN THE QUATERNARY PERIOD OF THE CENOZOIC ERA. BY THE GEOLOGICAL TIME SCALE, THE PLEISTOCENE EPOCH LASTED FROM APPROXIMATELY 2 MILLION YEARS AGO TO 10,000 YEARS AGO. THIS IS ALSO KNOWS AS THE ICE AGE.

S. PALEOBOTANY: THE STUDY OF FOSSIL PLANTS.

T. PELECYPOD: BIVALVE MOLLUSKS COMPRISING THE OYSTERS, CLAMS, MUSSELS AND SCALLOPS.

U. BRACHIOPOD: A BILATERALLY SYMMETRICAL (PERPENDICULAR TO THE HINGE) BIVALVE WITH ONE SHELL LARGER THAN THE OTHER.

Describe the process of the proper removal of delicate specimens: If the fossil is delicate or crumbling, apply a hardener first, allow it to soak into the fossil pieces to stabilize the specimen. Carefully remove excess substrate with a chisel or small hammer before removing the specimen. Wrap the specimen in cloth or newspaper and place in a collecting bag with a label including location, date and if possible age of rock layer from which it is collected.

Tell how a skeleton of a dinosaur or other gigantic fossil would be removed: Large bones and skeletons are removed by first encasing them in a plaster cast. An area around the bones is dug out, and wet tissue paper is placed over the fossil parts themselves. The burlap or cloth strips, soaked in plaster, are laid out over the specimen and substrate to encase the object in a plaster jacket. Once dried, the entire jacket is removed, after being marked with date, location and other field notes.

Why should beginners not remove such specimens: Improper removal, disturbing the pattern of the fossils, and damaging the specimen all reduce the scientific value of the specimen.

What should be done by the beginner when he finds what is obviously a valuable fossil: They should mark the spot and notify the local university or museum.

Explain the difference in the account scientists give for the presence of fossils as related by evolutionists and creationists: Fossils generally occur when an organism is rapidly buried by sediment, and slowly decays from within, leaving a mold, and occasionally trace materials. Evolutionists consider fossils a record of millions of years of activity on the earth, while creationists consider most fossils to be the result of (and evidence for) the flood as recorded in Genesis. It is this difference between gradualism and catastrophism that accounts for the major difference in views, as it also reflects a substantially different perception of the age of the earth.

From the Bible and writings of Ellen G. White cite statements to explain the origin of coal, petroleum, fossils and limestone: Patriarchs and Prophets chapters 7 and 8, and Genesis chapters 6-8 discuss the record of the flood, and represent the catastrophic viewpoint of the formation of many geological and paleological formations. While the Bible does not offer specific insight into the formation of fossils, coal, petroleum or even limestone, Ellen White, through inspiration and interpretation, describes the catastrophic upheaval taking place on the earth during the flood, accounting for the layers of fossil organisms, of coal beds and petroleum deposits, and the sedimentation of limestone.

Other useful sources:

http://www.mineralwellsfossilpark.com/what-can-i-find.html
http://www.lib.utexas.edu/geo/ggtc/ch5.html
http://www.austinpaleo.org/index.html
http://catnapin.com/fossil/fossilindex.htm
http://paleo.cc/paluxy/gr-fossils.htm
http://www.roadtripamerica.com/gettingoutthere/texas-fossicking-road-trip.htm
http://www.bcfas.org/museum/meander/meander_files.html