MARCH THROUGH TIME -- GEOL 250 LABORATORY INSTRUCTIONS

1) Using your lab manuals and any other paleontological books on hand, identify each of the fossils according to the following key:

PHYLUM—"CLASS"

ECHINO—PELM	"STALKED ECHINODERMS"—includes crinoids, blastoids, cystoids
ECHINO—ELEU	"VAGILE ECHINODERMS"—includes echinoids, asteroids, ophiuroids, holothurians
BRACH—ARTIC	ARTICULATE BRACHIOPODS
BRACH—INART	INARTICULATE BRACHIOPODS
MOLL—GASTRO	SNAILS
MOLL—BIVALV	CLAMS
MOLL—CEPHAL	NAUTILOIDS, AMMONOIDS, BELEMNOIDS
MOLL—OTHER	TUSK SHELLS, POLYPLACOPHORANS, ETC.
BRYOZOA	MOSS ANIMALS
CNID—RUGOS	RUGOSE (OR TETRA OR HORN CORALS (SOLITARY & COLONIAL))—pre Triassic only
CNID—TABUL	TABULATE CORALS-- pre Triassic only
CNID—OTHER	HEXACORALS, OCTOCORALS, HYDROIDS, ETC.—usually post Permian
ARTH—TRILO	TRILOBITES
ARTH—OTHER	CRABS, LOBSTERS, SHRIMP, OSTRACODES, INSECTS
CHORDATA	FISH, REPTILES, AMPHIBIA, MAMMALS, BIRDS
ALGAE	STROMATOLITES, ONCOLITES, ETC.
VASC—PLANT	LEAVES, STEMS, ROOTS, FLOWERS, POLLEN
OTHER	DIATOMS, CONODONTS, SPONGES, GRAPTOLITES

NOW STOP! CHECK YOUR WORK BEFORE MOVING ON TO THE INTERPRETATION!!!

2) Tabulate each fossil group for each period. Tally the total number of tallied specimens for each period. Calculate the relative percentage of each fossil group for each period.

3) Tabulate the relative percentage of each phylum for each period.

4) Tabulate the relative percentages for each of the three major faunas for each period according to the following criteria:

ECHINO-PELM	=	Fauna 2
BRACH-ARTIC	=	Fauna 2
MOLL-GASTRO	=	Fauna 3
MOLL-CEPHAL	=	Fauna 2
BRYOZOA	=	Fauna 3
CNID-TABUL	=	Fauna 2
ARTH-TRILO	=	Fauna 1
CHORDATA	=	Fauna 3
VASC-PLANT	=	Fauna 3

ECHINO-ELEU	=	Fauna 3
BRACH-INART	=	Fauna 1
MOLL-BIVALV	=	Fauna 3
MOLL-OTHER	=	Fauna 3
CNID-RUGOS	=	Fauna 2
CNID-OTHER	=	Fauna 3
ARTH-OTHER	=	Fauna 3
ALGAE	=	Fauna 1
OTHER	=	Do not tabulate

5) Produce three separate line graphs on the provided charts for each of the above tallied specimen sets.

6) Interpret your graphs based on the basic principles of paleoecology, evolution, and extinction we studied in class.

#	Rock type	Age	ID (see sheet)	Comments