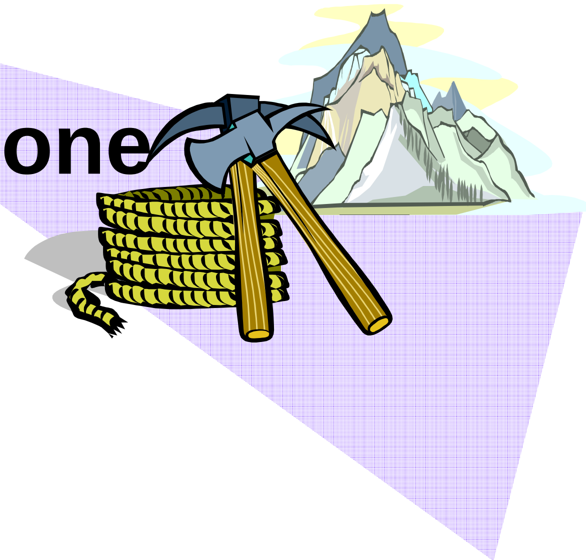
ES – Activity #24

Stories in Stone



QUESTION: How do scientists find fossils?

MATERIALS:

- digging stick
- fossil bearing rock *
- Fossil Identification sheet
- newspaper
- putty knife
- sand paper
- screwdriver
- toothbrush

**Available from NASCO Science*

PROCEDURE:

1. Use the sandpaper and putty knife to carefully scrape the top surface of the rock sample until you see a fossil. ***(Be sure to push the putty knife away from your body and hand.)***
2. Continue this process until you can see all the fossils present in the rock.
3. Once all the fossils are partially exposed, use your digging stick, screwdriver and toothbrush to carefully remove more of the rock material until the fossils are well exposed. ***(Be sure push the digging stick or screwdriver away from your body and hand.)***
4. Look at the Fossil Identification sheet and identify the fossils present in your rock. Record these in the Data section.
5. When all the fossils are nicely exposed, make a drawing of the rock and the fossils it contains in the Data section.

DATA: See next page

QUESTIONS:

1. What is a fossil?

2. What conditions are necessary for fossils to form?

3. Why is it important to use care when exposing the fossils?

4. What information can scientists learn from the fossils they find?

5. In what type of rock are most fossils found?

6. How do fossils provide support for the story of the Flood in the Bible?

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DATA:

Fossils Present	Drawing of Fossil Rock

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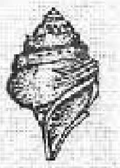
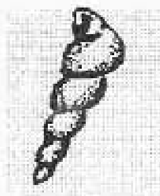
Your fossil bearing' rock' will contain four real fossils from the different phylum on this sheet.

Major Group: Mollusk



Specific Group: Gastropod
Age: Paleozoic to Recent
Niche: Bottom scavenger
Habitat: Marine, freshwater, land

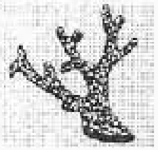


Interesting facts:
- Most gastropods secrete a shell
- Adapted to land and freshwater
- Related to slugs, snails, conchs
- Name means "belly-footed creature"

Major Group: Plant

Specific Group: Cordaite
Age: Pennsylvanian to Recent
Niche: Producer, base of the food web
Habitat: Forests and swamps

Interesting facts:
- Wood petrifies when sediment or volcanic ash quickly covers trees
- Cycads were similar to modern palm trees and cordaites were primitive conifer trees



Major Group: Byrozoan
Specific Group: Colonial
Age: Paleozoic to recent
Niche: Filter feeders
Habitat: Attached to bottom in shallow marine and freshwater environments

Interesting facts:
- A reef dweller
- Some grow in spiral or branching colonies
- Name means "moss animal"

Major Group: Mollusk

Specific Group: Cephalopod
Age: Paleozoic to Mesozoic
Niche: Predators
Habitat: Attached to or rested on bottom in marine environments

Interesting facts:
- Ammonites were a coiled variety
- Bellemnites had a pointed internal shell
- Uses a type of jet propulsion for swimming
- Related to squid and octopus
- Cephalopod means "head-footed" creature

Major Group: Brachiopod

Specific Group: Articulate
Age: Paleozoic to Recent
Niche: Filter feeders
Habitat: Attached to or rested on bottom in marine environments

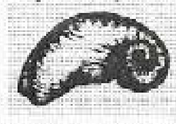
Interesting facts:
- Early brachiopods were inarticulate, meaning they did not have hinged shells
- Nearly all species are extinct
- Name means "arm-footed" creature

Major Group: Coelenterata

Specific Group: Rugose Coral
Age: Paleozoic to Recent
Niche: Filter feeders
Habitat: Reef builder in shallow marine environments

Interesting facts:
- Related to jellyfish and anemones
- Secretes a hard exoskeleton
- Often forms colonies and reefs in a tropical marine environment
- Also known as "horn coral"

Major Group: Mollusk



Specific Group: Pelecypods
Age: Paleozoic to Recent
Niche: Filter feeders
Habitat: Swam, burrowed or attached to bottom in marine and freshwater environments

Interesting facts:
- Pelecypods include clams, scallops, and oysters
- Also known as "bivalves", meaning two shells joined at a hinge
- Name means "hatchet-footed" creature

Major Group: Echinoderm

Specific Group: Crinoid
Age: Cambrian to Recent
Niche: Some predators and others feed on microorganisms collected on cilia
Habitat: Attached to the bottom in marine environments

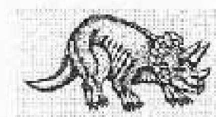
Interesting Facts:
- Related to sand dollars, brittle stars, and sea urchins
- Many have five-fold "star" symmetry

Major Group: Chordata

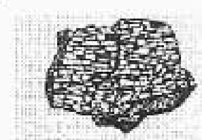
Specific Group: Chondrichthyes
Age: Tertiary to Recent
Niche: Predator
Habitat: Reefs and open seas marine environments

Interesting facts:
- Because sharks have skeletons made of cartilage, their teeth are all that fossilize
- Sharks have remained relatively unchanged for hundreds of millions of years
- Scientists estimate sizes of prehistoric sharks by this formula: every inch in tooth length corresponds to 10 feet in length of a shark.

Major Group: Vertebrate



Specific Group: Reptelia
Age: Triassic to Cretaceous
Niche: Predators and plant eaters
Habitat: Tropical land and aquatic environments



Interesting facts:
- Lizards, amphibians, snakes and even birds are presumed descendants of the great dinosaurs
- Dinosaur means "monster or terrible lizard"

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