INDIANA GEOLOGICAL & WATER SURVEY
INDIANA UNIVERSITY

Fossil Identification Chart

Skeletal structure ?

Has skeletal structure

Valves ? (shells)

Univalved ? (single shell)

- Coiled – conispiral → **Mollusc** Gastropod (snail)
- Coiled – planispiral or Radial – tapered cone with exterior partitions → **Mollusc** Cephalopod

Bivalved ? (two shells)

- Bilateral – both valves same but not symmetrical → **Mollusc** Bivalve (clam)
- Bilateral – valves different but symmetrical → **Brachiopod**

Calcareous plates ?

- Radial or Pentameral – discs with hole or cup-shaped body with joined plates → **Echinoderm** Crinoid
- Pentameral – nut-shaped body with five elaborate grooves → **Echinoderm** Blastoid

Cups, tubes, or complex shapes ?

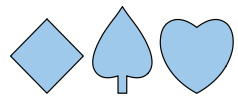
- Radial – cone with radiating partitions on inside → **Cnidarian** Solitary (horn) coral
- Radial – individuals in colony with interior partitions → **Cnidarian** Colonial coral
- Complex – corkscrewlike, twiglike, lacy, or other shapes → **Bryozoan**
- Complex, Radial, or Coiled – generally <1/32 inch → **Protozoan** Foram

Segmented body with three lobes ? → **Arthropod** Trilobite

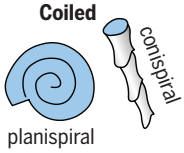
Bone or enamel ? → **Chordate** Vertebrate (dire wolf, mastodon, etc.)

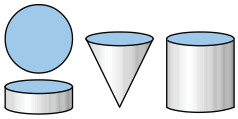
No skeletal structure → **Plant** Fern, lycopod tree, horsetail, etc.

Types of Symmetry

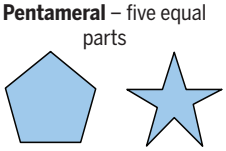


Bilateral – can be cut into mirrored halves

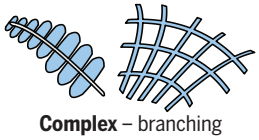




Radial – symmetry radiates from a central point



Pentameral – five equal parts



Complex – branching or fanlike

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