

INTRODUCTORY EARTH SCIENCE ROCK AND MINERAL COLLECTION

#KIT-8345

Minerals in the Scale of Hardness

1. Talc
2. Gypsum (alabaster)
3. Calcite
4. Fluorite
5. Apatite
6. Feldspar (microcline, pink)
7. Quartz (milky)
8. Beryl

Ores of Metals and Non-Metals

33. Molybdenite
34. Quartz (Rose)
35. Bauxite
36. Pyrolusite
37. Malachite
38. Specular Hematite
39. Rhodinite

Rocks exhibiting streak, luster, cleavage or fracture characteristics

9. Onyx
10. Spodumene
11. Galena
12. Chalcopyrite
13. Magnetite
14. Magnetite (Lodestone)
47. Anorthosite
15. Gypsum (Selenite)
16. Gypsum (Satin Spar)
17. Limonite
18. Halite
19. Chalcedony
20. Barite
21. Lepidolite
22. Pyrite

Igneous Rocks

40. Pumice
41. Scoria
42. Basalt
43. Rhyolite
44. Granite
45. Pegmatite
46. Diorite
47. Anorthosite
48. Tuff
49. Gabbro
50. Monzonite
51. Obsidian
52. Andesite
53. Trachyte

Metamorphic Rocks

66. Amphibolite
67. Slate
68. Marble
69. Quartzite
70. Hornfels
71. Mica Schist
72. Chlorite Schist
73. Phyllite
74. Gneiss
75. Anthracite Coal

Rock forming minerals

23. Mica (Muscovite)
24. Mica (Biotite)
25. Dolomite
26. Amphibole (Hornblende)
27. Feldspar (Plagioclase)
28. Olivine
29. Pyroxene (Augite)
30. Garnet
31. Sulfur
32. Graphite Schist

Sedimentary Rocks

54. Arkose
55. Fossiliferous Limestone
56. Bituminous Coal
57. Oolitic Limestone
58. Limestone
59. Calcareous Tufa
60. Travertine
61. Conglomerate
62. Shale
63. Breccia
64. Oil Shale
65. Sandstone



50 STATE SPECIMEN COLLECTION

#KIT-8343

<u>STATE</u>	<u>SPECIMEN</u>	<u>TYPE</u>	<u>ADDITIONAL INFORMATION</u>
1. Alabama	Bauxite	Mineral	Bauxite is an important ore of aluminum.
2. Alaska	Gold Ore	Igneous Rock	Gold is often found in this volcanic rock.
3. Arizona	Malachite	Mineral	Malachite is an important ore of copper.
4. Arkansas	Quartz Crystal	Mineral	Quartz forms beautiful six sided crystals.
5. California	Pumice	Igneous Rock	This porous rock will even float!
6. Colorado	Molybdenite	Mineral	This is the principle ore of molybdenum.
7. Connecticut	Garnet	Mineral	Garnet is used as an abrasive and as a gem.
8. Delaware	Magnetite	Mineral	Magnetite is an iron ore and is magnetic.
9. Florida	Shark Tooth Vertebrate	Fossil	This shark's tooth is 12 million years old.
10. Georgia	Marble-pink	Metamorphic Rock	Marble is used as a decorative stone and in statues.
11. Hawaii	Scoria	Igneous Rock	This porous rock is ejected from a volcano.
12. Idaho	Quartzite	Metamorphic Rock	Quartzite is a metamorphosed sandstone.
13. Illinois	Fluorite	Mineral	Fluorite is the State Mineral of Illinois.
14. Indiana	Gypsum-Selenite	Mineral	This clear variety of gypsum is used to make plaster.
15. Iowa	Geode	Mineral/Rock	Geode is designated as the State Rock.
16. Kansas	Limestone	Sedimentary Rock	Limestone is used in the making of cement.
17. Kentucky	Bituminous Coal	Sedimentary Rock	Bituminous coal is an important energy source.
18. Louisiana	Anhydrite	Mineral/Rock	Anhydrite is found in sedimentary rocks w/ limestone.
19. Maine	Tourmaline	Mineral	Tourmaline is the State Mineral of Maine.
20. Maryland	Gneiss	Metamorphic Rock	Gneiss is common and is metamorphosed granite.
21. Mass	White Granite	Igneous Rock	A common rock used as dimension stone.
22. Michigan	Copper	Native Mineral	Copper is used in electrical components or as an alloy.
23. Minnesota	Specular Hematite	Mineral	Hematite is an important iron ore mineral.
24. Mississippi	Gypsum-Alabaster	Mineral	Alabaster is used in sheet rock and plaster.
25. Missouri	Galena	Mineral	State Mineral of Missouri and an important lead ore.
26. Montana	Chlorite	Mineral	Chlorite is a metamorphic rock found nationwide.
27. Nebraska	Agate	Mineral	Blue agate is the State Gem of Nebraska.
28. Nevada	Lead Zinc Ore	Minerals	Galena and Sphalerite are the minerals in this rock.
29. New Hamp.	Mica	Mineral	Mica is used in electronic components.
30. New Jersey	Slate	Metamorphic Rock	A metamorphosed shale and used as a building stone.
31. New Mexico	Feldspar	Mineral	Feldspar (potash) is used in the making of ceramics.
32. New York	Calcite	Mineral	Used to make cement and a rock forming mineral.
33. N Carolina	Beryl	Mineral	The gem variety of Beryl is Emerald, the State Gem of NC.
34. N Dakota	Shale	Sedimentary Rock	Shale is derived from hardened mud.
35. Ohio	Flint	Mineral	Flint is the State Gem if Ohio.
36. Oklahoma	Barite	Mineral	Barite rose is the State Stone of Oklahoma.
37. Oregon	Talc	Mineral	Talc is also known as soapstone and used in carvings.
38. Pennsylvania	Anthracite Coal	Metamorphic Rock	Lustrous anthracite coal is commonly referred to as hard coal.
39. Rhode Island	Quartz	Mineral	Quartz is used for industrial sand for making glass.
40. S Carolina	Kaolin	Mineral	Used in ceramics, brick, and as a filler in paper.
41. S Dakota	Rose Quartz	Mineral	Rose Quartz is the State Gem of South Dakota.
42. Tennessee	Sphalerite	Mineral	Sphalerite is an important ore of zinc.
43. Texas	Sulfur	Mineral	Sulfur is used in insecticides, paper, matches and explosives.
44. Utah	Trilobite	Fossil arthropod	This trilobite is 600 million years old.
45. Vermont	Marble-white	Metamorphic Rock	Marble is used as a decorative stone and in statues.
46. Virginia	Kyanite	Mineral	Kyanite is used in spark plugs and refractory porcelains
47. Washington	Petrified Wood	Fossil	Petrified wood is the State Gem of Washington.
48. W Virginia	Sandstone	Sedimentary Rock	Mined for industrial purposes and for glass.
49. Wisconsin	Red Granite	Igneous Rock	Red granite is the state rock of Wisconsin.
50. Wyoming	Jade	Mineral	Jade is the State Gem of Wyoming.



ROCKS AND MINERALS OF THE WESTERN UNITED STATES

#KIT-8465

<u>SPECIMEN</u>	<u>SPECIFIC GRAVITY</u>	<u>HARDNESS</u>
Apatite	3.1-3.2	5
Aragonite	2.9	3½-4
Argentite	7.3	2-2½
Asbestos (Chrysotile)	2.2	2-5
Augite	3.2-3.4	5-6
Autunite	3.1-3.2	2-2½
Azurite	3.7	3½-4
Barite	4.5	3-3½
Bauxite	2.0-2.5	1-3
Beryl	2.7-2.8	7½ -8
Biotite	2.8-3.2	2½ -3
Borax	1.7	2-2½
Bornite	5	3
Calcite	2.7	3
Carnotite	4.1	-
Cassiterite	6.8-7	6-7
Chalcopyrite	4.1-4.3	3½ -4
Chlorite	2.6-2.9	2-2½
Chrysocolla	2.0-2.4	2-4
Cinnabar	8.1	2½
Copper	8.9	2½ -3
Corundum	4	9
Cryolite	3	2½
Cuprite	6	3½ -4
Diamond	3.5	10
Dolomite	2.8	3½ -4
Epidote	3.4	6-7
Fluorite	3.2	4
Galena	7.5	2½
Garnet	3.5-4	6½ -7½
Gold	15-19	2½ -3
Graphite	2.3	1-2
Gypsum	2.3	2
Halite	2.1	2½
Hematite	5.3	5½ -6½
Hornblende	3.2	5-6
Ilmenite	4.7	5½ -6
Kernite	1.9	3
Kyanite	3.5-3.6	5-7



NATURAL CRYSTAL COLLECTION

#KIT-9299

<u>SPECIMEN</u>	<u>CRYSTAL SYSTEM</u>	<u>FORM</u>
1. Halite	Isometric	Cube
2. Magnetite	Isometric	Octahedron
3. Garnet	Isometric	Dodecahedron
4. Apophyllite	Tetragonal	Prism & Pyramid
5. Beryl (Aquamarine)	Hexagonal	Prism
6. Apatite	Hexagonal	Prism & Dipyramid
7. Quartz	Hexagonal	Prism & Rhombohedron
8. Corundum	Hexagonal	Prism
9. Tourmaline	Hexagonal	Prism & Pinacoid
10. Aragonite	Orthorhombic	Prism & Pinacoid
11. Arsenopyrite	Monoclinic	Prism & Pinacoid
12. Glauberite	Monoclinic	Prism & Pinacoid
13. Staurolite	Monoclinic	Prism & Pinacoid
14. Orthoclase (twin)	Monoclinic	Prism & Pinacoid
15. Amazonite	Triclinic	Prism & Pinacoid



ROCK AND MINERAL SPECIMENS

(2 EACH OF 25 DIFFERENT SPECIMENS)

#KIT-434

ROCK AND MINERAL COLLECTION. Two each of 25 igneous, sedimentary, and metamorphic specimens, identified by name and collection locale. Total of fifty 1-1/2", freshly split specimens. Perfect for introducing students to the basic principles of mineral formation and identification. Use with streak plates and scratch plates to characterize each specimen. Quality geology starter collection. Grades 5-12. #KIT-434.

PLEASE NOTE: The rock and mineral specimens included in this kit do not contain all of the specimens listed below, but specimens were selected from this list in order to aid you in classification of the specimens. Due to the variable nature of the specimens in each kit, occasionally specimens are included that are not on this list.

IGNEOUS SPECIMENS

Andesite
Basalt
Diabase
Diorite
Gabbro
Obsidian
Pegmatite
Pumice
Ryolite
Scoria
Syenite
Granite

SEDIMENTARY SPECIMENS

Breccia
Conglomerate
Coquina
Limestone
Sandstone
Shale
Travertine
Dolomite

METAMORPHIC SPECIMENS

Anthracite
Chlorite schist
Coal
Mica schist
Marble
Slate
Quartzite
Phyllite



IDENTIFYING ROCKS AND MINERALS USING HARDNESS CHARACTERISTICS (SCALE OF HARDNESS, WITHOUT DIAMOND)

#KIT-6397

<u>SPECIMEN</u>	<u>HARDNESS NUMBER</u>
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TALC	1
GYPSUM	2
CALCITE	3
FLUORITE	4
APATITE	5
FELDSPAR	6
QUARTZ	7
BERYL	8
CORUNDUM	9



IDENTIFYING ROCKS AND MINERALS USING HARDNESS MINERAL CHARACTERISTICS (SCALE OF HARDNESS, WITH DIAMOND)

#KIT-8337

<u>SPECIMEN</u>	<u>HARDNESS NUMBER</u>
-----------------	------------------------

TALC	1
GYPSUM	2
CALCITE	3
FLUORITE	4
APATITE	5
FELDSPAR	6
QUARTZ	7
BERYL	8
CORUNDUM	9
DIAMOND	10



IDENTIFYING ROCKS AND MINERALS USING STREAK CHARACTERISTICS

#KIT-6399

<u>SPECIMEN</u>	<u>STREAK COLOR</u>
1. SPECULAR HEMATITE	RED/ BROWN
2. GRAPHITE	BLACK
3. PYRITE	GREEN/ BLACK
4. SIDERITE	BROWN
5. MAGNETITE	BLACK
6. HEMATITE	RED/ BROWN
7. LIMONITE	YELLOW/ BROWN
8. GALENA	BLACK



IDENTIFYING ROCKS AND MINERALS USING CLEAVAGE PATTERNS

#KIT-8338

SPECIMEN

CLEAVAGE PATTERN

- | | |
|--------------|--------------|
| 1. MUSCOVITE | Pinacoidal |
| 2. FELDSPAR | Prismatic |
| 3. BIOTITE | Pinacoidal |
| 4. SPODUMENE | Prismatic |
| 5. CALCITE | Rhombohedral |
| 6. HALITE | Cubic |



IDENTIFYING ROCKS AND MINERALS USING FRACTURE PATTERNS

#KIT-8339

SPECIMEN

FRACTURE PATTERN

- | | |
|----------------------|------------|
| 1. OBSIDIAN | Conchoidal |
| 2. JASPER | Uneven |
| 3. CHERT | Uneven |
| 4. MAGNETITE | Hackly |
| 5. SATIN SPAR GYPSUM | Splintery |
| 6. QUARTZ | Conchoidal |



IDENTIFYING ROCKS AND MINERALS USING LUSTER CHARACTERISTICS

#KIT-8340

METALLIC SPECIMENS

- | | |
|--------------|---------------|
| 1. Galena | Metallic |
| 2. Magnetite | Dull Metallic |
| 3. Pyrite | Metallic |

NON-METALLIC SPECIMENS

- | | |
|------------------------|-------------------------|
| 4. Milky Quartz | Vitreous |
| 5. Sulfur | Resinous to greasy |
| 6. Microcline Feldspar | Vitreous to pearly |
| 7. Yellow Quartz | Vitreous |
| 8. Nepheline | Greasy to pearly |
| 9. Lepidolite | Vitreous to pearly |
| 10. Calcite | Subvitreous to vitreous |
| 11. Muscovite | Vitreous to pearly |
| 12. Chalcedony | Waxy to dull |
| 13. Satin spar gypsum | Silky |
| 14. Alabaster gypsum | Dull to earthy |
| 15. Quartz crystal | Adamantine |



IDENTIFYING ROCKS AND MINERALS USING TENACITY CHARACTERISTICS

#KIT-8341

SPECIMEN

TENACITY CHARACTERISTICS

- | | |
|--------------|---|
| 1. SULFUR | BRITTLE (Breaks or powders easily) |
| 2. COPPER | MALLEABLE (Can be hammered into thin sheets)
AND DUCTILE (Can be stretched without breaking) |
| 3. SELENITE | SECTILE (Can be cut with a knife) |
| 4. TALC | SECTILE (Can be cut with a knife) |
| 5. MUSCOVITE | ELASTIC (Can be bent; will return to its original shape after release of stress) |
| 6. BIOTITE | ELASTIC |



IDENTIFYING ROCKS AND MINERALS USING COLOR CHARACTERISTICS

#KIT-9527

SPECIMEN

COLOR

- | | |
|--|---------------|
| 1. Quartz (Milky) | white |
| 2. Gypsum (Selenite) | colorless |
| 3. Malachite | green |
| 4. Pyrite | brass-yellow |
| 5. Sulfur | yellow |
| 6. Pyrolusite | black |
| 7. Serpentine | green |
| 8. Magnetite | black |
| 9. Hematite | red |
| 10. Limonite | yellow-brown |
| 11. Quartz variety Rose (Titanium) | pink |
| 12. Feldspar variety Amazonite (Iron) | green |
| 13. Amethyst (Iron) | purple |
| 14. Quartz variety Jasper (Quartz, Hematite) | red to yellow |
| 15. Halite | pink |



MINERAL IDENTIFICATION USING MINERAL SORT KEYS

(Sort key mineral identification kit, #KIT-9282)

1. MILKY QUARTZ
2. MICROCLINE FELDSPAR
3. MUSCOVITE MICA
4. BIOTITE MICA
5. CALCITE
6. HORNBLLENDE
7. GYPSUM (SELENITE)
8. TALC
9. GRAPHITE
10. HEMATITE
11. FLUORITE
12. SULFUR
13. LIMONITE
14. NEPHELINE
15. ROSE QUARTZ
16. BARITE
17. CHALCOPYRITE
18. GALENA
19. PYRITE
20. MAGNETITE



ROCK AND MINERAL COMPONENTS OF THE SOIL FORMATION KIT

(The composition of soils, #KIT-6388)

1. QUARTZ- The most common mineral in most soils and most resistant to decomposition.
2. FELDSPAR- This represents a large family of minerals that are readily decomposed and altered to form clays.
3. MICA- Mica is an accessory mineral in granites, and quickly breaks down to form clay and silt-sized particles.
4. HORNBLLENDE- This represents the amphibole family of minerals, which are major constituents of granite.
5. GRANITE- A rock which may be composed of a combination of the above minerals.
6. DISINTEGRATED GRANITE- A granite which has been subjected to weathering.
7. LIMESTONE- A sedimentary rock composed of calcium carbonate, which is an important constituent of soils.
8. SANDSTONE- A sedimentary rock, predominantly composed of quartz particles.
9. ARKOSE- A sedimentary rock comprised of feldspar and other granitic fragments.
10. SHALE- A sedimentary rock composed of well sorted clay sized particles.
11. SAND- More or less uniform particles, primarily quartz, sorted by stream, wind or ocean action.
12. SANDY SOIL- A soil predominantly of sand particles but containing usually some silt and clay.
13. LOAM SOIL (TOP SOIL)- A soil which is a mixture of sand, silt, clay and organic matter, often containing as much as 50% silt.
14. SUBSOIL- A soil composed of weathered parent material, silt and clay.
15. PEAT- Organic material which accumulates in bogs and may eventually become a part of soils.



METHODS OF FOSSILIZATION COLLECTION

#KIT-9298

CARBON FILM: The result of the breakdown of organic materials and the subsequent deposition of the resulting carbon.

1. Plant *Alethopteris serlii* Pennsylvania Period Pennsylvania

PERMINERALIZATION: The fossilization process in which the pore spaces of an organism are filled with a mineral.

2. Plant Petrified Wood Jurassic Period Wyoming

3. Vertebrata Dinosaur Bone Jurassic Period Colorado

REPLACEMENT: The process in which the organic material of an organism is replaced by a mineral.

4. Pelecypoda (calcite) unidentified oyster Cretaceous Period Oklahoma

5. Gastropoda (silica-agate) *Turritella sp.* Eocene Epoch Wyoming

6. Coelenterata (calcite) Horn coral Pennsylvanian Period Oklahoma

7. Plant (silica) Algae Cretaceous Period Wyoming

8. Gastropoda (calcite) unidentified Mesozoic Era Mexico

9. Cephalopoda (limonite) *Goniatite sp.* Jurassic Period MOROCCO

10. Echinodermata (calcite) Crinoid stem Silurian Oklahoma

CAST: The result of the naturally filling in of a mold after breakdown of an organism.

11. Pelecypoda & Gastropoda mixed species Paleocene Epoch Texas

MOLD: An impression left in the host rock by an organism.

12. Brachiopoda *Compostia sp.* Pennsylvanian Period Kansas

SIMPLE BURIAL: The burial of an organism with no alteration of the hard parts.

13. Vertebrata Unidentified bone Miocene Epoch MOROCCO

14. Pelecypoda *Chione cancellata* Pliocene Epoch Florida

15. Chordata Shark Tooth Miocene Epoch Florida



INTRODUCTORY FOSSIL COLLECTION

#KIT-8335

<u>Phylum</u>	<u>Class</u>	<u>Genus or common name</u>	<u>Era or epoch</u>	<u>Location</u>
Mollusca	Gastropoda	<i>Turritella sp.</i>	Eocene Epoch	Wyoming
Mollusca	Pelecypoda	<i>Chione Cancellata</i>	Miocene Epoch	Florida
Mollusca	Gastropoda	mixed species	Mesozoic Era	Mexico
Mollusca	Pelecypoda	<i>Texigryphea sp.</i>	Cretaceous Period	Oklahoma
Vertebrata	Chondrichthyes	shark tooth	Miocene Epoch	Florida
Cnidaria	Anthozoa	<i>Tabullophyllum sp.</i>	Mississippian Period	Utah
Echinodermata	Crinoidea	crinoid stem	Silurian Period	Oklahoma
Brachiopoda	Articulate	<i>Atrypa sp.</i>	Early Paleozoic	CHINA
Brachiopoda	Articulate	mixed species	Pennsylvanian Period	Oklahoma
Mollusca	Cephalopoda	<i>Goniatite sp.</i>	Mesozoic Era	MOROCCO
Vertebrata	Reptilia	dinosaur bone	Jurassic Period	Utah
Cnidaria	Bryozoa	<i>Archemides sp.</i>	Mississippian Period	Alabama
Cnidaria	Bryozoa	mixed species	Pennsylvanian Period	Texas
Tracheophyta	Gymnospermopsida	petrified wood	Triassic Period	Colorado
Cnidaria	Anthozoa	mixed species	Pennsylvania Period	Oklahoma



ADVANCED FOSSIL COLLECTION

#KIT-9529

<u>Kingdom</u>	<u>Phylum</u>	<u>Class</u>	<u>Genus and species</u>	<u>Period</u>	<u>Formation</u>	<u>Location</u>
1. Animal	Porifera	—	<i>Girtycoelia beedei</i>	Pennsylvanian	Graham	Wise Co, TX
2. Animal	Mollusca	Pelecypoda	<i>Nuculopsis gertyi</i>	Pennsylvanian	Wildhorse	Osage Co, OK
3. Animal	Coelenterata	Anthozoa	<i>Astrocoenia sp.</i>	Jurassic	Swift	Carbon Co, MT
4. Animal	Mollusca	Gastropoda	<i>Trepospiria illinoiensis</i>	Pennsylvanian	Wildhorse	Osage Co, OK
5. Animal	Brachiopoda	Articulate	<i>Mucrospirifer sp.</i>	Devonian	Widder	Thedford, ON
6. Animal	Brachiopoda	Articulate	<i>Cleiothyridina sp.</i>	Pennsylvanian	Wewoka	Hughes Co, OK
7. Animal	Mollusca	Pelecypoda	<i>Chione cancellata</i>	Tertiary	Caloosahatchee	Florida
8. Animal	Echinodermata	Crinoidea	crinoid cup plates	Pennsylvanian	—	Pontotac Co, Ok
9. Animal	Bryozoa	—	<i>Rhombopora sp.</i>	Pennsylvanian	—	Oklahoma
10. Animal	Echinodermata	Crinoidea	unidentified crinoid	Pennsylvanian	—	Oklahoma
11. Plant	Tracheophyta	Phyllicopsida	<i>Aleophthopris sp.</i>	Pennsylvanian	—	Pennsylvania
12. Animal	Vertebrata	Mammalia	<i>Coryphodon sp.</i>	Tertiary	—	Wyoming
13. Animal	Protozoa	—	<i>Triticites sp.</i>	Permian	Foraker	Saliyards, KS
14. Animal	Bryozoa	—	<i>Fistulapora sp.</i>	Ordovician	Viola	Pontotac Co, Ok
15. Animal	Vertebrata	Chondrichthyes	<i>Carcharhinus sp.</i>	Tertiary	Miocene	Florida
16. Animal	Mollusca	Gastropoda	<i>Glaubrocingulum sp.</i>	Pennsylvanian	Wewonka	Hughes Co, OK
17. Animal	Coelenterata	Anthozoa	<i>Tabullophylum sp.</i>	Mississippian	—	Utah
18. Animal	Mollusca	Cephalopoda	<i>Ammonite sp.</i>	Devonian	—	MOROCCO
19. Animal	Mollusca	Gastropoda	<i>Admetopsis subfusiformis</i>	Cretaceous	Tropic	Utah
20. Animal	Brachiopoda	Articulate	<i>Composita sp.</i>	Pennsylvanian	—	Tulsa Co, OK
21. Animal	Mollusca	Pelecypoda	<i>Anadara sp.</i>	Tertiary	Caloosahatchee	Florida
22. Animal	Vertebrata	Chondrichthyes	sting ray	Tertiary	—	Venus Beach, Fl
23. Animal	Vertebrata	Reptelia	dinosaur bone	Jurassic	—	Utah
24. Animal	Arthropoda	Trilobita	<i>Elrathia kingi</i>	Cambrian	Wheeler	Millard Co, UT
25. Animal	Mollusca	Cephalopoda	<i>Goniatites sp.</i>	Devonian	—	MOROCCO
26. Animal	Brachiopoda	Articulate	<i>Chonetes granulifer</i>	Pennsylvanian	Francis	Pontotac Co, Ok
27. Animal	Mollusca	Pelecypoda	<i>Illymatogyra arientina</i>	Cretaceous	Woodbine	Marshall Co, Tx
28. Plant	Cyanophyta	—	unidentified algae	Cretaceous	—	Wyoming
29. Animal	Echinodermata	Blastoidea	<i>Pentrimites sp.</i>	Mississippian	—	Oklahoma
30. Plant	Trachiophyta	Gynmospermopsida	petrified wood	Triassic	—	Wyoming

