

Geography Lab Rock and Mineral Catalogue

Introduction

The catalogue is a comprehensive guide to the rocks and minerals in our geography lab. It includes information on the name, type of rock, texture, colour, formation mechanism, grain size, and composition of each rock. This catalogue will be a valuable resource for students, teachers, and researchers who want to learn more about rocks and their properties.



Fig1 : <https://www.rocksmine.com/products/rocks-minerals-collections/collection-of-100-minerals-rocks-6436>

The above image shows a Collection contains 100 Types of Specimens, (64 Minerals Specimens & 36 Rocks Specimens of Igneous, Sedimentary & Metamorphic Rocks Types).

S.No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
1	Amazonite	Mineral	Smooth	Light Blue	Igneous/ Metamorphic	0.1-1	Potassium Aluminium Silicate	Jewellery, ornamental stone
2	Amethyst	Mineral	Smooth	Purple	Metamorphic	0.1-1	Silicon Dioxide	Jewellery, ornamental stone
3	Asbestos	Metamorphic	Fibrous	White	Metamorphic	-	Silicate mineral (fibrous)	Insulation, fire protection
4	Aventurine	Mineral	Smooth	Green	Igneous/ Metamorphic	0.1-1	Quartz (silicon dioxide)	Jewellery, ornamental stone
5	Barytes	Sedimentary/ Metamorphic		White	Sedimentary	-	Barium Sulphate	Filler, oil and gas drilling mud
6	Bauxite	Sedimentary/ Metamorphic		Reddish- Brown	Sedimentary	-	Mixture of Aluminium Hydroxides & Iron Oxides and Silicates	Aluminium production, abrasives, etc
7	Bentonite	Sedimentary	Soft	Greyish	Sedimentary	-	Hydrated Silicates	Drilling mud, cat litter
8	Beryl	Mineral		Green	Igneous	0.1-1	Beryllium Aluminium Cyclosilicate	Jewellery, ornamental stone
9	Biottie	Metamorphic	Foliated	Green	Metamorphic	0.1-1	Magnesium Iron Silicate Hydroxide	Construction industry
10	Boron	Mineral	Solid	Grey	Sedimentary	-	Boron Compound	Nuclear reactors

S.No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
11	Calcite Milky	Mineral		Milky	Sedimentary	0.1-1	Calcium Carbonate	Cement, concrete, fertilizers
12	Calcite Yellow	Mineral		Yellow	Sedimentary	0.1-1	Calcium Carbonate	Cement, concrete, fertilizers
13	Chalcopyrite	Mineral	Metallic luster	Brass yellow	Metamorphic	-	Copper Iron Sulphide (CuFeS ₂)	Copper ore, ornamental stone
14	China Clay	Sedimentary	Soft	White	Sedimentary	-	Hydrated Aluminium Silicate	Ceramics, paper making
15	Camel Jasper	Mineral	Smooth	Brown	Sedimentary	0.1-1	Silicate minerals	Jewellery, ornamental stone
16	Emery	Metamorphic	Smooth	Grey	Metamorphic	0.1-1	Aluminium Oxide	Abrasive, polishing agent
17	Feldspar	Mineral	Rough	White	Igneous	0.1-1	Alkali Aluminium Silicates	Ceramics, glass making, jewellery
18	Fire Clay	Sedimentary	Rough	Red	Sedimentary	-	Aluminium Silicate	Refractories, ceramics, etc
19	Fluorite	Mineral	Hard	Various	Metamorphic	0.1-1	Calcium Fluoride	Fluoride production, ornamental

20	Fullers Earth	Sedimentary	Soft	Green	Sedimentary	-	Hydrated Aluminium	Oil refining, cat litter
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S.No	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
21	Galena	Mineral	Smooth	Lead grey	Sedimentary	-	Lead Sulphide (PbS)	Lead production, batteries, pigments
22	Garnet	Mineral	Smooth	Red/brown	Metamorphic	0.1-1	Silicate minerals (Almandine)	Abrasive, waterjet cutting, jewellery making
23	Graphite	Mineral	Smooth	Black	Metamorphic	0.1-1	Carbon (C)	Pencils, lubricants, batteries
24	Gypsum	Sedimentary	Soft	White	Sedimentary	-	Hydrated Calcium Sulphate	Plaster, fertilizers, cement
25	Labradorite	Mineral	Smooth	White	Igneous	0.1-1	Plagioclase Feldspar group	Jewellery making, decorative stones, construction
26	Hematite	Mineral	Rough	Red	Sedimentary	0.1-1	Iron Oxide (Fe ₂ O ₃)	Pigments, jewellery, iron production
27	Hornblende	Mineral	Rough	Black	Igneous	0.1-1	Calcium Magnesium Iron Silicate	Decorative stone, construction, geological study
28	Jasper Green	Mineral	Rough	Green	Sedimentary	0.1-1	Silicate minerals	Jewellery making, decorative stones
29	Jasper Red	Mineral	Rough	Red	Sedimentary	0.1-1	Silicate minerals	Jewellery making, decorative stones

30	Kyanite	Mineral	Smooth	Blue	Metamorphic	0.1-1	Aluminium Silicate (Al ₂ SiO ₅)	Refractories, ceramics resistant materials
S.No	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
31	Lapis Lazuli	Metamorphic	Smooth	Blue	Metamorphic	0.1-1	Lazurite, sodalite, hauyne, calcite, pyrite	Jewellery making, decorative objects
32	Lignite	Sedimentary	Rough	Black	Sedimentary	0.1-1	Fossilized wood	Fuel, carbon black, soil conditioner
33	Limonite	Sedimentary	Rough	Yellow	Sedimentary	0.1-1	Iron oxide-hydroxide (FeO(OH).nH ₂ O)	Pigments, soil conditioner
34	Magnesite	Mineral	Smooth	White	Sedimentary	0.1-1	Magnesium Carbonate	Refractories, cement, cosmetics
35	Magnetite	Mineral	Rough	Black	Igneous	0.1-1	Iron Oxide (Fe ₃ O ₄)	Steel production, pigments, magnets
36	Mehndi Quartz	Metamorphic	Smooth	Brown	Metamorphic	0.1-1	Quartzite	decorative objects
37	Mica Green	Metamorphic	Flaky	Green	Metamorphic	0.1-1	Potassium Magnesium Iron	Electrical insulators, roofing material
38	Mica Red	Metamorphic	Flaky	Red	Metamorphic	0.1-1	Potassium Aluminium Iron	Electrical insulators, roofing material
39	Microcline	Mineral	Smooth	White	Igneous	0.1-1	Potassium Aluminium Silicate	ceramics, electrical insulators
40	Muscovite	Metamorphic	Flaky	Transparent	Metamorphic	0.1-1	Mica	Electrical insulators, roofing

								material, cosmetics
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S.No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
41	Ocher Red	Sedimentary	Powdery	Red	Sedimentary	Less than 0.1	Iron oxide-hydroxide (FeO(OH))	Pigments, dyes, ceramics, construction materials, artistic uses
42	Ocher Yellow	Sedimentary	Powdery	Yellow	Sedimentary	Less than 0.1	Iron oxide-hydroxide (FeO(OH))	Pigments, dyes, ceramics, construction materials, artistic uses
43	Plagioclase	Mineral	Smooth	White	Igneous	0.1-1	Sodium Calcium Aluminium	Ceramics, jewellery making, decorative objects, glassmaking
44	Plastic Clay	Sedimentary	Plastic	Grey	Sedimentary	0.1-1	Fine-grained clay minerals	Ceramics, pottery, bricks
45	Psilomelane	Metamorphic	Botryoid	Black	Metamorphic	0.1-1	Manganese Oxide (MnO ₂)	Pigments, batteries, water treatment
46	Pyrite	Mineral	Metallic	Yellow	Sedimentary	0.1-1	Iron Sulfide (FeS ₂)	Sulfur, sulfuric acid, semiconductors, jewellery
47	Pyrolusite	Mineral	Earthy	Black	Sedimentary	Less than 0.1	Manganese Oxide (MnO ₂)	Pigments, batteries, water treatment, glassmaking
48	Pyrophyllite	Metamorphic	Waxy	White	Metamorphic	0.1-1	Aluminium Silicate Hydroxide	Ceramics, refractories, insulation, paint, rubber, paper
49	Quartz Black	Metamorphic	Smooth	Black	Metamorphic	0.1-1	Silicon Dioxide	Jewellery making, decorative objects, glassmaking

50	Quartz Glassy	Metamorphic	Smooth	Transparent	Metamorphic	0.1-1	Silicon Dioxide	Jewellery making, decorative objects, glassmaking, electronics
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S. No.	Name	Type of rock	Texture	Colour	Formation mechanism	Grain size (mm)	Composition	Utility
51	Quartz Milky	Metamorphic	Fine-grained	White	Metamorphism of quartz-bearing rocks	0.002-0.06	Silicon dioxide (SiO ₂)	Glass making, abrasives
52	Quartz Rose	Igneous	Course to fine-grained	Pink	Hydrothermal veins	0.002-0.06	Silicon dioxide (SiO ₂)	Glass making, gemstones, ornamental stone
53	Red Oxide	Sedimentary	Fine-grained, massive	Red	Weathering of iron-bearing minerals, sedimentary processes	0.002-0.06	Iron oxide (Fe ₂ O ₃)	Pigments, polishing agents, soil stabilization
54	Selenite	Sedimentary	Fine-grained, crystalline	Colourless to white	Evaporite deposits	Variable	Calcium sulfate dihydrate (CaSO ₄ ·2H ₂ O)	Construction, sculpting, ornamental stone
55	Silica Sand	Sedimentary	Course to fine-grained	White to brown	Weathering and erosion of rocks containing silicon	0.063-2.0	Silicon dioxide (SiO ₂)	Glass making, abrasives
56	Soap Stone	Metamorphic	Fine-grained, waxy	Green, gray, white	Metamorphism of magnesium-rich rocks	0.002-0.06	Talc (Mg ₃ Si ₄ O ₁₀ (OH) ₂), Chlorite, Magnesite, Dolomite, Quartz	Carvings, coatings, ceramics, lubricants
57	Sphalerite	Sedimentary	Coarse to fine-grained	Brown, yellow	Hydrothermal veins, sedimentary processes	Variable	Zinc sulfide (ZnS)	Ore of zinc, gemstones, fluorescent pigments
58	Steatite	Metamorphic	Fine-grained, waxy	White to gray	Metamorphism of magnesium-rich rocks	0.002-0.06	Talc (Mg ₃ Si ₄ O ₁₀ (OH) ₂), Chlorite, Magnesite, Dolomite, Quartz	Carvings, coatings, ceramics, electrical insulation
59	Stibnite	Hydrothermal	Fine-grained, metallic	Gray to black	Hydrothermal veins	Variable	Antimony sulfide (Sb ₂ S ₃)	Ore of antimony, pigments, fire retardants

60	Sulphur	Sedimentary	Fine-grained, crystalline	Yellow	Deposition from volcanic gases, sedimentary processes	0.002-0.06	Sulfur (S)	Production of sulfuric acid, fertilizers, gunpowder
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S.No	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
61	Talc	Metamorphic	Soapy	White, grey, green	Regional metamorphism	Fine	Hydrous magnesium silicate	Industrial uses, cosmetics
62	Tourmaline	Metamorphic, Igneous	Prismatic	Black, brown, green, pink	Metamorphism, magmatic processes	Coarse to fine	Sodium iron aluminium borosilicate	Jewellery, semiconductors, piezoelectricity
63	Andesite	Igneous	Porphyritic	Grey, brown, green	Volcanic eruption	Fine to medium	Plagioclase feldspar, hornblende, pyroxene	Construction, decorative stone
64	Anthracite	Metamorphic	Shiny, smooth	Black	Regional metamorphism	N/A	Carbon, graphite	Fuel
65	Basalt	Igneous	Aphanitic	Black, dark grey	Volcanic eruption	Fine	Plagioclase feldspar, pyroxene, olivine	Construction, road aggregate

66	Bituminous	Sedimentary	Fine-grained	Black, sometimes brown	Compaction and heating of organic material	N/A	Carbon, hydrocarbons	Fuel
67	Chalk Lumps	Sedimentary	Soft, friable	White	Accumulation of calcareous shells	Coarse to medium	Calcium carbonate	Construction, agriculture
68	Chert	Sedimentary	Fine-grained	Various colours, often white, grey or black	Deposition of microcrystalline quartz	Fine to coarse	Silicon dioxide	Construction, decorative stone
69	Conglomerate	Sedimentary	Coarse-grained	Brown, red, grey, white	Deposition and cementation of rock fragments	Coarse	Various minerals depending on fragments	Construction, decorative stone
70	Diatomite	Sedimentary	Friable	White, grey	Accumulation of diatom frustules	Fine	Siliceous remains of diatoms	Filtration, absorbent, insecticide

71.	Diorite	Igneous	Phaneritic	Gray	Intrusive	1-10	Plagioclase Feldspar, Hornblende, Biotite	Decorative purposes, construction
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S. No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
72	Flint (S)	Sedimentary	Cryptocrystalline	Grey, Black	Chemical sedimentary	N/A	Microcrystalline Quartz	Tools, weapons
73	Gabbro (I)	Igneous	Phaneritic	Black	Intrusive	1-10	Plagioclase Feldspar, Pyroxene	Decorative purposes, construction
74	Gneiss (M)	Metamorphic	Foliated	Banded Colours	Regional metamorphic	0.5-1 0	Feldspar, Quartz, Mica	Flooring, walling, roofing
75	Granite Black (I)	Igneous	Phaneritic	Black	Intrusive	1-10	Plagioclase Feldspar, Hornblende	Construction, decorative purposes
76	G. Porphyry (I)	Igneous	Porphyritic	Red, Black	Extrusive/Intrusive	1-10	Plagioclase Feldspar, Hornblende	Decorative purposes, construction
77	Granite Red (I)	Igneous	Phaneritic	Red	Intrusive	1-10	Plagioclase Feldspar, Hornblende	Construction, decorative purposes

78	Limestone Black (S)	Sedimentary	Microcrystalline	Black	Chemical and biochemical sedimentary	N/A	Calcite	Construction, sculpture, flooring
79	Limestone White (S)	Sedimentary	Microcrystalline	White	Chemical and biochemical sedimentary	N/A	Calcite	Construction, sculpture, flooring
80	Marble Black (M)	Metamorphic	Non-foliated	Black	Regional metamorphic	N/A	Calcite	Construction, sculpture, flooring

S. No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
S. No.	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
81	Marble Chocolate	Metamorphic	Fine-grained	Brown	Contact Metamorphism	N/A	Calcium Carbonate (CaCO ₃)	Building, sculpture, flooring
82	Marble Pink	Metamorphic	Fine-grained	Pink	Contact Metamorphism	N/A	Calcium Carbonate (CaCO ₃)	Building, sculpture, flooring
83	Marble White	Metamorphic	Fine-grained	White	Contact Metamorphism	N/A	Calcium Carbonate (CaCO ₃)	Building, sculpture, flooring
84	Marble Yellow	Metamorphic	Fine-grained	Yellow	Contact Metamorphism	N/A	Calcium Carbonate (CaCO ₃)	Building, sculpture, flooring
85	Obsidian	Igneous	Glassy	Dark green to black	Rapid cooling of lava	N/A	Silicon dioxide (SiO ₂)	Knives, arrowheads, jewellery,

								decorative objects
86	Pegmatite	Igneous	Coarse-grained	White to pink	Slow cooling of magma	>2 mm	Feldspar, quartz, mica, and other minerals	Jewellery, sculptures, ornamental objects
87	Phyllite	Metamorphic	Fine-grained	Green to gray	Regional metamorphism	N/A	Mica and quartz	Roofing tiles, flooring, sculptures
88	Pumice	Igneous	Porous	Grey to white	Rapid cooling of lava	N/A	Volcanic glass and air pockets	horticulture, construction material
Serial Number	Name	Type of Rock	Texture	Colour	Formation Mechanism	Grain Size (mm)	Composition	Utility
89.	Quartzite Grey	Metamorphic	Fine-grained	Grey	Regional metamorphism	N/A	Quartz	Construction material, decorative stone
90.	Quartzite Pink	Metamorphic	Fine-grained	Pink	Regional metamorphism	N/A	Quartz	Construction material, decorative stone
91	Quartzite White (M)	Metamorphic	Fine to medium-grained	White	Metamorphism of sandstone or chert	0.2-2	Quartz, feldspar, mica	Construction industry, decorative stones
92	Rock Phosphate (S)	Sedimentary	N/A	Light brown to dark brown	Deposition of organic remains and minerals	N/A	Apatite	Fertilizers, animal feed supplements
93	Rock Salt (S)	Sedimentary	Crystalline	Colourless, white, pink	Evaporation of salt water or deposition of mineral crystals	N/A	Halite	De-icing, food preservation, chemical production

94	Sand Stone Red (S)	Sedimentary	Coarse to fine-grained	Reddish-brown, yellow	Deposition of sand and minerals in riverbeds or beaches	0.063-2	Quartz, feldspar, mica	Construction industry, decorative stones
95	Sand Stone Silicious (S)	Sedimentary	Coarse to fine-grained	Grey, yellow, brown	Deposition of sand and minerals in riverbeds or beaches	0.063-2	Quartz	Construction industry, decorative stones
96	Serpentine (M)	Metamorphic	Compact, massive	Green, brown	Metamorphism of ultramafic rocks or hydrothermal alteration	N/A	Serpentine, talc, chlorite, magnetite, olivine	Jewellery making, building materials, ornamental stones
97	Shale (S)	Sedimentary	Laminated, fissile	Grey, black	Deposition of clay minerals and organic matter	<0.0039	Clay minerals, quartz, feldspar	Construction industry, cement production, pottery
98	Slate (M)	Metamorphic	Foliated, fine-grained	Grey, green, black	Metamorphism of shale or mudstone	<0.0039	Clay minerals, quartz, mica	Roofing tiles, flooring,
99	Agate	Mineral	Varied	Varied	Sedimentary	0.1-1	Silicon dioxide	Jewellery, Ornamental stone
100.	Azurite	Mineral	Smooth	Blue	Secondary Mineralization	0.1-1.1	Copper Carbonate	Blue paint and dyes, gemstones