Geology Basics Kit

	Mineral	Source	Chemical	Hard-n	Color	Streak	Cleavage /	Uses
		Location	Formula	ess			Fracture	
1.	Quartz	Brazil	SiO ₂	7	Clear, white or a range of colors (gray, pink, purple, yellow, etc.)	Colorless	Conchoidal fracture	Gemstones; glass production; foundry sand
2.	Muscovite mica	Virginia, USA	KAl ₂ (Si ₃ AlO ₁₀)(OH) ₂	2-2.5	Brown to silvery; transparent in thin sheets	White	Perfect in 1 directions	Filler in paint; cosmetics; rubber; drilling mud
3.	Potassium feldspar (orthoclase)	India	KAlSi₃O ₈	6	White, light pink, orange	White	Good in 2 directions	Glass and ceramics
4.	Calcite	Chihuahua, Mexico	CaCO ₃	3	Commonly white, many other colors	White	Good in 3 directions; forms rhomboids	Cement; acid neutralizer; abrasive
5.	Fluorite	Coahuila, Mexico	CaF ₂	4	Green, purple, blue, yellow, white	White	Good in 4 directions	Hydrofluoric acid; metallurgy
6.	Hematite	India	Fe ₂ O ₃	5-6.5	Red, gray, tan, black; earthy to metallic	Brick red	Fracture	Principal iron ore; can be attracted to a magnet

Rock Specimen	Source Location	Geologic System	Description	Uses	
7. Granite	North Carolina, USA	Pennsylvanian / Permian	White, gray, or pink colored rock. Minerals may include quartz, potassium and/or plagioclase feldspars, micas, and hornblende.	Building and construction, crushed aggregate, sculpture	
8. Basalt	New Jersey, USA	Jurassic	Dense gray to black, with fine-grained (aphanitic) texture. Minerals are pyroxene, plagioclase, olivine.	Building and construction, crushed aggregate	
9. Pumice	Peru	Quaternary	Light-colored with many holes (vesicular texture). Quartz, potassium and/or plagioclase feldspars, micas.	Abrasives	

10. Sandstone	West Virginia, USA	Pennsylvanian	Quartz sand gr	rains and some blac Particles 1/16 - 2 r	ck organic material. nm	Crushed sto materials (p etc.); sou
11. Limestone (w/mollusk molds)	North Carolina, USA	Tertiary	Limestone can calcite-rich ma Ef	be cream-colored t atrix with many fossil fervesces with wea	o gray or black, tan; shells or their casts. k acid.	Concrete pro rock and bu acid neutro supp
12. Siltstone	Virginia, USA	Triassic	Silt-sized particles giving a fine- to gritty texture; red color comes from hematite. <i>Particles 1/256 – 1/16 mm</i>		Crushed a	
13. Marble	Virginia, USA	ginia, USA Precambrian / Coarse-grained crystals of calcite. Rock began a Cambrian limestone or dolostone. Effervesces with weak acid		te. Rock began as es with weak acid.	Building o materials; acid neutr supp	
14. Slate	Virginia, USA	Ordovician	Re Fine-grained and splits along flat surfaces. Rock began as clay, shale, siltstone, or mudstone.		Roofing til blackboards crush	
15. Gneiss	North Carolina, USA	Cambrian	Micas, feldspars, and other minerals; may have a banded appearance		Building a stone; c	
Fossil	Source	Geologic	Kingdom	Phylum /	Environme	ent and Life
	Location	System		Division		
16. Clam	Morocco	Eocene	Animalia	Mollusca	Clams have two shell (unlike brachiopods) a	s of equal but m nd filter-feed on
17. Brachiopod	Morocco	Devonian	Animalia	Brachiopoda	Brachiopods have tw clams)	o unequally size) and filter-feed.
18. Shark teeth	Morocco	Eocene	Animalia	Chordata	Sand shark are near-sl their	hore ocean prec teeth regularly.
19. Petrified wood	Madagascar	Paleocene	Plantae	Angiosperm	Hardwood plants mine from	eralized by silica. In traces of tin.
20. Crinoid stems	Morocco	Permian	Animalia	Echinodermata	An animal with a long s was the body with mou a	talk (your fossil) Ith many arms t Iive today.

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