



ROCK DETECTIVE MYSTERY NOTEBOOK WITH INSTRUCTIONS

	USED IN MYSTERY	ROCK ID TOOL KIT	MOHS HARDNESS
___ Acid, 2.8% Muriatic (HCl) Double packaged	11	___ Iron Nail	31,77
___ Baking Soda	11	___ Glass plate, Hardness Test	13,143
___ Box, Beach-in-a-box	112	___ Magnet	13,143
___ Crisco to mix with powdered Goethite	63	___ Magnifying glass. Especially for Mysteries 32,33,39,44,52,54,78,83,90,107,111,112,118,126	MOHS HARDNESS
___ Pumice floating container	40	___ Copper Penny	13, 197
		___ Streak plate, small square unglazed ceramic tile	

*** Mystery samples are only available in Loan Kits at this time

*** Mystery in preparation

1 ___ Kyanite	64 ___ Talc	132 ___ Silver Ore
2 ___ Petrified Wood Gr 1-5	65 ___ Anthracite Coal Gr 5-8	133 ___ ***Umbel, Weathered Copper Ore
3 ___ Sharks Teeth Gr 1-12	66 ___ Echinoderm Gr 1-4	134 ___ ***Oyster, Ostrea Sinuosa
4 ___ ***Paleocene Fossils, VA	67 ___ ***Fossils, Silurian	135 ___ Amethyst Gr 11-16
5 ___ ***Devonian Fossils, NY	68 ___ ***Fossils, Pleistocene	136 ___ Smoky Quartz Gr 11-16
6 ___ ***Tertiary Fossils FL	69 ___ ***Fossils, Paleozoic, Indiana	137 ___ Citrine Gr 11-16
7 ___ Volcanic Ash, Mt Spurr AK Gr 1-12	70 ___ ***Fossils, Pliocene, Sarasota FL	138 ___ Crinoids, loose pieces Gr 1-5
8 ___ ***Volcanic Ash Mt Redoubt AK	71 ___ ***Fossils, Pliocene, Laurel MD	139 ___ ***Ammonites, Germany Gr. 7-12
9 ___ Brachiopod + Articulated Mollusk Gr 3-12	72 ___ ***Fossils, Miocene, Sarasota FL	140 ___ Fossil Fish, Eocene Gr 4-10
10 ___ Articulated Bivalve Gr 1-12	73 ___ ***Fossils, Miocene, Hampton VA	141 ___ Agate Gr 2-4
11 ___ Calcite, Many kinds Gr 3-12	74 ___ ***Fossils, Miocene, Naples FL	142 ___ ***Large Mollusk Shell, Cretaceous
12 ___ Calcite + Gypsum	75 ___ Fossil Leaves, Black Shale, Pennsylvanian Gr 1-12	143 ___ Magnetite Sand Gr 1-4
13 ___ Metal Ores + Magnetite	76 ___ Fluorite Gr 4-8	144 ___ *** (Loan) Chert or Flint + Knapping Stone
14 ___ Muscovite	77 ___ Quartz + Calcite Gr 1-8	145 ___ Granite Gneiss and Granite Gr 7-9
15 ___ Diatomite Gr 1-9	78 ___ Dendrite Gr Gr 1-8	146 ___ Scleractinian Coral Identification
16 ___ Halite Gr 1-12	79 ___ Trace Fossil, Snail Trail	147 ___ Fossil Leaves and Stems Gr 1-4
17 ___ Breccia Gr 3-8	80 ___ Limestone + Marble Gr 3-6	148 ___ Crystals, Generic Gr 1-4
18 ___ Shells, Modern + Fossil Gr 6-9	81 ___ ***Sand, Three Kinds	149 ___ Topaz, "gouttes d'eau", Brazil 5-12
19 ___ Tectite Gr 3-12	82 ___ Shale with leaf fossils	150 ___ Alabaster
20 ___ Geologic Samples-Sawed Faces	83 ___ Schist with mica flakes Gr 1-5	151 ___ Garnet Gr 5-8
21 ___ ***Washings-Tertiary Ls Well-FL	84 ___ Coprolite Gr 1-9	152 ___ Lepidolite, Maine only 5-10
22 ___ Drill Core Gr 5-12	85 ___ Slickensides Gr 5-12	153 ___ Apatite Gr 6-9
23 ___ ***Rib Bone Fossil, Tertiary, Marine Mammal	86 ___ Diabase Gr 5-12	154 ___ Sodalite
24 ___ ***Fossil Vertebra, Tertiary, Porpoise Gr K-6	87 ___ Brain Coral Gr 1-5	155 ___ Beryl
25 ___ ***Fossil Vertebra, Tertiary, Whale	88 ___ ***Fossil Rib Bone, Sea Cow	156 ___ Tourmaline Gr 5-8
26 ___ Trace Fossils	89 ___ Metasediment, Pebble Conglomerate	157 ___ Conglomerate, Pebble Gr 5-8
27 ___ Mud Wasp Nest Gr 5-8	90 ___ Oil Sand Gr 1-12	158 ___ Steel slag, Grades 5-8
28 ___ Asphalt Gr 2-5	91 ___ Talc (for Baby Powder)	159 ___ Steel slag, Grades 9-12
29 ___ Cobbles, Quartzite w/ Scolithus linearis Gr 3-12	92 ___ Copper Ore	160 ___ Cobbles & Coral, St. John USVI Gr 6-12
30 ___ Coal Gr 1-12	93 ___ Weathered Rock	161 ___ Chalk--England Gr 5-12
31 ___ Quartz, Many kinds	94 ___ ***Calcite, Botryoidal	162 ___ ***Loess--Fairbanks, Alaska Gr 5-12
32 ___ Petrified Wood + Fossil Bone Gr 2-8	95 ___ Gneiss	163 ___ Onyx Marble 5-8
33 ___ Slag	96 ___ Gold Ore Gr 3-6	164 ___ Fossil ID'd to species and location, Gr 9-12
34 ___ Jade, uncut	97 ___ Quartzite Gr 2-5	165 ___ Spodumene
35 ___ Amazonite, feldspar Gr 3-5	98 ___ ***Stilbite Gr 2-5	166 ___ ***Concrete Blocks
36 ___ Prehnite	99 ___ Serpentine, Rockville, MD	167 ___ ***Plant fossils, Green River Fm.
37 ___ Opal, raw	100 ___ Talc, with other minerals GR 3-5	168 ___ "Apache Tears" Gr 5-12
38 ___ Fossil-bearing rock Gr 2-6	101 ___ ***Hematite (Historic Iron Ore)	169 ___ Fossil Turtle Bone
39 ___ Shale with + Shale without fossils Gr 6-9	102 ___ ***Lithographic Limestone	170 ___ Fossil Trailways, Crawling Organism
40 ___ Pumice Gr K-12	103 ___ ***Dentalia	171 ___ Ammonite, Gr. 7-12
41 ___ Basalt Gr 3-5	104 ___ Bauxite Gr 5-8	172 ___ Sediment to sandstone (Lyons Sandstone, Colorado) Gr 2-8
42 ___ Fossil limestone Gr 1-8	105 ___ ***Pecten, Chesapecten Gr 1-8	172A ___ Lyons Sandstone Formation, CO (What is a geological Formation?) Gr 6-10
43 ___ Geologic samples marked with numbers	106 ___ Biotite Gr 5-8	173 ___ ***Fossil Leaves, Miocene, CA, USA
44 ___ Granite	107 ___ Pegmatite Gr 1-5	174 ___ Serpentine, Thetford, Quebec Gr 7-12
45 ___ ***Fossil Jaw Bone, Whale	108 ___ Drag fold Gr 1-6	175 ___ Modern Sand Dollars Gr 5-8
46 ___ Exogyra	109 ___ Schist (with bent layers) Gr 4-7	176 ___ Banded Iron Formation, Precambrian Age, MI, USA Gr 9-12
47 ___ Gryphaea	110 ___ Turritella Gr 1-4	177 ___ ***Granite from Maine, History
48 ___ Anhydrite Gr 5-9	111 ___ ***Fossil Barnacles Gr 3-8	178 ___ ***Fossils, Pliocene, Punta Gorda, FL, USA
49A ___ Fossil Ear Bone, Baleen Whales & Low Frequency Sound Gr 4-12	112 ___ Beach-in-a-Bag Gr 1-8	179 ___ Banded Iron Formation, Precambrian Age, MI, USA Gr 5-8
49B ___ Fossil Ear Bone, Baleen Whale Songs Gr 4-12	113 ___ Red Encrusting Foraminifera Gr 8-12	180 ___ Cave Travertine, Gr 5-8
49C ___ Fossil Ear Bone, Low Frequency Sound Travels across Ocean Basins Gr 5-12	114 ___ Coral, Miocene Age Gr 1-4	181 ___ ***Shale for Brick, VA, USA
50 ___ Bryozoan, Stony, Ordovician Gr 2-5	115 ___ Mudstone with Conchoidal Fracture	182 ___ Obsidian Gr. 3-8
51 ___ Mineral Identification	116 ___ Gastropods, Left and Right handed Gr 1-6	183 ___ Schist or Gneiss? Gr 3-8
52 ___ Feldspar + Granite Gr 3-5	117 ___ Graptolites Gr 1-6	184 ___ ***Loess, Alaska, USA Gr. 9-12
53 ___ Onyx Gr 3-5	118 ___ Shale, Poker Chip	185 ___ ***Chesapecten jeffersonius, Pliocene, VA, USA
54 ___ Cockeysville Marble (Cambrian, MD, USA)	119 ___ Cobbles, Rappahannock River, VA, USA	186 ___ Fossil Assemblage, Pliocene, Chuckatuck, VA, USA Gr 3-12
55 ___ Trilobite, Whole Gr 3-9	120 ___ Cobbles, Major River Gr 1-4	187 ___ Oyster, Ostrea sp. Gr 3-8
56 ___ Horn Coral Gr 1-5	121 ___ Rock with Trilobite Pieces Gr 3-12	188 ___ Shell Hash, fossil Gr 1-6
57 ___ Brachiopod Gr 3-5	122 ___ Quartzite + Sandstone Gr 3-6	189 ___ Fossil Assemblage, Cincinnati Group Ordovician, OH/IN/KY, USA Gr 3-8
58 ___ Toledo Worm, Tertiary, FL	123 ___ Fossils, ID to species + Location Gr 5-8	190 ___ Union Marble, Maine Gr 3-6
59 ___ ***Worm Burrows in Sedimentary Rock	124 ___ Fossil Sand Dollars, Pliocene, FL Gr 5-8	191 ___ Granite & Gabbro, Gr 3-6
60 ___ Coating of Tiny Quartz Crystals	125 ___ Fossil Assemblage Gr 5-8	192 ___ Granite & Gabbro, Gr 7-9
61 ___ Fissile Shale	126 ___ Tuff (Ignimbrite) Gr 5-8	
62 ___ Concrete Gr 5-8	127 ___ Crinoid-bearing Rock Gr 1-6 (1-12)	
63 ___ Goethite Gr 1-5	128 ___ Barite Gr 5-8	
	129 ___ Fossils, Pliocene, Norfolk VA	
	130 ___ ***Bryozoans, Tertiary Gr 5-8	
	131 ___ Indian "Things" Gr 1-5	

- 193 ___ Fossil Assemblage, Cincinnati Group,
OH/IN/KY Gr. 5-12
- 194 ___ Granite & Gabbro, New Paradigm Gr. 7-12
- 195 ___ Graptolites, Gr 7-9
- 196 ___ ***Obsidian Gr. 7-12
- 197 ___ Hematite Gr. 1-4
- 198 ___ ***Fordham Gneiss, New York City, USA
Gr. 3-6
- 199 ___ Wavellite, radial structure Gr 3-6
- 200 ___ Cliff Swallow nest Gr 4-8
- 201 ___ Ammonites, Jurassic, England Gr 7-12
- 202 ___ Granite, radiometric dating Gr. 5-10
- 203 ___ Sample with numbers Gr. 4-8
- 204 ___ Rock and Crystal Gr 1-5
- 205 ___ ***Unakite Gr 5-10
- 206 ___ Fossil sea urchin Gr 1-5
- 207 ___ Native Copper Gr 5-8
- 208 ___ Native Copper Gr 2-4
- 209 ___ Topaz Gr 4-10
- 210 ___ ***Blue Sapphire Gr 6-8
- 211 ___ ***Pectolite Gr 4-8
- 212 ___ ***Calcite, Scalenohedral Gr 9-12
- 213 ___ ***Geode(s) Gr 6-12
- 214 ___ Slate, Metamorphic Rock Gr 4-8
- 215 ___ ***Celestite Gr 6-8
- 216 ___ ***Vesuvianite Gr 9-12
- 217 ___ Serpentinite (Grossular Garnet + Diopside)
Gr 6-8
- 218 ___ ***Chromium Grossular Garnet Gr
- 219 ___ ***Rose Quartz Crystals Gr 6-12
- 220 ___ ***Staurolite, Twinned Gr 9-12
- 221 ___ Trilobite Elrathia Gr 3-9
- 222 ___ ***Graphite
- 223 ___ ***Graphic Granite
- 224 ___ Drill Core Gr K-4
- 225 ___ Slate vs Shale Gr 3-8
- 226 ___ Fish Vertebrae, Miocene, USA Gr 4-8
- 227 ___ ***Petoskey Stone, MI Gr 5-12
- 228 ___ ***Actinolite
- 229 ___ ***Diopside
- 230 ___ ***Scoria
- 231 ___ ***Augite
- 232 ___ ***Dolomite
- 233 ___ ***Clay concretions
- 234 ___ ***Flint
- 235 ___ ***Chabazite
- 236 ___ ***Doubly Terminated Crystals
- 237 ___ ***Rocks from Manitoba, NWT, Gr 9-12
- 238 ___ ***Cleavelandite
- 239 ___ ***Barite with Siderite
- 240 ___ ***Union Marble Gr 8-12
- 241 ___ ***Kineo Rhyolite Devonian, Maine Gr 9-12
- 242 ___ Kyanite, massive, uses for Gr 6-12
- 243 ___ Fossil Turtle Shell
- 244 ___ Trace Fossil in Limestone Gr 3-12
- 245 ___ ***Herkimer Diamonds (Quartz crystals)
Herkimer, NY
- 246 ___ ***Chert Gr 3-8
- 247 ___ Shale with & w/o fossil(any type) Gr 3-8
(Gr 5-10)
- 248 ___ ***Sample stained for K-spar Gr 9-12
- 249 ___ ***Fern Leaves, Pennsylvanian, eastern US,
Gr 9-12
- 250 ___ Loess, Mantanuska Valley, AK Gr 5-12
- 251 ___ Kaolin, clay for porcelain Gr 5-8
- 252 ___ ***Ilmenite Sand, Cove Point, MD
Gr 9-12
- 253 ___ ***Tactite (skarn)_ Fizzes! Gr 9-12
- 254 ___ ***Trilobite Pieces Gr 9-12
- 255 ___ Kaolin, F-spar alteration and Cretaceous
deposits Gr 5-12
- 256 ___ Kaolin, Molecular change to porcelain
Gr 5-8
- 257 ___ Kaolin, Molecular change to porcelain and
x-ray diffraction Gr 9-12
- 258 ___ Kaolin, F-spar alteration, erosion, and
distribution in ocean sediments Gr 9-12
- 259 ___ Biotite, A mineral in thin sheets Gr 5-12
- 260 ___ Modern Echinoderm Gr 1-8
- 261 ___ ***Ordovician Basalt, Maine Gr 9-12
- 262 ___ ***Biotite, in granite
- 263 ___ ***Feldspar, makes glass
- 264 ___ ***Rhyolite and Basalt
- 265 ___ ***Fossil Alligator bones
- 266 ___ ***Angel Wings sea shell
- 267 ___ ***Onyx Marble, not finely banded
- 268 ___ ***Phyllite, a metamorphic rock
- 269 ___ ***Andesite
- 270 ___ ***Lapilli Tuff
- 271 ___ ***Belemnites
- 272 ___ ***Coral, Rugose vs Tabulate
- 273 ___ ***Exogyra and Gryphaea
- 274 ___ ***Manganese oxide and a power cell
- 275 ___ ***Common Opal, pearly luster
- 276 ___ ***Apophyllite
- 277 ___ ***Chrysocolla
- 278 ___ ***Shattercones, caused by meteor impact
- 279 ___ ***Siltstone, grainsize/a quiet energy
sedimentary rock
- 280 ___ ***Carbonate core comparison, Deike
USGS Pub
- 281 ___ ***Blue Quartz
- 282 ___ ***Meta Tuff, metamorphosed volcanic ash
- 283 ___ ***Tuscarora Quartzite, holds up mountains,
eg. Folded Appalachians
- 284 ___ ***Massive Garnet
- 285 ___ ***Drill core with burrows
- 286 ___ ***Granite? w/ opalescent grains
- 287 ___ ***Anorthosite w/ chatoyant anorthite
- 288 ___ ***Tshirege Pumice / Ashfall
- 289 ___ ***Serpentine
- 290 ___ ***Rutile xtals in quartz
- 291 ___ ***Mt St Helen's Ash
- 292 ___ ***Amber
- 293 ___ ***Coquina
- 294 ___ ***Epidote
- 295 ___ ***Blastoid
- 296 ___ ***Turritella, Miocene(?) Chesapeake Bay
- 297 ___ ***Lassen Volcanic Rocks, CA
- 298 ___ Fish Vertebra, Morocco (after #226) Gr 4-8
- 299 ___ ***Sandstone w/ fossil fragments How?
- 300 ___ Sand, Three kinds (after #81): Gypsum from
White Sands, NM--Shelly Beach--Loess from
Alaska Gr 1-12
- 301 ___ ***Cobbles, Sacramento River, California
- 302 ___ ***Salt, Bonneville Flats, Utah
- 303 ___ ***Olivine
- 304 ___ ***Puddingstone
- 305 ___ ***Mercenaria-Ft Drum FL
- 306 ___ Lepidolite, NOT Maine
- 307 ___ ***Pegmatite 9-12
- 308 ___ Earthquakes&Dinosaurs Gr 5-10
- 309 ___ Arkose, Connecticut Valley Gr 9-12
- 310 ___ ***Beach sand, Lake Huron, Caseville, MI,
Glacial, plus shells
- 311 ___ ***Drag Folds in cobbles from Salt Creek,
Paskenta CA (after #108)
- 312 ___ ***Norite, A rock that resembles moon rocks
- 313 ___ Kennett Limestone, Klamath Mtns California
- 314 ___ Shale with fossil leaves and stems (after #82)
Gr K-6
- 315 ___ Ray Teeth, Morocco
- 316 ___ Serpentinite, Puerto Rico
- 317 ___ Fossil Turtle Shell Gr 9-12
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