

face will frequently suffice to determine the true nature and name of a rock. Should this preliminary examination, and a comparison of weathered and unweathered surfaces, fail to afford the information sought, we proceed to apply some of the simple and useful tests available for field-work. The lens will usually enable us to decide whether the rock is compact and apparently structureless, or crystalline, or fragmental. Having settled this point, we proceed to ascertain the hardness and color of streak, by scratching a fresh surface of the stone. A drop of acid placed upon the scratched surface or on the powder of the streak may reveal the presence of some carbonate. By practice, considerable facility can be acquired in approximately estimating the specific gravity of rocks merely by the hand. The following table may be of assistance, but it must be understood at the outset that a knowledge of rocks can never be gained from instructions given in books, but must be acquired by actual handling and study of the rocks themselves.

i. A fresh fracture shows the rock to be close-grained, dull, with no distinct structure.³⁷

- a. H. 0.5 or less up to 1. Soft, crumbling or easily scratched with the knife, if not with the finger-nail; emits an earthy smell when breathed upon, does not effervesce with acid; is dark gray, brown, or blue, perhaps red, yellow, or even white=probably some clay rock, such as mudstone, massive shale, or fire-clay (p. 234); or a decomposed felspar-rock, like a close-grained felsite or orthoclase porphyry. If the rock is hard and fissile it may be shale or clay-slate (p. 235).
- β. H. 1.5-2. Occurs in beds or veins (perhaps fibrous), white, yellow, or reddish. Sp. gr. 2.2-2.4. Does not effervesce=probably gypsum (pp. 143, 265).
- γ. Friable, crumbling, soils the fingers, white, or yellowish, brisk effervescence=chalk, marl, or some pulverulent form of limestone (pp. 244, 260).
- δ. H. 3-4. Sp. gr. 2.5-2.7. Pale to dark green or reddish, or with blotched and clouded mixtures of these colors. Streak white; feels soapy; no effervescence,

³⁷ In this table, H. = hardness; Sp. gr. = specific gravity. The scale of hardness usually employed is 1, Talc; 2, Rock-salt or gypsum; 3, Calcite; 4, Fluorite; 5, Apatite; 6, Orthoclase; 7, Quartz; 8, Topaz; 9, Corundum; 10, Diamond.