

All fourteen students found to be color-blind have the common red-green type of congenital color blindness. Of the seven found to be color-blind in 1939, four are green-blind, one is red-blind and two are incompletely red-green blind. The completely green-blind confuse green and purple with gray, the completely red-blind confuse red and bluish green with gray. The incompletely red-green blind have difficulty with certain red and green tints and shades while others can be distinguished.

The most interesting result of the test is that it reveals color blindness in individuals who did not know that they were afflicted. For example, of the seven color-blind in this year's classes only one definitely knew that he was afflicted. He had been tested before. Another knew that he could find a yellow wooden tee when playing golf but had difficulty in recovering a red one. The other five were not aware of their eye defects until they were tested in the mineralogy class. To these the test is helpful, for although nothing can be done to correct this defect, awareness of being color-blind is apt to make one more cautious where color is concerned. In determining minerals he will rely less on color and streak and more on other properties. The test also is of value to the instructor, for he becomes aware of the handicap under which some of his students work, and he is likely to be more tolerant toward them. The writer believes that the administration of this test is well worth the little time it takes and recommends it especially to instructors whose classes are so large that they cannot give the individual much personal attention.

RADIOACTIVE STANDARDS*

A series of radioactive standards are being prepared under the direction of the Committee on Standards of Radioactivity of the National Research Council. These standards will be deposited at the National Bureau of Standards in Washington, D. C. to be issued as working standards to investigators who may desire them.

The standards under preparation at present are:

1) Radium Standards

- a) 100 cc. solutions sealed in 200 cc. pyrex flasks containing 10^{-9} and 10^{-11} grams of radium to be used as emanation standards either directly or by subdilution.
- b) 5 cc. solutions sealed in pyrex ampoules containing 0.1, 0.2, 0.5, 1.0, 2.0, 5.0, 10, 20, 50 and 100 micrograms of radium to be used as gamma ray standards. If desired, these may be obtained in sets of 13 with two each of the 0.2, 2, and 20 microgram standards.

2) Thorium Standards

Sealed ampoules containing sublimed ThCl_4 . These may be used in preparing standard thorium solutions.

Directions for use will be furnished with the standards.

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3) Standard Rock Samples

The following rocks, ground to pass 40-mesh screen and be retained on 100-mesh screen are available in 100 gram samples.

Quartzite (Virginia)
Triassic diabase (Virginia)
Milford granite (Massachusetts)
Chelmsford granite (Massachusetts)
Gabbro-diorite (Massachusetts)
Columbia River Basalt (Idaho)
Berea sandstone (Ohio)
Dunite (North Carolina)
Carthage granite (Missouri)
Carthage limestone (Missouri)
Deccan Trap (India)
Kimberlite (South Africa)

These samples of rock will be analyzed for radium and thorium content and are intended for use as working standards to check methods used in extraction of radon and thoron from rock samples. They may be used for direct fusion in the electric furnace or for carbonate fusion.

All of the above samples will be analyzed at a number of laboratories equipped to make such measurements and ultimately certificates will be issued by the National Bureau of Standards. This work is in progress but will require considerable time for its completion so that final figures are available only for a part of the samples at the present time.

Accurate knowledge of the radioactive content of the materials of the earth's crust is of primary importance in many phases of geology, geophysics and cosmology. Reliable radioactive standards are also essential in studies of radium and thorium poisoning and in biological and medical investigations using the technique of radioactive indicators, or internal artificial radioactivity therapy. For the latter purposes calibrated standard sources of β -rays will be made available.

It is hoped that the standards which have been prepared by the Committee will provide all workers in these fields with a common basis for comparison of measurements and also improve the accuracy of all measurements of this type. It is likely that they will have other applications and the Committee would appreciate hearing from interested persons who may desire similar standards for their work. The Committee is also glad to cooperate as far as possible in aiding investigators to use these standards to the best advantage and welcomes specific inquiries regarding their use. It is urged that any suggestions regarding other desirable radioactive standards, not at present available, be submitted promptly to the Committee. In particular, it will facilitate the work of the Committee if those laboratories and individuals which can make use of these standards advise the Committee of their probable requirements.

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