Description of the Earth without Water

The following description of what the earth would be like without any of its water is taken from "The Kindergarten Magazine," Volume 7...September 1894—June, 1895.

THE KNOWLEDGE OF THE elevations and depressions of the land surface is as essential as that of coast lines, and cannot be obtained from the printed map. It follows, therefore, that this information must be given by a proper aid. Such is "The Model of the Earth."

It shows in relief the solid earth as it would appear if all its waters were removed, thus revealing the beds of the oceans, also the shape of continents and islands below as well as at the sea surface. It shows, in relief, the various elevations of the continents—their mountain chains, plateaus, and river basins. As all parts are made to a scale comparisons can be made of the differing heights of mountains, and the depressions of the ocean floor.

By the aid of “The Model” pupils will obtain proper conceptions of the earth’s form and reliefs, and will comprehend that the earth’s crust is continuous, that the continents and islands are a portion of the crust elevated above the general level, and that the parts not so elevated are the beds on which rest the bodies of the oceans.

The view of the surface of the earth given on the printed map leads to the supposition that the shape and size of continents and islands are exactly defined by their line of contact with the water surface; but what we see on the map is only those portions of these bodies which are exposed to the atmosphere.

By the aid of “The Model” it will be seen that the continents and islands extend under water, and slope with a more or less abrupt descent to the ocean bed, and their shape while roughly conforming to the shore line, yet at places varies considerably from it.

“The Model” will enable the pupil to comprehend that many of the islands are the tops of mountains whose sides reach down to the bottom of the sea;” also that there are great groups of islands as mountain chains connected under water. Further, that in the ocean bed there are submarine plateaus, hundreds of miles in extent, over which the water is quite shallow, as, for instance, those of which the Fiji islands and New Zealand are the exposed parts. By the aid of “The Model” the pupil will see that Australia is connected with Asia by a

submarine plateau, over which the water does not exceed six hundred feet in depth, while on either side the depth is from 12,000 to 18,000 feet, and the parts of this plateau which appear above water are the islands of Sumatra, Java, Bornen, Celebes, and others of less note. Also that there are in the ocean bed places which are almost as much below the level of the sea as the highest mountains are above it.

East of the Kurile islands—the chain between Kamtchatka and Japan—there is a great depression, trough shaped, averaging 24,000 feet in depth, and at one place it is shaped averaging 24,000 feet in depth, and at one place it is 27,000 feet deep—the deepest sounding yet made—and this nearly corresponds with the height of Mt. Everest, 29,002 feet.

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By "The Model" it can be seen how nature has placed barriers at different places in the bottom of the sea to prevent the passage of water of different temperatures, as, for instance, at the Straits of Gibraltar, where the sea bottom rises to within 1,300 feet of the surface, while on

either side it is 12,000 and 15,000 feet in depth. In the economy of nature the warmth of the Mediterranean waters must be maintained and this barrier prevents the ingress of polar water. Also is seen that the Peninsula of Denmark acts as a barrier between the warm salt waters of the North sea and the cold, half-fresh waters of the Baltic; and the banks of Newfoundland deflect the volume of Arctic water and its masses of ice, which otherwise would sweep along our own Atlantic coast.