

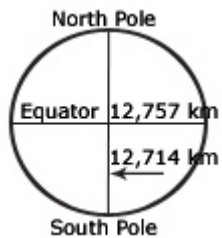
NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

CLASS: \_\_\_\_\_ TEACHER: \_\_\_\_\_

### Understanding Scale Models - Earth Science Lesson

A scale model represents an actual object only much smaller in size. The actual dimensions of the original are *scaled down* (reduced) while keeping proportions true to size. All sorts of models are seen every day. For example, there are models of cars and planes in toy stores. Maps of continents hang on classroom walls. Consider a scale model of a sports car. The tires, for example, are not huge and out of proportion to the rest of the car. Every aspect and proportion of the model is kept as true to the size and dimensions of the original as is possible.

However, when very large objects are scaled down to a much smaller size their true, or actual, features may be less obvious. One example that clearly shows this problem with a scale models is a globe representing the Earth.

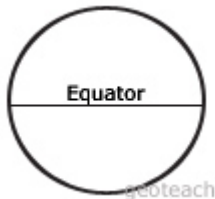
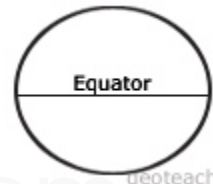


The Earth's Polar Diameter = 12,714 km

The Earth's Equatorial Diameter = 12,757 km

Clearly, the Earth is not perfectly round or both diameters would be the same. In fact the Earth is an *Oblate Spheroid*, slightly flattened at the Poles and slightly bulging at the Equator. The key word is *slightly*. Because the difference between the diameters is so small, when scaling the Earth down to a globe that is tiny enough to sit on a desk in a classroom, Earth's oblate shape *not visible*. The Earth looks perfectly round.

Therefore, the **true shape** of the Earth is an **Oblate Spheroid**,



whereas the shape of Earth, **drawn to scale**, is a **Circle**.

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**Test your understanding of this topic with the following assignment:**

**Representing Elliptical Orbits of Planets in Illustrations**

**Earth Science Assignment**

Recommended for Middle School and above.

Literary Courtesy

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