Decoding Sediment: A Guide to Grain Size & Properties

FUNDAMENTAL PROPERTIES

Properties control how sediment moves.

They determine settling velocity, motion threshold, and transport type (bedload vs. suspended).

Most sand is made of Quartz and Feldspar.

These minerals are highly resistant to chemical and mechanical weathering.

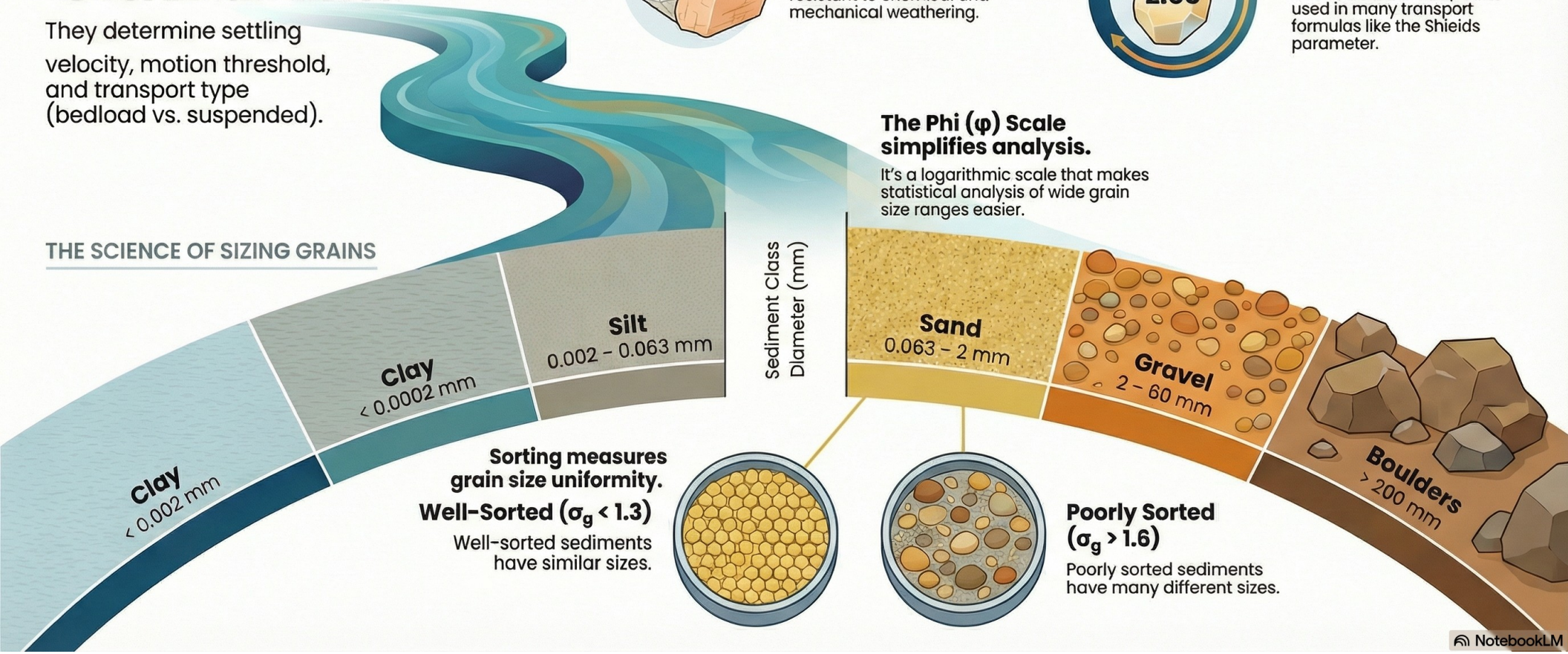
Typical quartz sand has a relative density of ~2.65.

This constant is a key value used in many transport formulas like the Shields parameter.

The Phi (φ) Scale simplifies analysis.

It's a logarithmic scale that makes statistical analysis of wide grain size ranges easier.

THE SCIENCE OF SIZING GRAINS



Sorting measures grain size uniformity.

Well-Sorted ($\sigma_g < 1.3$)

Well-sorted sediments have similar sizes.

Poorly Sorted ($\sigma_g > 1.6$)

Poorly sorted sediments have many different sizes.