

Instructional Protocol

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The purpose of this protocol is to provide a framework for developing and delivering instruction that contains a lot of

Sediment Grain Size Analysis for K-12 Teachers: Materials, Safety, Standards.

1.

111.

[Redacted]

Essential Question

1

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- The second aliquot is withdrawn from a depth and time appropriate to 2 μm (or 4 μm).

(or 4 μm). This is the mass of clay.

PIPETTE TECHNIQUE

- Prepare the cylinder (adapted from Folk 1980):
 - Stir the cylinder vigorously starting at the bottom and working up until even the coarsest

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causing the clay particles to be flat and flaky, the complex chemistry leads to a net negative charge, which can be neutralized by connecting to similar charges in organic molecules and other clay particles. The clay-organic aggregates have a

MATERIALS

Listed in order of use in the procedure:

Datasheets

3 heat-tolerant lightweight dishes (4 to include gravel in distribution)*

25ml volumetric pipette with bulb

*Substitute 20ml volumetric pipette, or 25ml transfer pipette

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3) Use the spatula to stir the sample and knock down bubbles to avoid a spill. If sample spills, clean

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Withdrawal Time Table

Note: Times are provided time for both accepted size cutoffs between silt and clay, $2\mu\text{m}$ and $4\mu\text{m}$. Use what works best for your class time limits. Be consistent to avoid confusing your students.

**Sediment Grain Size Analysis for K-12 Teachers: Materials, Safety, Standards
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Sand

100%

