### Animals Between the Sand Grains - Meiofauna

**Objective:** Students will observe the minute animals that live between sand grains. After identifying the organisms they will post their findings on the class PBWiki site. Each class member has three animals to identify and post on PBWiki. After everyone in the class has made their posts, combining them will become a group project from our class.

**Materials:**
- plastic tray
- turkey baster or large pipette
- microscope
- petri dish
- class PBWiki site

**Procedures:**
1) Collect meiofauna samples from the surface of the sand at low tide in low wave action areas. Scrape a layer about 1 cm deep into a plastic tray. Add some seawater from the same location, enough to just barely cover the sand sample and form a pool on top about 1/2-inch deep at the most.
2) Allow the specimen trays to stand at room temperature, undisturbed, for approximately a week, or until there is just a small amount of visible seawater left on the surface of the sand. As the sand sits for a week the environment beneath the sand starts to suffer from oxygen depletion and the meiofauna will crawl up out of the sand to reach the upper, oxygenated water above the sand.
3) Technically, the meiofauna consists of small benthic metazoans that pass through a 0.500 mm sieve and are retained on a 0.045 mm sieve. Thus, the next step is to gently remove the seawater (pour it without also pouring the sand, or use a large pipette such as a turkey baster) from the surface of the sand and strain it through a fine mesh material, such as a piece of an old nylon stocking.
4) Rinse the collected organisms from the mesh and observe the small animals in the petri dish under the microscope.
5) After identifying the three assigned animals make photo posts and information posts on our classes PBWiki.

**Discussion:**
A· Find photos of the organisms on line then post them on our class PBWiki page along with their names
B· How many of your assigned animals were you able to find?
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
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<tbody>
<tr>
<td>C· Why were no plants found in this environment?</td>
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<td>D· Can the phylum be identified for each animal? List the phyla.</td>
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<td>E· Which phyla were the majority?</td>
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<td>F· How do you think the meiofauna animals feed, based on their appendages?</td>
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**Activity #3 - Animals Between the Sand Grains - Meiofauna**

Here are a list of phyla or groups please label your photo with its correct name.

**Phyla or Group**

Gastrotrichicha  
*Xenotrichula, Turbaanella, Pleurodasys, Pseudostomella, Tetranchyroderma*

Crustacea/Ostracoda (6 unknown species)  
Crustacea/Copepoda/Harpacticoidea  
*Arenostella kaiser, Arenopontia dillonbechia, Ameria parvaloides, Apodopsyllus vermiculiformes, unident.*

Paramesochiridae  
Nematoda  
Enoploidea, Desmodoridea, Monohyssterioidea, Chromadoroidea, Draconematoidea (Epsilonema)  
Turbellaria  
Acoela, Rhabdocoela (Typhloplanoida & Kalyptorhynchia), Allecoela  
Nemertina  
*Ototyphlonemertes, Procephalotrix*

Archannelida  
*Saccocirrus gabriellae, Protodriloides chaetifer*

Polychaeta  
*Pisione remota, Hesionides arenaria, Microphthalmus, Petitia amphophthalama, Hesioneura, Glyceria, Stygocapitella subterranea*

Oligochaeta  
Tubificidae, Enchytraeidae (Marionina)

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http://www.oercommons.org/courses/material_types/lesson-plans