Laboratory 2 and 3

Complete labs 2 and 3
Objectives

• Not doing everything
• Prepare a wet mount of an epithelial cheek cell and sketch it. Be sure to spread cells out. Locate cytoplasm, nucleus, membrane
• Saturate slide with methylene blue. Sketch it
Objectives

• Answer questions on page 16
• View seastar egg, Amphiuma liver, golgi, and mitochondria
• Omit mitosis and meiosis
• Proceed to Exercise 3B
Objectives

- Answer questions on page 16
- View seastar egg, Amphiuma liver, golgi, and mitochondria
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Cheek cells
Golgi
Mitochondria
Cerebratulus
An example of spiral cleavage from the Phylum Nemertea
Cerebratulus

- Phylum Nemertea: Ribbon worms
- Mostly marine, known for their proboscis
- Excellent example of spiral clevage
- Similar to platyhelmithes but mostly dioecious
- Pilidium larvae
- Acoelomate, bilateral
Cerebratulus

Proboscis everted from Rhyncocoel
Feeding and Defense

Rhynchoceol an extendable proboscis that lies in a sheath. Muscular pressure on fluid filled cavity everts muscles retract it.
Cerebratulus

Locomotion

use a combination of musculature and cilia

Can use stylet (from proboscis) to attach and draw body forward

Circulation

closed system, pumping achieved by muscular contraction
Cerebratulus

Nervous system
brain connected to
a series of
longitudinal nerves
that extend
posteriorly
ocelli, tactile
papillae, sensory
pits and grooves
Cerebratulus

Reproduction and Development
Dioecious, discharging both sperm and eggs into the water.
Determinate, spiral clevage
Pilidium larvae
dorsal spike of fused cilia
Cerebratulus
Asterias

- An example of Radial cleavage from the Phylum Echinodermata
Starfish development
Starfish development
Starfish development

germinal vesicles

nucleus

fertilization membrane
Laboratory 4

• Histology!
Epithelial Tissues

Simple columnar
Epithelial Tissues

Ciliated stratified columnar
Epithelial Tissues

Simple cuboidal