

# Local Marine Organisms Phyla Reference Links

## MARINE ORGANISMS LAB PREREADING REFERENCES

### [OCEANOGRAPHY 1 LAB CLASS](#)

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#### RESOURCES

In addition to the photos and references in your workbook, and the videos on the [website](#), here are additional references for the organisms that you will see in the samples from the labs.

Use these resources to find organisms to sketch for Part 1 of the labs and as a reference for what you're looking at with the live or photographed/filmed samples for Part 2 (reference only – do not copy these reference images for Part 2 of the labs).

#### [PROTISTA](#)

#### [PLANTS](#)

#### [ANIMALS](#)

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### PROTISTA

#### Diatoms

- [Asterionellopsis](#)
- [Bacillaria Paxillifer](#)
- [Corethron](#)
- [Coscinodiscus](#)
- [Chaetoceros socialis](#)
- [Cylindrotheca](#)
- [Detonula \(chains\)](#)
- [Ditylum](#)
- [Eucampia](#)
- [Grammatophora](#)
- [Isthmia Nervosa](#)
- [Navicula](#)
- [Odontella](#)
- [Pleurosigma](#)
- [Pseudo-nitzschia](#)
- [Rhizosolenia robusta](#)
- [Skeletonema](#)
- [Stephanopyxis](#)

#### Dinoflagellate (all these species are phytoplankton)

- [Akashiwo](#)
- [Alexandrium](#)
- [Ceratium](#) -- [Ceratrium tripos](#)
- [Nocticula](#)
- [Prorocentrum](#)
- [Protoperidinium](#)
- [Pyrocystis](#)

## Ciliates

- [Tintinnid](#) *Dictyocysta mitra*

## [Green Algae](#) -- [Many varieties](#)

- Sea Lettuce [Ulva sp.](#)
- Ocean pin cushion [Cladophora columbiana](#)

## [Red Algae](#) -- [Many varieties](#)

- Neptune's Washcloth [Chondracanthus exasperatus](#)
- Iridescent Algae [Mazaella splendens](#)
- Red Coralline Algae [Calliarthron sp](#)
- Sea sacs [Halosaccion glandiforme](#)
- Tar patch algae [Mastocarpus spp./Ralfsia spp](#)
- Nail Brush seaweed [Endocladia muricata](#)
- Black Pine [Neorhodomela larix](#)
- Fir Needle [Analipus japonicus](#)
- [Priontis lanceolata \(Harvey\)](#)
- [And more](#)

## [Brown Algae](#) -- [Many varieties](#)

- Rockweed [Fucus sp](#)
  - Feather Boa Kelp [Egregia menziesii](#)
  - Sea Palm [Postelsia palmaeformis](#)
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## PLANTS

[Sea grasses](#): [Surf grass](#) *Phyllospadix sp*

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## ANIMALS

### **Porifera: [Sponges](#)**

- Branching: Red Beard Sponge [Clathria porifera](#)
- Encrusting
  - Order [Haplosclerida](#)
  - Yellow-Green Sponge [Halichondria panicea](#)
  - Purple Sponge [Haliclona permollis](#)

### **Cnidaria: [\(Tree of Life\)](#)**

- [Jellyfish](#)
  - [Reproduction/Lifecycle](#)
  - [Scyphozoan Life Cycle](#)
  - Sea Nettles [Chrysaora fuscescens](#)
  - Moon Jelly [Aurelia labiata](#)
- Anthozoa, [Sea anemones](#)
  - Giant Green Sea Anemone [Anthopleura xanthogrammica](#)
  - Sunburst Anemone [Anthopleura sola](#)
  - Aggregating Anemone [Anthopleura elegantissima](#)
  - Northern Red Anemone [Urticina felina](#)
  - [Tube-Dwelling Anemone](#) [Cerianthus membranaceus](#)
  - Orange Cup Coral [Balanophyllia elegans](#)

- Hydroids: [Hydrozoan Life Cycle](#)
  - Ostrich Plume [Aglaophenia sp.](#)
  - Surfgrass Hydroid [Amphisbetia furcata](#)
  - Glassy Plume Hydroid [Plumularia setacea](#)

## [Rotifer \(more\)](#)

### **Bryozoans:**

- Larvae: [Cyphonautes \(more\)](#)
- Adult
  - [Encrusting](#)
    - [Cryptosula pallasiana](#)
    - [Watersipora subtorquata](#)
    - Derby Hat Bryozoan [Eurystomella spp.](#)
  - [Branching](#)
    - [Bugula neritina](#)

### **Echinoderms (Tree of Life)**

- [Asteroidea](#)
  - Bat star [Patiria miniata](#)
  - Giant Spined Star [Pisaster giganteus](#)
  - Leather star [Dermasterias imbricata](#)
  - Ochre star [Pisaster ochraceus](#)
  - Spiny sand star [Astropectan armatus \(more\)](#)
  - Sunflower Star [Pycnopodia helianthoides](#)
- [Echinodea](#)
  - [Sea Urchins](#) -- Purple Sea Urchin [Strongylocentrotus purpuratus](#)
  - [Sand Dollars](#) [Dendraster excentricus](#)
- [Holothuroidea](#) -- [Sea Cucumbers](#) -- Warty sea cucumber [Apostichopus parvimensis](#)

### **Mollusca -- Many Varieties**

#### [Radula feeding](#)

- Polyplacophora: [chitons](#)
  - Black or Leather Chiton [Katharina Tunicata](#)
  - Gumboot Chiton [Cryptochiton stelleri](#)
  - Mossy Chiton [Mopalia muscosa](#)
  - Lined Chiton [Tonicella Lineata](#)
  - Woody Chiton [Mopalia lignose](#)
- Gastropods (Shell)
  - [Abalone](#) -- [Haliotis spp.](#)
  - [Snails](#):
    - Black turban snail [Tegula funebris](#)
    - Eroded Periwinkle [Littorina keenae](#)
  - [Limpets](#):
    - Ribbed or finger limpet [Lottia digitalis](#)
    - Owl limpet [Lotta gigantia](#)
  - Nudibranchs
    - Larvae: [veliger](#)
    - Adult: [species guide](#)
      - Opalescent Hermissenda [Hermissenda opalescens](#)
      - Colorful Aeolid [Aeolidiella chromosoma](#)
      - Red Dorid [Rostanga pulchra](#)
      - Spotted Triopha [Triopha maculata](#)
      - Heath's Dorid [Geitodoris heathi](#)
      - Sea Lemon [Peltodoris nobilis](#)
      - Orange-peel Doris [Acanthodoris lutea](#)
      - White-spotted Dorid [Doriopsilla fulva](#)

- California Sidegill *Berthella californica*
- San Diego or Ringed Dorid *Diaulula sandiegensis*
- Goddess Dorid *Doris odhneri*
- Bivalve:
  - [Pediveliger larva](#)
  - Mussel ([A](#), [B](#))
    - California Mussel *Mytilus californiatus*
    - [Blue Mussel \(invasive\)](#) *Mytilus trossulus/galloprovincialis*
  - [Oyster](#) -- California Oyster -- *Ostrea Lurida*
  - Boring Clam (Piddock) *Penitella sp*
- [Cephalopod \(Tree of Life\)](#)
  - [Anatomy A](#) | [Anatomy B](#)
  - Day Octopus *Octopus cyanea*
  - Red Octopus *Octopus rubescens*

## Annelid: Polychaetes

- [Polychaete larvae \(additional inaturalist link\)](#)
- Pile worms *Nereis vexillosa*
- Feather duster worms [Sabella family and others](#)

## Additional worms:

- [Nemertean worm](#)

## Arthropods

- Larvae
  - [Barnacle \(image; more\)](#)
  - [Copepod \(all taxa\)](#)
  - [Shrimp Larvae](#) (or Zoea)
  - [Crab Zoea](#)
- Small Arthropod/Crustaceans:
  - [Isopods](#)
  - [Amphipods](#)
    - Skeleton "shrimp" *Caprella sp.*
- [Barnacles](#)
  - [Many varieties](#)
  - Buckshot Barnacle *Chthamalus spp.*
  - Acorn Barnacle *Balanos Glandula*
  - Thatched Acorn Barnacle *Semibalanos cariosus*
  - Gooseneck Barnacle *Pollicipes polymerus*
- [Crab](#) -- [Many varieties](#)
  - Kelp Crab *Pugettia producta*
  - Blue Band [Hermit Crab](#) *Pagurus samuelis*
  - Red Rock Crab *Romaleon antennarium*
  - Purple Shore Crab *Hemigrapsus nudus*
  - Green Lined Shoreline Crab *Pachygrapsus crassipes*
- Broken Back Shrimp [Heptacarpus brevirostris](#)

## Chordata

- **Urochordata:** [Tunicate](#): ([varieties](#) | [world database](#))
  - Larvae
    - [Ascidiacea](#) (tunicates and sea squirts)
    - Larvacea ([Oikopleura](#))
  - Adults
    - [Sea Grape](#) -- Transparent tunicate: *Ciona savignyi* or *Ciona intestinalis* or *Molgula manhattensis*
    - [Tunicates \(more\)](#) -- Rough solitary stalked tunicate *Styela clava* and *Styela truncata*

- [Compound Tunicates](#)
  - [Botrylloides violaceus](#)
  - [Botryllus schlosseri](#)
  - [Botrylloides diegensis](#)
  - [Didemnum sp. A](#)
  - [Synoicum sp. aff. jordani or kincaidi](#)
  - Mushroom Tunicate: [Distaplia occidentalis](#)
  - [Aplidium sp](#)
- **Vertebrata**
  - **Fish -- [ALL FISH SPECIES DIFFERENCES](#)**
    - Bony fish vs Cartilaginous Fish ([fin differences](#) | [anatomy differences](#) | [basic images](#) | [text review](#))
    - **Cartilaginous fish:** [Taxonomy](#), [Anatomy](#)
      - Bat Ray [Myliobatis californica](#)
      - Broadnose 7-Gill Shark [Notorynchus cepedianus](#)
      - [Leopard Shark Triakis semifasciata](#)
    - **Bony fish:**
      - California Moray Eel [Gymnothorax mordax](#)
      - Giant Sea Bass [Stereolepis gigas](#) ([more](#), [more](#), [more](#))
      - [Monkeyface Prickleback Eel Cebidichthys violaceus](#)
      - Northern [Anchovy Engraulis mordax](#)
      - Pacific Bluefin Tuna [Thunnus orientalis](#)
      - Pacific Bonito [Sarda chiliensis](#)
      - Pacific Sardine [Sardinops sagax caeruleus](#)
      - Tidepool sculpin [Oligocottus maculosus](#)
      - [White Sturgeon Acipenser spp.](#) ([more](#))
      - [Wolf Eel Anarrhichthys ocellatus](#) ([more](#))
  - **Aves:** Gulls [Larus sp.](#)
  - **Mammals -- Carnivora -- [Pinnipeds](#) -- Sea Grant Alaska**
    - Harbor seals [Phoca vitulina richardii](#)
    - [California Sea Lions Zalophus californianus](#)