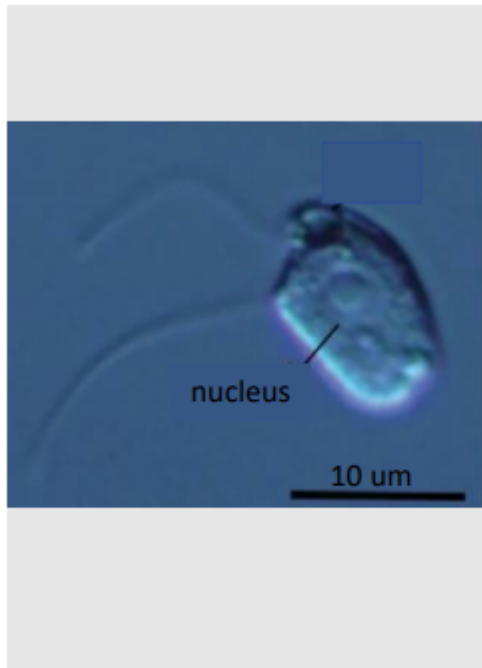


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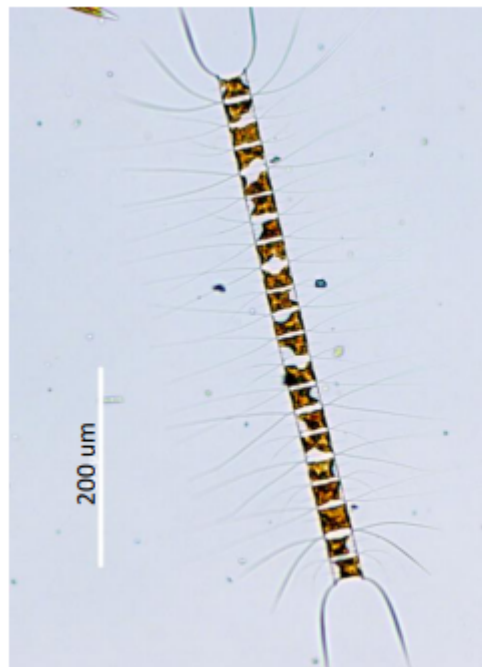
Date:

Class:

Algae Sorting Activity



| | |
|---|---|
| Name | <i>Rhodelphis</i> |
| Gets food by? | Ingesting other cells |
| Habitat | Freshwater and marine; free-swimming |
| Body type | Unicellular |
| Has a plastid? <i>organelle used in photosynthesis</i> | Yes, but no longer used for photosynthesis |
| Plastid pigments | None |
| Flagella <i>present at some point in life cycle</i> | two: both straight and smooth |
| Closest relative(s) <i>of the organisms in this activity</i> | <i>Pyropia</i> . Together they are equally related to <i>Cladophora</i> , <i>Trentepohlia</i> , <i>Chlamydomonas</i> , <i>Thuja</i> |

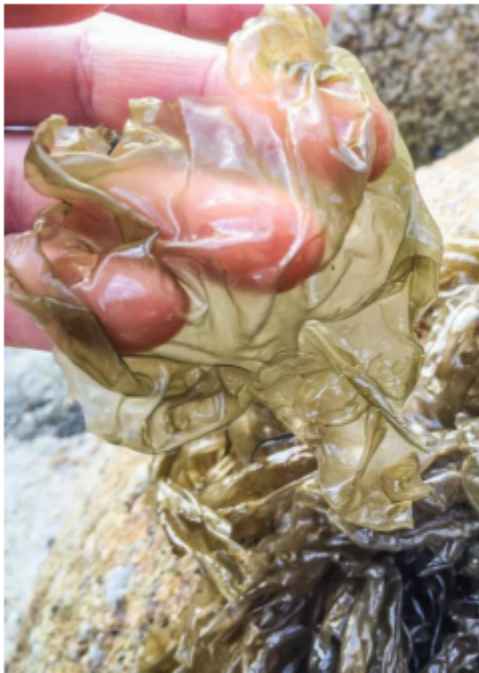


| | |
|---|--|
| Name | <i>Chaetoceros</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; planktonic |
| Body type | Unicellular (grouped into a colony) |
| Has a plastid? <i>organelle used in photosynthesis</i> | Yes; four membranes around plastid |
| Plastid pigments | Chlorophyll a & c, caretenoids (fucoxanthin) |
| Flagella <i>present at some point in life cycle</i> | One, with hairs; only found in male gametes |
| Closest relative(s) <i>of the organisms in this activity</i> | <i>Macrocystis</i> |

Name:

Date:

Class:



| | |
|---|--|
| Name | <i>Pyropia</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; attached to a substrate |
| Body type | Multicellular; blade, no complex tissues |
| Has a plastid? <i>organelle used in photosynthesis</i> | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a, beta-carotene, phycobilins |
| Flagella <i>present at some point in life cycle</i> | None at any life stage |
| Closest relative(s) <i>of the organisms in this activity</i> | Equally related to <i>Cladophora</i> , <i>Trentepohlia</i> , <i>Chlamydomonas</i> , <i>Thuja</i> |

NOTE: use this version of *Pyropia* card if NOT including *Rhodelphis*



| | |
|---|--|
| Name | <i>Pyropia</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; attached to a substrate |
| Body type | Multicellular; blade, no complex tissues |
| Has a plastid? <i>organelle used in photosynthesis</i> | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a, beta-carotene, phycobilins |
| Flagella <i>present at some point in life cycle</i> | None at any life stage |
| Closest relative(s) <i>of the organisms in this activity</i> | <i>Rhodelphis</i> . Together they are equally related to <i>Cladophora</i> , <i>Trentepohlia</i> , <i>Chlamydomonas</i> , <i>Thuja</i> |

NOTE: use this version of *Pyropia* card if including *Rhodelphis*

Name:

Date:

Class:



| | |
|--|--|
| Name | <i>Cladophora</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; attached to substrate |
| Body type | Multicellular; filamentous, no complex tissues |
| Has a plastid? organelle used in photosynthesis | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a & b |
| Flagella present at some point in life cycle | Yes; 2 or 4, all similar; only found in spores/gametes |
| Closest relative(s) of the organisms in this activity | <i>Trentepohlia</i> |

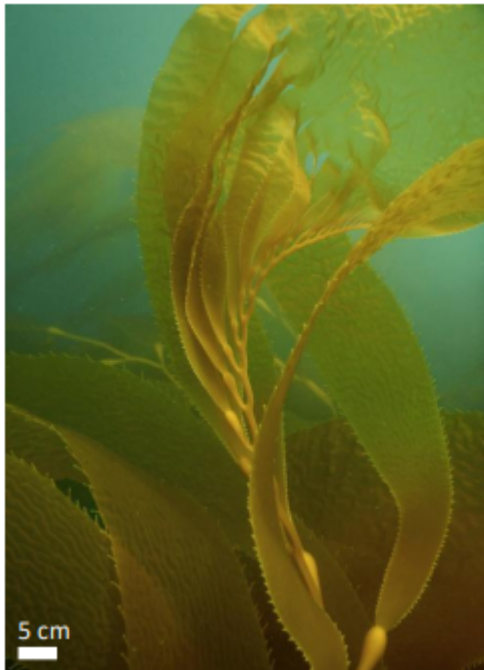


| | |
|--|--|
| Name | <i>Chlamydomonas</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine, freshwater or snow; free-swimming |
| Body type | Unicellular (many individuals shown) |
| Has a plastid? organelle used in photosynthesis | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a & b |
| Flagella present at some point in life cycle | Yes; 2 or 4, all similar; present in vegetative phase |
| Closest relative(s) of the organisms in this activity | Equally related to <i>Cladophora</i> , <i>Trentepohlia</i> |

Name:

Date:

Class:



| | |
|--|---|
| Name | <i>Macrocystis</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; attached to substrate |
| Body type | Multicellular; blade with vascular-like tissue |
| Has a plastid? organelle used in photosynthesis | Yes; four membranes around plastid |
| Plastid pigments | Chlorophyll a & c, carotenoids (fucoxanthin) |
| Flagella present at some point in life cycle | two: one smooth, one with hairs; found only in spores/gametes |
| Closest relative(s) of the organisms in this activity | <i>Chaetoceros</i> |

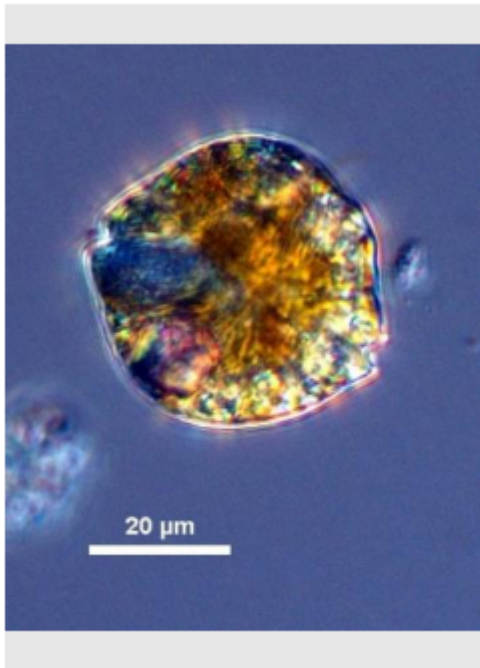


| | |
|--|--|
| Name | <i>Pfisteria</i> |
| Gets food by? | Ingesting cells (algae, bacteria, fish) |
| Habitat | Marine; in sediment and dead fish |
| Body type | Unicellular |
| Has a plastid? organelle used in photosynthesis | No, but evolved from a photosynthetic ancestor |
| Plastid pigments | None |
| Flagella present at some point in life cycle | two: one straight, one corkscrew-shaped; present in vegetative phase |
| Closest relative(s) of the organisms in this activity | <i>Alexandrium</i> |

Name:

Date:

Class:



| | |
|---|--|
| Name | <i>Alexandrium</i> |
| Gets food by? | Photosynthesis |
| Habitat | Marine; free-swimming |
| Body type | Unicellular |
| Has a plastid? <i>organelle used in photosynthesis</i> | Y; 3 membranes around plastid |
| Plastid pigments | Chlorophyll a & c, carotenoids (peridinin) |
| Flagella <i>present at some point in life cycle</i> | two: one straight, one corkscrew-shaped; present in vegetative phase |
| Closest relative(s) <i>of the organisms in this activity</i> | <i>Pfisteria</i> |



| | |
|---|---|
| Name | <i>Saprolegnia</i> |
| Gets food by? | Parasitism on fish |
| Habitat | Water, moist soil |
| Body type | Multicellular (filamentous, in top photo growing on seeds) |
| Has a plastid? <i>organelle used in photosynthesis</i> | No |
| Plastid pigments | None |
| Flagella <i>present at some point in life cycle</i> | two: one smooth, one with hairs; found only in spores/gametes |
| Closest relative(s) <i>of the organisms in this activity</i> | Equally related to <i>Macrocystis</i> , <i>Chaetoceros</i> |



Name:

Date:

Class:



| | |
|---|--|
| Name | <i>Plasmodium</i> |
| Gets food by? | Parasitizing vertebrates, insects |
| Habitat | Lives inside terrestrial host organisms |
| Body type | Unicellular; shown amongst many red blood cells |
| Has a plastid? organelle used in photosynthesis | Yes, but no longer used for photosynthesis |
| Plastid pigments | None |
| Flagella present at some point in life cycle | two: both posterior facing |
| Closest relative(s) of the organisms in this activity | Equally related to <i>Pfisteria</i> , <i>Alexandrium</i> |



| | |
|---|--|
| Name | <i>Stentor</i> |
| Gets food by? | Ingesting other cells, including algae |
| Habitat | Freshwater; attached to substrate |
| Body type | Unicellular |
| Has a plastid? organelle used in photosynthesis | No |
| Plastid pigments | None |
| Flagella present at some point in life cycle | None (it has hair-like cilia, but these are not the same as flagella) |
| Closest relative(s) of the organisms in this activity | Equally related to <i>Pfisteria</i> , <i>Alexandrium</i> , <i>Plasmodium</i> |

Name:

Date:

Class:



| | |
|--|---|
| Name | <i>Thuja</i> |
| Gets food by? | Photosynthesis |
| Habitat | Terrestrial |
| Body type | Multicellular; with complex vascular tissues |
| Has a plastid? organelle used in photosynthesis | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a & b |
| Flagella present at some point in life cycle | None |
| Closest relative(s) of the organisms in this activity | Equally related to <i>Chlamydomonas</i> , <i>Cladophora</i> , <i>Trentepohlia</i> |



| | |
|--|---|
| Name | <i>Trentepohlia</i> |
| Gets food by | Photosynthesis |
| Habitat | Terrestrial; grows on trees (here on <i>Thuja</i>), rocks or as lichen |
| Body type | Multicellular; filamentous, no complex tissues |
| Has a plastid? organelle used in photosynthesis | Yes; two membranes around plastid |
| Plastid pigments | Chlorophyll a & b, carotenoids |
| Flagella at some point in life cycle | Yes; 2 or 4, all similar; only found in spores/gametes |
| Closest relative(s) of the organisms in this activity | <i>Chaetomorpha</i> |