GROUPS OF ECHINODERMS

- Classes of echinoderms include
  - sea urchins and sand dollars
  - brittle stars; sea cucumbers
  - sea stars; sea lilies and feather stars.

SEA URCHINS AND SAND DOLLARS

- Sea urchins and sand dollars have large, solid plates that form a box around their internal organs.
- Many are detritivores or grazers that eat large quantities of algae
- Sand dollars often burrow under layers of sand or mud to protect themselves.
- Some sea urchins wedge themselves in rock crevices during the day.

BRITTLE STARS

- Brittle stars are common in many parts of the sea, especially on coral reefs.
  - Filter feeders and detritivores.
  - Slender flexible arms
  - Move quickly to escape predators
- They can also shed one or more arms when attacked.
  - The detached arm keeps moving, distracting the predator while the brittle star escapes.

SEA CUCUMBERS

- Most sea cucumbers are detritus feeders.
- Herds roam across the deep-sea floor sucking up organic matter and the remains of other animals and plants.
- Sea cucumbers look like warty, moving pickles.
- Defense mechanism

SEA STARS

- Most sea stars are carnivorous
  - preying on bivalves.
- Ability to repair itself when damaged
  - If a sea star is pulled into pieces
    - each piece will grow into a new animal, as long as it contains a portion of the central part of the body.
- Sea stars move by creeping slowly along the ocean floor
- Zombies?

SEA LILIES AND FEATHER STARS

- Sea lilies and feather stars are common in tropical oceans.
- Oldest class of Echinodermata
- Many modern feather stars live on coral reefs
  - attach on top of rocks and use their tube feet to catch floating plankton.

ECOLOGY OF ECHINODERMS

- A sudden rise or fall in the number of echinoderms can cause major changes to populations of other marine organisms.
- Sea urchins help control the distribution of algae and other forms of marine life.

ECOLOGY OF ECHINODERMS

- Sea stars are important predators that help control the numbers of other organisms.
- The crown-of-thorns sea star has destroyed extensive areas of coral in the Great Barrier Reef of Australia.