



# Introduction To Virtual Learning

## **HS Biology**

## **Echinoderm**

**May 11, 2020**



# HS/General Biology

## Lesson: Monday, May 11 2020

**Objective/Learning Target:**  
**Describe the characteristics of members of the  
echinoderm phylum.**

**Warm Up Questions:** Write down or answer in your head!

**Warm Up #1** Is a starfish a autotroph or a heterotroph? How do you know?

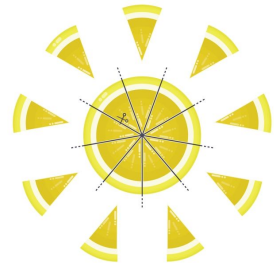
**Warm Up #2** What is radial symmetry? What does this look like?

## Warm Up Question **Answers**

**Warm Up #1** Is a starfish a autotroph or a heterotroph? How do you know?

Starfish must eat substances for energy, making them heterotrophs- if they got their energy from sunlight, they would be autotrophs.

**Warm Up #2** What is radial symmetry? What does this look like? Organisms with radial symmetry show a repeating pattern around a **central axis such** that they can be separated into several identical pieces when cut through the central point, much like pieces of a pie.



## Lesson Activity: Video Notes

To begin this lesson, get out a blank sheet of paper and something to write with.

**You will be watching a video over echinoderms, taking notes, and answering a few questions to practice this new skill.**

Before you begin, consider jotting down the questions found on the next page.

When you are ready to begin, click here to watch the video: [Echinoderm : The Ultimate Animal](#)

Practice Questions: On your paper, answer these 8 questions

- 1) Echinoderms tend to have arms and legs found in multiples of what number?
- 2) Which echinoderm family member is a 5-part sphere?
- 3) Which echinoderm family member is a 5-part tube?
- 4) What is the function of the nerve ring in echinoderms?
- 5) Sea urchins niche is that of a producer, primary consumer or secondary consumer?
- 6) Sea cucumbers niche is that of a producer, scavenger or predator?

- 7) Brittle Stars' niche is that of a producer, scavenger or predator?
- 8) What 2 jobs are done by echinoderm tube feet?
- 9) Which organ protrudes from a sea star, digesting and absorbing its prey?

## Practice Questions:

- 1) Echinoderms tend to have arms and legs found in multiples of \_\_\_\_\_. **Five**
- 2) Which echinoderm family member is a 5-part sphere? **Urchin**
- 3) Which echinoderm family member is a 5-part tube? **Sea cucumber**
- 4) What is the function of the nerve ring in echinoderms? **It serves as the brain-coordinating responses**
- 5) Sea urchins niche is that of a producer, primary consumer or secondary consumer? **Sea urchins are primary consumers- eating plants**
- 6) Sea cucumbers niche is that of a producer, scavenger or predator? **Sea cucumbers are scavengers, filtering out scraps in the sand.**



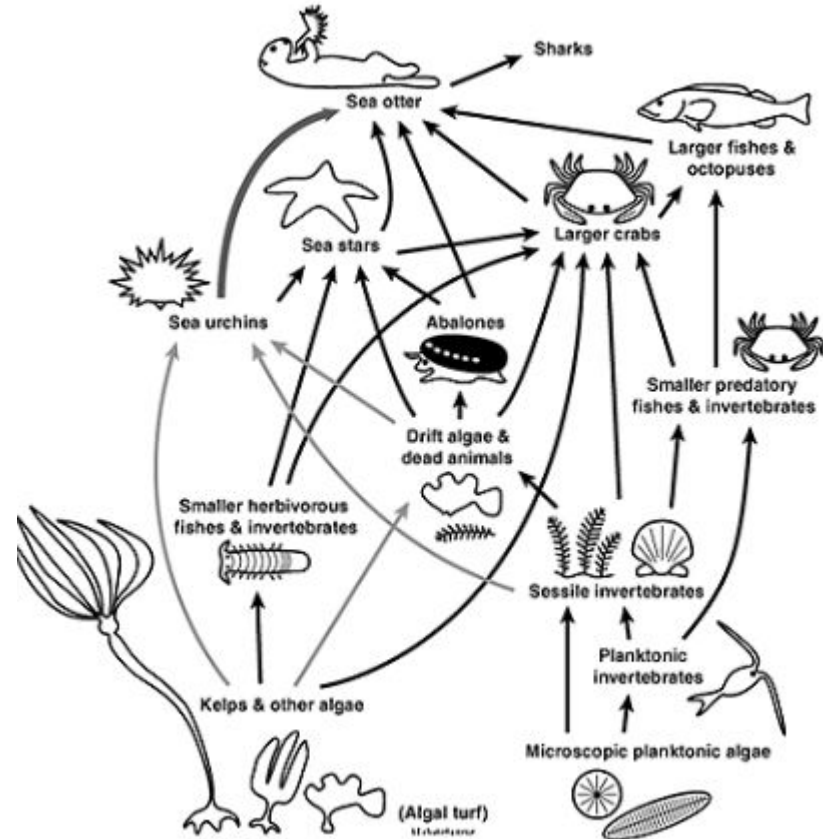
7) Brittle Stars' niche is that of a producer, scavenger or predator? **Brittle stars are predators, snaring organisms with their arms.**

8) What 2 jobs are done by echinoderm tube feet? **Locomotion and sensory**

9) Which organ protrudes from a sea star, digesting and absorbing its prey?  
**Stomach**

## More Practice Questions- Food Web Review

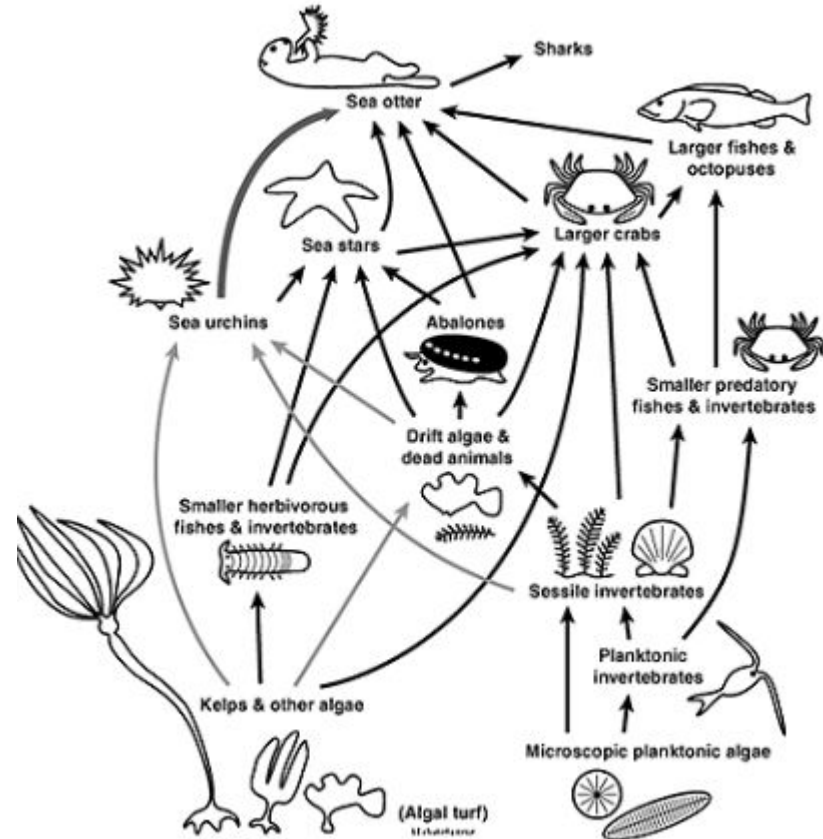
- 1) If the population of sea otters increased in this food web, then the population of sea stars would \_\_\_\_.



## More Practice Questions- Food Web Review

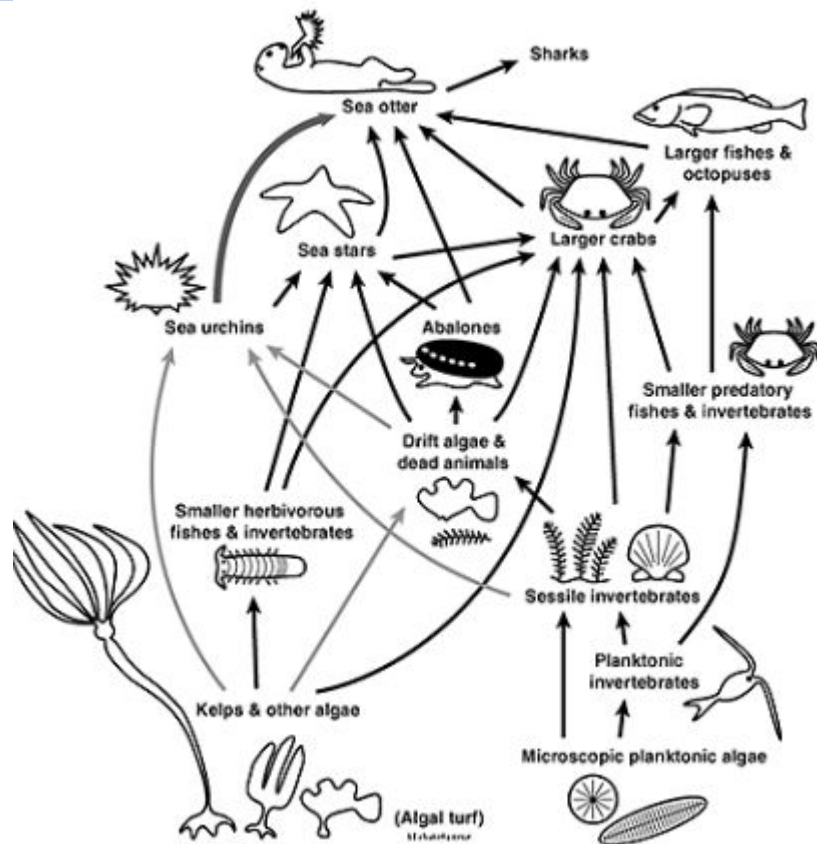
- 1) If the population of sea otters increased in this food web, then the population of sea stars would \_\_\_\_.

Decrease, there would be more predators for the sea stars



## More Practice Questions- Food Web Review

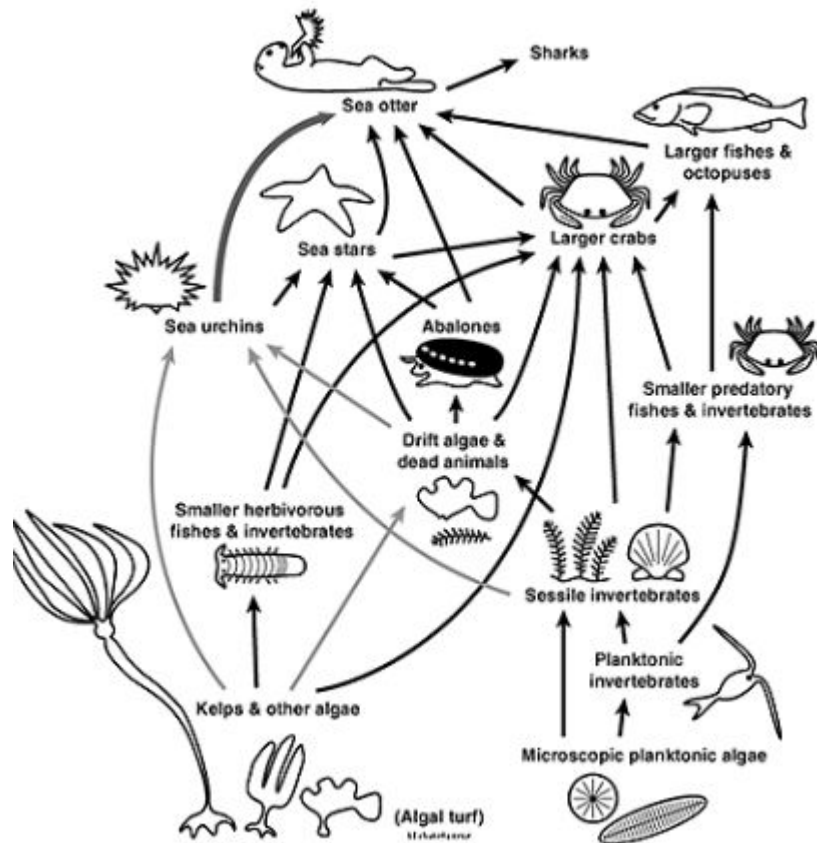
2) If the population of kelp decreased in this food web, then the population of sea urchins would \_\_\_\_.



## More Practice Questions- Food Web Review

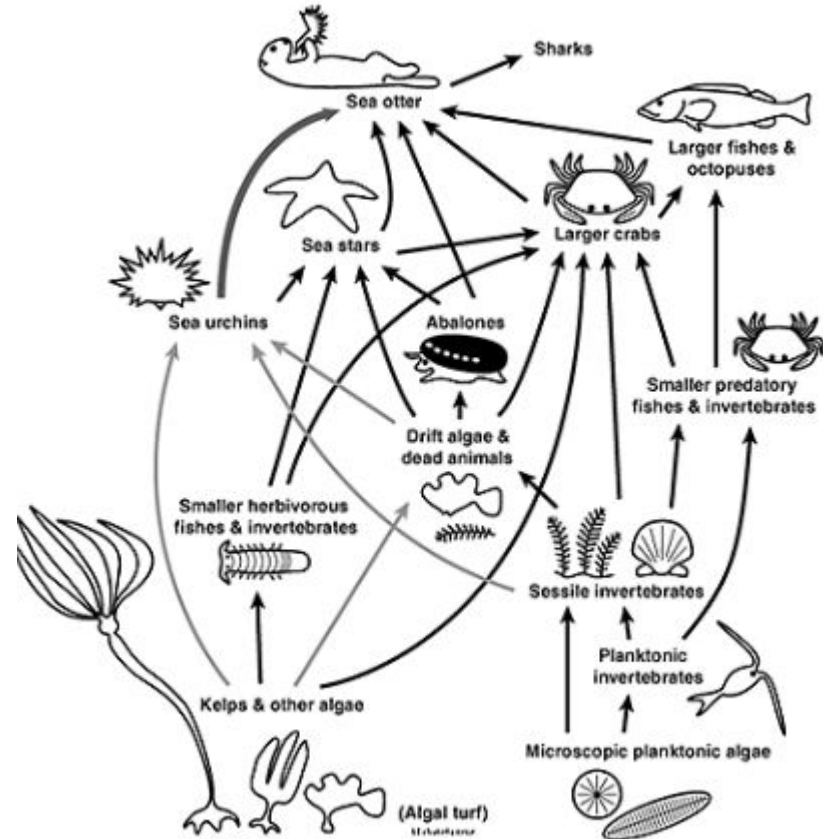
2) If the population of kelp decreased in this food web, then the population of sea urchins would \_\_\_\_.

Decrease, there would be less food for the sea urchins



## More Practice Questions- Food Web Review

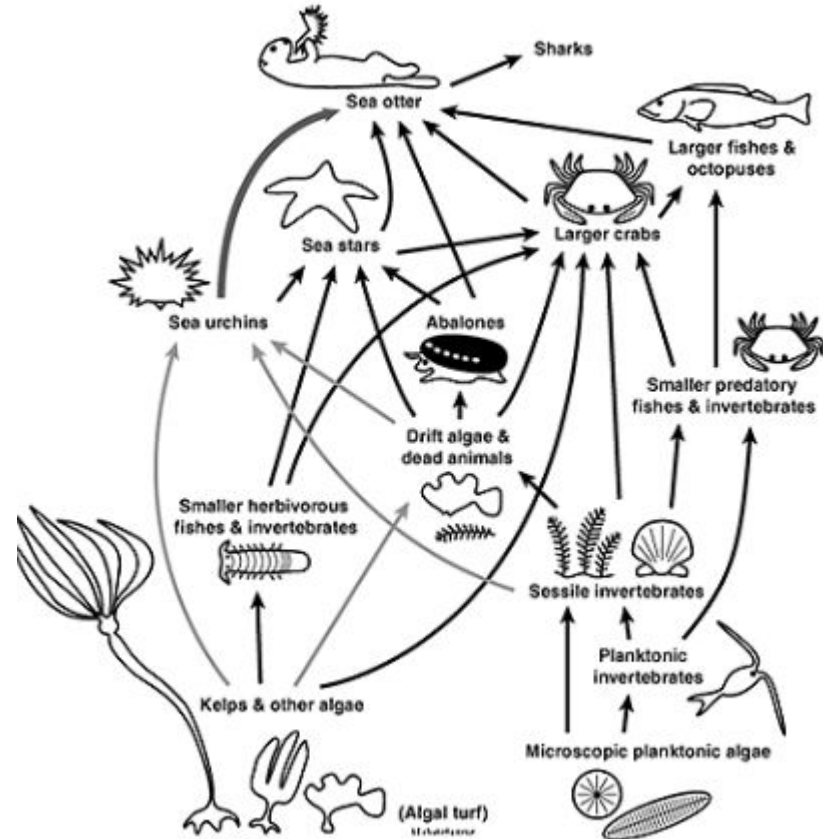
3) If the population of sharks increased in this food web, then the population of sea urchins would \_\_\_\_.



## More Practice Questions- Food Web Review

3) If the population of sharks increased in this food web, then the population of sea urchins would \_\_\_\_.

**Increase, with the increase of sharks there should be a decrease in the sea otter population- so fewer sea urchins would be eaten**

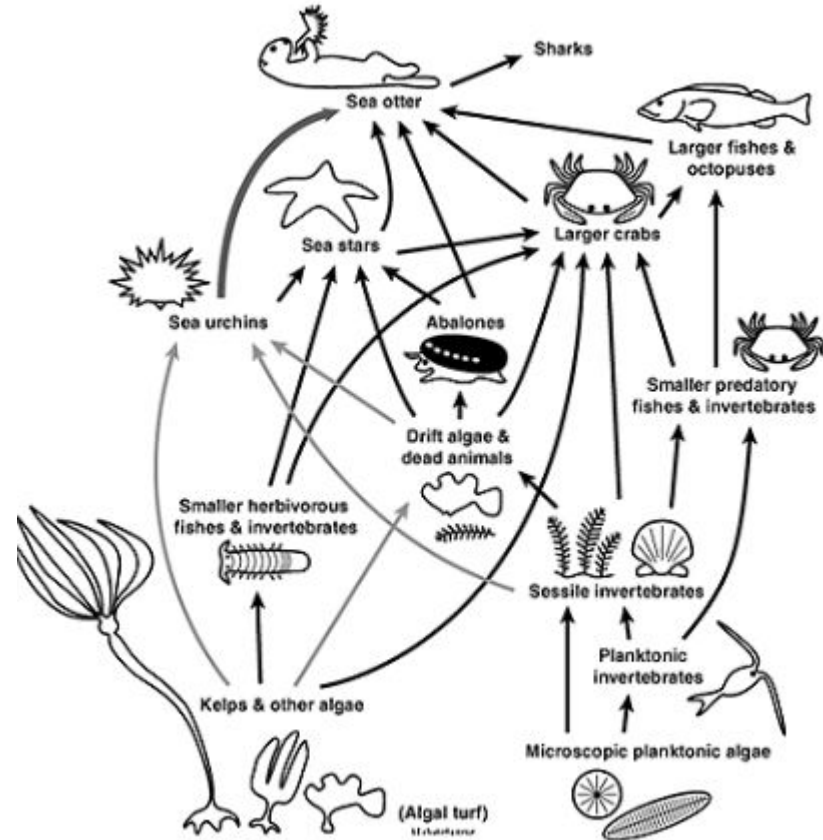




## More Practice Questions- Food Web Review

4) Which environmental issue would not impact any members of this food web?

- a) Water pollution
- b) Lack of sunlight
- c) Drought

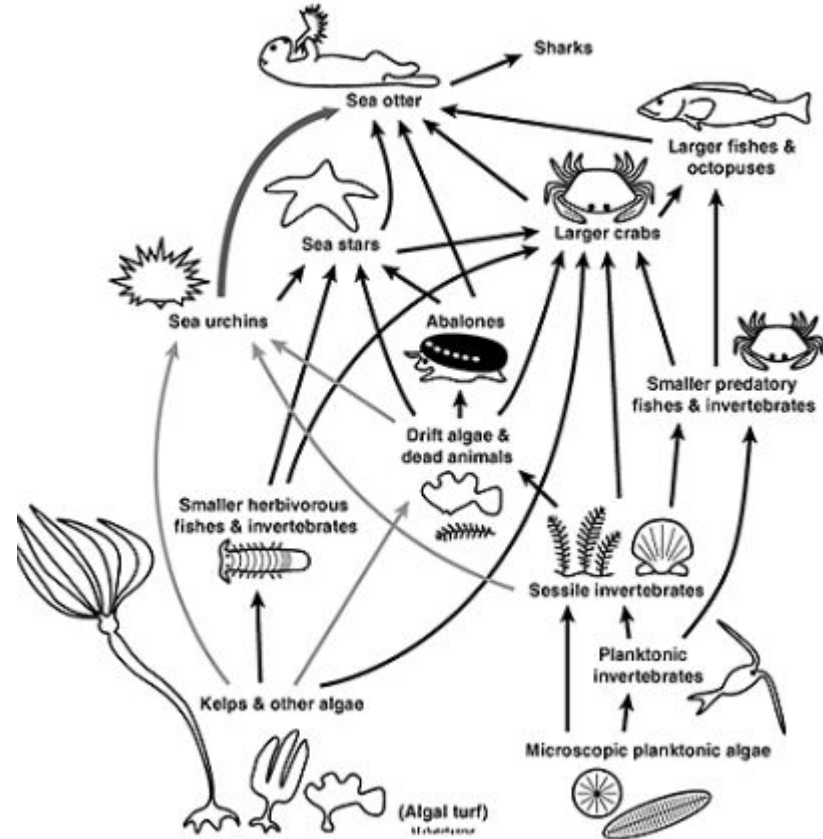




## More Practice Questions- Food Web Review

4) Which environmental issue would not impact any members of this food web?

- a) Water pollution
- b) Lack of sunlight
- c) **Drought**



## Common Misconceptions:

[Click](#) here to read more about Echinoderms and answer some questions about whether they have blood, or can see, or have an exoskeleton.

## Extra Resources:

Learn more about the echinoderms and their relatives at [Tree of Life](#)

Still want to know more- probably more than you will ever need to know is here at the [Digital Atlas of Ancient Life](#)

Want to own a piece of echinoderm history- check out these echinoderm fossils for sale at [FossilEra](#)