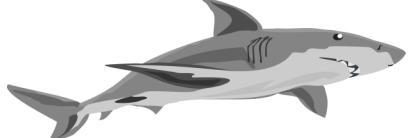


## Spice of Life

### Part 1: Observations

During the video of Habitat A, make one tally mark for each different animal or plant you observe in that category. Once you have more than ten tally marks, put a plus sign (+) and stop counting for that category.

Categories of Animals and Plants	Habitat A
Fish and Eels	
Sharks	
Crabs, Lobsters, Shrimp	
Turtles	
Sea Cucumbers and Sea Stars	
Anemone	
Coral	
Seagrass and Sea Sponges	
Algae	

1. How many different categories of animals and plants did you see in Habitat A?

\_\_\_\_\_

2. I observed animals eating

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

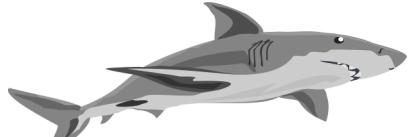
3. If you observed Habitat A a year later, do you think you would see similar species?

Yes      No

4. This means Habitat A is: \_\_\_\_\_

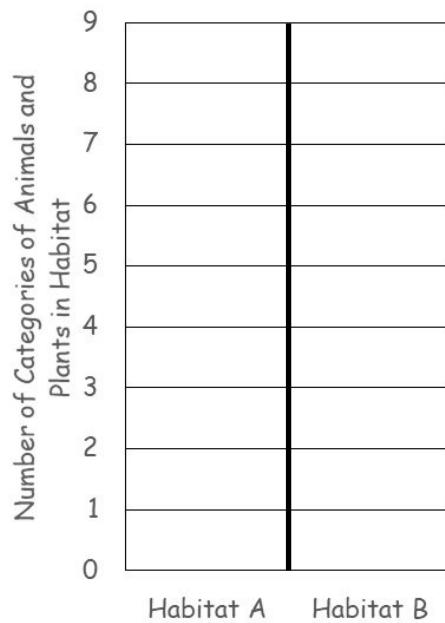
5. Habitat A has been this way for a \_\_\_\_\_ time.

Over time, the temperature changed. Watch the video of Habitat B to see what happened. During the video, make one tally mark for each different animal or plant you observe in that category. Once you have more than ten tally marks, put a plus sign (+) and stop counting for that category.

Categories of Animals and Plants	Habitat B
Fish and Eels 	6. How many different categories of animals and plants did you see in Habitat B? _____
Sharks 	7. What happened to the coral when the temperature rose? _____
Crabs, Lobsters, Shrimp 	8. How long did this change take? _____
Turtles 	9. When the temperature was rising, was the habitat stable or unstable? _____
Sea Cucumbers and Sea Stars 	10. If you observed Habitat B a year later, do you think you would see similar species? Yes      No
Anemone 	
Coral 	
Seagrass and Sea Sponges 	
Algae 	11. This means Habitat B is: _____.

## Analysis

12. Fill in one box for each category of animal and plant that you recorded in each habitat (look at questions 1 and 6 for help).



13. More fish live in Habitat \_\_\_\_\_ than in Habitat \_\_\_\_\_. This might be because \_\_\_\_\_.

## Explanations

14. Before the temperature change, the habitat was \_\_\_\_\_. The temperature rise caused the habitat to \_\_\_\_\_, making it \_\_\_\_\_. During this time many plants and animals \_\_\_\_\_. Eventually the habitat became \_\_\_\_\_ again, but \_\_\_\_\_ species lived there.

15. If I were a fish I would want to live in Habitat \_\_\_\_\_ because \_\_\_\_\_

## Part 2: Hungry Habitats — Normal Temperatures

16. Circle the animal you are: Guard Crab      Sea Snail      Parrotfish

17. Circle the foods you eat: algae      coral      seagrass

18. Do you have a preference for any food and, if so, what? \_\_\_\_\_

If you have a preference for a food, you have to eat that food first if you can.

19. I have to eat \_\_\_\_\_ times to survive. If I eat \_\_\_\_\_ than that, I will die. If I eat \_\_\_\_\_ than that, I will not be allowed to participate in the simulation any more.



## Habitat 1: Normal Temperature

20. Circle the foods that are found in Habitat 1: algae coral seagrass

21. Fill out the table with the amount of food at the start and finish.

	Algae	Coral	Seagrass
Start			
Finish			

22. Fill out the table with the number of animals at the start and finish.

	Guard Crab	Sea Snail	Parrotfish
Start			
Finish			

23. I ate \_\_\_\_\_ times, so I am alive dead.

24. I observed the guard crabs eating: algae coral seagrass

25. I observed the sea snails eating: algae coral seagrass

26. I observed the parrotfish eating: algae coral seagrass

## Habitat 2: Normal Temperature

27. Circle the foods that are found in Habitat 2: algae coral seagrass

28. Fill out the table with the amount of food at the start and finish.

	Algae 	Coral 	Seagrass 
Start			
Finish			

29. Fill out the table with the number of animals at the start and finish.

	Guard Crab 	Sea Snail 	Parrotfish 
Start			
Finish			

30. I ate \_\_\_\_\_ times, so I am alive dead.

31. I observed the guard crabs eating: algae coral seagrass

32. I observed the sea snails eating: algae coral seagrass

33. I observed the parrotfish eating: algae coral seagrass

### Habitat 3: Normal Temperature

34. Circle the foods that are found in Habitat 3: algae coral seagrass

35. Fill out the table with the amount of food at the start and finish.

	Algae 	Coral 	Seagrass 
Start			
Finish			

36. Fill out the table with the number of animals at the start and finish.

	Guard Crab 	Sea Snail 	Parrotfish 
Start			
Finish			

37. I ate \_\_\_\_\_ times, so I am alive dead.

38. I observed the guard crabs eating: algae coral seagrass

39. I observed the sea snails eating: algae coral seagrass

40. I observed the parrotfish eating: algae coral seagrass

41. Based on what you have learned about Habitats 1, 2, and 3, fill out the food web below by drawing lines connecting the animals to what they eat.

### Food Web

Guard Crab

Sea Snail

Parrotfish

Algae

Coral

Seagrass

42. In coral reefs, tiger sharks eat guard crabs and parrotfish. Draw a box where tiger sharks should be in the food web and connect it to what it eats.

43. While the animals in some of the habitats seemed to eat up a food source, these food sources would be expected to grow back over time (as long as they were there to start with). Having the same species of plants and animals in an area for a long time would make the habitat \_\_\_\_\_.

44. Which species do you think would be found in each habitat after one year?

Habitat 1:      algae      coral      seagrass      guard crabs      sea snails      parrotfish

Habitat 2:      algae      coral      seagrass      guard crabs      sea snails      parrotfish

Habitat 3:      algae      coral      seagrass      guard crabs      sea snails      parrotfish

## Part 3: Hungry Habitats – High Temperatures

While the habitats had been stable for a long time, increasing temperatures caused a change in them.

45. Thinking back to the video, how do you think the increasing water temperature would affect the habitat?

## Habitat 1: High Temperature

46. Circle the foods that are now found in Habitat 1: algae coral seagrass

47. Fill out the table with the amount of food at the start and finish.

	Algae	Coral	Seagrass	Total Food Sources
Start				
Finish				

48. Fill out the table with the number of animals at the start and finish.

	Guard Crabs	Sea Snails	Parrotfish	Total Animals
Start				
Finish				

49. I ate \_\_\_\_\_ times, so I am \_\_\_\_\_ alive \_\_\_\_\_ dead.

50. Number of animals that died:

## Habitat 2: High Temperature

51. Circle the foods that are now found in Habitat 2: algae coral seagrass

52. Fill out the table with the amount food at the start and finish.

	Algae 	Coral 	Seagrass 	Total Food Sources
Start				
Finish				

53. Fill out the table with the number of animals at the start and finish.

	Guard Crabs 	Sea Snails 	Parrotfish 	Total Animals
Start				
Finish				

54. I ate \_\_\_\_\_ times, so I am alive dead.

55. Number of animals that died:

### Habitat 3: High Temperature

56. Circle the foods that are now found in Habitat 3: algae coral seagrass

57. Fill out the table with the amount of food at the start and finish.

	Algae 	Coral 	Seagrass 	Total Food Sources
Start				
Finish				

58. Fill out the table with the number of animals at the start and finish.

	Guard Crabs 	Sea Snails 	Parrotfish 	Total Animals
Start				
Finish				

59. I ate \_\_\_\_\_ times, so I am alive dead.

60. Number of animals that died:

## Food

61. What was different between the food sources in the habitats before the temperature change?

Habitat 1 had      algae      coral      seagrass

Habitat 2 had      algae      coral      seagrass

Habitat 3 had      algae      coral      seagrass

62. The food source that was affected by the temperature change was \_\_\_\_\_.

This left Habitat 1 with \_\_\_\_\_ food sources, Habitat 2 with \_\_\_\_\_ food source, and Habitat 3 with \_\_\_\_\_ food sources.

## Animals

63. In Habitat 1, circle what animals were present before and after the temperature change. If a species had some animals die, but not all of them, underline it.

Before:      guard crab      sea snail      parrotfish

After:      guard crab      sea snail      parrotfish

64. The temperature change caused Habitat 1 to lose \_\_\_\_\_ species of animal and \_\_\_\_\_ total animals.

65. In Habitat 2, circle what animals were present before and after the temperature change. If a species had some animals die, but not all of them, underline it.

Before:      guard crab      sea snail      parrotfish

After:      guard crab      sea snail      parrotfish

66. The temperature change caused Habitat 2 to lose \_\_\_\_\_ species of animal and \_\_\_\_\_ total animals.

67. In Habitat 3, circle what animals were present before and after the temperature change. If a species had some animals die, but not all of them, underline it.

Before:      guard crab      sea snail      parrotfish

After:      guard crab      sea snail      parrotfish

68. The temperature change caused Habitat 3 to lose \_\_\_\_\_ species of animal and \_\_\_\_\_ total animals.

69. Which habitat had the largest change in the number of animals present after the temperature increased?      Habitat 1      Habitat 2      Habitat 3

### Total Species

70. How many species (food and animals) are present when the habitat is stable for both normal and high temperatures?

	Normal Temperature	High Temperature
Habitat 1		
Habitat 2		
Habitat 3		

71. List the habitats in increasing order of the number of species they had when the temperature was normal. \_\_\_\_\_ lowest \_\_\_\_\_ highest

## Part 4: Explanations and Applications

### Explanations

72. Why might the differences in the habitats cause different amounts of animals to die after the temperature changed?

Habitat \_\_\_\_\_ had the **fewest** animals die off because it had \_\_\_\_\_

\_\_\_\_\_. Habitat \_\_\_\_\_ had the **most** animals die off because it had \_\_\_\_\_.

73. Habitats are most stable when \_\_\_\_\_.

### Applications

Use your food web on page 8 to answer these questions.

74. Circle the animal that was affected the most by the increase in temperature.

guard crab

sea snail

parrotfish

Evidence: This animal was affected the most because \_\_\_\_\_  
\_\_\_\_\_.

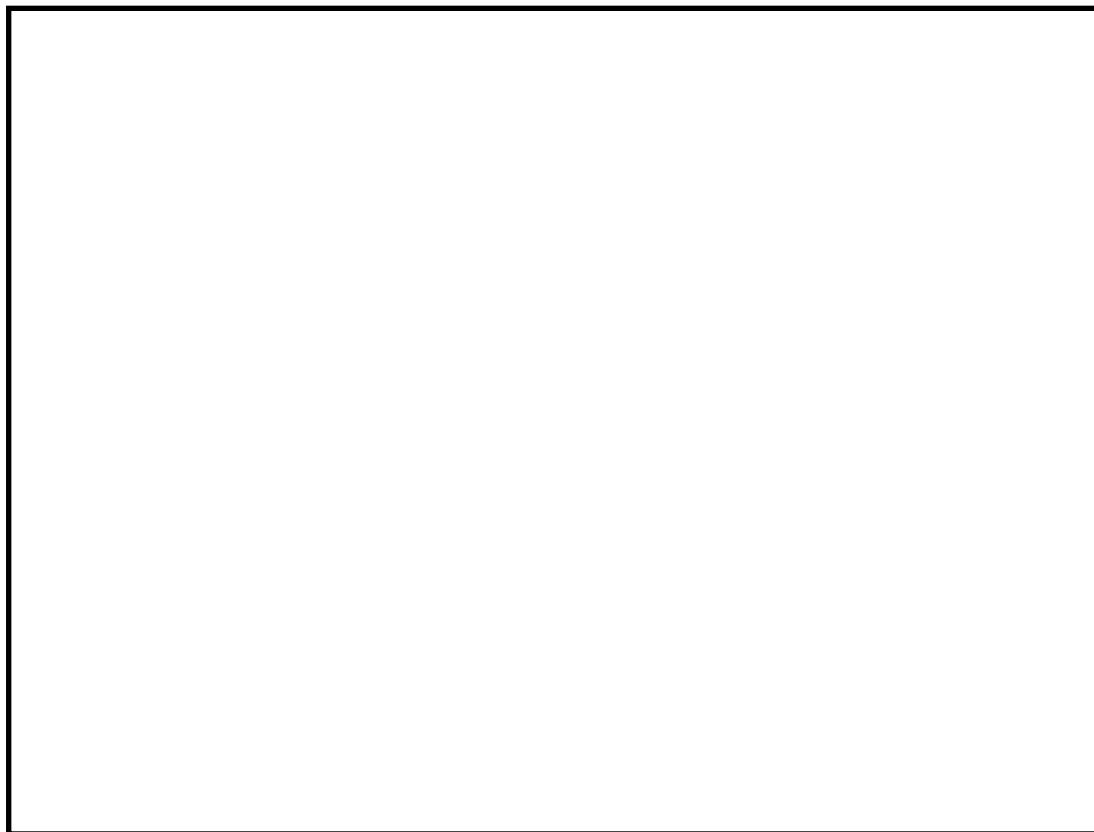
75. Animals are more likely to survive changes in the environment when \_\_\_\_\_  
\_\_\_\_\_.

76. The species that was most stable was \_\_\_\_\_.

77. What would happen to tiger sharks if the temperature of the seawater increased?

When the seawater gets warmer, \_\_\_\_\_ dies, which means that \_\_\_\_\_  
none/some/all  
of the guard crabs die and \_\_\_\_\_ of the parrotfish die. This causes \_\_\_\_\_  
none/some/all  
tiger sharks to die because \_\_\_\_\_  
\_\_\_\_\_.

78. Draw what you think a stable rainforest might look like.



Animal Species

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Food Species

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Do you have  
multiple of each  
food species in your  
picture? Yes No

79. Draw what an unstable rainforest might look like.



Animal Species

---

Food Species

---

Do you have  
multiple of each  
food species in your  
picture? Yes No