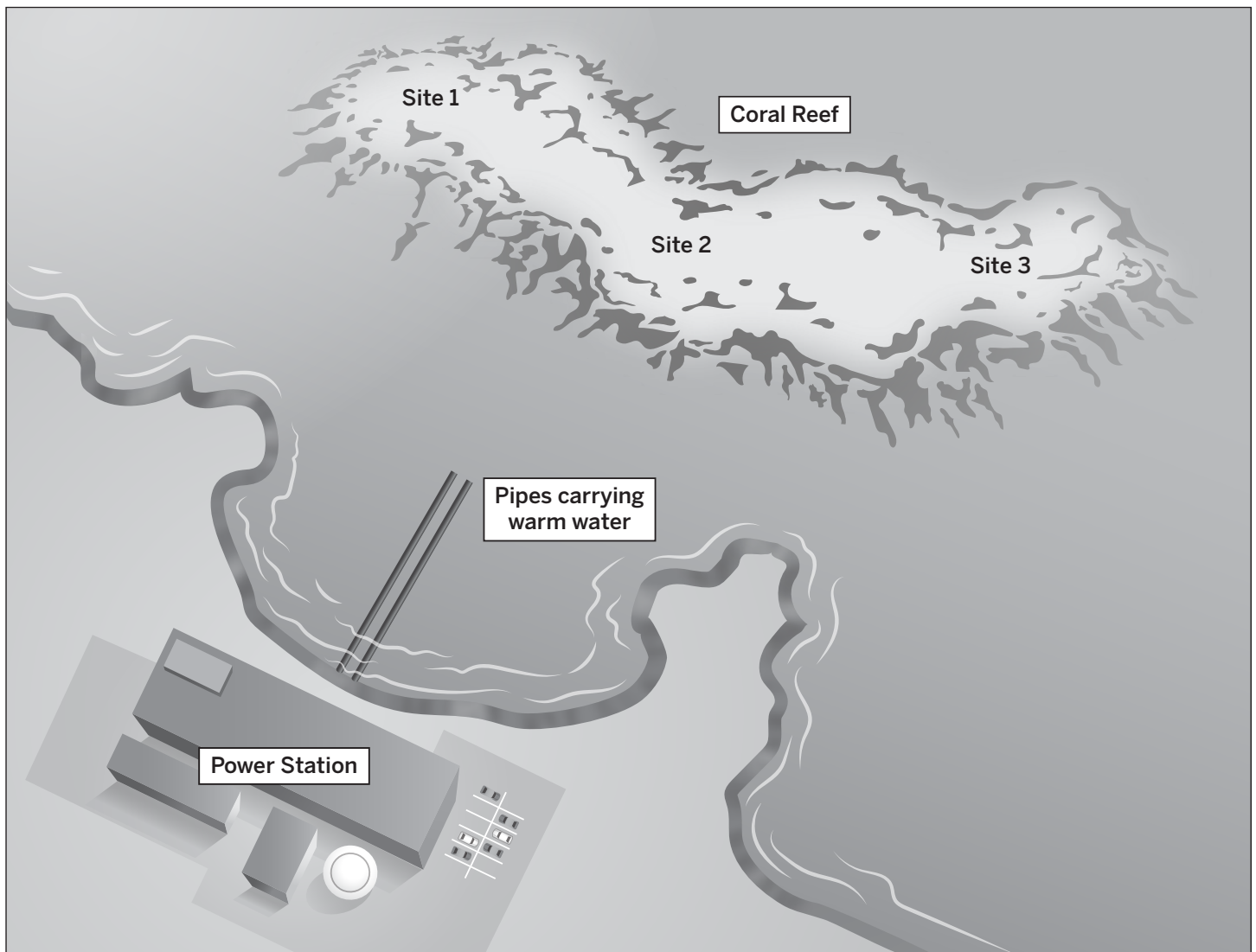


Chapter 4 Assessment

1. There is a large coral reef off the coast of an island. Many organisms find food and live in and around the coral reef. The local energy company has built a new power station to meet the energy needs of the growing island population. The power station produces warm water that must be released. Pipes have been built to release warm, clean water into the ocean and 1 kilometer from the edge of the reef.

Algae are an invasive species that can be found near the reef. They use sunlight to make food. When large amounts of algae grow together they can form algal mats. These mats can float on the surface of the water. The mats can block sunlight from reaching the coral reef. Like the algae, coral needs sunlight to grow.

The data tables on pages 2 and 3 show data about water temperature and reef populations in the years following the construction of the power station.



Chapter 4 Assessment

Continued

Name _____

Data from Site 1

Year	Water Temperature (°C)	Size of Coral Reef (square meters)	Size of Algal Mats (square meters)	Total Number of Species living at Site 1 (not including algae)	Estimated Number of Organisms living at Site 1 (not including algae)
1	28	98	0	21	1,200
2	28	97	0	21	1,200
3	31	81	10	19	1,100
4	32	75	15	18	1,000
5	32	71	17	18	900

Data from Site 2

Year	Water Temperature (°C)	Size of Coral Reef (square meters)	Size of Algal Mats (square meters)	Total Number of Species living at Site 2 (not including algae)	Estimated Number of Organisms living at Site 2 (not including algae)
1	28	100	0	20	1,300
2	28	101	0	20	1,300
3	31	83	10	19	1,200
4	31	78	15	18	1,100
5	32	71	20	17	1,000

Chapter 4 Assessment

Continued

Name _____

Data from Site 3

Year	Water Temperature (°C)	Size of Coral Reef (square meters)	Size of Algal Mats (square meters)	Total Number of Species living at Site 3 (not including algae)	Estimated Number of Organisms living at Site 3 (not including algae)
1	28	99	0	22	1,250
2	28	99	0	22	1,300
3	29	98	0	22	1,250
4	28	98	0	22	1,300
5	29	98	0	22	1,250

1. Describe the changes that occurred at the three coral reef sites.

	Describe the changes (if any)
Site 1	
Site 2	
Site 3	

Chapter 4 Assessment

Continued

Name _____

2a. Construct a scientific argument that answers the question:

“Did the power station cause large changes in the populations of organisms living on the coral reef?”

Your argument should include the following:

- The scientific question
- Your claim (which is best supported by evidence and reasoning)
- The relevant evidence that supports your claim
- Scientific reasoning that critiques the evidence and evaluates your claim

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Chapter 4 Assessment
Continued

Name _____

2b. Imagine that you have a classmate who disagrees with your claim. What claim might your classmate make?

2c. What is the problem with your classmate’s claim or the argument based on that claim?
