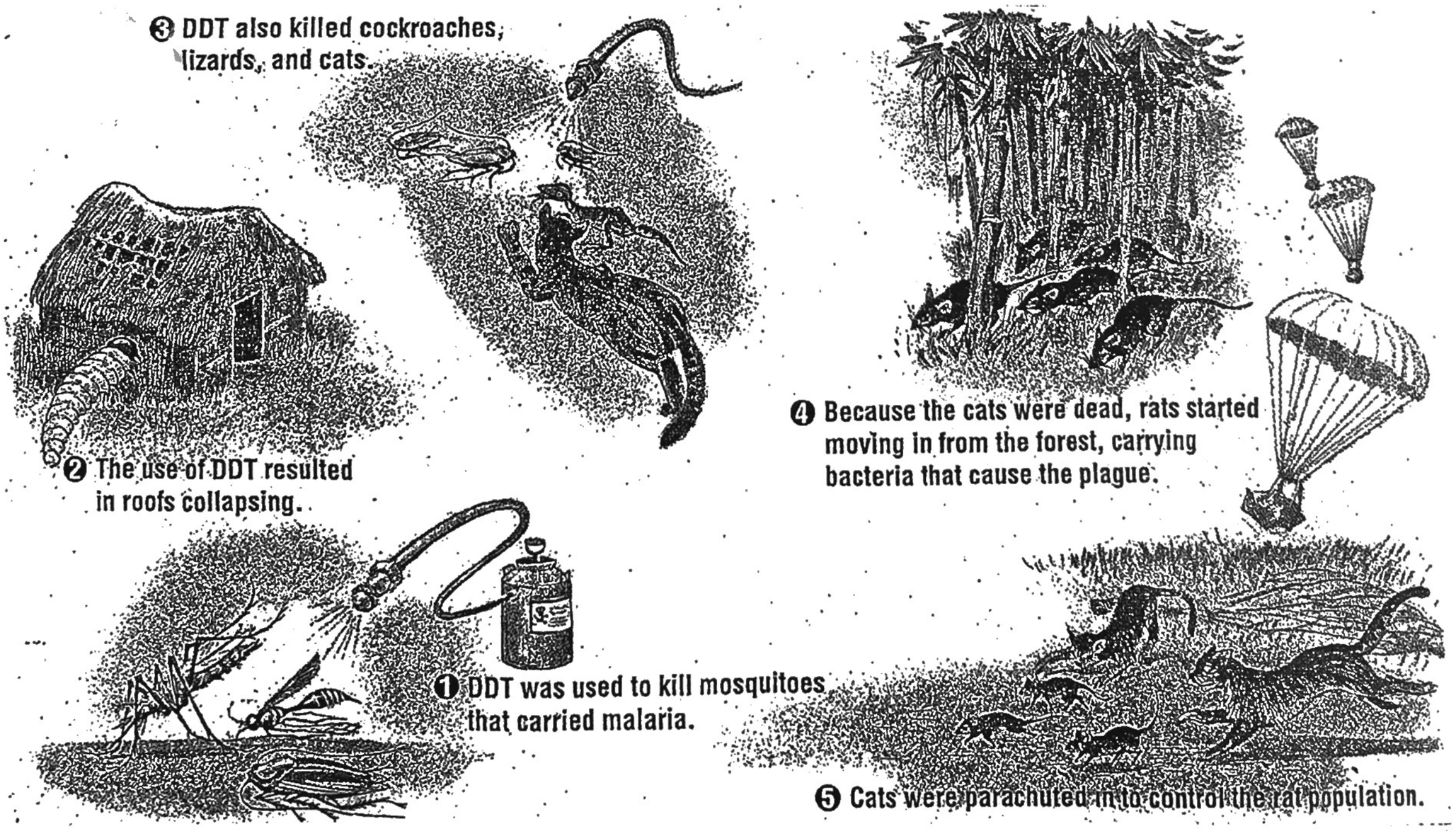
Name _____

The Borneo Ecosystem

The environment is so complex and interconnected that scientists don't yet completely understand how it works. This becomes clear to us when human actions have unexpected effects on the environment, as they did on the Southeast Asian island of Borneo. The world Health Organization used the pesticide DDT to kill the mosquitoes that carry the disease malaria. The DDT killed the mosquitoes and relieved the malaria problem on Borneo, but it also caused an undesirable chain reaction on the island.

First, the thatch roofs on the houses of Borneo started collapsing. What could this have to do with DDT? The DDT had killed the wasps that ate thatch-eating caterpillars. Without the wasps around the caterpillars multiplied and devoured the thatch roofs. Meanwhile, the DDT also landed on Borneo's cockroaches. The cockroaches were eaten by geckos (a kind of lizard). The geckos suffered nerve damage from the pesticide, causing their reflexes to become slower. Because the nerve-damaged geckos moved so slowly, most of them were caught and eaten by house cats. After the cats ate the geckos, they also suffered from the DDT and died in great numbers. Without the cats around, rats started moving in from Borneo's forests. On the rats came fleas, which carried the bacteria that cause the plague. Finally, officials resorted to parachuting healthy cats into Borneo to control the rat population!

The unforeseen chain of events on Borneo occurred because the living things on the island were connected to each other in an ecological network called an ecosystem.



Answer the questions on the back

1. In your own words, describe the chain reaction of events that led from a malaria problem to a plague problem in the ecosystem on Borneo.

2. How does this example show that each part of an ecosystem plays an important role?

3. Are all parts of an ecosystem equally important? Explain.

4. How is an ecosystem and its parts similar to a functioning automobile? Are there parts of an automobile that are more important than others? How does this relate to ecosystems? Explain.

5. If you had to choose the most important piece of our ecosystem in St. George, what would it be and why?