**Constructed Response Questions – Grade 5 -2013**

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**New Homes for Hermit Crabs**

by Bart King

Hermit crabs are nature’s recyclers. Like many other crabs, the hermit crab eats waste. By living on sea scraps, hermit crabs help keep oceans and shores clean. Some hermit crabs hide in reefs or live in shallow waters, while others scuttle on the ocean floor. There are also hermit crabs that spend most of their lives ashore.

Unlike other crabs, the hermit crab has a thin outer shell over its s

oft tail. This makes the hermit crab easy prey for hungry predators. Hermit crabs stay safe by living in old seashells. A hermit crab is picky; it tries on many shells until it finds one that fits just right. The hermit crab backs into its new home and uses its tail and rear legs to grab onto the shell and carry it. If a predator shows up, the crab retreats into its shell and blocks the entrance with its strong claws.

During a lifetime, one hermit crab will inhabit many different seashells. As a hermit crab grows, the crab leaves its home, upgrading to a larger shell. In recent years, however, many hermit crabs have had trouble finding their perfect homes. What is the problem? There are not enough shells to go around!

One reason for the seashell shortage is that ocean water is not as clean as it once was. This has caused chemical changes to seawater. Some sea animals, like snails, are affected by these changes. Now there are fewer snails making shells. People visiting the beach often take shells home as souvenirs. This is another problem. Other people even take shells for their own pet hermit crabs! They do not realize that hermit crabs in the wild need those shells too.

The hermit crabs in the ocean have learned to adapt to the changing housing situation. Like the good recyclers they are, hermit crabs started moving into small bottles, plastic cups, and other ocean litter. None of these are very good choices for crabs.

Now people are working to solve this hermit crab housing shortage. They are teaching beach-goers to leave seashells where they belong—at the seashore! Some people even make fake seashells that they hope the hermit crabs will like. For example, a group called Project Shellter invited people who visited their Web site to create different designs for hermit crab shells.

These designers had a lot to consider. What kind of material should be used to build a seashell? The material must be light enough for the hermit crab to carry, but strong enough to protect the crab from predators. The fake shells could not contain glue or any other substance that might harm a hermit crab. Another challenge with building a hermit crab home was the opening to the shell. Too big would mean the crab would not feel safe. Too small would be uncomfortable, and the crab would not want to move in.

Project Shellter designs were tested on hermit crabs in two aquariums. That way, project leaders could watch the crabs to find out which shells were their favorites. The most popular of these new hermit crab homes are made of plastic, but they look like real seashells.

These artificial shells have two important purposes. First, people who own hermit crabs can give them to their pets. That keeps real seashells in the ocean, rather than in home aquariums. The Project Shellter shells are also placed in the wild for hermit crabs to find. Lucky hermit crabs can move into these new dream homes and leave those plastic cups behind.



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