**Good Buddies – Symbiosis**

**Commensalism - A relationship in which one organism benefits and the other is not harmed nor helped.**

- **Barnacles** create home sites by attaching themselves to **whales**. This relationship neither harms nor benefits the whales.

- **Remoras** attach themselves to a **shark**’s body. They then travel with the shark and feed on the leftover food scraps from the shark’s meals. The relationship neither harms nor benefits the shark.

- The **stork** uses it saw-like bill to cut up the dead animals it eats. As a result, the dead animal carcass is accessible to some **bees** for food and egg laying. The relationship neither harms nor benefits the stork.

- **Hermit crabs** live in shells made and then abandoned by **snails**. This relationship neither helps nor harms the snails.

- As **bison** walk through grass, **insects** become active and are seen and eaten by cowbirds. The relationship neither harms nor benefits the bison.

- **Orchids** grow inside a **bromeliad plant**. The orchid obtains water and nutrients from the bromeliad, but does not help or harm it.

- A **sparrow** will build its nest under the nest of an **osprey**. The smaller birds get protection because other predators will not mess with the osprey. The osprey are not helped nor harmed by the sparrow.

**Mutualism - A relationship in which both organisms benefit.**

- **Yucca flowers** are pollinated by **yucca moths**. The moths lay their eggs in the flowers where the larvae hatch and eat some of the developing seeds. Both species benefit.

- **Honey guide birds** alert and direct **badgers** to bee hives. The badgers then expose the hives and feed on the honey first. Next the honey guide birds eat. Both species benefit.

- **Ostriches** and **gazelles** feed next to each other. They both watch for predators and alert each other to danger. Because the visual abilities of the two species are different, they can identify threats that the other animal would not see as readily.

- **Oxpeckers** feed on the ticks found on a **rhinoceros**. The oxpeckers get a meal and the rhinoceros is helped by the removal of the ticks.

- **Wrasse fish** feed on the parasites found on the **black sea bass’s** body. The wrasse fish get a meal and the black sea bass is helped by the removal of the parasites.

**Parasitism - A relationship in which one organism benefits and the other is harmed.**

- **Mistletoe** extracts water and nutrients from a **spruce tree**. The spruce tree is harmed.

- A **cuckoo** may lay its eggs in a **warbler**’s nest. The cuckoo’s young will knock the warbler’s eggs out of a nest and the warbler will raise the cuckoo’s young.

- A **flea** feeds on a **mouse**’s blood and harms the mouse.

- **Ticks** will feed on a **deer**’s blood and harm the deer.

- **Heartworms** develop inside a **dog**’s heart. The worms cause health problems and may result in death.

- A **wasp** lays its eggs on a **caterpillar**. When the wasp eggs hatch, the larva will eat the caterpillar and kill it.

*Worksheet & cards developed for use with the Good Buddies activity available from Project Wild*