Grade 7 Natural Science Worksheet

Assessment Task: Animal adaptation: food

How different animals feed

When we study animal behaviour, we start by dividing animals into different categories. A good start is by dividing animals into those that eat meat (carnivores), those that eat plants (herbivores) and those that eat both meat and plant matter (omnivores).

Carnivores generally have larger, sharper teeth for holding and tearing the flesh of their prey. They also have stronger jaw muscles than plant eaters. Carnivores that hunt their prey are called predators. Examples include the lion, tiger, otter and meerkat. Other carnivores that eat what is already dead, are termed scavengers, such as the hyena, although they sometimes hunt and kill in packs, jackal and vultures. The behaviour of carnivores is directly related to what they eat. Some will have to hunt prey, others will have to watch other hunters.

Herbivores are animals that eat plant matter. The plants they eat vary, depending on the environment they live in. Herbivores tend to live where their preferred food can be found. Herbivores play an important role in the food chain. They draw energy from the plants they eat and use this energy to grow. Herbivores, in turn, are consumed by carnivores and omnivores (which eat both meat and plants, e.g. baboons, pigs and bears) higher up on the food chain.

In this lesson we will look at two types of herbivores, namely grazers and browsers. Grazers, for example wildebeest, buffalo and sheep, feed on ground-plants such as grasses and low shrubs. Browsers get their nutrition from taller plant matter, such as leaves, soft twigs, shoots and fruits, e.g. the elephant, giraffe, many buck and goats. Omnivores include humans who have adapted to feed on both plants and animals. Some animals are "opportunistic" feeders because they eat anything when the opportunity arises. This is an important survival technique for these animals.

1. Draw up a table that categorises different ways in which animals feed. Name as many examples of each type as you can. Try and find pictures of animals to insert in your table.

   [20 marks]

2. What physical features (both those you can and cannot see) do carnivores have in common? Answer the same question for herbivores. [6 marks]

3.   There are two types of rhinos, namely "black" and "white", although their colour doesn't actually differ as noticeably as that. One is a browser and one a grazer. Discuss which is which, how they have adapted and why they may have undergone these particular adaptations.

[6 marks]

4.   What feeding class do humans fall into and how are we similar or different from carnivores and herbivores?   [10 marks]

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Suggested Solutions

Question number	Possible marks	Solution		
1	15 for table, 5 for pictures added = 20	**Herbivores✓**	**Carnivores✓**	**Omnivores✓**
		Grazers✓	**Predators✓**	
		Sheep, cows, buffalo, antelope like springbuck, seed-eating birds, white rhino.✓✓	Cats e.g. lion, leopard, cheetah, serval and civet cat; Cape hunting dog; raptors e.g. hawks, kites, eagles; snakes; meerkats.✓✓	Pigs, monkeys e.g. vervets and apes, baboons and chimpanzees.✓✓
		Browsers.✓	Scavengers.✓	
		Giraffe; buck that live in bushy environments e.g. kudu, impala, nyala; black rhino.✓✓	Hyena, jackals, vultures, marabou stork.✓✓	
2	6	**Carnivores:** Shape of their teeth✓ e.g. sharp canines for tearing ✓and molars for crushing✓; digestive system that can cope with raw meat.✓ **Herbivores:** Teeth for nibbling ✓and/or grinding plant matter✓; digestive system that can break down cellulose.✓		
3	6	The lips of the rhinoceros are what give us the clue. The "white" rhino ✓(which is really not white but grey) has square lips✓ for grazing ✓and nibbling quite short grass. ✓The "black" rhino ✓(which is about the same colour as the white rhino) has a pointed, prehensile (it can curl and grip small branches) upper lip✓ for browsing. ✓On average the white rhino is larger than the black rhino.✓		
4	10	Humans are omnivores.✓ Our teeth are incisors✓ for cutting,✓ canines ✓for tearing ✓and molars ✓for grinding. ✓Our digestive systems have adapted to deal with meat and plant matter.✓ These features and abilities have enabled humans to inhabit every environment on planet Earth.✓Humans are hunters and gatherers.✓✓		