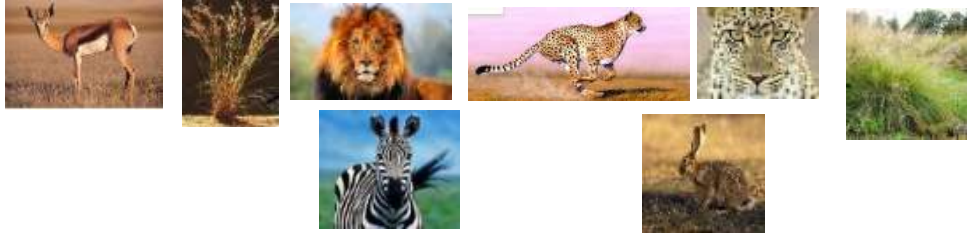| %	I can …		Prove it!
80%+	**Use evidence to support Darwin's Theory of Natural Selection and explain why some people had difficulty accepting it (MM5)** **Evaluate the effect of chemicals on organisms in food web (MM4)** **Independently Construct a pyramid of numbers and a pyramid of biomass (MM6)**		1) Charles Darwin proposed the theory of Natural Selection to explain the evolution of different species. Can you provide a summary of Darwin's Theory providing one example from your knowledge? 2) Can you provide 2 pieces of scientific evidence to support Darwin's theory? 3) Can you explain why some people had difficulty accepting Darwin's theory? 4) A group of villagers spray the Fine Thatching Grass with insecticide. A few months later, a lion is slaughtered. A large amount of insecticide is found in the lion's blood. Explain why the level found in the lion is much higher than in the Cape Hare? 5) Grasshoppers feed on the Red Oat Grass and Fine Thatching Grass. Initially, the number of Grasshoppers decreased but over the following years, the number began to increase again. Can you apply Darwin's theory of Natural Selection to explain this pattern? 6) Can you draw a pyramid of numbers and a pyramid of biomass to show the information in 70%?
70%	**Independently construct an identification key (MM1)** **Independently construct a food web (MM2)** **Identify complex patterns in data and relate to populations (MM4)** **Explain how humans can change an animal through selective breeding (MM5)** **Use data to produce a pyramid of biomass (MM6)**		In the African grassland, herbivores such as Antelopes, the Cape Hare and Zebras feed on two types of plant, Red Oat Grass and Fine Thatching Grass. Leopards hunt in this area and eat all three of these herbivores as do Cheetahs. The top carnivore in this area is the Lion which hunts all of the animals in the area. 1) Can you design an identification key to allow somebody to identify these 8 organisms? 2) Can you construct a food web to show the feeding relationships of these organisms? 3) Use the data to **describe** the relationship between the numbers of organisms in 2007 compared to in 2008? What could have caused this? Use data to support your answer.

Organism	Average Biomass per organism (Kg)	2007		2008	
		Number	Total biomass (Kg)	Number	Total Biomass (Kg)
Lion	200	5		4	
Cheetah	150	15		14	
Zebra	145	30		15	
Antelope	45	85		0	
Leopard	170	10		11	
Red Oat Grass	0.5	10,000		10,500	
Fine Thatching Grass	1	40,000		39,000	
Cape Hare	20	560		530	

4) A long time ago humans decided to keep cape hares as pets. In order to make better pets they wanted them to be fluffier. Explain how over many generations this could have been achieved.

5) Using the data above, make a pyramid of biomass for read oat grass, cape hares, and cheetahs.

%	I can …		Prove it!
60% ⬆	Explain how one organism in a food web effects another (MM2/MM4) Explain how species can become extinct (MM4) Explain how the differences in organisms help them to survive (MM3) I can explain how a change in one organism could cause a change in another (MM5)		 1) Suggest how a decrease in krill could cause a decrease in sharks? 2) What would happen to the blue whale if all of the salmon died 3) What characteristics does a shark have that allows it to eat lots of salmon 4) An outside factor has caused penguins to become faster swimmers over time. What effect might this have on how fast leopard seals can swim?
50% ⬆	Decide which kingdom an organism belongs to (MM1) Draw a food chain of 3 living things(MM2) Identify 3 advantageous characteristics that will make a predator successful (MM3) State how changes in one population may affect populations of another (MM4) Draw a pyramid of numbers using a food chain. (MM6)		 Salmon Algae Shark Krill 1) Circle the organisms that are animals 2) Use these organisms to construct a food chain. 3) Identify 3 characteristics that would enable the shark to be a successful predator. 4) What might an increase in the number of Krill do to the number of salmon? 5) Draw a pyramid of numbers using the organisms above
40% ⬆	List the 7 characteristics of living things (MM1) Classify things as living/non-living justifying your answer (MM1) Classify living things using their position in a food chain (MM2) Decide which of an animal's characteristics helps it to survive in its habitat (MM3) Decide if an event will increase of decrease a population (MM4)		1) Identify the characteristics of all living things: M N R E S R G 2) Is a chicken living? Justify your answer. 3) At the start of a food web we always have the P_____ eg grass 4) Circle the characteristic(s) that helps a camel survive in the desert. Long tongue Long eyelashes Bushy tail smelly breath 5) A person tips hydrochloric acid into a lake. Will this increase or decrease the population of crabs in the lake?

Key Terms:

Herbivore   Carnivore   Omnivore   Producer   Consumer   Vertebrate   Invertebrate   Biomass   Population

Adaptation   Variation   Natural Selection   Insecticide   Continuous   Discontinuous

Classification Key   Predator   Prey   Food Chain   Food Web   Increase   Decrease   Constant

Characteristic   Feature   Organism   Reptiles   Birds   Mammals   Amphibians   Fish