Comparing Abiotic and Biotic Factors (Tick)			
Factors	**Abiotic**	**Biotic**	**Description / Affect**
Light intensity			
CO_2			
Food availability			
Temperature			
Pathogens			
Moisture levels			
Soil pH			
Parasites			
Wind			
O_2			
Predators			
Interspecific competition			

Describe the meaning of the terms 'abiotic' and 'biotic'.

Describe why animals compete for each of these:

1. Food -
2. Territory -
3. Competition for a mate -

Communities:

1. What is a community?
2. What is an ecosystem?
3. What is interdependence?
4. Give some examples
5. Explain how some communities are stable?

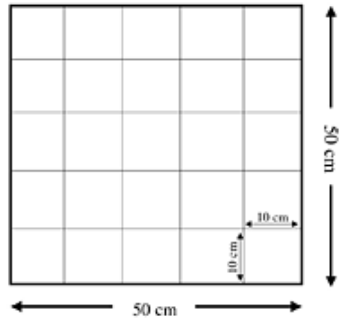
Topic 7 Ecology

Describe why plants compete for each of these:

1. Light
2. Water
3. Nutrients
4. Space
5. Competition
6. Seeds

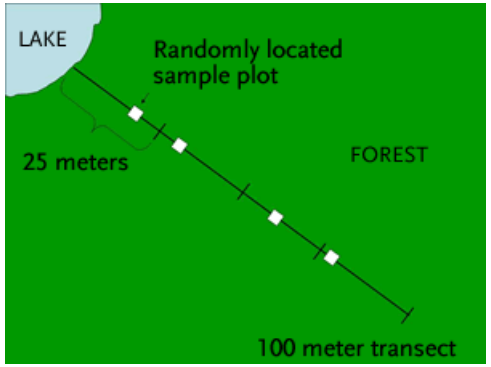
Quadrats

1. What do these help us to investigate?
2. Describe how to use them?
3. How can we make sure results are valid?
   a) ……
   b) ……
4. Describe what quantitative sampling is and why we do it?



Transects

1. What do these help us to investigate?
2. Describe how to use them?
3. Describe what quantitative sampling is and why we do it?
4. Do they investigate the effect of biotic or abiotic factors?
5. Is this type of sampling random?
6. How are transects similar to using quadrats?
   a) ……
   b) ……
7. How are they different to using quadrats?
   a) ……
   b) ……



Comparing adaptations in animals and plants				
Environmental condition	**Animal**	**Explanation of animal adaptation**	**Plant**	**Explanation of plant adaptation**
High salt				
Extreme cold				
Extreme high temperatures	Only active early morning and late night. Adapted kidneys.	Cooler conditions Less water loss.	Marram Grass – curls leaves to reduce surface area Butcher' broom grows flowers from the stem	Reduces water loss Fewer stomata in stem than leaves so reduces water loss
Dry climate				
Collecting water				
Storing water				
Camouflage				

What are extremophiles?

What conditions are considered extreme?

Define these:

1. Predator –
2. Prey –
3. Primary consumer –
4. Secondary consumer –

In stable communities, why do the numbers of predators/prey rise and fall in cycles?

What does biodiversity mean?

4 ways human population growth has affected land and resources.

1.
2.
3.
4.

Why is managing waste such a problem on the planet?

Discuss the different ways we can manage biodiversity:

Breeding programs –

Rare habitats –

Field margins and hedgerows –

Reduce deforestation –

Recycling resources –

Materials Cycling		
Cycle	**Take in the material**	**Releasing the material**
Decay	Feeding – Photosynthesis –	Decomposition – Death – Excretion -
Water	Evaporation	Precipitation – Condensation – Transpiration – Respiration –
Carbon	Feeding – Photosynthesis -	Decomposition – Respiration – Combustion – Death –

Effects of pollution	
Pollution Type	**Problems it causes**
Land	
Water	
Air	
Deforestation	
Peat bog destruction	

Global warming

1. Why are CO_2 conditions changing and why is this a problem to the planet?

2. Describe what the greenhouse effect is and how it happens.

3. State the two main problems to our planet associated with global warming.
    a) .
    b) .
4. Explain why these biological consequences will happen as a result of global warming;
    a) Loss of habitat –
    b) Changes in distribution –
    c) Changes in migration patterns –
    d) Reduced biodiversity –

(BIOLOGY ONLY) Rates of Decomposition

List the conditions needed for decay and describe why they are needed:
1.
2.
3.

Why is decay important in recycling?
Compost –

Methane produced –

Biogas generators –

Fertilisers –

Farming –

(BIOLOGY ONLY) Making food production efficient and sustainable		
	How to make it efficient	**How to make it sustainable**
Food chains in food production		Managing the oceans –
Artificially managed food production		The role of biotechnology –
Farming fish		Tackling the problem of overfishing –

(BIOLOGY ONLY) Trophic levels and biomass

1. What is the order of the different trophic levels?

2. How is biomass measured?

3. What happens to the amount of biomass as you progress through a food chain?

4. Why?

(BIOLOGY ONLY) Explain the transfer in biomass for these examples.

1. Faeces

2. Waste

3. Constant body temperature

4. Decomposers

(BIOLOGY ONLY) Factors affecting food security:

1. An increasing birth rate –
2. Changing diets in developed countries –
3. New pests and pathogens –
4. Environment changes –
5. Cost of agricultural inputs –
6. Conflicts –

What are the suggestions for a sustainable future?
- Soil quality –
- Efficient ways to produce food –
- Fish stocks –