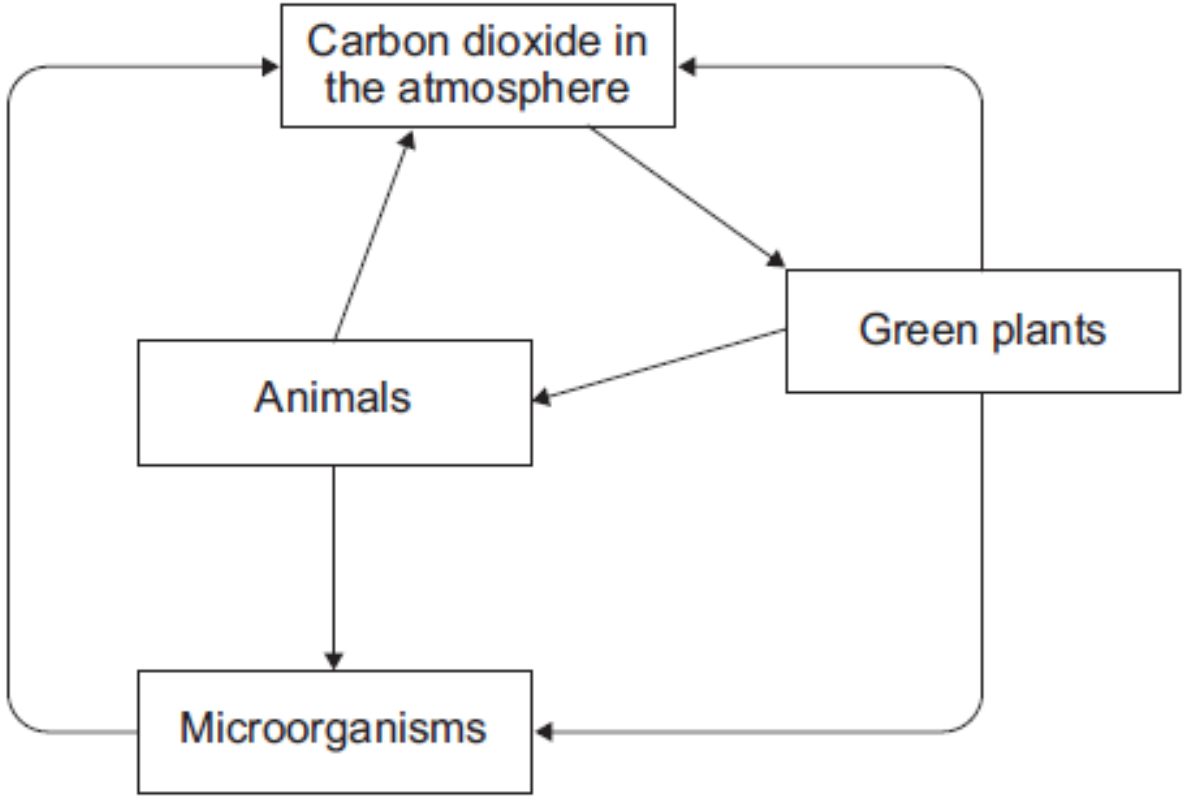
How do we answer a 6 mark question?

1. Underline the command word
2. Make bullet points of **all** things it ask you to look at, or points out
3. Write this in a paragraph, comparing is necessary

3 *In this question you will be assessed on using good English, organising informat clearly and using specialist terms where appropriate.*

The diagram shows part of the carbon cycle.



Describe how living things are involved in the constant cycling of carbon.

.....

0 marks	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)
No relevant content.	For at least one process **either** the organism that carries it out **or** the carbon compound used **or** the carbon compound produced is described **or** for at least one organism **either** the carbon compound it uses **or** the carbon compound it produces is described **or** at least one process is named	For some processes (at least one of which is named) **either** the organisms involved **or** the carbon compounds used **or** the carbon compounds produced are described	For at least one named process an organism **and** either the carbon compound used for the process **or** the carbon compound produced by the process are described **and** for other processes (at least one of which is named) **either** the organism **or** the carbon compounds used **or** the carbon compounds produced are described (as in Level 2)

examples of biology points made in the response:

- (green) plants photosynthesise
- photosynthesis takes in carbon dioxide
- (green) plants use carbon to make carbohydrate / protein / fat / organic compounds / named (e.g. enzymes / cellulose)
- animals eat (green) plants (and other animals)
- (green) plants respire
- animals respire
- respiration releases carbon dioxide
- (green) plants and animals die
- microorganisms decay / decompose / rot / break down / feed on dead organisms
- microorganisms respire

3 *In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.*

Plants and animals have become adapted in many different ways to reduce the risk of being eaten by predators.

Describe these adaptations.

Give examples of animals and plants adapted in the ways you describe.

.....

0 marks	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)
No relevant content.	There is at least one example of an adaptation of either an animal **or** a plant. However it may not be clear how the adaptation helps the organism to avoid being eaten.	There is a description of an adaptation of at least one animal **and** at least one plant. It is clear how at least one of these adaptations helps the organism to avoid being eaten.	There are clear and detailed descriptions of a range of adaptations of named animals **and** named plants. It is clear how most of these adaptations help the organisms to avoid being eaten.

examples of clear and detailed biology points made in response:

- **camouflage** – the method of camouflage should be described plus a statement that the predator is less likely to see the prey
- **mimicry / warning colouration** – the method should be described plus a statement that the predator is likely to confuse the prey with e.g. a poisonous organism
- **thorns / prickles / spines / horns** – a statement that these are sharp and are likely to hurt a predator
- **long limbs / streamlining** – a statement that these increase speed and make it more likely that prey will outrun predator
- **bad taste** / **poison** – a statement that predator will find this unpleasant and 'spit out' prey / not attack same prey again
- **large ears / position of eyes** – a statement that predators will be detected earlier so the prey can escape sooner

Total		**6**

3 A student is given a tube containing a liquid nutrient medium. The medium contains one type of bacterium.

3 (a) *In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.*

The student is told to grow some of the bacteria on agar jelly in a Petri dish.

Describe how the student should prepare an uncontaminated culture of the bacterium in the Petri dish.

You should explain the reasons for each of the steps you describe.

.....

0 marks	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)
No relevant content.	There is a brief description of at least one of the stages (pre-inoculation, inoculation, post-inoculation).	There is a simple description of at least two stages and an explanation of at least one of them.	There is a clear description of all three stages and an explanation of at least two of them.

examples of biology points made in the response:

Pre-inoculation

- Petri dish and agar sterilised before use
- to kill unwanted bacteria
- inoculating loop passed through flame / sterile swab
- to sterilise / kill (other) bacteria

Inoculation

- loop/swab used to spread/streak bacterium onto agar

allow other correct methods, eg bacterial lawns

- lid of Petri dish opened as little as possible
- to prevent microbes from air entering

Post-inoculation

- sealed with tape
- to prevent microbes from air entering
- incubate
- to allow growth of bacteria

In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.

Animals and plants have features (adaptations) that allow them to survive in the conditions in which they normally live.

Describe how animals and plants are adapted to survive in dry conditions such as deserts.

For each adaptation that you give, describe how the adaptation helps the animal or plant to survive in dry conditions.

To obtain full marks you should refer to **both** animals and plants.

[6 marks]

No relevant content.	At least **one** way in which animals **and / or** plants are adapted to survive.	A description of ways in which animals **and / or** plants are adapted **and** an attempt to link at least **one** adaptation to how it increases the chance of survival.	A description of ways in which animals **and** plants are adapted **and** a description of how at least **one** adaptation increases the chance of survival.

examples of biology points made in the response:

(animals)

- (A) change / decrease in surface area / example
  - (decrease in surface area which) reduces area from which sweat / water may be lost
- (A) hump with fat / fat stores
  - (fat in hump) to convert to water (via respiration)
- (A) long eyelashes
  - (long eyelashes) to keep (wind-blown) dust out of eyes
- (A) nocturnal / 'keep out of the sun'
  - reduce sweat loss (in heat of the day)

(plants)

- (A) decrease in surface area
- (A) leaves are spikes
  - (reduced area / leaves are spikes) reduces water loss / transpiration / evaporation
- (A) long / wide spread / extensive roots
  - (long / wide spread /extensive roots) to absorb (more) water

extra information

allow adaptations of specific animals to living in specified dry conditions, eg a desert

- (A) change / increase in surface area / example
  - (increase in surface area which) increases area heat may be lost from (by radiation)
- (A) changes to thickness of insulating coat
  - (thicker coat on upper surface) increases insulation from sun's heat
- (A) thin (layer) / reduced amount of body fat
  - (reduced amount of body fat which) reduces insulating layer
- (A) wide feet
  - (wide feet) to reduce pressure / spread weight / prevent sinking

allow adaptations of specific plants to living in specified dry conditions, eg a desert

- (A) thick wax
  - (thick wax) to reduce evaporation / water loss / transpiration
- (A) few(er) stomata
  - (few stomata) to reduce evaporation

3 (b) **In this question you will be assessed on using good English, organising information clearly and using specialist terms where appropriate.**

Plants respond to different environmental factors.

Describe how different environmental factors affect:

- the direction of growth of roots
- the direction of growth of shoots.

In your answer you should refer to the role of plant hormones.

Do **not** refer to the artificial use of plant hormones by gardeners or scientists.

[6 marks]

0 marks	Level 1 (1–2 marks)	Level 2 (3–4 marks)	Level 3 (5–6 marks)
No relevant content.	Reference to at least one environmental factor plants respond to **or** at least one response **or** a named hormone	Reference to at least one environmental factor plants respond to **and** at least one associated response **or** reference to a named hormone **and** at least one associated response	Reference to at least one environmental factor plants respond to **and** at least one associated response **and** reference to a named hormone

examples of biology points made in the response:	**extra information**
environmental factors	
• light	allow phototropism
• (direction of the force of) gravity	allow gravi/geotropism
• moisture / water	allow hydrotropism
effects on direction of growth	
• shoots grow upwards	allow reference to 'positive' and 'negative' in terms of tropisms as indicating direction of growth
• shoots grow towards light	
• shoots grow against (the force of) gravity	
• roots grow downwards	
• roots grow towards moisture	
• roots grow towards (the force of) gravity	
hormone	
• reference to auxin	allow other named hormone(s)
• unequal distribution of hormone causes unequal growth (rates)	allow higher concentration of hormone causes faster growth in shoots allow higher concentration of hormone causes slower growth in roots