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Below are some results from an experiment that compared the mean growth rate in 100 plants that were healthy and 100 plants of the same species that were infected with the tobacco mosaic virus (TMV)

	Mean height after 6 weeks (cm)
Healthy plants	87
Plants with TMV	42

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Describe and explain the effect of the tobacco mosaic virus on these plants

[2 marks]

Description of effect: Reduced/stunted growth [1],
Explanation of effect: virus kills cells (in a mosaic pattern) [1]
 preventing photosynthesis [1]
 no glucose made so no proteins made so no growth [1]

0	1	.	2
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Another disease that plants can suffer from is rose black spot

What microorganism causes rose black spot?

[1 mark]

fungus/fungi/Diplocarpon rosae [1]

0	1	.	3
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How could a gardener identify a plant that was infected with this disease?

[2 marks]

black/purple spots [1] **leaves eventually turn yellow** [1] **lower flowering rate/less flowers** [1]

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What should the gardener do if they confirmed their plants had this this infection?

[3 marks]

remove infected leaves [1]
destroy infected leaves by burning them [1]
spray the rest of the plant with fungicide [1]

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HIV and measles are both diseases that humans can contract. Compare the similarities and differences between both diseases

Include what causes each disease
 How they are spread
 How they can be prevented

[5 marks]

similarities: both caused by a virus [1], both are communicable [1] both are incurable [1]
differences: Measles are spread by droplet infection [1] HIV spread through bodily fluids/blood/unprotected sex [1]; measles is prevented by vaccination [1] HIV is prevented by sterilising needles/using condoms/ screening blood [1] antiretroviral drugs can be used to delay the onset of AIDS [1] measles causes rash/fever/blindness/brain damage [1]; HIV/AIDS causes lowered to non-existent immune system [1]