Partners in exce		Phagocytes	Phagocytosis	gocytes engulf the pathogens and digest n.					ntigens (surface prot	tein)	_	-	are identified by white t proteins on their surf		PIXUscience	
annos programes programes	souther deters		Antibody production	Specific antibodie takes time so an is infected again		system	systems	specific ways ns getting in	- 6	Nose	Nasal hairs, sticky n cilia prevent pathog entering through th	gens				
Padeco Austin August Au		Lymphocytes	Antitoxin production	lymphocytes mak Cell wall made of organelles. Single	chitin. N		e blood of the	syste	efence sys	several non sp om pathogens	C	Trachea and bronchus (respiratory system)	Lined with mucus to and pathogens. Cilia the mucus upwards swallowed.	a move		
		Detection	Identification	AQA G	icse II	NFEC	ΓΙΟΝ		White part		7					
Stunted growth					ESPOI	art 1	Human / Human				human body has defending itself fr		Stomach acid	Stomach acid (pH1) kills most ingested pathogens.		
Stunted growthSpots on leavesSpots on leavesArea of decayarea of decaygrowthsgrowthsMalformed stem/leavesDisceloumtionDisceloumtion			Plants have defending pathoge	g thems		defen syster		Non-sp	The human bc of defending		Skin	Hard to penetrate v barrier. Glands secr which kill microbes	ete oil			
Detection an plant dise	st	rem/leaves	Physical	Mechanical				Path	ogens may infe	ect pla	ants or a	nts or animals and can be spread by direct contact, water or air				
Deto		colouration ence of pests	Thick waxy layers, cell walls					Pathogen	Disease	Disease Sympt			Method of transmission	Control of s	pread	
Nitrate ions needed for protein synthesis – lack of nitrate =		needed Magn	esium ions needed nake chlorophyll –	stop pathogen entry	I leaves to prevent			Virus	Measles	Fev ras	ver, red s sh.	ikin	Droplet infection from sneezes and coughs.	n Vaccination as a c	child.	
		nthesis not rate = chlo wth.	enough leads to rosis – leaves turn yellow.	J []					Virus	HIV sys		itially flu like vstems, serious amage to nmune system.		Sexual contact and exchange of body fluids.	Anti-retroviral dru use of condoms.	ugs and
Bacteria may produce toxins that damage tissues an			nd make us fell ill				Торассо				Enters via wounds in	Remove infected	leaves and			
Viru	ses	Bacteria (prokaryotes)	Protists (eukaryotes)	Fungi (eukaryotes)		disease		Virus	rus <u>mosaic</u> ^N o virus ^C teria <u>Salmonella</u> v		Mosaic pattern on leaves. Fever, cramp, vomiting, diarrhoea.		epidermis caused by pests.	control pests that the leaves.	t damage	
influe meas	e.g. cold, e.g. influenza, tuberculosi measles, (TB), HIV, tobacco Salmonella		e.g. dysentery, sleeping sickness, malaria	e.g. athlete's foot, thrush, rose black spot	Pathogens are microo that cause infectious		11 1						Bacteria	Food prepared in unhygienic condition or not cooked properly.	Improve food hyg s wash hands, vacc poultry, cook food thoroughly.	inate
mosuic	virus	Gonorrhoea No membrane bound		Membrane	are microorganisms infectious disease	ens	Communicable		Bacteria	Gonorrhoea fro		Green discharge from penis or vagina.		Direct sexual contact or exchange of body fluids.	Use condoms. Tre using antibiotics.	eatment
DNA or surrour by a pro	nded	organelles (no chloroplasts, mitochondria or nucleus).	bound organelles.	bound organelles, cell wall made of chitin. Single				-	Protists	Malaria	Rec	current f	ever.	By an animal vector (mosquitoes).	Prevent breeding mosquitoes. Use prevent bites.	
coat		Cell wall. Single celled organisms	celled.	celled or multi- cellular	elled or multi-				Fungus	Rose black spot		rple blac ots on le		Spores carried via wind or water.	Remove infected Spray with fungic	

PixL Partners in excellence		Phagocytosis					Phagocytes engulf the pathogens and digest them					surface p	rotein) つ	Pa	-	ns are identified by white b ent proteins on their surfac			PIXUscience
physics and a second se			Antibo	dy production	Infected again by the same						White				6		Nose	Nasal hairs, sticky mu cilia prevent pathoge entering through the	ens
phagoo por			Antitox	kin production	pathogen, the lymphocytes make antibodies much faster Cell wall made of chitin. Membran bound organelles. Single-cellular o multi-cellular.					e immune s	une syste		efence systems		Ø		Trachea and bronchus (respiratory system)	Lined with mucus to and pathogens. Cilia mucus upwards to be swallowed	move the
	tection ad growth	Identif	ication		AQA INFECTION AND RESPO						re part	3	ecific d			Stomach acid		Stomach acid (pH1) kills most ingested pathogens	
Area	Spots on leavesReferenceArea of decaygardeninggrowthslaboratory		g manual e, y test for	Plants hav defending	defending themselves from					n de ster		nce	Non-sp		1	/	Skin	Hard to penetrate wa barrier. Glands secret which kill microbes	
	formed	pathogen kit using	s, testing		athogens and animals					Pathogens m		gens ma	ay infe	ct plants	or animals and can be spread by c			direct contact, water or air	
Discol	stem/leaves monoclor Discolouration antibodie			Physic Thick waxy	y Thorps curling up				Pathog	en	en <i>Dise</i>			Sympto	oms		Method of ransmission	Control of spr	read
Presence of pests Nitrate ions needed for Magnesium		ions need	ed entry	I leaves to prevent I						Measles			ever, red skin ash		· ·	et infection from es and coughs	Vaccination as a ch	iild	
protein synthesis – lack to make of nitrate = stunted enough			ds to chlorc turn yellow	osis Antibacteri	<i>Chemical</i> rial and toxins made by plant						HIV		sy da	nitially flu like ystems, serious amage to nmune system			al contact and inge of body	Anti-retroviral drug use of condoms	gs and
	Bacteria may produce toxins that dama				that	Pathogens	eases				Tobacco mosaic virus Salmonella			Mosaic pattern on leaves		Enters via wounds in epidermis caused by pests		Remove infected le control pests that o the leaves	
e.g. cold, influenza, measles, HIV, tobacco mosaic virus	ta, tuberculosis s, (TB), acco Salmonella,		berculosis dysentery, e.g. a (TB), sleeping foot, almonella, sickness, rose bl		cause infectious	are microo	Communicable dise						v vc	ever, cran omiting, arrhoea	unh		prepared in gienic conditions t cooked erly	Improve food hygiene, wash hands, vaccinate poultry, cook food thoroughly	
		o membrane		Membrane							Gon	orrhoe	a fro	reen disc om penis agina	-		t sexual contact change of body	Use condoms. Trea using antibiotics	atment
DNA or RNA surrounded by a protein	organelles (chloroplasts mitochondr nucleus). Ce	asts, bound ndria or organe	nd	bound organelles, cell wall made of chitin. Single	disease			_			M	alaria	Re	ecurrent	fever	1 '	animal vector quitoes)	Prevent breeding o mosquitoes. Use of prevent bites	
coat	wall. Single celled organisms	wall. Single celled		celled or multi- cellular	Viruses live and reproduce inside cells causing damage		nside ing					se black spot		urple bla oots on le		1 .	es carried via or water	Remove infected le Spray with fungicid	

PIXL Partners in excellence					Phagocytes engulf the pathogens and digest them						surface pr	otein)	Pa	Pathogens are identified by white blood cells by the different proteins on their surfaces ANTIGENS		
some physicsmes pable some and the some				Specific antibodies destroy the pathogen. This takes time so an infection can occur. If a person is infected again by the same					White	Immune	systems		~		Nasal hairs, sticky mucus and cilia prevent pathogens entering through the nostrils	
phagochass				pathogen, the lymphocytes make antibodies much faster Cell wall made of chitin. Membrane bound organelles. Single-cellular or multi-cellular.				orane ar or	blood cells	syste	efence				Lined with mucus to trap dus and pathogens. Cilia move th mucus upwards to be swallowed	
Det	ection	Identifi Reference		AQA INFE			are part		pecific d				Stomach acid (pH1) kills most ingested pathogens			
		; manual ; manual e, / test for s, testing	Plants have defending					uman d syste		nce	Non-s		1		Hard to penetrate waterproof barrier. Glands secrete oil which kill microbes	
		kit using					I	Pathog	gens ma	y infe	ct plants or animals and can be spread by direct contact, water or a					
	monoclor antibodie			Thick waxy layers, cell w	Thorns, curling up			F	Pathogen	Di	isease		Sympto	oms	Method of transmission	Control of spread
Nitrate ions ne	eded for	Magnesium	ions need	stop pathog									ever, red s ish	skin	Droplet infection from sneezes and coughs	Vaccination as a child
protein synthesis – lack of nitrate = stunted growth – leave			ls to chloro urn yellow	osis	ial and toxins made by plant					sy di			hitially flu like ystems, serious amage to nmune system		Sexual contact and exchange of body fluids	Anti-retroviral drugs and use of condoms
					that o	Pathogens	diseases						1osaic pattern n leaves		Enters via wounds in epidermis caused by pests	Remove infected leaves and control pests that damage the leaves
												vo	ever, cramp, romiting, liarrhoea		Food prepared in unhygienic conditions or not cooked properly	Improve food hygiene, wash hands, vaccinate poultry, cook food thoroughly
	No membra bound			Membrane	ious dise	are microorganisms	Communicable					fro	reen discl om penis agina	-	Direct sexual contact or exchange of body fluids	Use condoms. Treatment using antibiotics
DNA or RNA surrounded by a protein	organelles (r chloroplasts mitochondri nucleus). Ce	roplasts, boun ochondria or organ	nelles.	bound organelles, cell wall made of chitin. Single				-				Re	ecurrent f	fever	By an animal vector (mosquitoes)	Prevent breeding of mosquitoes. Use of nets to prevent bites
coat	wall. Single celled organisms	II. Single celled. cel led cel		celled or multi- cellular	rep	Viruses live and reproduce inside cells causing damage							urple blac oots on le		Spores carried via wind or water	Remove infected leaves. Spray with fungicide

PiXL Partners in excellence											ns are identified by white t ent proteins on their surfa		
HARD OF A CONTROL							of the immune sys	Immune system White blood cells are	defence systems				
Dete	ection I	dentification	AQA INFE Plant dise Plants have defending t	ase Bi several		part	Non-specific o						
			pathogen		syste								
							Pathogen	Disease		Symptoms	Method of transmission	Control of spre	
Nitrate ions	Magn	esium ions											
Bacteria may pr	roduce toxins that	damage tissues a	nd make us fell ill	Patho: that		diseases							
				Pathogens are microorganisms that cause infectious disease	Pathogens								
				croorganism ious disease	ens	Communicable							
				Viruse reprod cells	s live and uce inside causing mage								