



Biology

Peer Assessment Form for Antibiotics Activity Q1



Key Words		<div>platelets</div> <div>clot</div> <div>white blood cells</div> <div>engulf</div> <div>digest</div> <div>capillaries</div> <div>Microbes</div> <div>lymphocytes</div> <div>antibodies</div> <div>clump (agglutination)</div> <div>lysis</div> <div>signal</div> <div>Phagocytes</div> <div>infection</div>		
	Criteria	1 Adequate	2 Good	3 Outstanding
Assessment	Specific Science Vocabulary used	Some key words were used and used correctly. Some errors were made in the use of key words.	Most key words were used and were used correctly (very few errors).	All key words were used correctly.
	Clarity of descriptions	Speech was mostly clear. Ideas were sometimes in order and sometimes flowed from one concept to another. The question was answered but there were some significant omissions.	Speech was clear. Ideas were mostly in order and some flowed from one concept to another. The question was answered with some omissions but they were not significant.	Speech was clear. Ideas were in a logical order and flowed from one concept to another. The question was answered fully with no significant omissions.
	Use of diagrams	Diagrams were not used or only simple non-labelled diagrams were used. They did little to increase understanding of the concept.	Diagrams were used; they were sometimes labelled and linked well with the description. They increased the understanding of the concept.	Diagrams were clear, fully labelled and linked perfectly with the description. They greatly increased the understanding of the concept.
Feedback	To improve the description:			
	To improve the diagrams:			



Biology

Peer Assessment Form for Antibiotics Activity Q2



Key Words	<div>Antibiotics</div> <div>white blood cells</div> <div>resistant bacteria</div> <div>Competition</div>			
Assessment	Criteria	1 Adequate	2 Good	3 Outstanding
	Specific Science Vocabulary used	Some key words were used and used correctly. Some errors were made in the use of key words.	Most key words were used and were used correctly (very few errors).	All key words were used correctly.
	Clarity of descriptions	Speech was mostly clear. Ideas were sometimes in order and sometimes flowed from one concept to another. The question was answered but there were some significant omissions.	Speech was clear. Ideas were mostly in order and some flowed from one concept to another. The question was answered with some omissions but they were not significant.	Speech was clear. Ideas were in a logical order and flowed from one concept to another. The question was answered fully with no significant omissions.
	Use of diagrams	Diagrams were not used or only simple non-labelled diagrams were used. They did little to increase understanding of the concept.	Diagrams were used; they were sometimes labelled and linked well with the description. They increased the understanding of the concept.	Diagrams were clear, fully labelled and linked perfectly with the description. They greatly increased the understanding of the concept.
Feedback	To improve the description:			
	To improve the diagrams:			



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Peer Assessment Form for Antibiotics Activity Q3

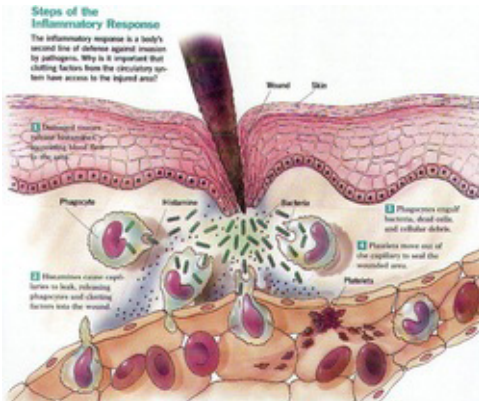


Key Words	pathogenic bacteria Competition microbial flora disease antibiotics			
Assessment	Criteria	1 Adequate	2 Good	3 Outstanding
	Specific Science Vocabulary used	Some key words were used and used correctly. Some errors were made in the use of key words.	Most key words were used and were used correctly (very few errors).	All key words were used correctly.
	Clarity of descriptions	Speech was mostly clear. Ideas were sometimes in order and sometimes flowed from one concept to another. The question was answered but there were some significant omissions.	Speech was clear. Ideas were mostly in order and some flowed from one concept to another. The question was answered with some omissions but they were not significant.	Speech was clear. Ideas were in a logical order and flowed from one concept to another. The question was answered fully with no significant omissions.
	Use of diagrams	Diagrams were not used or only simple non-labelled diagrams were used. They did little to increase understanding of the concept.	Diagrams were used; they were sometimes labelled and linked well with the description. They increased the understanding of the concept.	Diagrams were clear, fully labelled and linked perfectly with the description. They greatly increased the understanding of the concept.
Feedback	To improve the description:			
	To improve the diagrams:			



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Model Answer Q1



If something were to penetrate the skin then microbes can enter the body. Immediately platelets clot the blood over the wound to prevent further infection. Inside the body white blood cells (phagocytes) squeeze out of the blood in the capillaries and engulf and digest any foreign cells which may have entered the body.

If the invading microbes enter the blood stream then lymphocytes will produce antibodies. The antibodies will clump the microbes together so that phagocytes can engulf many together or they cause cell lysis or just to signal for phagocytosis to occur. Lymphocytes which make the correctly shaped antibodies clone themselves so that enough antibodies are produced to clear all infection.



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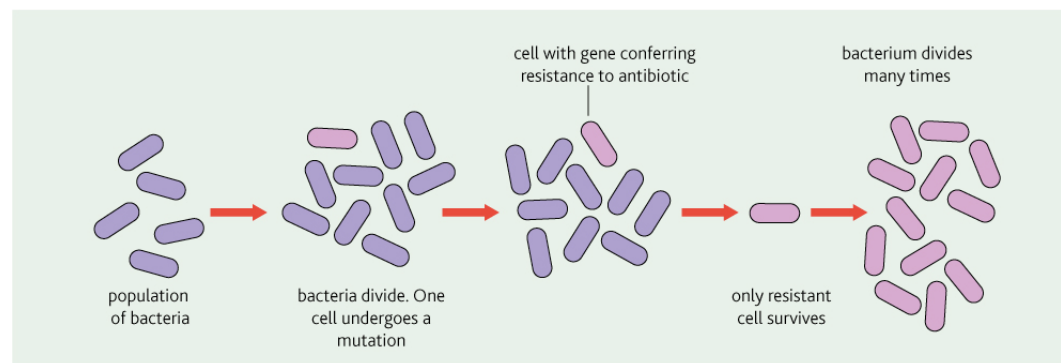
Model Answer Q2

Antibiotics are required when the white blood cells are unable to destroy all invaders without significant damage to the body.

If the full course of antibiotics are taken then this either kills all bacteria or enough so that the white blood cells are capable of quickly clearing the rest.

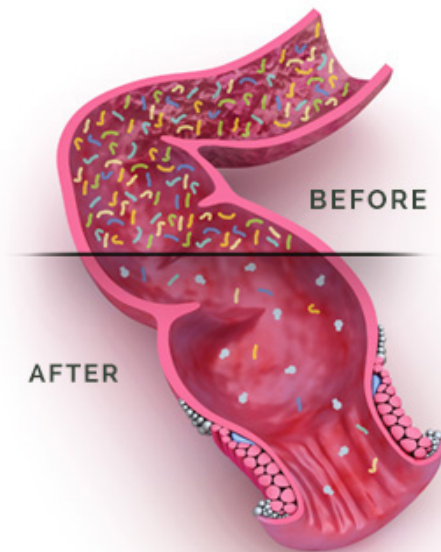
When half of the antibiotics have been taken many of the infecting bacteria will have been killed and the patient may feel better as symptoms will be dramatically reduced. However, the bacteria which remain will continue to divide and will include the bacteria resistant to the antibiotic.

The reduced competition will allow these resistant bacteria more space and resources to reproduce exponentially and the white blood cells may not be able to destroy all of the remaining 50% of bacteria. This could produce a persistent infection which is now no longer treatable with the initial antibiotic.





BEFORE/AFTER ANTIBIOTIC TREATMENTS



Antibiotics kill not only pathogenic bacteria but they also kill the body's microbial flora, bacteria which live symbiotically on the human body. Normally these friendly bacteria take up space and resources in the body reducing those available for any pathogenic bacteria if they manage to infect the body. However, if the microbial flora has been destroyed by unnecessary antibiotics then there is reduced competition for any pathogenic bacteria and they may reproduce quickly causing disease.