Name: Class:

Student worksheet

3.10 The immune system protects our body in an organised way

Pages 62–63 and 193

The immune system

1 What is the body's first line of defence? Give 2 examples of how the body does this.

2 What is the body's second line of defence? Give 2 examples of how the body does this.

3 What is a non-specific immune response?

4 What is the purpose of a white blood cell?

5 What is a phagocyte? Why is it sometimes compared to Pacman?

6 What is the body's third line of defence? That is, what is a specific immune response?

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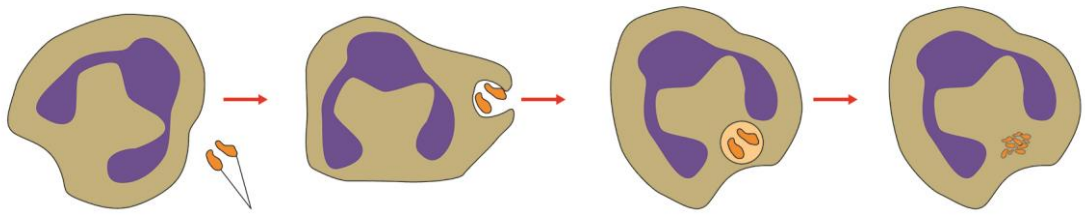
7 What is phagocytosis? In your answer, provide a step-by-step explanation of the diagram below.



8 Match the following word to its definition.

Virus	Recognise the same specific pathogen and attack and kill it
Immunity	Fit a specific pathogen and stop them from invading the body
Antibodies	Cells that the body keeps to ensure that a pathogen cannot re-invade your system
Phagocyte	Produced by the body to destroy pathogens
Memory cells	Microorganisms such as bacteria, fungi, protozoans and non-living viruses
B cells	Contains a protective coating that allows it to more easily slip through the first line of defence
Vaccination	Ensures that body will be protected from a specific infection in the future
White blood cell	Surrounds and absorbs pathogens, destroying them in the process
Pathogen	Injection with specific small parts of a pathogen
T cells	Produce antibodies

Extend your understanding

An essential concept in the understanding of immunology is the antigen.

9 What is an antigen?

10 Antigens and antibodies share a close relationship. What is this relationship?

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11 What is the difference between a pathogen and an antigen?

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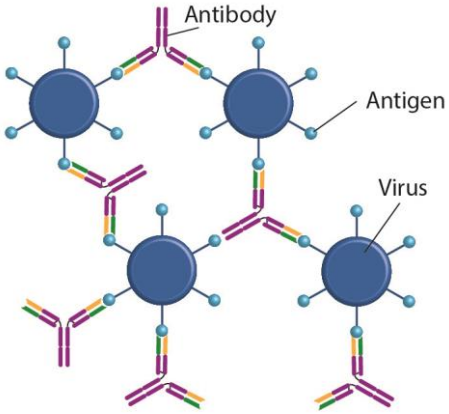
12 Explain the binding between an antigen and an antibody using the diagram below.



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13 Draw a diagram of an antibody and its antigen below. Ensure that you show the antigen binding site.

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