



Communicable Diseases

1 2 3 4 5

Communicable Disease

Pathogen

Direct Transmission

Indirect Transmission

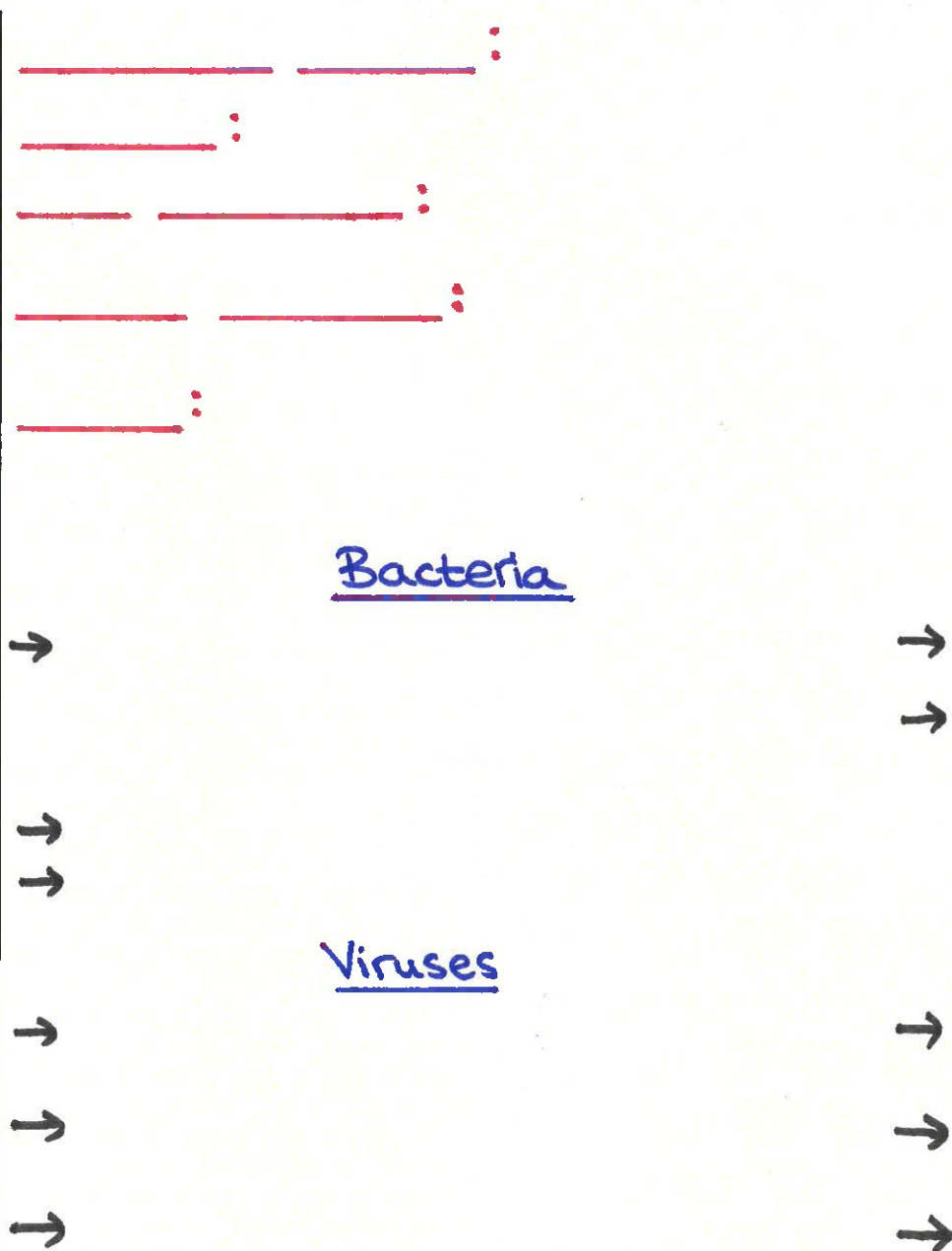
Vector

Bacteria

Protoctista

Viruses

Fungi





Viruses

1 2 3 4 5



Reproduction:





Plant Defence Against Pathogens

1 2 3 4 5

Production of Chemicals

→

→

e.g.

→

→

Physical Barriers

→

↳

Limiting Spread of Pathogens

→

↳

→



1 2 3 4 5

→

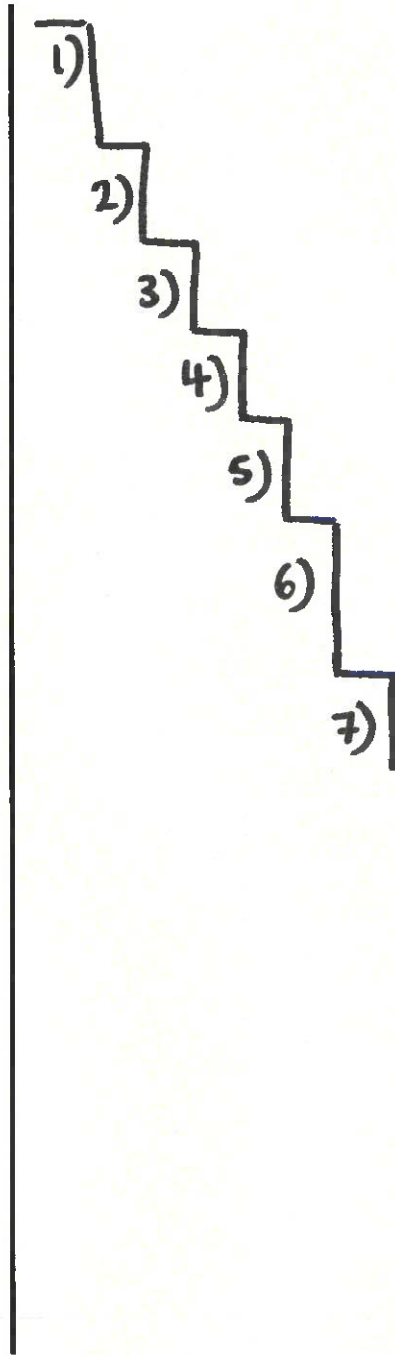
→

e.g.



Blood Clotting

1 2 3 4 5





The Immune System: Key Terms

1 2 3 4 5

Cell signalling

_____ :

e.g.

e.g.

Neutrophils

_____ :

Opsonins

_____ :

Phagosome

_____ :

Cytokines

_____ :

Interleukines

_____ :

e.g.

Agglutinins

_____ :



Antitoxins

_____ :



Antigen

Pathogen

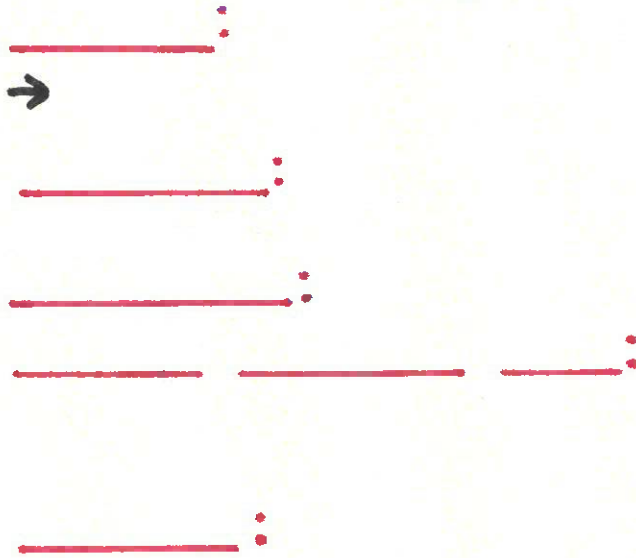
Neutrophil

Antigen
Presenting
Cells

Opsonins

Phagocytosis

1 2 3 4 5



①

②

③

④



Specific Immune Response: T-lymphocytes

1 2 3 4 5

T-Helper cells

①

T-killer cells

②



T-regulator cells



Clonal
Selection



Clonal
Expansion





Plasma Cells

Memory Cells

Specific Immune Response : B-lymphocytes

1 2 3 4 5

① → ② → ③ → ④

③ B-lymphocytes (B-cells)



④ _____





Memory Cells

Memory Cells, Agglutinins & Anti-Toxins

1 2 3 4 5

Memory Cells:



Agglutinins:

_____ :

Agglutinins



Anti-Toxins

Anti-Toxins:

_____ :



The Immune System: Antibodies & Primary + Secondary Response

1 2 3 4 5

The Structure of an Antibody -

→

↳

↳

→

Primary Response

→

→

→

→

↑

↑

Secondary Response

→

→

→

→

→

→

→

→

→



TT

Active Immunity

Active and Passive Immunity

1

2

3

4

5

Natural →

Natural →

Passive Immunity

Artificial →

Artificial →

↳

→

→

→

→

→

↳

→

→

→



Autoimmune
Disease

Autoimmune Diseases

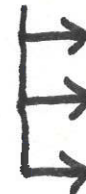
1 2 3 4 5

_____ :

Arthritis



Lupus





Vaccine

Vaccines & Antigenic Variability-

1 2 3 4 5

_____:



Herd Immunity

_____:

Antigenic Variability-





Possible Sources of Medicine

1 2 3 4 5

Plants & Microorganisms



e.g.



Research into Traditional Medicines



Personalised Medicines & Synthetic Biology-

1

2

3

4

5

Personalised Medicines

→

→

e.g.

Synthetic Biology-

_____:

e.g.



Antibiotic

Antibiotics

1 2 3 4 5

_____:

Bacteria are Prokaryotic

→

→

e.g.

Penicillin

→

→

→

→

→

e.g.

Antibiotic Resistance

→

→

→