C 3.2 Defence Against Disease

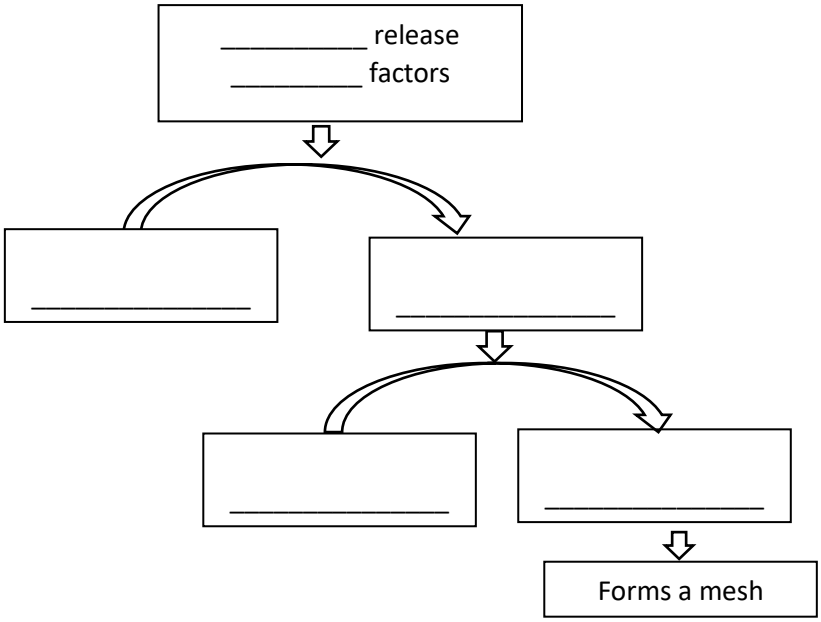
1. _____ mechanisms are important for preventing _____, which are _____-causing organisms like _____, _____, _____, and _____, from causing harm. Interestingly, organisms from the _____ called _____ are not known to cause disease in humans.

2. The _____ and _____ _____ form the _____ defence. They are both _____ and _____ barriers against _____.

3. When these _____ are compromised, the body has mechanisms like _____ _____ to seal cuts and prevent further _____ entry.

   _____ is facilitated by _____, which release _____ factors that initiate a _____ pathway which rapidly converts _____ to _____, which in turn converts _____ to _____. The strands of _____ then form a _____ over the wound, trapping _____ and forming a protective _____.

   This is simply explained with a schematic:



4. The _____ system is divided into the _____and _____branches:

   The _____ immune system is the body's initial, ____-_____ response, targeting broad _____categories, while the _____ immune system provides a more _____, learned response.

5. _____, part of the innate immune response, recognize and _____ pathogens**,** digesting them through _____ found in the_____**.** This is called _____**,** which is a form of _____**.**

6. _____ especially ___-_____ within the adaptive immune system, produce *specific* _____, enabling a targeted defense against pathogens with distinct _____**.**

7. _____, mostly _____ on pathogen surfaces, trigger _____ production. Specific ___-_____, activated by _____ exposure and _____ __ ____, proliferate to create _____ cells that secrete _____ in large quantities.
   Retaining _____ cells after infection equips the immune system to quickly combat future infections with the same pathogen, leading to _____-term immunity**.**

8. _____ play a crucial role in building immunity without causing disease, using _____ or _____ material coding for _____**,** which are injected into the body.

9. _____ immunity arises when a significant proportion of a population becomes immune, limiting _____ spread.

10. Understanding and applying these immune principles are especially critical with _____ diseases**,** such as _____-19, that transfer from _____ to _____, highlighting the importance of monitoring and controlling these infections _____**.**

