

# Immunology Worksheet

## A Read and fill the gaps.

The principal role of the immune system \_\_\_\_\_ (1) to defend the body against possible infections by discriminating between self and non-self. The immune system has evolved over millions of years to respond and destroy any organisms \_\_\_\_\_ (2) have gained entry into the body.

The complexity of immune systems generally mirrors evolutionary history: more 'primitive' organisms possess immune systems composed \_\_\_\_\_ (3) discrete, general purpose, effector cells and molecules; more 'advanced' organisms have developed organs and tissues \_\_\_\_\_ (4) a specific immune purpose. A key part of Immunology involves studying \_\_\_\_\_ (5) the many different organs, cells and molecules of the immune system work and interact \_\_\_\_\_ (6) each other.

\_\_\_\_\_ (7) broad terms, the earlier form of the immune system is known \_\_\_\_\_ (8) the 'innate' immune system, and is found in a wide range of organisms (including invertebrates and primitive vertebrates); the later form is known as the 'adaptive' immune system and is common to higher vertebrates (including humans).

Specifically:

- The innate immune system includes natural barriers to infection, \_\_\_\_\_ (9) as skin and cells lining the mouth, as well as the effector cells and molecules
- The adaptive immune system includes specialised cells, organs and tissues \_\_\_\_\_ (10) are responsible for reacting to a specific foreign substance

## B Answer these questions:

- 1 What is the major role of the immune system?
- 2 Describe the difference between the 'primitive' and 'advanced' immune systems.

## C Read the text again and find synonyms for the following terms:

- 1 distinguish, tell apart
- 2 develop
- 3 particular
- 4 have an effect on one another
- 5 an obstacle

# Allergy

## A Lead-in

- 1 Are you allergic to anything?
- 2 What kinds of allergy do you know?
- 3 What do you know about allergies?

## B Affinity diagram. Put these terms into appropriate categories.


### C Listen and fill the missing words.

- 1 An allergy is an \_\_\_\_\_ to a normally harmless substance called an allergen
- 2 On first \_\_\_\_\_, the inhaled allergen enters the mucous membrane lining the nasal \_\_\_\_\_, where it is taken up by the antigen-presenting cell which presents it to the T-cells. These T-cells activate the B-cells to release \_\_\_\_\_ called IgE antibodies against the allergen.
- 3 These IgE antibodies sit on the \_\_\_\_\_ of the mast cells. The mast cells have granules \_\_\_\_\_ chemical mediators like histamine and prostaglandins etc.
- 4 On exposure, the allergen \_\_\_\_\_ to the IgE antibodies present on the mast cells, cross-linking them. This results in the \_\_\_\_\_ of histamine, prostaglandins and other mediators into the surrounding tissue.
- 5 These mediators cause dilation of the surrounding \_\_\_\_\_ vessels and increase their permeability. This results in the nasal \_\_\_\_\_, sneezing and mucous discharge of allergic rhinitis.
- 6 Antihistamines work by \_\_\_\_\_ the action of histamine at its receptors and thus \_\_\_\_\_ the body's reaction to the allergen

### Grammar point – Indirect speech

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Yesterday you met a friend of yours, Steve. You hadn't seen him for a long time. Here are some of the things Steve said to you:

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- Steve
- 1 I'm living in London.
  - 2 My father isn't very well.
  - 3 Rachel and Mark are getting married next month.
  - 4 My sister has had a baby.
  - 5 I don't know what Joe is doing.
  - 6 I saw Helen at a party in June and she seemed fine.
  - 7 I haven't seen Amy recently.
  - 8 I'm not enjoying my job very much.
  - 9 You can come and stay at my place if you're ever in London.
  - 10 My car was stolen a few days ago.
  - 11 I want to go on holiday, but I can't afford it.
  - 12 I'll tell Chris I saw you.

Later that day you tell another friend what Steve said. Use reported speech.

- 1 *Steve said that he was living in London.*
- 2 He said that \_\_\_\_\_
- 3 He \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_
- 7 \_\_\_\_\_
- 8 \_\_\_\_\_
- 9 \_\_\_\_\_
- 10 \_\_\_\_\_
- 11 \_\_\_\_\_
- 12 \_\_\_\_\_