**ACTIVITY: The wars within**

**Activity idea**

In this activity, students are introduced to the immune system and how it works.

By the end of this activity, students should be able to:

* explain in simple terms what the immune system is
* list some of the names of the cells in the immune system
* explain some of the functions of the immune cells.

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**Introduction/background**

Inside your body, there is an amazing protection mechanism called the immune system. It is designed to defend you against millions of harmful microorganisms.

It is a complex system that even scientists are learning new things about all the time.

The [Cells of the immune system](https://www.sciencelearn.org.nz/embeds/104-cells-of-the-immune-system-slideshow) slide show is designed to present the immune system to younger students in a simple way. It describes some of the cells and how they might function in response to harmful microorganisms entering the body.

***Web links***

* Video of macrophage ‘eating’ particles – <https://www.breakthroughs.com/foundations-science/hungry-hungry-macrophages-video>.
* Video of a human neutrophil on a blood film, crawling among red blood cells (spherical shape). The neutrophil is ‘chasing’ *Staphylococcus aureus* microorganisms, added to the film. This video is taken from a 16 mm movie made in the 1950s by the late David Rogers at Vanderbilt University – <https://neutropenianet.org/what-is-neutropenia/video-explanation/>

**What you need**

* Access to [Cells of the immune system](https://www.sciencelearn.org.nz/embeds/104-cells-of-the-immune-system-slide-show) slide show
* Access to the article [The body’s first line of defence](https://www.sciencelearn.org.nz/resources/177-the-body-s-first-line-of-defence)
* Access to the article [The body’s second line of defence](https://www.sciencelearn.org.nz/resources/178-the-body-s-second-line-of-defence)
* Access to the article [Microorganisms – friend or foe?](https://www.sciencelearn.org.nz/resources/176-microorganisms-friend-or-foe)
* Extra for experts –
  + Access to the animated video [Virus replication](https://www.sciencelearn.org.nz/videos/614-virus-replication)
  + Access to the animation [The immune system](https://www.sciencelearn.org.nz/image_maps/68-the-immune-system)

**What to do**

1. Read the articles and check through [Cells of the immune system](https://www.sciencelearn.org.nz/resources/189-the-wars-within) slide show to become familiar with it.

1. Present the slide show to your class. You may want to go through it several times.
2. Students could then look at the animations, particularly [The immune system](https://www.sciencelearn.org.nz/image_maps/68-the-immune-system).