

Agents of the Immune System: Germ Lesson	Grades 6-8
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<h2 style="margin: 0;">Lesson Plan</h2>	
<p>Description</p> <p>In this lesson, students will be introduced to the components of the immune system, the immune system’s job and the types of germs the immune system protects us from.</p> <p>In the Agents of the Immune System GooseChase experience, students will work independently or as part of a team to complete the missions, learn about the immune system and collect points. Students' submissions in the GooseChase app will remain hidden from other students who participate in the Agents of the Immune System experience.</p>	<p>Materials</p> <p>A smartphone, tablet or Chromebook for at least one student in each group with the free GooseChase app downloaded.</p>
<p>Big Ideas</p> <ul style="list-style-type: none"> • The immune system protects the body from infectious diseases caused by germs • The immune system is made up of many different organs and cells. • White blood cells use the lymphatic system to get to the site of infection • Bacteria and viruses are two types of germs, and they have similarities and differences. 	<p>Specific Expectations</p> <p><u>Grade 6:</u> B2.1 Describe the distinguishing characteristics of different groups of organisms, and use these characteristics to further classify these organisms using a classification system</p> <p><u>Grade 8:</u> B2.5 Describe various unicellular and multicellular organisms, and compare ways in which these two types of organisms meet their basic needs</p> <p>B2.6 Describe the organization of cells into tissues, organs, and systems</p> <p><u>Other grades:</u></p>

There are no specific curriculum links to this program, but it is an easy way to introduce students to the basics of germs and the immune system in a fun and engaging way as part of a team.

Introduction

The immune system is made up of many cells and organs in the body and is responsible for keeping you healthy and fending off infections from germs.

Germs are tiny things that exist all around us. Many germs are harmless, but some can make us sick. Our bodies are very good at keeping germs out, especially our skin. Breaks in the skin or openings like our eyes, nose and mouth can let germs in. Germs on your hands can be passed to other people, this is why it's important to wash your hands often.

Bacteria and viruses are two common types of germs that can make us sick. Both bacteria and viruses are microscopic. Bacteria are single-celled living organisms that get their nutrients from their environment. Bacteria live inside and outside of your body, and most are actually harmless to us or even help us. Viruses are non-living things that can make you sick. They are made up of genetic material that acts like instructions and a protective protein coat that surrounds the genetic material. Viruses need to infect our cells because they can't last outside on their own for very long, and they can't make copies of themselves on their own. Viruses need to take over cells and turn them into virus-making factories to spread their infection.

Some of the most important cells in the immune system are white blood cells which patrol the body looking for germs. Some white blood cells eat and destroy the germs. Others help different cells communicate with each other. Each type of white blood cell has an important job. The white blood cells get around the body using the lymphatic system. They travel in lymphatic vessels by a colourless fluid called lymph. Lymph takes the immune cells and other debris to lymph nodes where it is filtered. The lymph nodes act like a checkpoint, where foreign cells or molecules are trapped.

Action

1. Ensure students can access a device with the free GooseChase [iOS](#) or [Android](#) app downloaded. Mobile devices or tablets with a camera are best for this lesson. Only one student from each group needs a device.
2. If you plan to use Chromebooks, instructions for downloading the GooseChase app can be reached at this web address <https://support.goosechase.com/en/articles/4437551-can-i-participate-in-a-goosechase-experience-on-a-chromebook>
3. Divide the class into groups of 2-4 and have them Log in, or if they are new to Goosechase, they may sign up for a free account or participate as a guest. Please encourage students to choose a pseudonym.
4. Have students search for this experience in the app by code **BLJ1XL** or name **Agents of the Immune System: Germ Lesson**. If multiple students in each group have a device, they may create a team in the app. To access the French version of experience, search code **D74PEK** or by name **Agents du système immunitaire : leçon sur les germes**.
5. Give each group a printed copy of the accompanying workbook for them to record their written submissions. Explain that students should complete the experience missions in numerical order. Once they get to the bonus questions, they may do them in any order, although they should complete the first bonus mission that is listed in their workbook.
6. Allot one class period to have students work through the missions and as many Bonus Missions as they can. Many questions do not have a single correct answer and are up to interpretation. Please encourage students to think creatively and remind them they are being marked on the effort they put into their answers.

Consolidation/Extension

If you wish to go further, you may have groups compare their answers for the first bonus mission highlighting what they have learned. Students may also wish to share their team's score with the class. It may also be beneficial for students to discuss as a class some of the key concepts/takeaways of the lesson and what they have learned.



<p>Accommodations/Modifications</p> <p>You can have students take a screenshot of their answers to questions not included in the workbook for grading purposes.</p>	<p>Assessment</p> <p>Students can be assessed on the detail and effort they put into their written answers in their workbooks. You can encourage them to vary their responses, including using words, pictures, comics, charts, etc.</p>
<p>Additional Resources</p> <p>What is the immune system? https://kidsboostimmunity.com/node/1247/</p>	