

New Zealand Blood Service Teacher Notes: What's the Difference?

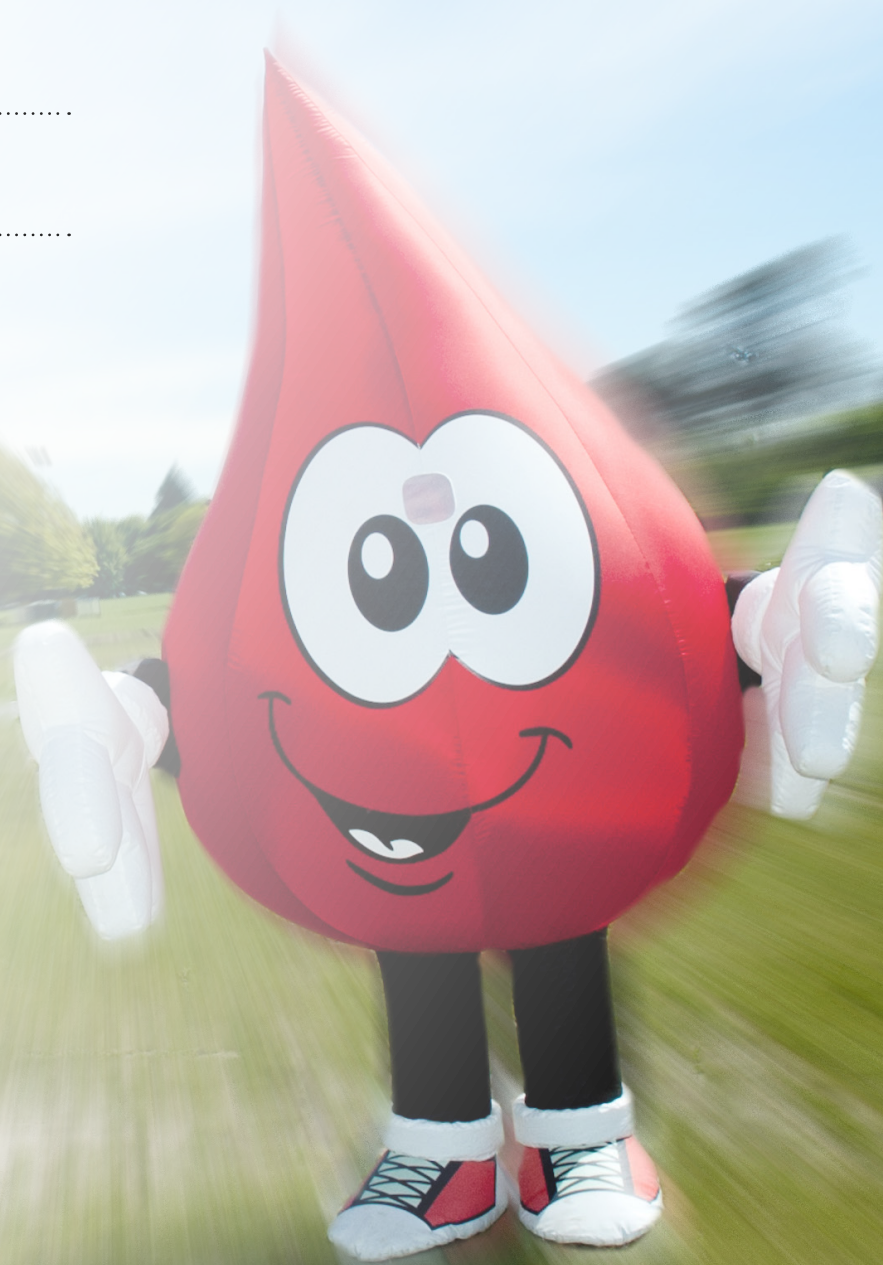
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Te Ratonga Toto O Aotearoa

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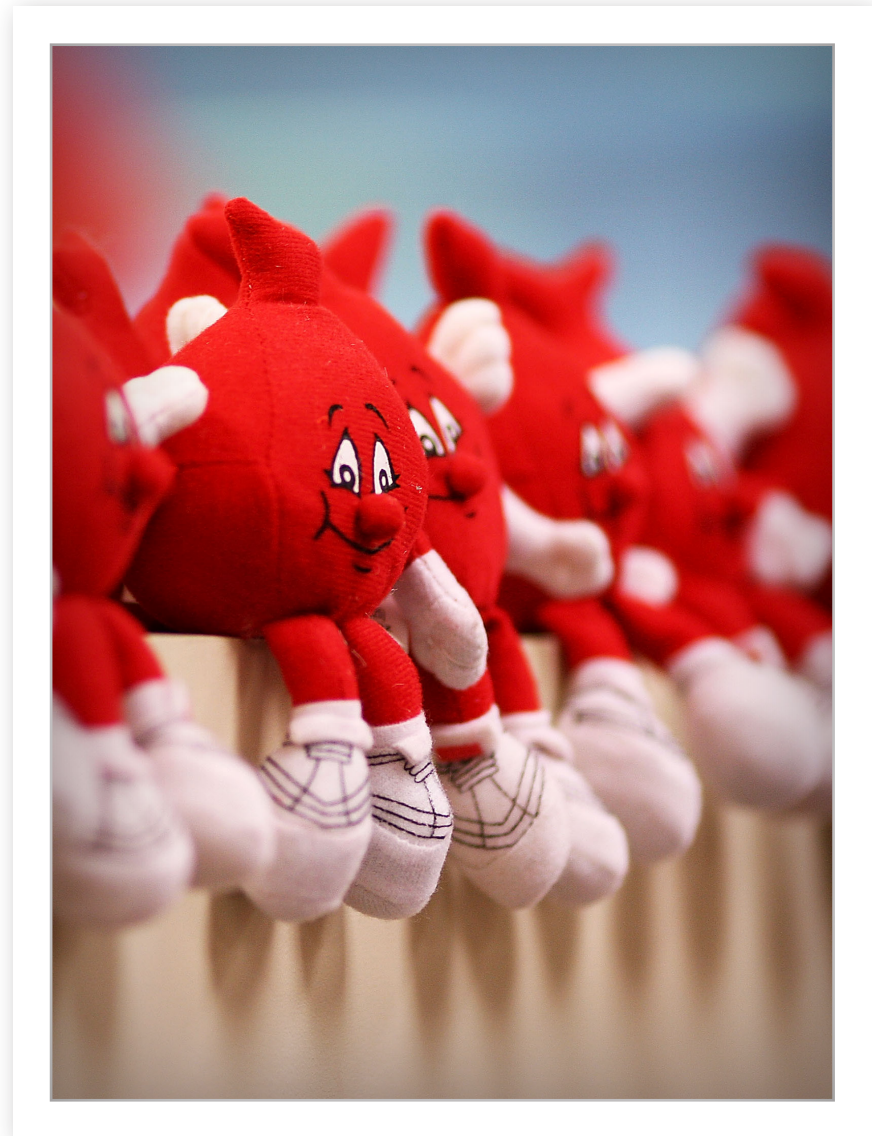


Introduction

***What's the Difference?* is part of a set of educational resources linked to the New Zealand Curriculum developed by New Zealand Blood Service (NZBS). These resources provide engaging learning experiences on NZBS topics for teachers to use in the classroom. They are housed on nzblood.co.nz.**

The resources support teachers to develop their students' knowledge and understanding of blood and blood donation. They provide students with opportunities for personal development and social interaction, and to contribute to their community as an active member of society.

What's the Difference? can be used as a resource for teaching English at Level 7 of the New Zealand Curriculum with links to the science learning area. It provides opportunities to study themes and topics such as the importance of blood donation for social sustainability and the biological validity of sources of information. These teacher notes contain ideas on how to use *What's the Difference?* to explore the science content within the text.



HOW TO USE THIS RESOURCE

What's the Difference? is a digital text, so it is recommended that you familiarise yourself with the digital tools before using them in the classroom.

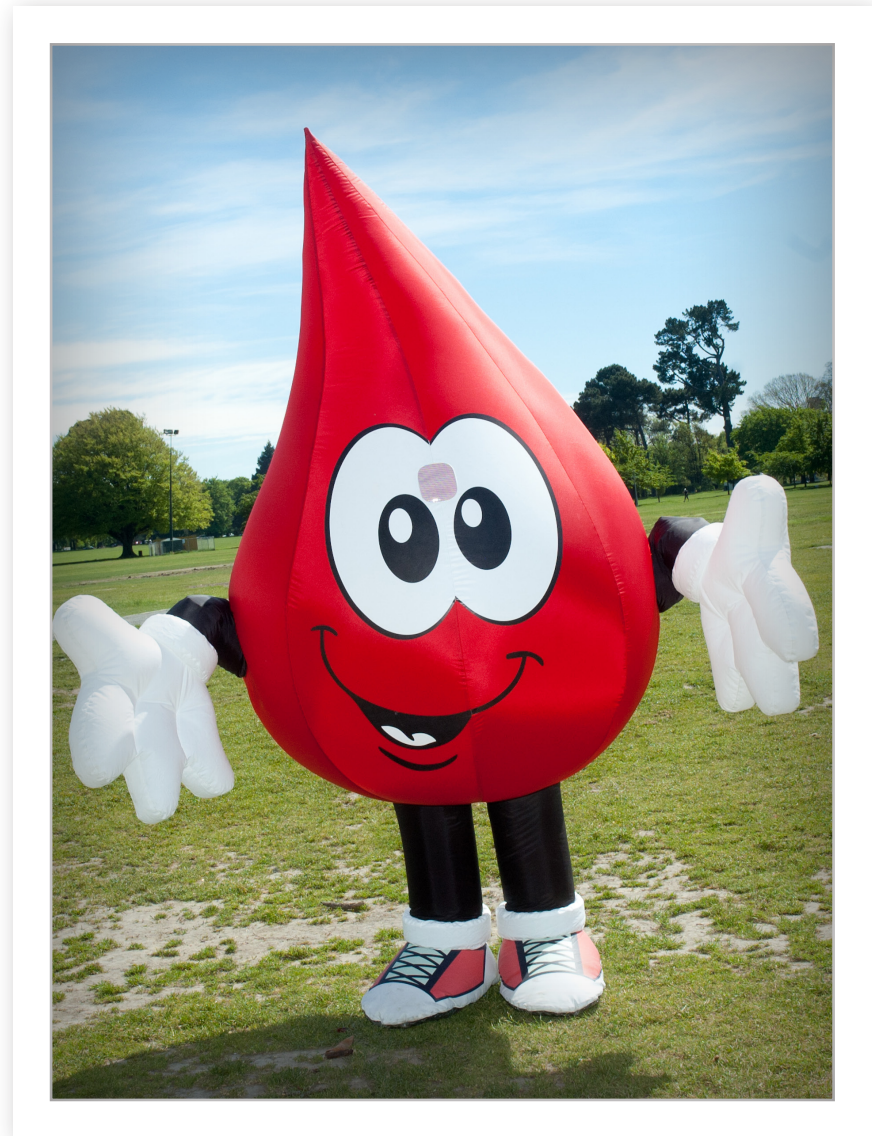
To use the text with a group, you will need a computer and data projector or interactive whiteboard.

Students can also view the text on their digital devices.

Open the text from <https://www.nzblood.co.nz/knowledge-hub/digital-resources/>, and use the forward and back arrows to navigate through the pages.

BACKGROUND INFORMATION FOR TEACHERS

For information on blood and blood donation, visit the NZBS website [nzblood.co.nz](https://www.nzblood.co.nz) or search the resource links in the education section of the NZBS site <https://www.nzblood.co.nz/knowledge-hub/external-resources/>.



POSSIBLE ACHIEVEMENT OBJECTIVES AND LEARNING OUTCOMES

The suggested learning experiences in these teacher notes are linked to the New Zealand Curriculum.

Level Seven	
English	Listening, Reading, and Viewing: Ideas Students will: <ul style="list-style-type: none">• Show a discriminating understanding of ideas within, across, and beyond texts. They will evaluate the information in the text with the aim of translating their learning into action.
Science	Living World: Life processes Students will: <ul style="list-style-type: none">• Explore the diverse ways in which animals and plants carry out the life processes. They will explore how blood groups are inherited and how this affects blood and bone marrow donation.

ASSESSMENT

As you work through the learning experiences, you will have opportunities to observe student behaviours and interactions in relation to the achievement objectives and learning outcomes suggested above. These observations will provide evidence for you to use when carrying out formative assessment.

Suggested learning experiences

***What's the Difference?* is an expository text with descriptive and problem and solution elements. You may choose to take a whole-class lesson to help you scaffold your students to think critically and deepen their understanding of the text.**

The following practical teaching suggestions provide strategies on how to support student learning during the lesson. They should be adapted to accommodate the needs of your students.

TEXT FEATURES AND COMPREHENSION STRATEGIES

The learning experiences provide opportunities to focus on two areas of student learning: text features and comprehension strategies.

For example, they prompt critical thinking about:

- the use of informational text features and digital elements, such as pop-ups, hyperlinks and videos that support the ideas in the text and introduce new information
- the use of context, illustrations or written explanations to clarify the meanings of ambiguous or unfamiliar words and phrases
- comprehension strategies, such as making connections, asking questions, drawing inferences using information or ideas that are implicit, determining important ideas and synthesising information
- new vocabulary – before selecting a bold (glossary) word, you could ask students to think about the word's meaning in the context of the text and then to discuss their thinking in pairs or explain it to the group. This approach encourages a more active, engaged class.

GENERAL TIPS

Before the lesson, preview the text for unfamiliar vocabulary, text features, concepts and ideas where your students may need support.

During the lesson, the “think-pair-share” strategy is used to encourage students to respond actively to the text. You are welcome to vary this approach.

After the lesson, make the text available for students to revisit independently or in small groups.

Literacy

To begin the lesson, ask the students to look closely at the front cover, including the title, images and other design features. Ask them to predict what sort of text they expect this to be and give their reasons.

Ask the students to do a 20 second skim and scan of the text and then to discuss in pairs their impressions of the text, sharing their thinking about the type of text it is and if it is what they expected. Ask them to compare this thinking with the predictions made from the title page.

After reading through the text, ask the students to draw an inference about the writer’s purpose. Ask what the students know about blood and blood donation and what examples they can think of from their background knowledge that they can relate to the text. Have the students synthesise the information in the text into a short paragraph that could be used as a blurb for the *What’s the Difference?* digital text.

After the lesson ask:

- “How did the images/illustrations/pop-ups/videos help you to understand the text?”
- “As you read the text, what questions did you ask and answer about blood and blood donation? Where could you find the answers to the questions you could not answer?” Students may seek further information from search engines and websites (such as nzblood.co.nz) and libraries, or from people in the community.

Science

Page 3 explains the ABO and Rh blood classification systems. Have the students use the Internet to investigate Landsteiner's work in the development of the ABO and Rh systems.

Ask the students what they know about antibodies and antigens. Discuss how and why the human body uses them to defend against "all sorts of things". Ask: "What would happen if our body didn't have this defence?"

On page 5 read the information about genetic transfer. Look at the blood type inheritance charts. Discuss how genetic traits are passed from one generation to another. Have the students think about their families – parents, grandparents, siblings, aunts and uncles – on both their maternal and paternal sides. Ask: "Who in your family do you most resemble? What traits do you recognise in your family as strong 'inheritance' factors?"

Ask: "Do you know your blood type?" Check if any students share the same blood type. Look at the blood compatibility table on page 7. Check again with the students – who has a compatible blood type? Using the information on blood compatibility, have the students play the blood typing game at <https://educationalgames.nobelprize.org/educational/medicine/bloodtypinggame/>.

Make a list of the different ethnicities represented in the class.

Ask the students what prior knowledge or connections they have of bone marrow, bone marrow transplants and the New Zealand Bone Marrow Donor Registry (NZBMDR). Select the hyperlink on page 10 to watch Jorinda's story. Ask: "Have you considered the importance of your blood type and ethnicity to the health of you and your family?"

Ask the students to summarise the important ideas in the text and Jorinda's story to answer the question: "Why is blood donation an important social action?"

Encourage students to read more donor recipient stories on the websites of the NZBS <https://www.nzblood.co.nz/get-involved/amazing-stories/> and NZBMDR <https://www.bonemarrow.org.nz/information/real-stories/>.

Watch the video "Giving Blood is Super Important" on page 14.

Have the students investigate the temperature and storage conditions required to "keep blood fresh". Ask: "What happens to the unused blood once it has expired?"