Lesson 8 Overview

Algebraic equations

Activity	Time (min)	Description/Prompt	Materials
Introduction	20	Introduce the context of selling skincare products and explain to students that Tia's dad has ordered a supply of face wipes to sell online. The face wipes are delivered in multipacks containing six packs of wipes. Tia's dad asks Tia to help with writing an equation that describes the relationship between the number/cost of packs of wipes and multipacks. Ask students to discuss in pairs the equations written by Tia and her friends, Vinay and Sade and check students' understanding of the mathematical structure of the equations. Encourage the use of pictorial representations when exploring relationships to help to reveal the mathematical structure.	Mini whiteboards Slides 2–12
Explore/ Discuss 1	10	Tell students that Tia's dad sells 'Basic' and 'Deluxe' wipes and has received some multipacks from the supplier. Information about the multipacks is provided in three equations. Ask students to write down what each of the three equations tells us and use this to gain an insight into students' existing knowledge and understanding of mathematical structure. The use of equations with mathematical structures reflecting those used in the main activity helps to build students' confidence and promote a culture where they believe that they can succeed.	Mini whiteboards Slide 13

Explore 2	25	Tell students that Tia's dad has orders from his online shop that are ready to be posted. Ask students to work in pairs to fill in the missing statements and equations and use this information to work out how much it will cost Tia's dad to send the parcels. As the connection between real-life situations and algebraic equations is considered, students' understanding of how the use of algebra relates to mathematical relationships is developed.	'Completing descriptions' handout Slides 14–15
Discuss 2	15	Once students have had sufficient time to make progress, hold a class discussion. Ask students to explain their thinking when completing the task and discuss different approaches. It is important to value different approaches and to encourage all students to participate in the discussion. Compare students' ways of working to Tia's approach to the task.	Mini whiteboards Slides 16–20
Review	10	Consolidate students' thinking by showing them a different scenario to emphasise the importance of understanding mathematical relationships. Emphasise that a relationship can be described in more than one way, depending on what is known and what we want to work out, but the mathematical structure is the same regardless of which equation we need to use.	Mini whiteboards Slides 21–23
Practice questions /Discuss 3	10	Give each student a copy of the 'Practice questions' handout. Give students a couple of minutes to work on the questions individually and then discuss their thinking. Ask students whether they checked that their expressions worked by substituting some possible numbers in. If they did, ask them what numbers they chose and to explain how they used the result to determine whether or not their expressions were correct.	'Practice questions' handout Slides 24–25