

Summary of learning goals

- Students manage scheduling problems and problems involving elapsed time. They construct a 24-hour program and a time line, when given a number of tasks and constraints.

Australian Curriculum: Mathematics (Year 6)

ACMMG139: Interpret and use timetables.

Summary of lessons

Who is this sequence for?

- This is a sequence of lessons that require students to use logical thought to solve problems involving time lines and timetables. They need an appreciation of the relationship between hours and minutes. They also need to know how to record using 24-hour time. Both tasks require a high level of literacy skills.

Lesson 1: An Astronaut's Day

Students construct a daily schedule for three astronauts on the International Space Station (ISS) when given a series of activities and duties they must undertake.

Lesson 2: Monday Morning at Mission Control

Students are presented with a scenario and must carefully and logically order events and add and subtract times, with the use of a time line.

Reflection on this sequence

Rationale

Time is a complex and complicated concept. The teaching of time should include a broad range of experiences to help students develop their understanding of time. Many classrooms focus instruction on reading clocks. Although telling time is a very important skill to be developed, it does not deal with time as a concept. For students to understand time effectively, they must appreciate four components: succession, duration, awareness of the language and patterns of time, and that time is a form of measurement (Thomas, Clarke, McDonough & Clarkson, 2017; see: https://www.researchgate.net/publication/318461259_Framing_Assessing_and_Developing_Children's_Understanding_of_Time).



reSolve mathematics is purposeful

- This sequence draws on the four important components of time as students solve timetable and time line problems.



reSolve tasks are inclusive and challenging

- Although the context for the lessons is fictitious, it is easily imaginable for students. It draws on real events and tasks that need to be performed on the ISS and by Mission Control.
- Students are challenged to construct time lines and timetables when given a number of tasks and constraints. Ideas to make the problems more concrete are provided.



reSolve classrooms have a knowledge-building culture

- Students are encouraged to collaborate to construct solutions. Through their conversations and problem-solving, students' develop their understanding of the concepts of succession, duration, and their skills in measuring and recording time.
- Different solutions are compared so similarities and differences can be identified.