

Space Maths

Literacy Level 30+, Year 7 • Maths Level 4 • Geometry and Measurement

Wise Up!



Inquiry Learning
for Years 6 and Up

Inquire to Learn!

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There are many ways in which *Space Maths* can be used as a base for Inquiry Learning. This is just one suggestion.

Literacy Achievement Objective:

Find ways to understand unfamiliar, especially content-specific, words and phrases.

Specific Literacy Learning Outcome:

Understand content-related vocabulary by inferring meaning from context, looking at diagrams, and using glossary.

Numeracy Achievement Objective:

- Learn importance of mathematics in understanding patterns of the universe.
- Apply mathematical knowledge to practical problem solving.
- Calculate time from measured distance and speed; calculate distance from measured speed and time.
- Rounding; fractions

Specific Numeracy Learning Outcomes:

- Understand importance of maths in everyday life.
- Understand that maths can be used to explain the vastness of the universe in a comprehensible and manageable way (learn astronomical units of measurement).
- Practise different forms of problem solving.

Cross-Curricular and Topic Links:

calendars, night and day, history, science and instruments

Additional Science Outcome

Investigate components of the solar system, developing an appreciation of the distances between them.

Session 1: Using the Big Book, share-read *Space Maths*, stopping at natural points for discussion. Draw on students' prior knowledge of space and space exploration.

Session 2: Using the Big Book, work through the Literacy Focus questions. Guide the students towards achieving the literacy learning outcome.

Literacy Focus:

1. *Recall:* Ask: What does the author say is the most essential tool in studying the universe? [Maths]
2. *Comprehension:* Ask: Why would you need mathematics to study the universe? [Answers may vary, but should include need to figure out great distances.]
3. *Vocabulary:* Discuss the word *geography* (page 9). Ask students to suggest other words beginning with *geo* and write these on the board.

Session 3: Using the Small Books, have the students reread *Space Maths*. Model answering the Wise Up! on page 3. In their maths groups, have the students answer the Wise Up! questions on pages 5, 6, 9, 11, 13, 17, 19, 21, and 23. Help individual groups as necessary.

Session 4: Have the students form small groups to work on the challenge on page 24.

Inquiry Learning Extension:

Students could choose an aspect of space exploration – a discovery, an astronaut, a planet, an astronomer etc – to research individually or in small groups. Brainstorm a range of presentation forms the students could use to share their research.