

M-Cubed: Money, Meaning and Mathematics

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Keep on Learning (KoL) Program

First year pre-service teachers choose to be involved

Young adults from Wallara (local disability service provider) choose to be involved: literacy and/or numeracy program

Students travel to campus by bus

Pre-service teachers (tutors) work in pairs to teach the same student each week

Tutoring session – 1 hour

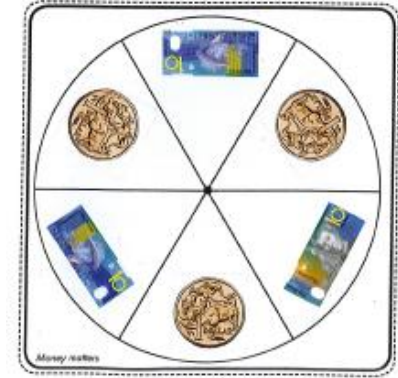
Program goes for ten weeks

Debrief after each tutoring session

Keep on Learning (KoL) Program

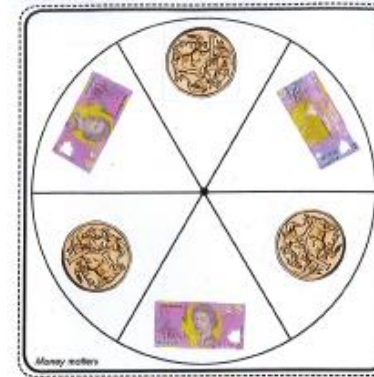
Activity 1 (5-10 mins)

Fluency practice with counting and skip counting
(1s, 10s, 5s, 2s)



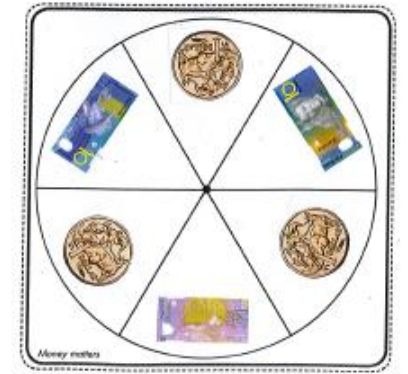
Activity 2 (15-20 mins)

Problem-solving practice: Game of fortune



Activity 3 (10-15 mins)

Student-initiated project



Hopkins, S., & O'Donovan, R. (2019). Using complex learning tasks to build procedural fluency and financial literacy for young people with intellectual disability. *Mathematics Education Research Journal*, 1-19. <https://rdcu.be/bMxq1>

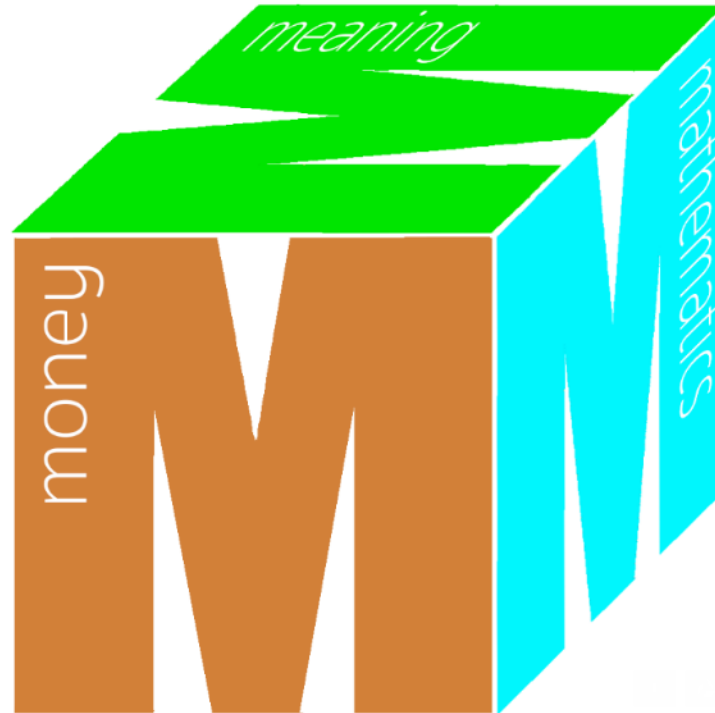
Keep on Learning (KoL) Program



<https://www.youtube.com/watch?v=EK1sShHXm7I>

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ecstra



Definitions

- Numeracy (sometimes called mathematical literacy) refers to the effective application of mathematics outside the classroom to help manage the practical demands of everyday life. The area of personal finances is an important context for numeracy.
- Financial literacy encompasses an expanding set of competencies (mathematical and practical) that individuals build throughout life, which, when combined with a person's beliefs and values, are applied to make effective decisions about their personal finances (OECD, 2014).

M-cubed project

Mathematical Foundations

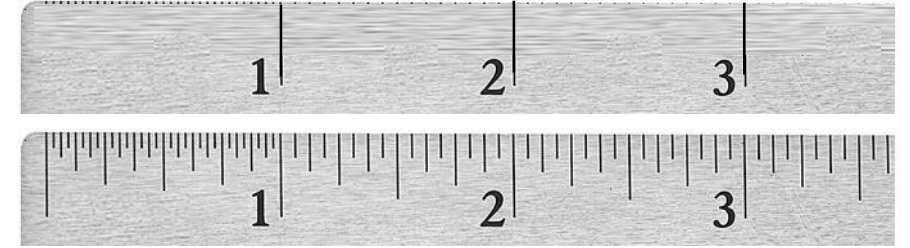
- (i) **Recognise** the value of notes and coins,
- (ii) Order (**compare**) the value of notes and coins
- (iii) **Calculate** the value of a collection of notes and coins,
- (iv) **Represent** money values in multiple ways,
- (v) Count the change required for simple transactions.

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Wanted to achieve

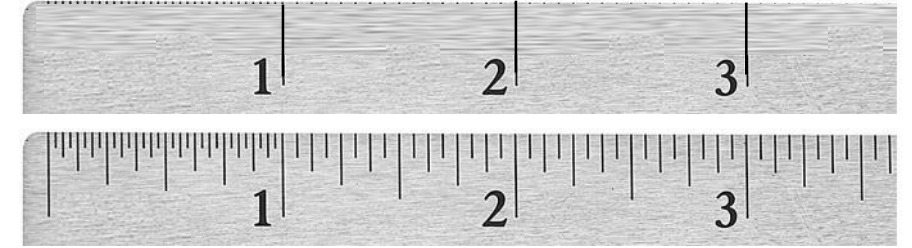


M-cubed project

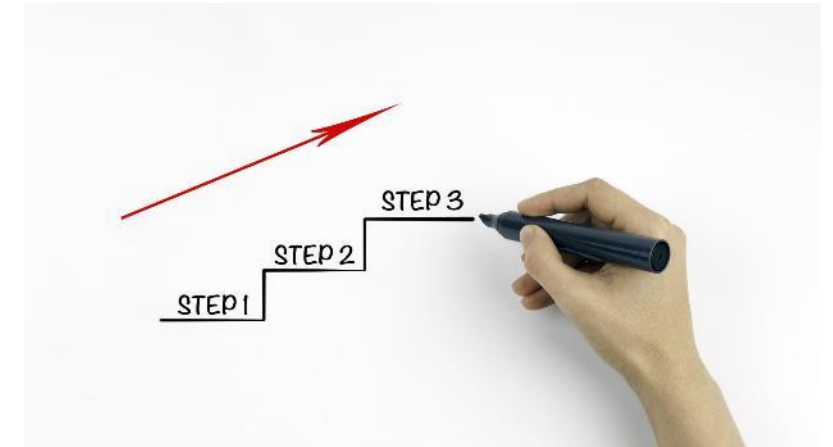
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Wanted to achieve



Wanted to avoid



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Levels of difficulty

Level 1a: \$5, \$10, \$20, \$50, \$100 (notes)

Level 1b: 5c, 10c, 20c, 50c (cents)

Level 2a: \$1, \$2, \$5, \$10, \$20, \$50, \$100 (dollars)

Level 2b: 5c, 10c, 20c, 50c, \$1, \$2 (coins)

Level 3: 5c, 10c, 20c, 50c, \$1, \$2, \$5, \$10, \$20, \$50, \$100 (all)

Stages of difficulty

Recognising

Comparing

Same denomination

Different denominations

Calculating

Same denomination

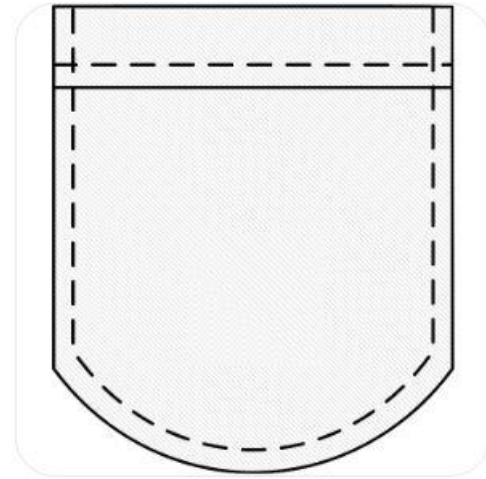
Different denominations

Representing

Same denomination

Different denominations

M-cubed project



www.pocketmoney.education

Here are some pockets with money in them. Tap on the pocket with \$20 in it



Here are some pockets with money in them. Tap on the pocket with \$20 in it.



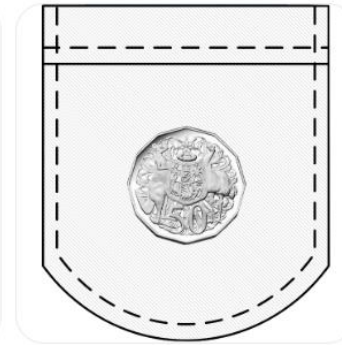
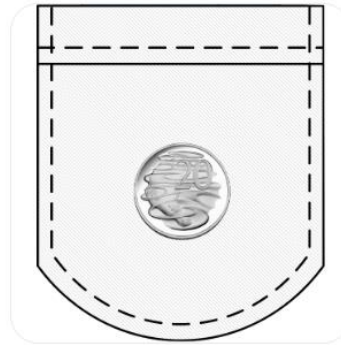
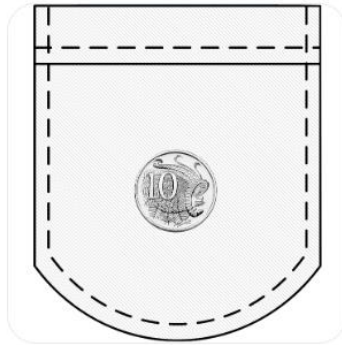
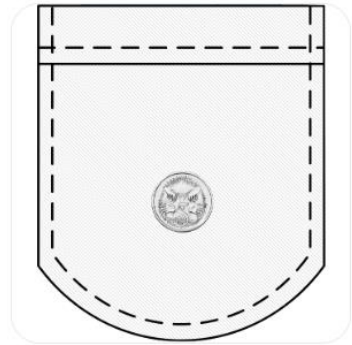
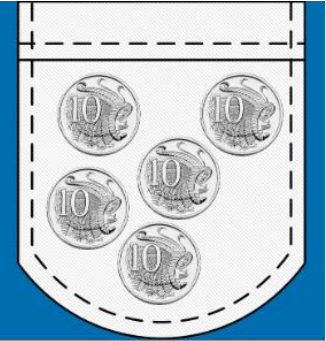
Tap the pocket with more money in it



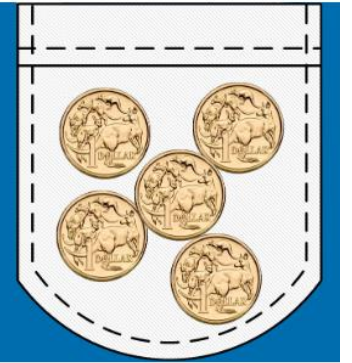
Tap the pocket with more money in it



Here is a pocket with some money in it. Tap on the pocket below that has the same amount of money in it.



Here is a pocket with some money in it. Tap on the pocket below that has the same amount of money in it.



Here is a pocket with some money in it. Tap on the pocket below that has the same amount of money in it.



Question

Tap the pile of money to give the exact amount shown on the Cash Register.



Answer Options

*Tap on each NOTE or COIN to create your answer



Your Answer

*Tap again to put back your answer

Connecting to existing literature

- Adults with intellectual disability perceive poor numeracy to be a barrier to social inclusion (Abbott & McConkey, 2006)
- Outcomes associated with managing personal finances are deemed most important to cover in school curricula (Dowrick, 2004)
- The vast majority of Australian school leavers with intellectual disability require assistance when it comes to handling money (Eagar, Green, Gordon, Owen, Masso, & Williams, 2006)