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PAT Maths: Concept Builder

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Concept builder: **Addition of small amounts of money**

Linked from: Number and Algebra: Money and financial mathematics   105-114, 95-104, 85-94

PREREQUISITES
- Addition of ten
- Complements to ten
- Students counting by single digits, e.g. 2s, then relating to multiples of 10, e.g. 20s

KEY CONCEPTS AND SKILLS
- Addition of small amounts of money, less than $1.00
- Adding 5s and 10s

COMMON ERRORS AND MISCONCEPTIONS
- Possibly not able to recognise the names or values of the Australian coins and notes
- Possibly not understanding that two 10-cent coins have the same value as a single 20-cent coin
- Addition errors

Feedback

MacBook

Concept builder: Addition of small amounts of money

Maths strand and sub-strand

Linked from: Number and Algebra: Money and financial mathematics 105-114, 95-104, 85-94

PAT Scale Score ranges

PREREQUISITES

This concept builds on these skills

- Addition of ten (Concept builder)
- Complements to ten (Concept builder)
- Students counting by single digits, e.g. 2s, then relating to multiples of 10, e.g. 20s

KEY CONCEPTS AND SKILLS

These are the main ideas that students will learn

- Addition of small amounts of money, less than $1.00
- Adding 5s and 10s

COMMON ERRORS AND MISCONCEPTIONS

- Possibly not able to recognise the names or values of the Australian coins and notes
- Possibly not understanding that two 10-cent coins have the same value as a single 20-cent coin
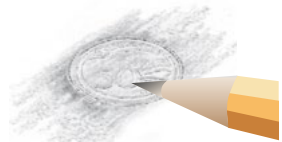- Addition errors

Common misunderstandings are based on years of PAT norming studies

CONCEPT BUILDERS

- Resources that build on students' understanding of maths concepts.

Finding the total of a set of coins

- Provide students with mixed sets of coins (totalling less than $1.00).

Coin rubbing   Coin cut-outs   Tracing coins

- Have students record the coins either through a rubbing, with cut out coins or with a tracing.
- Have students find the totals of the sets of coins. Encourage students to add from the largest valued coin, e.g. 50 cents, and count on.
- Repeat with different sets of coins.
- This activity could be extended by having students and the values of sets of coins that total more than $1.00.

Concept builders can be used with individual students, small groups or a whole class

Sets to a specifc value

- Provide students with a value under $1.00, such as 80 cents, and a set of coins.
- Have students select the coins to make the value, such as a 50-cent, a 20-cent and a 10-cent coin.
- Have students record this either through a rubbing, with cut out coins or with a tracing.
- Have students repeat to and different combinations, such as 20 + 20 + 20 + 20 or 50 + 10 + 10 + 10. Have students record as many different combinations that they can find.
- As a group, have students share their findings, which could be collated into a class chart. Discuss with students the advantage of using systematic listing when looking for all of the combinations, and use the collated examples to model this.
- Repeat with a different starting amount, encouraging students to use systematic listing.
- To extend the activity, provide students with an amount greater than $1.00.

FURTHER READING

Deepen your understanding of the concept

- State Government Victoria Department of Education and Training. (2014). Money: Level 2. Retrieved from http://www.education.vic.gov.au/school/teachers/teachingresources/discipline/maths/continuum/Pages/money20.aspx

EXAMPLE QUESTIONS

- PAT Maths Plus, Test 3, Q3 (Annotated question)
- PAT Maths Plus, Test 4, Q3 (Annotated question)
- PAT Maths 4th Ed, Test 3, Q5 (Annotated question)

Find out more
www.acer.org/pat-trc