

# Add and Subtract Coins and Notes, Count Change. ↗

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**Let's Implement Seamless**

**ASSESSMENT**

**DIFFERENTIATION**

**INVESTIGATION**

**PROBLEM SOLVING**

**INTERVENTION**

**in Mathematics**

**SEAMLESS ASSESSMENT, DIFFERENTIATION, INVESTIGATION, PROBLEM SOLVING, INTERVENTION, INTEGRATION**

Not every student will be ready to investigate or solve problems at this Level and so we will need to assess and differentiate to ensure every student is learning at their leading edge.

Some students may not yet be ready to investigate this concept at any Level, and so we will need to provide some intervention.

Every mathematical concept is integrally related to other mathematical concepts. Teaching and learning related concepts simultaneously develops deep relational understanding.

# ADD AND SUBTRACT COINS AND NOTES, COUNT CHANGE.

## EXPLICIT TEACHING PLAN OVERVIEW PAGE

THIS PAGE IS A SUMMARY OF THE EXPLICIT TEACHING PLAN, INCLUDING STRATEGIC QUESTIONS, AND DESCRIBING THE SEQUENCE WHICH WILL OCCUR OVER MULTIPLE LESSONS.

RESOURCES: COINS AND NOTES, PENCIL, PAPER

### WHAT COULD WE DO?

Children:

- add by counting on, for example,



- subtract by counting back, for example,



- work out change by counting up from the amount spent, for example, 45 cents - 50 cents, 1 dollar



### WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

Children:

- ask one another questions about adding and subtracting coins and notes:
  - How could we count on to add?
  - How do we record amounts with dollars and cents?
  - How do we read amounts with dollars and cents?
- How could we count back to subtract?
- How do we record amounts with dollars and cents?
- How do we read amounts with dollars and cents?
- How could we count up to work out change?
- Could we start from the amount we spent?
- How do we record amounts with dollars and cents?
- How do we read amounts with dollars and cents?

# ADD AND SUBTRACT COINS AND NOTES, COUNT CHANGE.

## EXPLICIT TEACHING PLAN

FULL EXPLICIT TEACHING PLAN, EMBEDDING DEEP RELATIONAL UNDERSTANDING, METALANGUAGE, AND QUESTIONS THAT MAY BE USED OVER MULTIPLE LESSONS.

### WHAT COULD WE DO?

Children think about, talk and listen to a friend about, then have the opportunity to share what they already know.

Display the Australian coins and notes, for example,



Distribute a set of coins and notes to children consisting of at least:

4 x 5c	5 x 10c
4 x 20c	3 x 50c
2 x \$1	2 x \$2
1 x \$5	1 x \$10

### WHAT LANGUAGE COULD WE USE TO EXPLAIN AND ASK QUESTIONS?

- ▶ Today brings an investigation about adding coins and notes.
- ▶ What do you know about adding coins and notes?
- ▶ Talk about adding coins and notes with a friend.
- ▶ Is anyone ready to share what they are thinking about adding and subtracting coins and notes?
  
- ▶ We've investigated the coins and notes we use in Australia.
  
- ▶ Today we're going to investigate adding coins and notes.

Display an amount of money in coins, for example, \$3.75



Move each coin as you count it, for example,



Record, for example, \$3.75

Display some more coins, for example,



Move each coin as you add it, for example,



- ▶ Here we have a group of coins.
  
- ▶ How much money do we have?
- ▶ Let's count the money.
- ▶ Let's count the coins with the highest value first.
- ▶ One dollar, 3 dollars, 3 dollars 50, 3 dollars 70, 3 dollars 75.
  
- ▶ So we have 3 dollars 75.
- ▶ When we record 3 dollars 75, we record the dollar sign, then the dollars, then a dot, and then the cents.
- ▶ How do we read this?
- ▶ Do we read this as 3 dollars 75?
  
- ▶ Let's add these coins.

Record, for example,  $\$3.75 + \$1.20 = \$4.95$

Display an amount of money in coins, for example, \$3.75



Move each coin as you count it, for example,



- ▶ How much do we have here?
- ▶ Do we have 1 dollar 20?
- ▶ How could we add 1 dollar 20 to 3 dollars 75?
- ▶ Could we count on from 3 dollars 75?
- ▶ 3 dollars 75, 4 dollars 75, 4 dollars 95.
  
- ▶ Let's record our number sentence.
- ▶ When we record dollars and cents, do we record the dollar sign, then the dollars, then a dot, and then the cents?
- ▶ What does our number sentence say?
- ▶ Does our number sentence say '3 dollars 75 plus 1 dollar 20 equals 4 dollars 95?'
  
- ▶ Today we're going to investigate subtracting coins and notes.
- ▶ Here we have a group of coins.
- ▶ How much money do we have?
  
- ▶ Let's count the money.
- ▶ One dollar, 3 dollars, 3 dollars 50, 3 dollars 70, 3 dollars 75.

Record, for example, \$3.75

Point to some of the coins, for example,



Move each coin as you subtract it, for example,



Record, for example,  $\$3.75 - \$1.20 = \$2.55$

- ▶ When we record 3 dollars 75, do we record the dollar sign, then the dollars, then a dot, and then the cents?
- ▶ How do we read this?
- ▶ Do we read this as 3 dollars 75?
- ▶ So we have 3 dollars 75.
- ▶ Let's imagine we have spent some of this money.
- ▶ Let's subtract some of the coins.
- ▶ Let's subtract these coins.
  
- ▶ How much are we subtracting?
- ▶ Are we subtracting 1 dollar 20?
  
- ▶ How could we subtract 1 dollar 20 from 3 dollars 75?
- ▶ Could we count back from 3 dollars 75?
- ▶ 3 dollars 75, 2 dollars 75, 2 dollars 55.
  
- ▶ Let's record our number sentence.
- ▶ When we record dollars and cents, do we record the dollar sign, then the dollars, then a dot, and then the cents?
- ▶ What does our number sentence say?
- ▶ Does our number sentence say '3 dollars 75 minus 1 dollar 20 equals 2 dollars 55'?

Display a poster advertising a toy for \$3.75, for example,

Display a 5 dollar note, for example,



Collect 5c, for example,

Collect 20c, for example,

Collect \$1, for example,



Record, for example, change = \$1.25

- ▶ **Today we're going to investigate how we can work out change when we don't have the right amount of money.**
- ▶ How much does the toy car cost?
- ▶ Does the toy car cost 3 dollars 75?
- ▶ Imagine we want to buy this toy car for 3 dollars 75 but we only have a 5 dollar note.
- ▶ Can we still buy the car?
- ▶ Will the shop keeper give us change?
- ▶ How can we work out how much change we should receive? Let's investigate!
- ▶ The car costs \$3.75 but we gave the shop keeper \$5.
- ▶ Could we start from \$3.75 and count up to \$5?
- ▶ If we add on 5 cents, we'd have \$3.80.
- ▶ If we add on 20 cents, we'd have \$4.
- ▶ If we add on \$1, we'd have \$5.
- ▶ So we've counted up to \$5.
- ▶ How much money did we count up?
- ▶ We counted up 5 cents plus 20 cents plus \$1.
- ▶ What does 5 cents plus 20 cents plus \$1 equal?
- ▶ Does 5 cents plus 20 cents plus \$1 equal \$1.25?
- ▶ Is our change \$1.25?
  
- ▶ When we record dollars and cents, do we record the dollar sign, then the dollars, then a dot, and then the cents?