

MATH UNIT

What a handful of coins comes to

Grade 2

7 lessons

7 × 30 minutes

3 source books

210 minutes in all

THE QUESTION THIS UNIT FOLLOWS

Two piles that look nothing alike. How can they be the same money?

ABOUT THIS UNIT

This unit is about counting money accurately and then about what stays the same when the coins change. Children count a row of nickels by fives and a row of dimes by tens, then meet the mixed handful, where the count has to start with the largest coin and change step partway through. The book's own printed answers are used as the check, so a child recounts rather than being corrected.

The second half is the harder idea. One dollar gets picked four ways — a hundred pennies, twenty nickels, ten dimes, four quarters — and the four counts go on a chart side by side, so the pattern that the more a coin is worth the fewer you need is read off the class's own work. Then two unlike piles are laid one above the other under a single amount card, and children build a third set the book does not give. The unit closes on the book's own question about a crop of two kinds at once, where a prediction is written first and not rubbed out.

THE MATHEMATICAL ARC

Each lesson does one job the lesson before it made possible.

- 1 Count a row by fives, then by tens, and say the total
- 2 A mixed handful: largest coin first, and change step when the coin changes
- 3 One dollar, picked four ways
- 4 Write the cent equation that matches what is on the mat

- 5 Two unlike piles under one amount card
- 6 Trade up, and count the coins rather than the cents
- 7 Two groups at once: how many coins in all

SOURCE BOOKS

Every lesson in this unit is already published under Math lessons. Nothing here asks you to teach anything you cannot open today.



The Coin Counting Book

3 lessons in this unit



Deena's Lucky Penny

2 lessons in this unit



Once Upon a Dime

2 lessons in this unit

HOW TO USE THIS GUIDE

Open the source lesson before you teach.

Each day names one lesson that already exists under Math lessons, with its book, its number and its title. This guide says what that lesson is doing in the sequence and what to collect from it; the lesson itself carries the steps, the printables and the answers.

Thirty minutes a day.

Five minutes to connect to yesterday, the twenty-minute source lesson, five minutes to close on something you can see. A day that runs long should lose the close, never the core.

Teach a lesson on its own if you need to.

Every day carries a one-sentence opening for a teacher who is using that lesson outside the sequence.

Stop after a checkpoint.

The unit holds together if you stop after either checkpoint and come back to it. Stopping between a checkpoint and the next one leaves a lesson without the evidence it was built on.

WHERE THIS FITS IN YOUR YEAR

When to teach it

After the Grade 1 coin work, or after any unit where children have counted by fives and tens to a hundred. It does not depend on the clock unit and can run beside it.

What students need first

Children can count by fives, tens and twenty-fives, and know the four coin values.

What this unit develops

Counting on by fives and tens across a row; counting a mixed collection largest coin first and changing step; writing the cent equation that matches a set; one dollar composed four ways; two unlike sets for one amount; counting the coins rather than the cents; adding two groups to find a total in all.

What it prepares them for

Making change and keeping a budget, and the Grade 3 work where an amount has to be split rather than assembled.

CURRICULUM CONNECTIONS

None claimed. The lessons in this unit carry their own standards classifications on their own pages, checked lesson by lesson. A unit-level expectation is a different claim, and none has been verified for this unit, so none is printed here. Use the placement guide above to site the unit in your year, and the individual lesson pages for the codes.

UNIT AT A GLANCE

#	MATHEMATICAL MOVE	SOURCE LESSON	COLLECT
1	Count a row by fives, then by tens, and say the total	The Coin Counting Book lesson 2, Count the Money by Fives, Then by Tens	Rows counted both ways, with the total said in cents at the end of each run, and the two-dime-one-nickel row counted in both orders.
2	A mixed handful: largest coin first, and change step when the coin changes <i>Checkpoint after this lesson</i>	Deena's Lucky Penny lesson 2, Count Dina's Money at Every Stop	Four piles each carrying a written amount card, produced before any of the book's answers were read.
3	One dollar, picked four ways	Once Upon a Dime lesson 3, Four Ways to Pick a Dollar	A strip carrying four counts — a hundred pennies, twenty nickels, ten dimes, four quarters — pinned under the class heading.
4	Write the cent equation that matches what is on the mat	The Coin Counting Book lesson 4, Say It in Coins, Write It in Cents	Equations written and read at ten cents and twenty-five cents, and a partner's equation built from the writing alone.
5	Two unlike piles under one amount card <i>Checkpoint after this lesson</i>	Deena's Lucky Penny lesson 3, Two Ways to Make the Same Amount	Pairs of unlike rows for five, ten, twenty, twenty-five and fifty cents, each pair counted and named as one amount, with the fewer-coins row identified.
6	Trade up, and count the coins rather than the cents	The Coin Counting Book lesson 5, Four Ways to Make a Dollar	A recording slip carrying three coin counts — twenty, ten, four — and the difference between the largest and the smallest.

#	MATHEMATICAL MOVE	SOURCE LESSON	COLLECT
7	Two groups at once: how many coins in all	Once Upon a Dime lesson 2, The Mixing Years: How Many Coins in All	Both mixing years built and counted, each written as an addition sentence beside the prediction that was made first.

UNIT VOCABULARY

Words students say, not words they are taught to define.

count on	Carrying the count forward when the coin changes, rather than starting again.
cent equation	Lesson 4's written form, with a cent sign on every term, that matches a set of coins on the mat.
one dollar	One hundred cents, said both ways from lesson 3 onwards.
the same as	Lesson 5's phrase for two unlike piles under one amount card.
in all	Lesson 7's phrase, for the total of two groups counted together rather than separately.

MATERIALS

From the source lessons

Each day's materials are listed on that day's page below and on the source lesson itself. Nothing is duplicated here.

New for this unit

- Checkpoint 1 page, one per child
- Checkpoint 2 page, one per child
- Performance task set: a mixed handful of coins — three dimes, two nickels and five pennies — a ten-square counting strip, a small whiteboard, an amount card, and a cup each of nickels, dimes and quarters, one set per pair
- Performance task page, one per child

ASSESSMENT PLAN

Daily evidence

Keep the amount cards from lesson 2 and the four-way chart from lesson 3. The cards show whether a child wrote their count before the book's sentence was read; the chart shows whether the coin counts were taken from their own building rather than copied.

Checkpoint 1, after lesson 2: Count the handful

Two dimes, one nickel and three pennies in a heap. The child lays them out largest coin first, counts aloud, and says the total in cents. Then the teacher shuffles the heap and the child counts again.

Book-free. Coins, no book.

Look for. The largest coin first and a change of step at each new kind. The second count is the one that matters: the same total from a different order is what shows the method rather than a memory.

Checkpoint 2, after lesson 5: Two piles, one amount

An amount card reading 25¢, and coins. The child builds two unlike sets that both come to twenty-five cents, counts each, and says the sentence that makes them one amount.

Book-free. Coins and an amount card, no book.

Look for. Both piles stay on the desk while both are counted. A child who clears the first pile has built two amounts rather than one amount two ways.

Culminating task: Count it, write it, build it another way

Each pair does three things. They count a mixed handful largest coin first, say the total in cents, and then count it again after the teacher shuffles it. They write the cent equation that matches a set they have laid out, with a sign on every term, and read it back touching one coin per term. Then they take an amount card and build two unlike sets for it, leaving both on the desk, count each and say which used fewer coins.

Collect. Both counts of the shuffled handful, the written cent equation, and the two unlike sets with the fewer-coins answer.

What it assesses. A mixed handful counted by method rather than memory, the same set written as an equation, and one amount built two ways — the three things the unit built, with both piles still on the desk at the end.

DAILY LESSON PAGES

Lesson 1 Count a row by fives, then by tens, and say the total

SKILL LESSON The Coin Counting Book (/math-library/91.html) · lesson 2, Count the Money by Fives, Then by Tens · Grade 2 · 20 minutes
Counting on by fives and tens to find the value of a set of coins

I CAN	I can count a row of coins by fives or by tens and say how many cents.
BIG IDEA	A row of one kind of coin has one step. The number word lands on each coin once, and the last number word is the total in cents.
SUCCESS	The child counts a mixed row dimes first and says the running total on every coin and the amount in cents at the end.
CONNECT 5 MIN	First lesson. Put out two dimes and a nickel and ask how much. Take the answers, including the ones that count three coins as three cents.
TAUGHT ON ITS OWN	Both count runs are printed whole: five, ten, fifteen, twenty, twenty-five for coins counted in fives, and ten through to one hundred for coins counted in tens.
SOURCE CORE 20 MIN	Children lay five nickels on the counting strip and count them by fives touching one coin per number word, run the row twice — slowly and at speed — then set two dimes down first and a nickel after them and count ten, twenty and on five more to twenty-five.
COLLECT	Rows counted both ways, with the total said in cents at the end of each run, and the two-dime-one-nickel row counted in both orders.
CLOSE 5 MIN	One partner lays a row of dimes and nickels and the other counts it aloud, dimes first, and says the total in cents; they swap after every row and keep each row at or under one hundred cents.

From the source lesson: Plastic coin sets: ten nickels and ten dimes per pair; Counting strip: a paper track of ten empty coin squares; Word cards: dime, dollar, nickel

Watch for: A number word landing between two coins. One touch, one word, and start the row

again if they come apart.

Lesson 2**A mixed handful: largest coin first, and change step when the coin changes****SKILL LESSON****Deena's Lucky Penny** (/math-library/378.html) · lesson 2, Count Dina's Money at

Every Stop · Grade 2 · 20 minutes

Counting a coin collection by ones, fives, tens and twenty-fives

I CAN

I can count a handful with different coins in it.

BIG IDEA

A mixed pile has more than one step in it. Start with the largest coin, change step when the coin changes, and the total does not depend on the order you were handed them in.

SUCCESS

The child counts each pile from the largest coin to the smallest and writes the amount on a card before the book's sentence is read.

CONNECT | 5 MIN

Yesterday every row was one kind of coin. Today the piles are mixed, and the count has to change step partway through.

TAUGHT ON ITS OWN

Four people hand Dina a coin and the book asks how much she has after each one, printing the answer every time.

SOURCE CORE | 20 MIN

Children build the four piles the story gives, put the largest coins at the left of each, and count each pile from the largest coin down — tens for the dimes, then fives for the nickels, then ones for the pennies — writing the amount on a card laid under the pile.

COLLECT

Four piles each carrying a written amount card, produced before any of the book's answers were read.

CLOSE | 5 MIN

The book's two sentences are read out and children hold up the card carrying the same number; where a card and the book disagree, that pile is counted again in front of a partner and the child says which coin they counted twice.

From the source lesson: Real or plastic coins: pennies, nickels, dimes and quarters; A paper strip long enough to lay eight coins in a line; Blank cards for writing an amount in cents; Word cards: cents, how much money, count on

Watch for: A count that starts on the smallest coin. It usually still arrives, and it falls apart the first time a quarter is in the pile; insist on largest first now.

Checkpoint after this lesson: Count the handful. The page is at the end of this guide.

Lesson 3 One dollar, picked four ways

SKILL LESSON **Once Upon a Dime** (/math-library/86.html) · lesson 3, Four Ways to Pick a Dollar ·

Grade 2 · 20 minutes

Skip-counting coin worth by fives, tens and twenty-fives to one dollar

I CAN	I can make one dollar out of pennies, nickels, dimes or quarters and say how many coins each way took.
BIG IDEA	The amount is pinned at one hundred cents while the number of coins changes completely. The more a coin is worth, the fewer of them a dollar takes.
SUCCESS	The child says how many coins each way took before touching the next kind, and reads the pattern off the class chart at the end.
CONNECT 5 MIN	Handfuls have been counted. Today the same amount gets built four times out of four different coins.
TAUGHT ON ITS OWN	Four times in this book the tree gives a crop of exactly one hundred coins, and the first of them, one hundred pennies, is a dollar picked the slowest way there is.
SOURCE CORE 20 MIN	Pairs push the penny cup into piles of ten and count by tens to the hundredth penny, leaving the ten piles standing, then pick the same dollar in nickels counting by fives, stopping the instant the count says one hundred and saying how many nickels it took.
COLLECT	A strip carrying four counts — a hundred pennies, twenty nickels, ten dimes, four quarters — pinned under the class heading.
CLOSE 5 MIN	Reading down the class chart, children say the pattern aloud: the more a coin is worth, the fewer of them it takes to pick a dollar.

From the source lesson: Cup of one hundred pennies per pair; Counting mat marked in ten squares; Cup of nickels, dimes and quarters per pair; Sentence strips and marker per pair; Class chart headed One Dollar; Word cards: dime, dollar, nickel, penny

Watch for: A count carried past one hundred. Stop the instant the count says one hundred; the

coins left over are part of the answer.

Lesson 4 Write the cent equation that matches what is on the mat

SKILL LESSON **The Coin Counting Book** (</math-library/91.html>) · lesson 4, Say It in Coins, Write It in Cents · Grade 2 · 20 minutes

Writing the cent equation that matches a set of coins

I CAN	I can write the equation for a set of coins and build a set from an equation.
BIG IDEA	The coins and the written line say the same thing. One term per coin, a cent sign on every number, and the equation can be handed to somebody who cannot see the mat.
SUCCESS	The child builds a partner's equation correctly with the coins out of sight, and reads their own back touching one coin per term.
CONNECT 5 MIN	Everything so far has been said aloud. Today the count gets written down in a form somebody else can build from.
TAUGHT ON ITS OWN	Every spread in this book carries the same fact twice, once in coin words and once as an equation with cent signs.
SOURCE CORE 20 MIN	Pairs lay two dimes and a nickel, count to twenty-five, write the equation with a cent sign on every number and read it aloud touching one coin for each term, then one partner writes an equation for ten cents and the other builds it without seeing the coins.
COLLECT	Equations written and read at ten cents and twenty-five cents, and a partner's equation built from the writing alone.
CLOSE 5 MIN	Children build both routes to ten cents side by side, write the equation under each, read the two aloud one after the other and say the part that is the same in both.

From the source lesson: Plastic coin sets: ten pennies, four nickels, four dimes per pair; Small whiteboard and marker per pair; Equation cards: index cards, one equation per card; Class chart with two headings, 10¢ and 25¢; Word cards: cents, dime, equals

Watch for: A missing cent sign. It is the difference between ten cents and ten, and the term is

wrong without it.

Lesson 5 Two unlike piles under one amount card

SKILL LESSON **Deena's Lucky Penny** (/math-library/378.html) · lesson 3, Two Ways to Make the Same Amount · Grade 2 · 20 minutes

Building more than one coin set for one amount

I CAN	I can build the same amount two different ways and say why they are the same.
BIG IDEA	The number is a property of the money, not of the coins it happens to be made of. Two piles that look nothing alike can sit under one card.
SUCCESS	The child keeps both rows on the strip while both are counted, and says the sentence that makes them one amount.
CONNECT 5 MIN	A dollar came four ways yesterday, one at a time. Today two ways stay on the desk together.
TAUGHT ON ITS OWN	The book's closing chart gives six amounts and two different coin sets for each, then asks the reader for more.
SOURCE CORE 20 MIN	Children write the amount on a card at the top of the strip, build the first set the chart names and count it, then build the second set directly underneath without clearing the first, so both rows can be seen at once.
COLLECT	Pairs of unlike rows for five, ten, twenty, twenty-five and fifty cents, each pair counted and named as one amount, with the fewer-coins row identified.
CLOSE 5 MIN	Children take one hundred cents, build the two rows the chart gives, then build a third row of their own that also counts to one hundred and uses at least two kinds of coin, counting it in front of a partner who may stop them if the count misses.

From the source lesson: Real or plastic coins: pennies, nickels, dimes and quarters; A paper strip long enough to lay eight coins in a line; Blank cards for writing an amount in cents; Word cards: way, amount, the same as

Watch for: The first row cleared away to make room. Two amounts counted one after the other is not the same lesson; keep both rows out.

Checkpoint after this lesson: Two piles, one amount. The page is at the end of this guide.

Lesson 6 Trade up, and count the coins rather than the cents

SKILL LESSON **The Coin Counting Book** (</math-library/91.html>) · lesson 5, Four Ways to Make a Dollar · Grade 2 · 20 minutes

Making one dollar with quarters, dimes and nickels

I CAN	I can trade nickels for dimes and say how many coins each dollar takes.
BIG IDEA	Trading holds the amount still and changes the pile. Counting the coins instead of the cents is what makes the difference between the three dollars visible.
SUCCESS	The child runs the nickel-to-dime trades to the end, records the three coin counts, and says how many more coins the nickel dollar takes.
CONNECT 5 MIN	Two piles have sat under one amount card. Today one pile is turned into the other, two coins at a time.
TAUGHT ON ITS OWN	What makes a dollar is listed at the close — twenty nickels, ten dimes, four quarters — along with a question about whether the coins could be traded for something less heavy.
SOURCE CORE 20 MIN	Children count ten dimes to a dollar and write the coin count, build the dollar again out of twenty nickels and count it by fives, then trade two nickels for one dime again and again until no nickels are left, and say whether the dollar changed.
COLLECT	A recording slip carrying three coin counts — twenty, ten, four — and the difference between the largest and the smallest.
CLOSE 5 MIN	Children tell another pair which of the three dollars they would rather have in their pocket, giving both coin counts as the reason and finishing the same way: they are all one dollar.

From the source lesson: Plastic coin sets: twenty nickels, ten dimes, four quarters per pair; Counting strip: a paper track of ten empty coin squares; Coin-count recording slip: three rows labelled nickels, dimes, quarters; Word cards: dollar, nickel, quarter, trade

Watch for: A trade that changes the total. Count the strip after every few trades; a dollar that has grown means a coin went in that should not have.

Lesson 7 **Two groups at once: how many coins in all**

SKILL LESSON **Once Upon a Dime** (</math-library/86.html>) · lesson 2, The Mixing Years: How Many Coins in All · Grade 2 · 20 minutes

Adding two groups of coins to find how many a crop holds in all

I CAN I can add two groups of coins and say how many there are in all.

BIG IDEA The book asks its own question and answers it in counts rather than totals. A prediction written before the sentence is read is worth keeping even when it is wrong.

SUCCESS The child writes a prediction before the mixing-year sentence is read and does not erase it, then writes the addition sentence beside it.

CONNECT | 5 MIN Every count so far has been one crop at a time. Today the narrator mixes two and asks what the tree will give.

TAUGHT ON ITS OWN Halfway through, the narrator starts an experiment and asks a real question inside the text: the tree gave a hundred pennies for one thing and a hundred nickels for another, so what would it give for both?

SOURCE CORE | 20 MIN Children set out the two crops with ten-strips, write on a prediction card how many coins they think the mixing year will give before the next sentence is read, then build exactly what the mixing sentence says and count the whole crop by tens with a finger on each strip.

COLLECT Both mixing years built and counted, each written as an addition sentence beside the prediction that was made first.

CLOSE | 5 MIN Each child writes one sentence naming which mixing year put more coins on the tree and by how many, and a second comparing the fifty-and-fifty year with a plain year of one hundred, both carrying their numbers; partners trade sheets and check every number against the strips still on the desk.

From the source lesson: Ten-strips, twenty per pair, each strip standing for ten coins; Prediction card, one per pair; Pencils; Cup of pennies and nickels per pair; Cup of quarters per pair; Recording sheet, one per student; Word cards: both, in all, more than, of each

Watch for: A prediction rubbed out once the sentence is read. Write the book's number beside it instead.

CULMINATING PERFORMANCE TASK

Count it, write it, build it another way

Each pair does three things. They count a mixed handful largest coin first, say the total in cents, and then count it again after the teacher shuffles it. They write the cent equation that matches a set they have laid out, with a sign on every term, and read it back touching one coin per term. Then they take an amount card and build two unlike sets for it, leaving both on the desk, count each and say which used fewer coins.

Collect. Both counts of the shuffled handful, the written cent equation, and the two unlike sets with the fewer-coins answer.

What it assesses. A mixed handful counted by method rather than memory, the same set written as an equation, and one amount built two ways — the three things the unit built, with both piles still on the desk at the end.

TEACHER KEY AND RUBRIC

Key

- Checkpoint 1: twenty-eight cents, both times. If the two counts differ, ask for a third with the coins laid out largest first.
- Checkpoint 2: any two correct sets — a quarter, or two dimes and a nickel, or five nickels. The sentence wanted is that they are the same amount.
- Task: check your own handful adds to a round number before the lesson and count it yourself, because a child's correct method on a miscounted handful gives a wrong total that looks like their error.

Rubric

STRAND	SECURE LOOKS LIKE	DEVELOPING	NOT YET
Representation	Coins are laid in a line largest first, and an equation carries a cent sign on every term.	Does it with the arrangement in front of them.	Produces an answer without the arrangement or the reason.
Calculation	The count changes step when the coin changes and is carried forward rather than restarted, one touch to one number word.	Does it with the arrangement in front of them.	Produces an answer without the arrangement or the reason.
Meaning	Two unlike piles under one amount card are described as the same amount, and one dollar is said both ways.	Does it with the arrangement in front of them.	Produces an answer without the arrangement or the reason.
Explanation	A disagreement with a printed total sends the child back to recount aloud, naming the coin they counted twice.	Does it with the arrangement in front of them.	Produces an answer without the arrangement or the reason.

PRINT-READY STUDENT PAGES

CHECKPOINT 1 • GRADE 2

Count the handful

Name

Date

Count this money. Tell me how much it is. Now I am going to mix them up — count it again.

CHECKPOINT 2 • GRADE 2

Two piles, one amount

Name

Date

Make twenty-five cents. Now make it again a different way, and leave the first one where it is. Count them both. What can you say about them?

CULMINATING TASK • GRADE 2**Count it, write it, build it another way**

Name _____

Date _____

Count this money, largest coin first, and tell me the total. Now I am mixing it up — count it again. Write the equation for what is on your mat, with a cent sign on every number, and read it back touching the coins. Last, make this amount two different ways, leave both out, count them both and tell me which used fewer coins.

TEACHER PLANNING AND HANDOFF

- A child whose two counts of the shuffled handful disagree is counting by memory of the order. Hand them the coins again largest first before the change-making unit, where a miscounted handful ruins the subtraction too.
- Lesson 3's chart is worth keeping on the wall. The pattern that a more valuable coin needs fewer of them is the thing children reach for when a total looks wrong.
- The Coin Counting Book has further lessons on trading twenty-five pennies for a quarter and on taking a side about the book's own question, which were left out as a fourth and fifth from one book; the trading is carried by lesson 6.

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