

WHERE THIS FITS IN YOUR YEAR

Pennsylvania

Grade 1 mathematics | One whole, two equal parts

NATURAL UNIT

Geometry and early fractions: partitioning wholes into equal shares This unit fits most naturally in Pennsylvania's Grade 1 geometry work on equal shares, after children can recognize circles and rectangles and before instruction expands from halves to fourths. Lessons 1, 4, 5, and 6 provide the strongest object-partitioning sequence: students make a two-part cut, test equality by stacking, reject unequal cuts, and show that one whole can have more than one valid halving line. Lessons 2 and 3 reinforce the relationship between two halves and one whole.

The unit also extends equal-sharing language from objects to small sets. In Lesson 7, students deal six counters fairly between two plates and verify that both groups contain the same number. In Lesson 8, they compare totals that can and cannot be split into two equal groups, pairing counters and identifying a leftover. Those actions build useful quantitative meaning for half, but they are not evidence for a geometry expectation limited to partitioning circles and rectangles.

Use this pack as the halves portion of the regional expectation, not as a complete fractions unit. Students repeatedly create, identify, explain, and verify two equal shares, and they describe two halves as rebuilding one whole. The required work with four equal shares, fourths or quarters, and the comparison showing that more equal shares create smaller shares is absent. Add that instruction separately before treating the full expectation as taught.

STRONGEST CURRICULUM CONNECTION - OUR SUMMARY

REINFORCES	CC.2.3.1.A.2 - Use an understanding of fractions to partition shapes into halves and quarters. Lessons: 1, 2, 3, 4, 5, 6 Students partition whole shapes into two parts, verify equality by superposition, name each equal share a half, and compose two halves into one whole. Limitation: The unit provides substantial work with halves but does not require quarters.
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Teacher must add: Require students to partition familiar shapes into four equal parts and identify the parts as quarters.

Official curriculum source: [https://
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www.pa.gov/
agencies/
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 elementary
 -and
 -secondary
 -education/academic-standards/mathematics

MATH UNIT	
One whole, two equal parts	
Grade 1 8 lessons 8 x 30 minutes 4 source books	240 minutes in all

THE QUESTION THIS UNIT FOLLOWS

When is a piece a half?

About this unit

Every child in a Grade 1 room already uses the word half, and many use it for any piece of anything. This unit puts a test underneath the word. Children fold, cut and stack, and the stack decides: if nothing sticks out, the two pieces are halves; if something does, they are two pieces and the word is not available.

From there, the unit makes halving mathematics rather than cutting. Children put halves together to remake the whole, move from an object to a set, and finish with totals that will not halve at all.

The mathematical arc

1 Cut one whole into two matching parts and test the match by stacking 2 Judge a cut somebody else made: the piece count and the size test together 3 The case the book never prints - right number of parts, wrong sizes 4 Compose two matching halves into a whole; mismatched halves may not join 5 Where the line goes, and that more than one line works 6 Both folds match, so matching parts does not fix their shape 7 Half of a set: deal one and one instead of cutting 8 Which totals make halves at all - pair off and find the leftover

SOURCE BOOKS

Four books, one coherent sequence

Every lesson is already published under Math lessons. This guide names the source lesson, explains its job in the sequence, and identifies what to collect; the source lesson carries the full steps, printables and answers.

Give Me Half! | 3 lessons in this unit Half or Whole | 2 lessons in this unit Let's Fly a Kite | 2 lessons in this unit Equal Shmequal | 1 lesson in this unit

How to use this guide

Open the source lesson before you teach. Each day names the exact book, lesson number and title.

Thirty minutes a day. Five minutes to connect, twenty minutes for the source lesson, and five minutes to close on visible evidence. If time runs long, shorten the close, never the core.

Teach a lesson on its own if needed. Every lesson includes a one-sentence standalone entry point.

Stop after a checkpoint. The unit holds together if you stop after either checkpoint and return later.

WHERE THIS FITS IN YOUR YEAR

A bridge from equal groups to equal shares

When to teach it

Second half of the year, after the class can compare two groups by matching. It wants scissors, paper and a term of careful hands behind it.

What students need first

Children can fold paper on a crease, match two rows one to one, and count reliably to twelve.

What this unit develops

Partitioning a whole into two equal shares; composing two halves into one whole; judging equality by superposition; halving a set; deciding whether a total splits into two equal groups.

What it prepares them for

Fourths and the language of equal parts in Grade 2, and the Grade 3 work where the name of a part depends on how many equal parts make the whole.

Curriculum connections

The verified connection for your region, with the lessons it covers and its stated limitation, is on the regional placement page at the front of this guide. Individual source lessons carry their own classifications on their own pages, checked lesson by lesson.

UNIT AT A GLANCE

Eight moves, three collection points

#	MATHEMATICAL MOVE	SOURCE LESSON	COLLECT
1	Cut one whole into two matching parts and test the match by stacking	Give Me Half! lesson 1, Split It in Two, Cut It the Same	Two stacked pairs per child: one matching and one not.
2	Judge a cut somebody else made: the piece count and the size test together	Half or Whole lesson 3, Whole One, or Half?	Two spoken judgements with the piece count.
3	The case the book never prints - right number of parts, wrong sizes	Half or Whole lesson 5, Is Every Cut a Half?	Position marker and a spoken because sentence.
4	Compose two matching halves into a whole; mismatched halves may not join	Give Me Half! lesson 2, Half and Half Makes One Whole	Rebuilt whole tracing and three spoken forms.
5	Where the line goes, and that more than one line works	Let's Fly a Kite lesson 2, Two Lines on One Kite	Two stacks, one from each line.

6	Both folds match, so matching parts does
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not fix their shape

Let's Fly a Kite | lesson 5, Both Folds Match, So Which One Do You Sit On?

Two folds, fit test and partner-judged reason.

7	Half of a set: deal one and one instead of cutting	Give Me Half! lesson 3, One for You, One for Me: Half the Pack	Two plates and three items sorted by halving move.
8	Which totals make halves at all - pair off and find the leftover	Equal Shmequal lesson 4, Will It Make Halves?	Number cards sorted, with uncertain cards built.

UNIT VOCABULARY AND MATERIALS

Words children use; materials teachers can trust

half

One of two equal shares: a matching piece when a whole object is partitioned, or an equal group when a set is shared.

whole

The thing before it was cut, and the thing two halves rebuild.

the same

The result the stack settles. Children say it about two pieces, never one.

left over

The counter in Lesson 8 that has no partner.

Materials

Each day's complete materials appear on its lesson page and in the source lesson. Nothing is duplicated here.

- Checkpoint 1 page, one per child - Checkpoint 1 shape set: one unequal pre-cut pair and one matching pre-cut pair per child - Checkpoint 2 page, one per child - Performance task set: one uncut paper shape, one pack of six counters, and two paper plates per child - Performance task page, one per child

Evidence that can be seen, repeated and defended

Daily evidence

Keep each child's stacked pair from Lesson 1 and position marker and revision from Lesson 3. Keep each pair's sorted number cards from Lesson 8, with both children prepared to defend the decisions.

Checkpoint 1 - after Lesson 3: Is this a half?

A paper shape is cut into two unequal parts. The child decides whether they are halves, gives a reason containing the number of parts and the stacking result, and repeats the process for a matching pair.

Book-free: plain paper shapes cut in advance.

Look for: two parts alone is not a sufficient reason; the stack must settle the size test.

Checkpoint 2 - after Lesson 6: Fold it two ways

The child folds one paper rectangle into two matching parts, then folds a second rectangle a different valid way.

The child says what is the same and what is different.

Book-free: blank paper, no story.

Look for: both folds pass the stack test, while the resulting part shapes differ.

Culminating task: Cut it, deal it, or refuse it

The child folds and cuts a shape into halves and proves the match by stacking; shares six counters fairly between two plates; then tests five counters and reports the leftover.

Collect: the stacked pieces, the two plate counts, and the spoken or drawn answer for five.

Scope: halving an object, halving a set and recognising a total that will not halve. No fourths, written fractions or number above six.

LESSON 1 | GRADE 1

Cut one whole into two matching parts and test the match by stacking Give Me Half! | lesson 1, Split It in Two, Cut It the Same | Grade 1 | 20 minutes Partitioning one whole into two equal shares

I CAN

I can cut a whole into two pieces that match.

BIG IDEA

A half is a piece with a matching partner, and the stack is what settles whether the partner matches.

SUCCESS

The child holds two pieces that stack with nothing sticking out, and says one half over each.

CONNECT	5 MIN
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First lesson. Hold up a whole paper pizza and ask the class how they would give half of it to somebody. Take the answers and cut nothing yet.

TAUGHT ON ITS OWN

The story hands a child one whole pizza and then hands the child a rule: it goes into two pieces, and the two pieces have to be cut the same.

SOURCE CORE	20 MIN
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Each child traces the whole, folds one paper pizza so one edge lands on the other, cuts on the crease and stacks the two pieces; then cuts a second pizza on its clearly off-centre guide line and stacks that pair too.

COLLECT

Two stacked pairs per child, one matching and one not, with a finger on the part that sticks out.

CLOSE	5 MIN
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Each child puts the matching pieces in front of them, touches one and says one half, touches the other and says one half, then slides them together and says the story's sentence.

MATERIALS

Two paper pizza circles per student: one blank and one with a clearly off-centre cutting line; child-safe scissors; word cards: half, more, same, whole.

WATCH FOR

A child trims the lopsided pair to make it match. The badly cut pizza is the evidence and has to stay as it is.

LESSON 2 | GRADE 1

Judge a cut somebody else made: the piece count and the size test together Half or Whole | lesson 3, Whole One, or Half? | Grade 1 | 20 minutes Telling a whole object from two equal parts of one

I CAN

I can say whether something is whole or made of two halves.

BIG IDEA

Deciding takes two things: how many pieces there are, and whether they are the same size.

SUCCESS

The child gives the piece count as the reason before anyone agrees with them.

CONNECT	5 MIN
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Yesterday you cut the pieces yourself. Today somebody else cut them and you have to say what they made.

TAUGHT ON ITS OWN

Twice the book stops and asks the reader to judge before it answers: are these half sandwiches or whole ones?

SOURCE CORE	20 MIN
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The teacher holds up one uncut paper sandwich and one already cut into two matching pieces; children point, say whole or halves, then say the sentence with the piece count in it, and run it again on the fruit.

COLLECT

Each child's spoken judgement with the count inside it, for two pairs of objects.

CLOSE	5 MIN
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The teacher shows an apple cut into two pieces that are not the same size. Children say whether the pieces are halves and give a reason a partner has to check by stacking.

MATERIALS

Paper sandwich shapes, one uncut and one cut in two, per pair; paper fruit shapes, one uncut and one cut in two, per pair; one paper apple cut into two unequal pieces; word cards: whole, half, halves, same.

WATCH FOR

A child says halves because there are two pieces. Hand them the unequal apple and ask for the stack.

LESSON 3 | GRADE 1

The case the book never prints - right number of parts, wrong sizes Half or Whole | lesson 5, Is Every Cut a Half? | Grade 1 | 20 minutes Students take a position on an unequal cut, defend it with a count and a repeatable stacking test, and revise their position if the paper disagrees.

I CAN

I can change my mind when the paper says so.

BIG IDEA

Two parts and the right sizes are both needed; a cut can pass one test and fail the other.

SUCCESS

The child gives a because sentence with a number in it, and moves their marker if the stack disagrees with it.

CONNECT	5 MIN
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Yesterday you judged a cut with two matching pieces and one without. Today everybody starts by taking a side before touching anything.

TAUGHT ON ITS OWN

The book asks the reader questions and settles them, but only for objects it has already declared whole; it never prints a cut that failed.

SOURCE CORE	20 MIN
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Each pair gets an apple already cut into two parts that do not match, takes a position before touching it, then counts the parts and stacks them and says the reason to a partner who has to re-stack before agreeing.

COLLECT

The position mat with each child's marker, moved or not, and the spoken because sentence.

CLOSE	5 MIN
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Every pair takes a second apple whose parts do match, runs both checks again, and says what is different about this apple and the first one.

MATERIALS

Paper apples cut into two unequal parts, one per pair; paper apples cut into two matching parts, one per pair; position mats; one marker per child; the book's two reader questions on cards; visible sentence frame.

WATCH FOR

Nobody changes their mind. Ask directly whether any marker moved, and give the children who did the floor first.

Checkpoint 1: Is this a half? The print-ready page is at the end of this guide.

LESSON 4 | GRADE 1

Compose two matching halves into a whole; mismatched halves may not join Give Me Half! | lesson 2, Half and Half Makes One Whole | Grade 1 | 20 minutes Composing two halves into one whole

I CAN

I can put two halves back together to make one whole.

BIG IDEA

Two matching halves rebuild a whole. A half from a different-sized or differently shaped whole may not fit.

SUCCESS

The child slides the two pieces together with no gap and no overlap and traces the whole outline.

CONNECT	5 MIN
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So far the cutting has gone one way. Today it goes back: pick up a matching pair and see whether the pieces still make one thing.

TAUGHT ON ITS OWN

One fact is said three times running, as a long story sentence, then a short number sentence, then an equation, and again for the juice.

SOURCE CORE	20 MIN
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Children slide the two matching pieces together, trace the outside edge, and say the fact three ways over the joined pieces; then do the whole thing again with a paper juice can they cut themselves.

COLLECT

A rebuilt whole traced on paper, and the three sentences said with the pieces under the child's hand.

CLOSE	5 MIN
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Each pair opens an envelope holding one half from a small pizza and one half from a larger pizza, tries to join them, and says what goes wrong at the join.

MATERIALS

Paper pizza halves, one matching pair per student; paper juice-can rectangles, one per student; child-safe scissors; one envelope per pair containing a half from a small pizza and a half from a larger pizza; word cards: equals, half, same, whole.

WATCH FOR

Children overlap the pieces to make the outline look right. Ask them to trace it and look for the bulge.

LESSON 5 | GRADE 1

Where the line goes, and that more than one line works Let's Fly a Kite | lesson 2, Two Lines on One Kite | Grade 1 | 20 minutes Choosing where a line goes so two parts come out the same

I CAN

I can choose where the line goes.

BIG IDEA

Where the line is put decides whether the parts match, and a whole can have more than one line that works.

SUCCESS

Two stacks stand side by side, one with an overhang and one without, and the child can say which line made which.

CONNECT	5 MIN
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Yesterday the two pieces went back together. Today the same shape gets two different lines and only one of them makes halves.

TAUGHT ON ITS OWN

Laura's first line runs across the kite and Bob says the bottom part is bigger; she rubs it out and draws one down the middle.

SOURCE CORE	20 MIN
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Pairs cut the first kite on Bob's preprinted off-centre line, stack the pieces, and point to the overhang. They cut the second kite on Laura's preprinted centre line, stack those pieces, and show the edge that proves nothing sticks out.

COLLECT

Two stacks per pair, one from each line, with a part from each held up together.

CLOSE	5 MIN
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Pairs fold a paper blanket down the middle and then fold a fresh one a second way that also matches, and keep both to show that a whole can take more than one line.

MATERIALS

Two identical paper kite templates per pair: one with Bob's clearly off-centre line and one with Laura's centre line; child-safe scissors; paper rectangles for blankets, two per pair; word cards: across, middle, part, fair.

WATCH FOR

A child concludes that only one line ever works. The second blanket fold is the whole point of the close, so leave time for it.

LESSON 6 | GRADE 1

Both folds match, so matching parts does not fix their shape Let's Fly a Kite | lesson 5, Both Folds Match, So Which One Do You Sit On? | Grade 1 | 20 minutes Students compare two valid folds and justify which better fits two seated people.

I CAN

I can choose between two folds that both match.

BIG IDEA

Matching parts does not fix what shape the parts are, so a tie on the matching test has to be broken by something else.

SUCCESS

The child gives a reason that names a side or a part, not just the fold they liked.

CONNECT	5 MIN
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Yesterday two lines both worked. Today both of them work again and you have to pick one anyway.

TAUGHT ON ITS OWN

Laura folds the blanket, Bob agrees the sides match and objects on other grounds, and the book never says which fold they used.

SOURCE CORE	20 MIN
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Each child folds two 8-by-4-inch paper blankets, one down the middle the long way and one the other way, and checks that both folds match by stacking. Keeping two 1.5-by-3-inch seated-person cards upright, the child tests whether both people fit on one half without overhang.

COLLECT

Two folded blankets with the seated-person cards on them, and a spoken reason a partner has judged.

CLOSE	5 MIN
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Bob's objection is read aloud. Each child holds up the fold they chose and says whether the objection is true of it, using the cards as evidence.

MATERIALS

Two paper blanket rectangles cut to exactly 8 by 4 inches per student; two seated-person cards cut to exactly 1.5 by 3 inches per student; Bob's objection on one large card. Keep person cards upright during the fit test.

WATCH FOR

A reason with no side or part in it. The partner sends it back once for another try.

Checkpoint 2: Fold it two ways The print-ready page is at the end of this guide.

LESSON 7 | GRADE 1

Half of a set: deal one and one instead of cutting Give Me Half! | lesson 3, One for You, One for Me: Half the Pack | Grade 1 | 20 minutes Halving a set of two objects in a fair share

I CAN

I can share a pack fairly without cutting.

BIG IDEA

Half of a set is dealt, not cut, and one of two is a half in exactly the way one piece of a pizza is.

SUCCESS

The child deals a pack of two one and one, and can say why the cupcakes were the only thing they did not cut.

CONNECT	5 MIN
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Every half so far has been made with scissors. Today one of the three things on the tray does not need them.

TAUGHT ON ITS OWN

The cupcakes are the one place the story halves a group instead of an object: a pack of two goes to two children and each ends up holding a whole cupcake.

SOURCE CORE	20 MIN
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Pairs count the pack of two, deal it one to each plate saying one for you and one for me, then sort a pizza, a juice can and a pack of two into things you cut and things you deal, and carry out the move they chose.

COLLECT

Two plates holding one cupcake each, and the three items sorted with the halving move actually performed on each.

CLOSE	5 MIN
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Each child points at one plate and says how many are on it, then at both and says how many altogether, and says the sentence naming one as half of two.

MATERIALS

Paper cupcakes, two per pair; two paper plates per pair; paper pizza circles, one per pair; paper juice-can rectangles, one per pair; child-safe scissors; word cards: half, pack, share.

WATCH FOR

A child cuts the cupcakes because everything else was cut. Ask how many each child ends up holding under each plan.

LESSON 8 | GRADE 1

Which totals make halves at all - pair off and find the leftover Equal Shmequal | lesson 4, Will It Make Halves? | Grade 1 | 20 minutes Deciding whether a total splits into two equal groups

I CAN

I can say whether a number will make halves.

BIG IDEA

Not every total splits into two equal groups, and pairing off is what finds the one that is left.

SUCCESS

The number cards are sorted onto a halves side and a left-over side, and the child can say one number they were sure about before testing it.

CONNECT	5 MIN
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Yesterday two cupcakes shared fairly. Today five will not, and the class has to say why.

TAUGHT ON ITS OWN

Mouse rules five out before anyone tries it, and Deer's arrival is what makes the line-up possible.

SOURCE CORE	20 MIN
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Pairs push five counters together two at a time and show the one with no partner, add a sixth and pair again, add a seventh and pair again, then sort number cards two to ten onto a halves mat and a left-over mat, building any card they are unsure of.

COLLECT

The two sorted mats of number cards, with any built card left beside the number it tested.

Each child tells a partner one number they were sure about before they tested it, and says how they knew.

MATERIALS

Ten counters per pair; number cards two through ten, one set per pair; word cards: halves, left over, pair.

WATCH FOR

A child sorts by whether the number is big rather than by pairing. Hand them the counters for the card they got wrong and ask for the pairs.

CULMINATING PERFORMANCE TASK

Cut it, deal it, or refuse it

Each child gets three jobs. Fold and cut a paper shape into two halves and prove the match by stacking. Share six counters fairly between two plates without cutting anything, saying how many each plate holds. Then test five counters, decide whether they can be shared the same way, and report what is left.

Collect

The stacked pair of pieces, the two plates with their counts, and the child's spoken or drawn answer for five.

What it assesses

Halving an object, halving a set and recognising a total that will not halve - the three moves the unit built. No fourths, no written fractions and no number above six.

TEACHER KEY

- Checkpoint 1: first pair is not halves; second pair is halves. A complete reason names two parts and the stack's overhang or exact match.
- Checkpoint 2: both folds create matching parts; the part shapes differ. Down the middle and across both work on a rectangle.
- Culminating task: three and three for six. Five will not share equally: two each with one left over.

RUBRIC

One standard for every strand: show it and explain it

STRAND	SECURE	DEVELOPING	NOT YET
Representation Calculation Meaning	Parts stack with nothing sticking out. Six becomes 3 and 3; five is reported with its leftover. Half is used only when two shares are equal: matching pieces or equal groups.	Stacks the pieces but needs a prompt to check the overhang. Halves six; needs help to report the leftover from five. Uses half for cut objects but not yet for a shared set.	Judges by eye and does not stack to test. Plates are uneven, or the leftover is not reported. Uses half without the equality test.
Explanation	Reason names the stack or count and can be repeated by a partner.	Reason needs one prompt.	Verdict has no repeatable test.

Teacher planning and handoff

- Children who cannot accept two different valid folds in Lesson 6 need that experience again before fourths.
- Lesson 7 is the only halving of a set; revisit it before further fair-sharing work.
- Half or Whole and Give Me Half! both teach the opening move; only the stronger version is used, leaving the other book free for reading time.

CHECKPOINT 1 | GRADE 1

Is this a half?

Name _____ Date _____ Your teacher will give you two cut shapes. Decide whether each pair of pieces is made of halves. Stack the pieces to test. Put the number of parts in each reason.

Shape 1: halves / not halves (circle one)

My reason: _____ Shape 2:
halves / not halves (circle one)

My reason: _____

CHECKPOINT 2 | GRADE 1

Fold it two ways

Name _____ Date _____ Fold the first rectangle so its two parts match. Fold the second rectangle a different way so its two parts also match.

What is the same about the two folds?

What is different?

CULMINATING TASK | GRADE 1

Cut it, deal it, or refuse it

Name _____ Date _____

1. Fold and cut your shape into two halves. Stack them to prove the match.
2. Share six counters fairly onto two plates.

Each plate has _____ counters.

3. Now try five counters. Can you share them the same way? What is left?