COMMON CORE COLLABORATIVE CARDS

Didax

Grades 3–5

Additional resources available at

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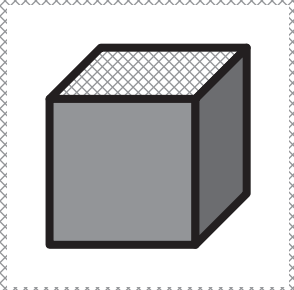
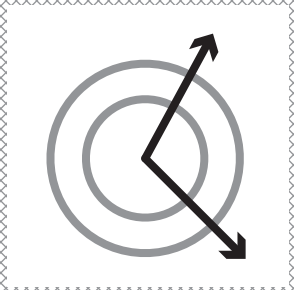
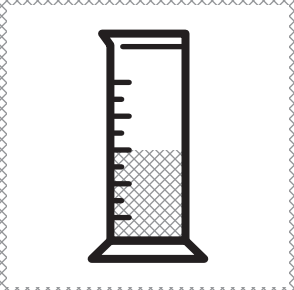
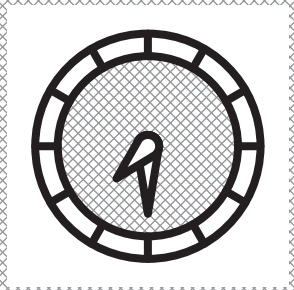
TEACHER GUIDE

MEASUREMENT AND DATA

by Kit Norris

OVERVIEW

Common Core Collaborative Cards support the teaching and learning of mathematics in several ways. They can be used:

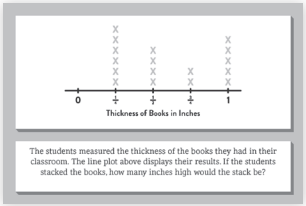
- As an activator for the day's lesson
- To review previous content
- As a learning center activity
- For students' independent practice

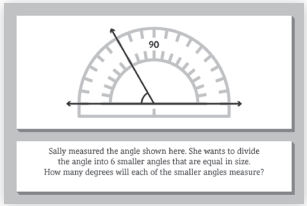
Common Core Collaborative Cards provide convenient and motivating ways to place students in collaborative teams for an upcoming unit or problem-solving lesson.

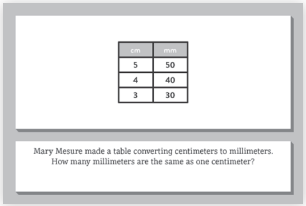
The Common Core Collaborative Cards series consists of three decks of cards per box, each focusing on the same domain in the Common Core State Standards (CCSS). Each deck provides problems representing the standards articulated in the CCSS for a particular grade level.

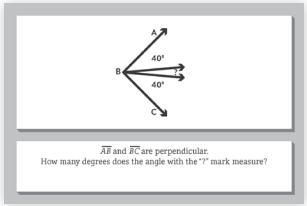
Teachers using these decks have commented that they have been able to observe what their students understand as well as identify their misconceptions. Teachers have also noted that their students began to rely on each other more instead of seeking out the teacher to answer their questions.

The cards are designed to place students in groups of four. Students are each given a card and asked to solve the problem on it. They then look for three other students who have the same solution. Once they have located their group, the students must be ready to explain why each group member's card belongs in the group. Here is one group of cards from the Grade 4 Measurement and Data deck:









All four cards in this set have the same answer, 10, so students who receive one of these cards form a group.

GROUP MEMBER ROLES

The cards offer a second feature: the reverse side of each card indicates the role the student holding the card is to perform in the group. After the students are presented with the task for that day's lesson, each member of the group takes on the role designated. These roles are as follows:

- Discussion Director
- Resource Manager
- Recorder
- Team Captain

Teachers can easily identify the roles that students are expected to perform since students place their cards on their desk with the side indicating the role facing up. The roles are explained as follows:

If you are the **Discussion Director**, your job is to . . .

- Make sure that everyone has read the problem and understands what the question is asking. You can ask, "What do we know?" "What do we want to find out?" and "Can we make a prediction?"
- Invite everyone in the group to participate. You can use statements such as, "What is your idea?" and "What are you thinking?"

If you are the **Resource Manager**, your job is to . . .

- Ask the teacher a question if all of the members of the group have the same question.
- Get any supplies needed by the group.
- Keep track of time.

The Resource Manager's role goes beyond taking care of the supplies. The Resource Manager is the only member of the group who may ask the teacher a question. Before asking a question, every member of the group must have the same question, and the teacher can then direct the answer to the whole group. This helps the members of the group become more interdependent, since group members can answer many of their questions themselves rather than relying on the teacher.

If you are the **Recorder**, your job is to . . .

- Keep track of the thinking of the group. Be ready to answer how the group approached the problem. What strategy did the group use to solve the problem?
- Record the work of the group. Be organized and clear.
- Ask, "Is there anything else we need to include?"

If you are the **Team Captain**, your job is to . . .

- Make sure that everyone in your group can explain to the class the solution and the strategies used to solve the problem.
- Ask each member of your group, "How would you explain what we did to get this answer?" "What questions do you have?"
- Check the group's solution by asking, "Does our answer make sense?"
- Take on any role if one member of your group is absent.

MANAGING THE CARDS IN YOUR CLASSROOM

Like any other classroom materials, you'll need to manage your Common Core Collaborative Cards. It is essential to group the cards by shared answer after each use. Since the cards are designed to place students in groups of four and since class size will vary, this end-of-activity organizational task will make it easier to distribute the cards the next time you use them. Here are some suggestions for organizing the cards after each use:

- As you collect the cards from each student group, place a rubber band around each group of four cards with the same answer before storing.
- After the activity, collect the cards from the class in any order and designate a student to organize the cards into groups of four according to the answer.

WHAT THE RESEARCH SAYS

Research on the effectiveness of collaborative learning abounds. For more information on the research that informs this product, as well as a complete list of bibliographic references and suggestions for further reading, please visit didax.com/cccc.

COMMON CORE STATE STANDARDS – MATHEMATICAL PRACTICES

The Common Core State Standards define what mathematically proficient students know and are able to demonstrate. Combining the process standards from NCTM's Principles and Standards for School Mathematics with the definition of mathematical proficiency from Kilpatrick, Swafford, and Findell's *Adding It Up: Helping Children Learn Mathematics*, the Common Core Standards present the Mathematical Practices.

These practices focus on the specific actions taken by students who are mathematically proficient.

The eight mathematical practices are:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

(*Common Core State Standards for Mathematics*, 2010, pp. 6–8)

The authors of the Common Core carefully chose to begin the mathematical practices with problem solving. "Problem solving is not only a goal of learning mathematics but also a major means of doing so" (NCTM, 2000, p. 52). Students who are engaged in solving meaningful tasks are in the process of building their understanding. They are making connections, constructing arguments, analyzing approaches, looking for patterns, and reflecting on their thinking. These students are learning mathematics, and they have opportunities to exhibit the eight mathematical practices.

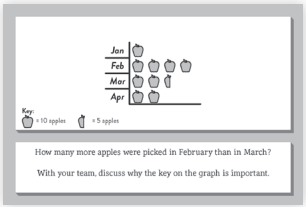
The Collaborative Cards provide students with opportunities to develop proficiency in the eight mathematical practices. Students solve problems, discuss strategies, and reason mathematically (Mathematical Practices 1–3). They work with patterns and apply them in various contexts (Mathematical Practices 7–8). They determine whether to calculate problems mentally or use paper and pencil (Mathematical Practice 5). By attending to the use of appropriate vocabulary and the accuracy of their responses, they are attending to precision (Mathematical Practice 6). They use equations to model problem situations (Mathematical Practice 4).

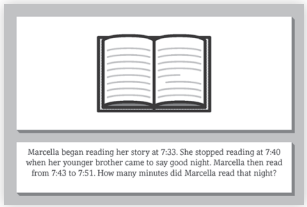
The Collaborative Cards provide teachers with insights into what individual students truly understand. As they apply their knowledge in new contexts, students use what they know. As one fifth-grade teacher in Grafton, Massachusetts stated, "I gained insights into my students' misconceptions. These cards are an easy way to learn about students' strengths."

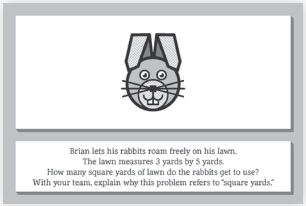
MEASUREMENT AND DATA: GRADE 3

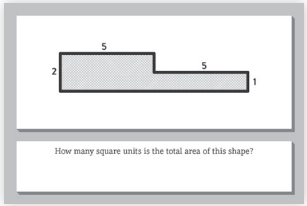
The Grade 3 deck focuses on the standards in the Measurement and Data domain, as presented in the Common Core document on pages 24–25. This deck presents opportunities for students to work with units of measure and time as well as graphical representations of data. After focusing on units of length in Grade 2, third-grade students now work with perimeter and area as well as liquid volumes and masses of objects. Students also solve problems involving time by representing the problem on a number line.

Here are four cards from the Grade 3 deck that all have the same answer, 15.









In this set of four cards, students interpret a graph, work with elapsed time, and focus on area. On two cards in this set, students are also asked to answer specific questions once they have found their group and verified that they all have the same answer.

The Common Core Standards present the necessary skills developmentally. Students are expected to know the standards from a previous grade level; consequently, these cards offer opportunities to review previous expectations

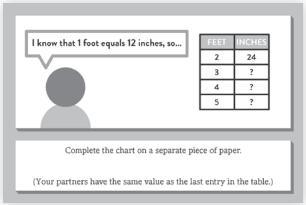
and then proceed to problems within the domain at the current grade level. For example, in Grade 3 students are developing an intuitive understanding of the meaning of multiplication and division. In the Measurement domain, students work with area and perimeters. In Grade 4, students extend their understanding of perimeter and area to work with the appropriate formulas and to represent data on a line plot.

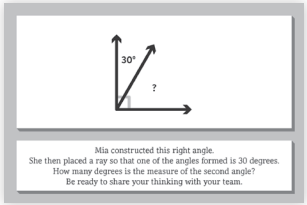
Answers for the Grade 3 Measurement and Data deck are provided on pages 10–12 of this guide.

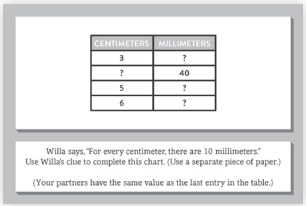
MEASUREMENT AND DATA: GRADE 4

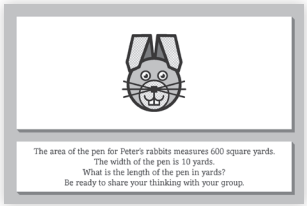
The Grade 4 deck focuses on the standards in the Measurement and Data domain, as presented in the Common Core document on pages 31–32. In Grade 4, students convert between larger and smaller units of measure and use all four operations to solve problems involving time, distances, masses, and money. Problems may incorporate fractions and decimals. The geometric measurement standards ask students to work with angles to understand their meaning and their additive nature.

Here are four cards from the Grade 4 deck that all have the same answer, 60.









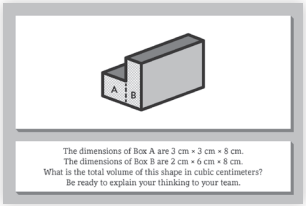
In this set of four cards, students convert between feet and inches and centimeters and millimeters. Students also find the measure of one angle given a right angle and a smaller angle within the right angle. Students also work to find the length of a rectangle given the area and width.

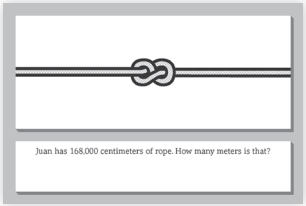
Answers for the Grade 4 Measurement and Data deck are provided on pages 13–15 of this guide.

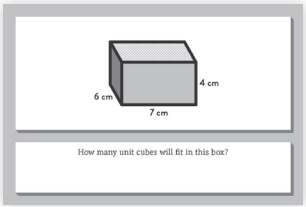
MEASUREMENT AND DATA: GRADE 5

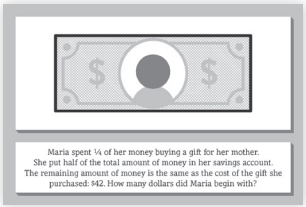
The Grade 5 deck focuses on the standards in the Measurement and Data domain, as presented in the Common Core document on page 37. The work in Grade 5 extends the learning in Grade 4 by focusing on unit conversions and volume. Students convert among different standard measurement units that now include decimal values. Students also explore the meaning of volume and determine that the area of the base multiplied by the height represents the volume of a three-dimensional shape. Students also continue their work with line plots to display data and interpret the results.

Here are four cards from the Grade 5 deck that all have the same answer, 168:









This set of cards focuses on making conversions, finding volumes by combining two shapes, reflecting on the orientation of a box and how that might affect the volume, and solving a problem involving fractional amounts of money.

In the process of finding their partners who have the same answer, students discuss and share their work. This provides opportunities for them to deepen their

understanding and perhaps extend their thinking on the measurement and data concepts being taught.

Answers for the Grade 5 Measurement and Data deck are provided on pages 16–18 of this guide.

VISIT DIDAX.COM/CCCC ...

For the following important resources:

- A complete bibliography and links to research that informed this product
- A complete correlation to the Common Core State Standards for each grade-level deck
- Meaningful tasks to be used at each grade level (once students have used the Common Core Collaborative Cards to form their groups)

ADDITIONAL MEANINGFUL TASKS

One of the best sources of meaningful tasks related to the Common Core is the book *NCSM: Great Tasks for Mathematics (K–5)* by Connie Schrock, Kit Norris, David K. Pugalee, Richard Seitz, and Fred Hollingshead. (National Council of Supervisors of Mathematics, 2013, ISBN: 978-0-9890765-0-0.)

GRADE 3 GROUPINGS

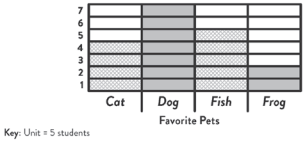
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER
20

Harriet woke up at 7:30 AM. She dressed and had
This took her 35 minutes. She needs to be at the bu
How many minutes does she have to get to the

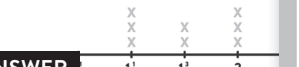
Alijah has three jobs to do in one hou
He wants to spend the same amount of time o
How many minutes will Alijah have to complet

Marsha placed a rock in a large bucket of
How many liters did the water rise
when she placed her rock in the bucke



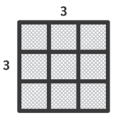
How many students prefer cats?

ANSWER
9



Some students measured the length of their poi
They recorded their results in a line pl
How many students have fingers that measured

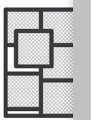
Mary has 36 inches of string.
She wants to make 4 equal pieces with this
How many inches long will each piece of str



Francine is designing a rug for her dollh
How many square units will her rug cov

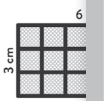
Val started to read her book at 7:20. She stopped reading at 7:29.
How many minutes did Val read?

ANSWER
C



units on the rectangle.
are units.
ping square units to fit in the rectangle.
e a mistake.

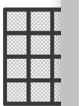
Peter placed square units in this rectangle to mea
His friend told him he made a mistak
What could Peter do to fix his mistake
(Your partners have the same letter answer a



A: He added all of the sides.
B: He added 3 to 6 and then doubled that amount.
C: He multiplied the length of the two given sides.
D: He guessed the area was less than 20.

Caleb said the area of this rectangle is 18
How did he find the area?

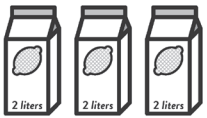
(Your partners have the same letter answer a



A: Katie is correct.
B: In a 5 × 4 rectangle, the area is 20 square units and the perimeter is 19.
C: In a 4 × 4 square, the area and perimeter are the same.
D: In a 3 × 3 square, the area and perimeter are the same.

Katie thought that a rectangle could not have an are
with the same number of units. Which answe

(Your partners have the same letter answer a

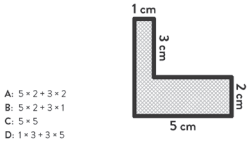


A: 8 glasses
B: 12 glasses
C: 24 glasses
D: 16 glasses

Kingsley bought 6 liters of lemonade for her party.
If each liter fills 4 glasses, how many glasses of lemonade
will Kingsley have for her party?
(Your partners have the same letter answer as you do.)

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 3 GROUPINGS



A: $5 \times 2 + 3 \times 2$
B: $5 \times 2 + 3 \times 1$
C: 5×5
D: $1 \times 3 + 3 \times 5$

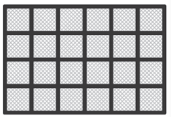
Arnie says he can find the area of this shape by th
2 rectangles. How did Arnie find the ar

(Your partners have the same letter answer a

A: 10 grams
B: 1 gram
C: 20 grams
D: 15 grams

How much do you think this paper clip weighs? Selec

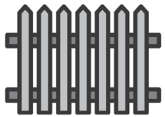
(Your partners have the same letter answer a



A: $2 \times 6 + 2 \times 6$
B: $3 \times 6 + 3 \times 6$
C: $4 \times 2 + 4 \times 4$
D: $3 \times 6 + 1 \times 6$

Alex said, "I can think about this rectangle in sn
That will help me find the area." How did Alex **not**

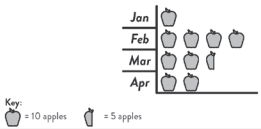
(Your partners have the same letter answer a



A: 10 feet by 2 feet
B: 6 feet by 6 feet
C: 7 feet by 5 feet
D: 8 feet by 4 feet

Jayla is building a fence around the yard for her puppy.
She has 24 feet of fencing. Which size yard
will give her puppy the biggest area to play in?
(Your partners have the same letter answer as you do.)

ANSWER B

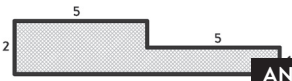


How many more apples were picked in February t

With your team, discuss why the key on the graph

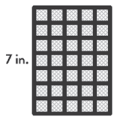
Marcella began reading her story at 7:33. She stoppe
when her younger brother came to say good night. M
from 7:43 to 7:51. How many minutes did Marcella r

Brian lets his rabbits roam freely on his l
The lawn measures 3 yards by 5 yard
How many square yards of lawn do the rabbits
With your team, explain why this problem refers to



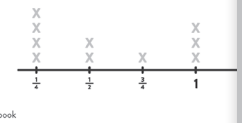
How many square units is the total area of this shape?

ANSWER 15

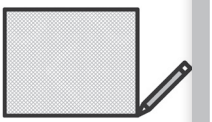


Find the width of this rectangle.

Be ready to explain to your team how you found

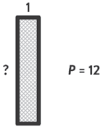


Jeremy piled up some of the books shown in this g
all the books that were ¼ inch thick, 1 inch thick, ar
How tall was Jeremy's stack of books?



Jill drew a rectangle. It has an area of 20 squa
One side is 4 inches long. What is the length of th

Be ready to share your thinking with your



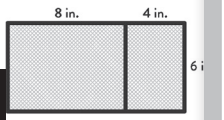
Pedro made a rectangle. It has a perimeter of 12 inches.
If Pedro's rectangle has a width of 1 inch, what is its length?

Be ready to share your thinking with your team.

ANSWER 5

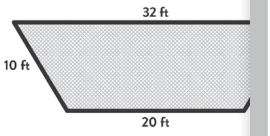
GRADE 3 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

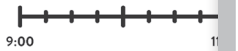


ANSWER
72

Two rectangles were pushed together to make a la
How many square inches is the area of the new
Share with your team how you found the



Maria wants to place a border around her flow
How many feet will the length of her borde

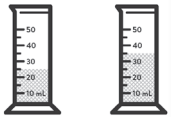


On Saturday, Caleb left his house at 9:10 and went
He left the library at 9:45 and went to get ice cream
Caleb walked home, which took him 22 minutes. W
number of minutes that Caleb was away from h

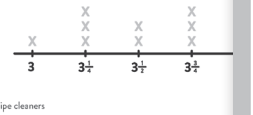
A rectangle has side lengths of 2 and 36. Harry wanted to find its area.
Multiplying 2 by 36 was hard for him. He decided to use 4 by 18
instead. What is the area of this rectangle?

ANSWER
10

The perimeter of this square is 40 inch
How many inches is the length of a sid

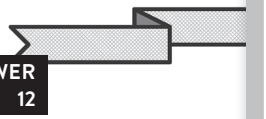


Rose put a rock in the beaker. How many milliliters d



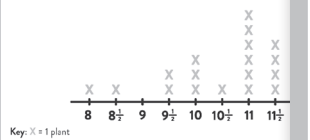
Peter's group measured the lengths of pipe c
How many pipe cleaners measured 3¾ c
(Why is the key important when working with
Discuss with your team.)

Renee wanted to take $109 from her bank account.
The bank did not have any $100 bills.
The bank gave Renee some $10 bills and nine $1 dollar bills instead.
How many $10 bills did the bank give to Renee?



ANSWER
12

Destiny wants to put ribbon around her holi
She has 60 inches of ribbon. Each gift uses 5 inch
How many gifts can she put ribbon or



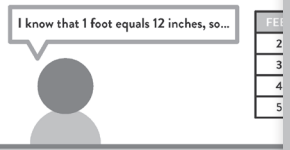
The third-graders planted lima beans in scie
The graph shows how many inches the plan
How many plants grew 11 or more inch

Sarah is confused. The two rectangles look c
but their area is the same. How many square units is
(Why do these two rectangles have the sam
Explain to your team.)

Malik says you can count the number of square units
in the rectangle to find the area. What is the area in square units?
(Is there another way to find the area of this rectangle?
Discuss with your team.)

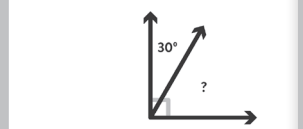
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 4 GROUPINGS

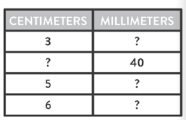


Complete the chart on a separate piece of

(Your partners have the same value as the last entr



Mia constructed this right angle.
She then placed a ray so that one of the angles forme
How many degrees is the measure of the seco
Be ready to share your thinking with your



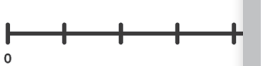
CENTIMETERS	MILLIMETERS
3	?
?	40
5	?
6	?

Willa says, "For every centimeter, there are 10 n
Use Willa's clue to complete this chart. (Use a separat

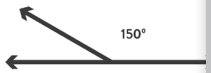
(Your partners have the same value as the last entr

The area of the pen for Peter's rabbits measures 600 square yards.
The width of the pen is 10 yards.
What is the length of the pen in yards?
Be ready to share your thinking with your group.

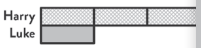
ANSWER
60



Marcella spent ⅓ of her money on a birthday gift f
The gift cost $10. How many dollars did she ha
she bought the gift? Use this number line to l

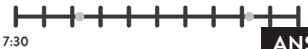


Al measured the larger angle with his prot
He realized that he did not need to measure the
How many degrees is the smaller angl
Be ready to explain your thinking to your



Harry has three times as much money as
If Luke has $10, how many dollars does Harr

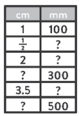
Use this bar diagram to help you.



Janella got up at 7:41 AM. She was ready for school at 8:11 AM.
How many minutes did it take her to get ready this morning?

ANSWER
30

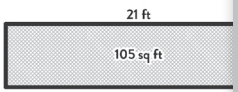
The fourth-grade class made this line plot to find ou
of ribbon they collected. How many yards of ribbon



cm	mm
1	100
½	?
2	?
?	300
3.5	?
?	500

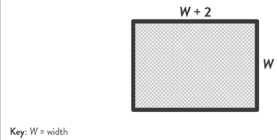
Mattie made a table to show the relationship between
and meters (m). Fill in the chart on a separate sh

(Your partners have the same value as the last entr



Alicia's puppy pen measures 21 feet long a
an area of 105 square feet. How many feet is the wi

Explain your thinking to your team.



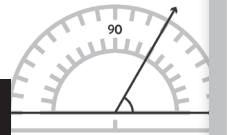
Pierre knows that the perimeter of his yard is 24 feet. He also knows
that the length of the yard is two feet more than the width.
How many feet is the width of the yard?

ANSWER
5

GRADE 4 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER C



Henri says this angle measures 120°. Loretta thinks he
Choose the answer that best describes the si

(Your partners have the same letter answer as

A: 80
B: 100
C: 20
D: 40

Melanie made 100 mL of punch. She used four ti
lemonade as cranberry juice. How many mL of cr
did she use? Use the bar diagram to help you find the
(Your partners have the same letter answer as

A: 20 ounces
B: 30 ounces
C: 24 ounces
D: 22 ounces

Roberta says, "Sixteen ounces equal one p
She has 1½ pounds of candy. How many ounc

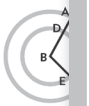
(Your partners have the same letter answer as

A: 80
B: 800
C: 8,000
D: 4,000

The students know that 1,000 grams equal 1 kilogram. They found that
4 textbooks weighed 8 kilograms altogether. How many grams is that?

(Your partners have the same letter answer as you do.)

ANSWER D



ere is called ∠*ABC*.
be called ∠*CBA*.
e measure as ∠*ABC*.
be called ∠*BAC*.

Which statement is **not** correct?

(Your partners have the same letter answer as

A: 8:47
B: 8:28
C: 8:10
D: 8:18

Harry left home at 7:30. He rode his bike 25 minute
house. The two friends rode 15 minutes to school.
minutes later. What time did the bell ri
(Your partners have the same letter answer as

A: The width of the rectangle is 70 ft.
B: The perimeter of the rectangle is 300 ft.
C: Area = length × width
D: Perimeter = length + width

Select the statement that is **not** true.

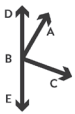
(Your partners have the same letter answer as

A: 10 feet = 120 inches
B: 7 feet = 84 inches
C: 3.5 feet = 42 inches
D: 2 feet = 30 inches

Sandra made a table converting feet to inches.
Which conversion did she get wrong?

(Your partners have the same letter answer as you do.)

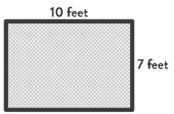
ANSWER 70



Katrina said, "Look, I made my initial!
She knows that angle *ABC* measures 80° and ∠*DBE* is
If ∠*DBA* measures 30°, how many degrees is

This sprinkler rotates 1 degree every mi
How many degrees does the sprinkler ro
in one hour and 10 minutes?

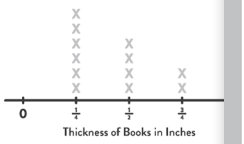
Angelina measured the length of her pe
She said that it was 7 centimeters.
Then she measured the same pencil using mi
How many millimeters is it?



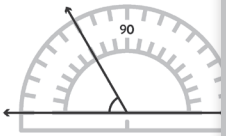
How many square feet of carpet will be needed
to cover the floor of this room?

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 4 GROUPINGS



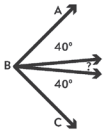
The students measured the thickness of the books th
classroom. The line plot above displays their results
stacked the books, how many inches high would t



Sally measured the angle shown here. She want
the angle into 6 smaller angles that are equa
How many degrees will each of the smaller angl

cm	mm
5	50
4	40
3	30

Mary Mesure made a table converting centimeters
How many millimeters are the same as one ce

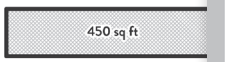


$\overline{AB}$ and $\overline{BC}$ are perpendicular.
How many degrees does the angle with the "?" mark measure?

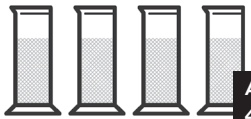
ANSWER 10

Harry started riding at 7:35 a.m.
He stopped for breakfast for 10 minute
He finished his ride at 8:30 a.m.
How many minutes was Harry riding his

This angle is formed by two perpendicular
How many degrees does one half of this angle



Ignacio discovered that the area of his rectangu
back yard is 450 square feet. The width of the ya
How many feet long is Ignacio's yard?



Crispin poured 360 mL of liquid into 8 beakers. If each beaker had the same amount of liquid, how many millimeters were in each beaker?

ANSWER 45

Roosevelt's square play yard has an area of 36 s
How many feet long is each side of the y

Sapphire cut a circle into equal parts
She measured each angle at the center of he
Each angle measured 60º.
How many parts did Sapphire cut her circl

Maida has 5 quarters, 20 dimes, 40 nick
1 half-dollar, and 25 pennies in her piggy
How much money does Maida have in her
(State the amount in dollars.)

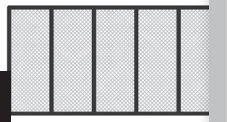
Grandpa wants to give each of his grandchildren the same amount of money. He has $630, and he will give each grandchild $105.
How many grandchildren does Grandpa have?

ANSWER 6

GRADE 5 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER
100



Abbi spent 1/5 of her money for lunch. She spent ¼ c
had left on a movie ticket for $12 and refreshments f
dollars did Abbi have in her purse at the beginnir

Bob packed cubes in a box that he was sending t
The area of the base of the box measured 5 inche
The height of the box was 10 inches.
How many cubes the size of one cubic inch could fi

Peter Pascal said that he could change 0.06 to 6 by usi
If Peter plans to multiply, what value
would he multiply 0.06 by to obtain 6

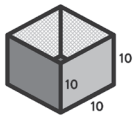
The number of pennies in a dollar is the same as
the number of centimeters in a meter.

What is this number?

ANSWER
1,000

When we convert met
millimeters, we use th
value as when we cor
liters to milliliter

What is the value used in these conversi



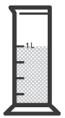
How many unit cubes will fit in this bo

Be ready to explain your thinking to your

$10^3 = ?$

Matilda thinks that 10^3 is the same as 30. Do y

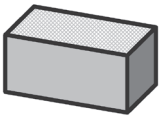
Your team members have the correct answer to t



If a beaker will hold 1 liter of liquid, how many milliliters will it hold?

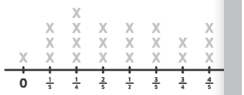
ANSWER
10

Val knows that a box holds 100 unit cubes. The ba
measures 5 units by 2 units. How many layers o
will there be if she fills the box to the t



Volume (V) = length × width × height

Rogelio knows that the volume of his box is 5
The height of his box is 25 cm and the length of the
How many centimeters wide is the bas

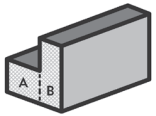


Students at Mathville School were collecting money to
This line plot shows the fractional amount of one d
student contributed. What is the total amount of d
students contributed to the charity?

Clarissa is making a small box to put in her dollhouse.
The height of the box is 1 cm, the width is 2 cm, and the length is 5 cm.
What is the volume of Clarissa's box in cubic centimeters?

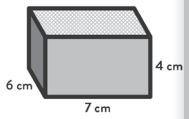
Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

GRADE 5 GROUPINGS



The dimensions of Box A are 3 cm × 3 cm ×
The dimensions of Box B are 2 cm × 6 cm ×
What is the total volume of this shape in cubic c
Be ready to explain your thinking to your

Juan has 168,000 centimeters of rope. How many r



How many unit cubes will fit in this bo

Maria spent ¼ of her money buying a gift for her mother.
She put half of the total amount of money in her savings account.
The remaining amount of money is the same as the cost of the gift she purchased: $42. How many dollars did Maria begin with?

ANSWER
168

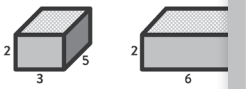
How many unit cubes will fit in this bo

Be ready to discuss your thinking with you

0.06 m = ☐ m

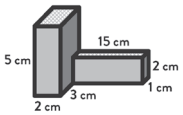
What value goes in the box?

Share with your team how you found the a



How many cubic units is the volume of each

Your team has the same value as the larger



How many cubic centimeters is the total volume of this shape?

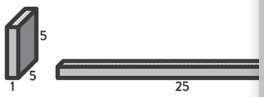
Be ready to share your thinking with your team.

ANSWER
60

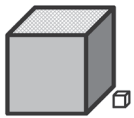
METERS	CENTIMETERS
4	400
?	200
$\frac{1}{2}$	?
$\frac{1}{4}$	?

Mattie made a table for converting between meters
Fill in the missing values on a separate sheet

(Your partners have the same value as the last entr



Clara is confused. "These two prisms look so
Can their volumes be the same?" If both prisms have
your team has the same number as the volume. If yo
volumes are different, your team has the answ



Sally filled this box with sugar cubes. She packed 1
altogether and she packed 5 complete lay
How many sugar cubes must be in each l

25,000 m = ☐ km

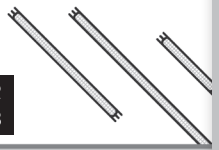
What value goes in the box?

ANSWER
25

GRADE 5 GROUPINGS

Correlation to the Common Core State Standards for each group of 4 cards can be found at didax.com/cccc.

ANSWER B



Robin's rope measures 2 feet 6 inches. Her brother's
longer than Robin's. Robin's sister's rope is ½ as long
placed their ropes end to end, how long would the rop
(Your partners have the same letter answer a

A: Twice as big as the volume of cube A.
B: 8 times as big as the volume of cube A.
C: 4 times as big as the volume of cube A.
D: One-half the volume of cube B.

The volume of cube B is...

(Your partners have the same letter answer a

A: 11 m 35 cm
B: 10 m 35 cm
C: 9 m 85 cm
D: 9 m 95 cm

The girls are practicing the long jump. Maggie jum
Beatrice jumped 2½ m, and Lolly jumped 4 m
What is the total distance the girls jumped in th
(Your partners have the same letter answer a

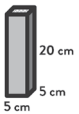
A: Pedro: 84.62 seconds
B: Miguel: 81.64 seconds
C: Mitch: 83.9 seconds
D: Alfred: 83.46 seconds

Four boys ran a 500 m relay race.
Their times are shown here. Who won the race?

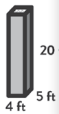
(Your partners have the same letter answer as you do.)

ANSWER 500

Harley has 5 liters of a chemical solution that he has
experiment. Harley wants to divide the solution am
How much must each beaker hold? Express your ans



How many cubic centimeters will fit in this



Find the total volume of the two rectangular prism

Peter's family was moving.
The volume of one of the packing crates was 40,000,000 cubic cm.
Peter determined that the width of the crate was 200 cm and the
length was 400 cm. How many centimeters high was this crate?

ANSWER C

What was the total amount of time the class spent rea

(Your partners have the same letter answer a

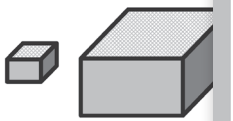
A: 100,000
B: 100 × 10 × 100
C: 1,000,000
D: 10 × 10 × 10

100 cm	1 m
10,000 sq cm	1 sq m
?	1 cubic m

Look at the pattern in the table
and then select the correct answer for the miss

(Your partners have the same letter answer a

A: 24
B: 20
C: 27
D: 30



How many boxes measuring 3 cm × 4 cm ×
can fit inside a box that measures 9 cm × 12 cm

(Your partners have the same letter answer a

A: 8
B: 12
C: 32
D: 40

If there are 4 quarts in each gallon and there are 2 pints in each quart,
how many pints are in 4 gallons?

(Your partners have the same letter answer as you do.)

To see all Common Core Collaborative Cards available, visit:

didax.com/cards

MEASUREMENT AND DATA
TEACHER GUIDE

Practice and reinforce the content from the Common Core State Standards with these innovative activity cards.

Created using the standards in the Measurement and Data domain, these cards actively engage students in problem solving and promote mathematical discussion. Students solve the question on their individual card and then look for others who have the same solution. The four students holding cards with the same answer form a group; the back of their cards show the role that each student will play as the group works on the next task. Based on the most recent research about the effectiveness of collaborative learning, and in accordance with the Common Core Mathematical Practices, these card sets can be used repeatedly to group students for an upcoming unit or problem-solving lesson. Cards can also be used for small-group instruction or as an independent activity. Each set includes 40 durable, two-color cards per grade level for a total of 120 cards. (Each grade-level deck includes four blank cards for teachers to create their own content.) Teacher Guide includes suggestions for classroom use, activities, and access to website with additional tasks and resources.

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395 Main Street
Rowley, MA 01969
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