

Math in Our World



Student Workbook



Creative Commons Licensing

This work is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.



You are free:

to Share—to copy, distribute, and transmit the work

to Remix—to adapt the work

Under the following conditions:

Attribution—You must attribute the work in the following manner:

CKMath K–8 was originally developed by Open Up Resources and authored by Illustrative Mathematics, <https://www.illustrativemathematics.org>, and is copyrighted as 2017–2019 by Open Up Resources. It is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0). The Open Up Resources K–8 Math Curriculum is available at: <https://www.openupresources.org/math-curriculum/>.

Adaptations and updates to the IM K–8 Math English language learner supports and the additional English assessments marked as "B" are copyright 2019 by Open Up Resources and licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

Adaptations and updates to the IM K–8 Math Spanish translation of assessments marked as "B" are copyright 2019 by Illustrative Mathematics. These adaptations and updates are licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

This particular work is based on additional work of the Core Knowledge® Foundation (www.coreknowledge.org) made available through licensing under a Creative Commons Attribution-Non Commercial-Share Alike 4.0 International License. This does not in any way imply that the Core Knowledge Foundation endorses this work.

Noncommercial—You may not use this work for commercial purposes.

Share Alike—If you alter, transform, or build upon this work, you may distribute the resulting work only under the same or similar license to this one.

With the understanding that:

For any reuse or distribution, you must make clear to others the license terms of this work. The best way to do this is with a link to this web page:

<https://creativecommons.org/licenses/by-nc-sa/4.0/>

Copyright © 2023 Core Knowledge Foundation

www.coreknowledge.org

All Rights Reserved.

Core Knowledge®, Core Knowledge Curriculum Series™, Core Knowledge Math™ and CKMath™ are trademarks of the Core Knowledge Foundation.

Trademarks and trade names are shown in this book strictly for illustrative and educational purposes and are the property of their respective owners. References herein should not be regarded as affecting the validity of said trademarks and trade names.

ISBN: 979-8-88970-974-9

Math in Our World

Table of Contents

Lesson 1	Explore Connecting Cubes	1
Lesson 2	Explore Pattern Blocks	3
Lesson 3	Explore Two-color Counters and 5-frames ...	5
Lesson 4	Explore Geoblocks	9
Lesson 5	Explore Math Tools	13
Lesson 6	Look for Small Groups	23
Lesson 7	Classroom Scavenger Hunt	29
Lesson 8	Different Groups, Same Quantity	35
Lesson 9	Create Picture Books	43
Lesson 10	Are There Enough?	55
Lesson 11	Get Enough	61
Lesson 12	How Many Are There? (Part 1)	71
Lesson 13	How Many Are There? (Part 2)	77
Lesson 14	Answer “How Many” Questions	81
Lesson 15	Explain How You Counted	87
Lesson 16	Represent Our Collections	91
Lesson 17	Connecting Cube Sculptures (optional)	99



Math in Our World
Student Workbook
Core Knowledge Mathematics™

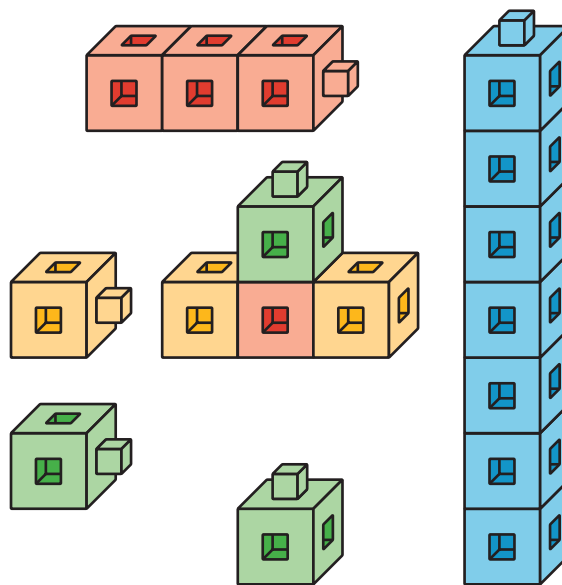
Lesson 1: Explore Connecting Cubes

- Let's explore connecting cubes.

Warm-up: Notice and Wonder: Connecting Cubes

What do you notice?

What do you wonder?



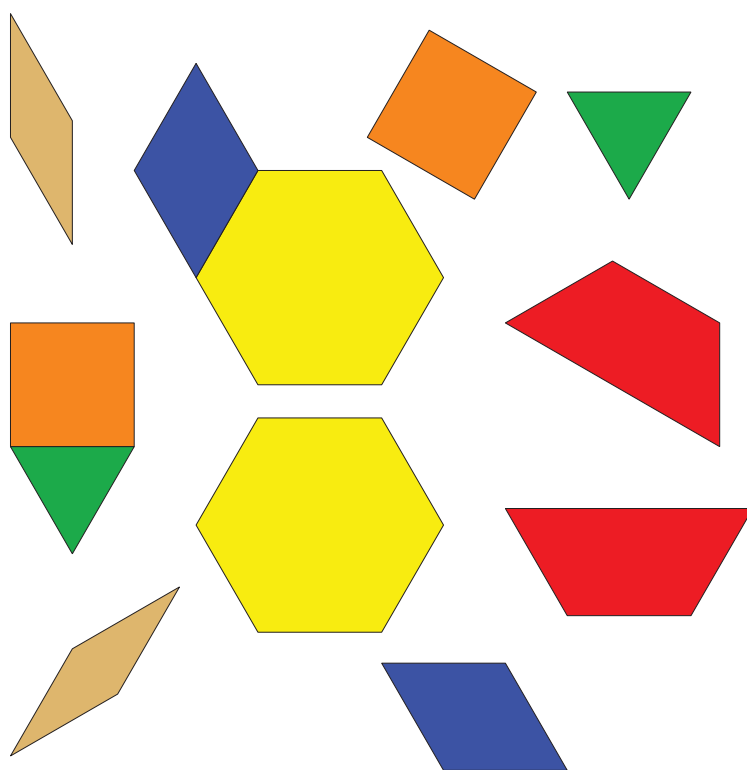
Lesson 2: Explore Pattern Blocks

- Let's explore pattern blocks.

Warm-up: Notice and Wonder: Pattern Blocks

What do you notice?

What do you wonder?



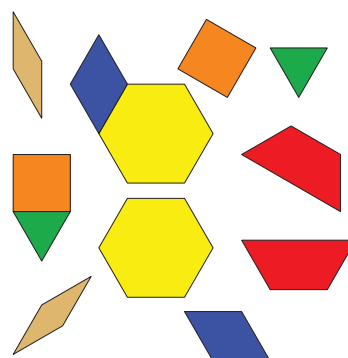
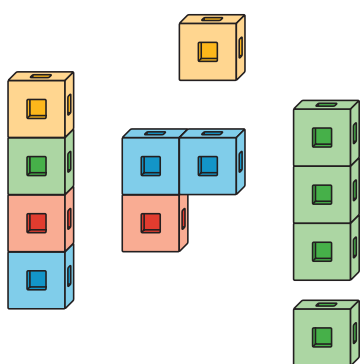
Lesson 3: Explore Two-color Counters and 5-frames

- Let's explore two-color counters and 5-frames.

Warm-up: Notice and Wonder: Counters and 5-frames

What do you notice?

What do you wonder?



3.1: Explore Counters and 5-frames

Let's explore two-color counters and 5-frames.

--	--	--	--	--

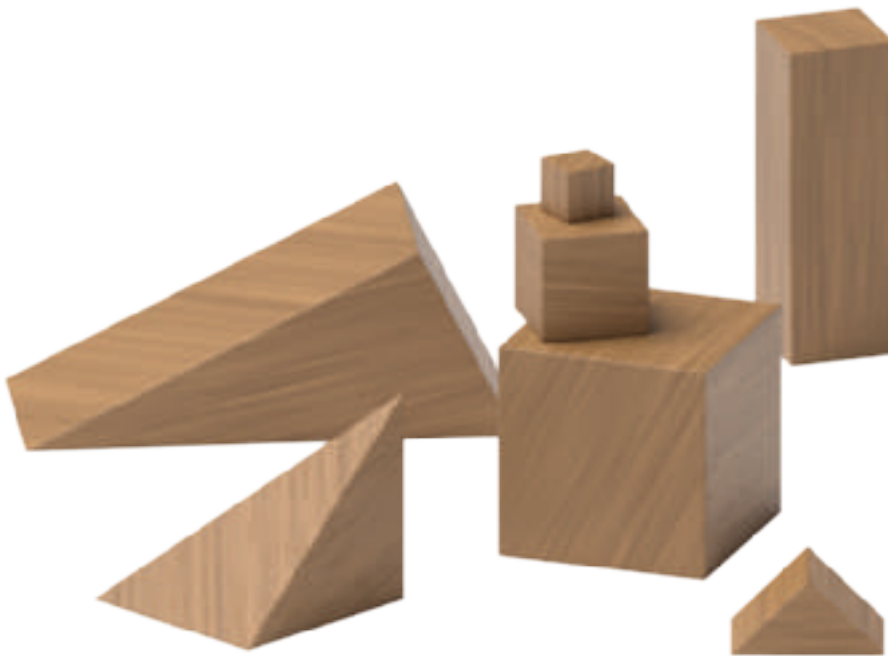
Lesson 4: Explore Geoblocks

- Let's explore geoblocks.

Warm-up: Notice and Wonder: Geoblocks

What do you notice?

What do you wonder?



4.2: Introduce Geoblocks, Build to Match

Use blocks to build a house.



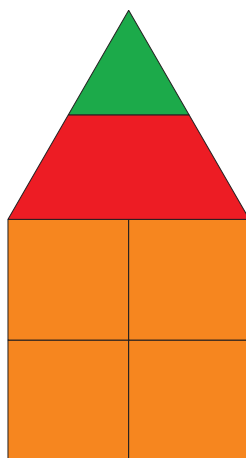
Lesson 5: Explore Math Tools

- Let's explore our math tools.

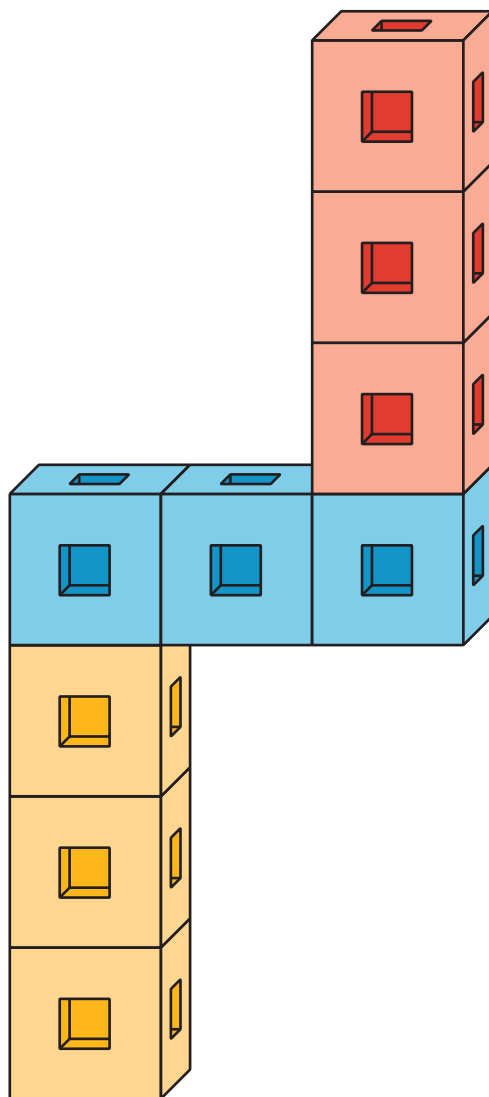
Warm-up: Notice and Wonder: Using Different Tools

What do you notice?

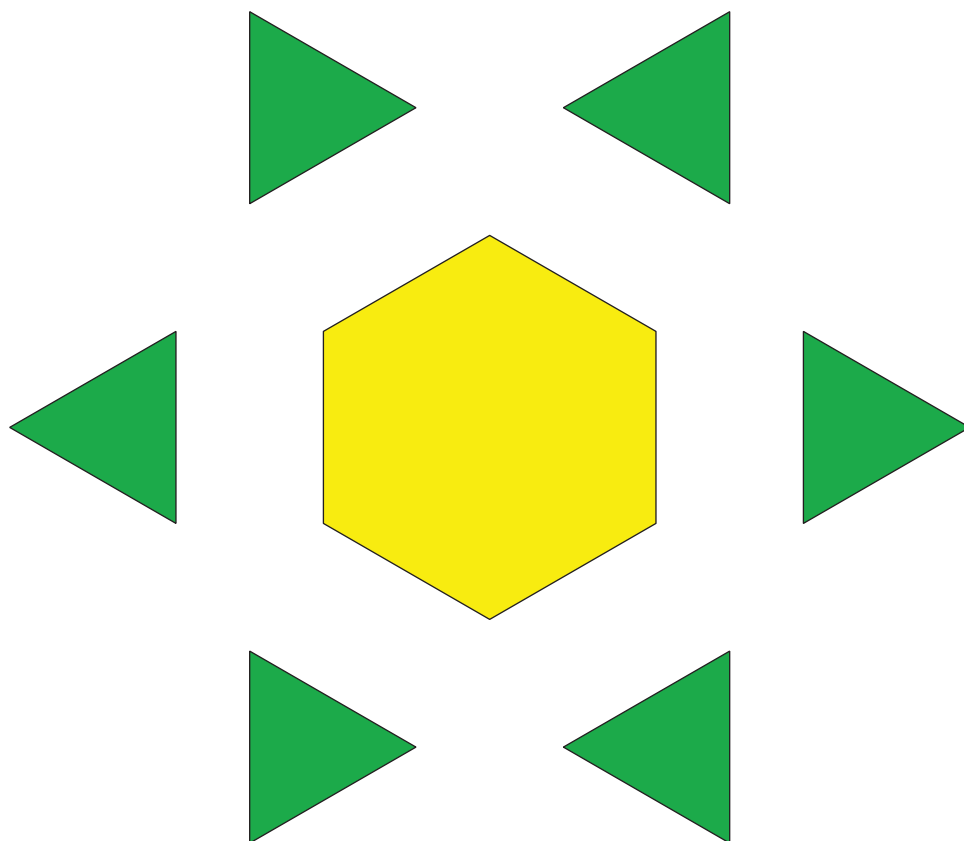
What do you wonder?



5.1: Introduce Connecting Cubes, Build to Match



5.2: Introduce Pattern Blocks, Puzzles



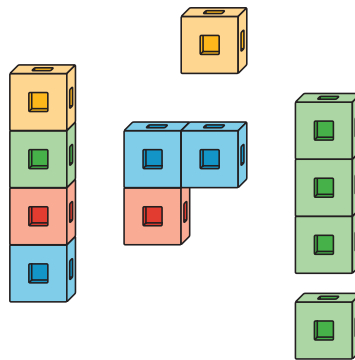
5.3: Centers: Choice Time

Choose a center.

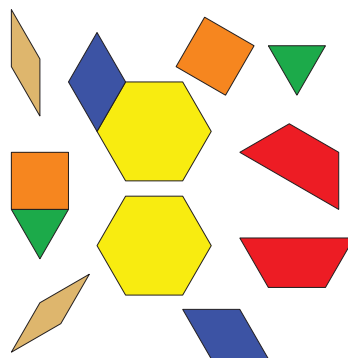
Geoblocks



Connecting Cubes



Pattern Blocks

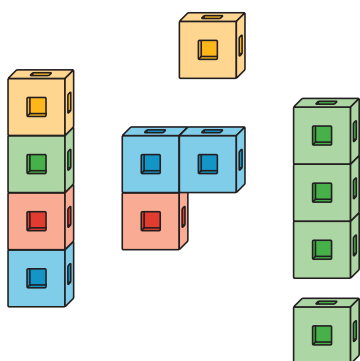


Section Summary

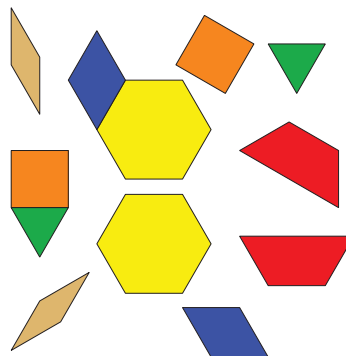
Section Summary

We explored many math tools.

Connecting cubes



Pattern blocks



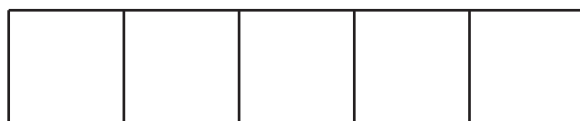
Geoblocks



Two-color counters



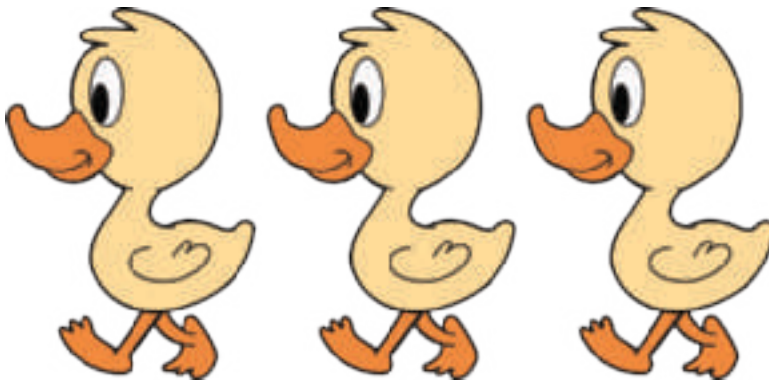
5-frames



Lesson 6: Look for Small Groups

- Let's look for small groups of objects.

Warm-up: Act It Out: Introduction

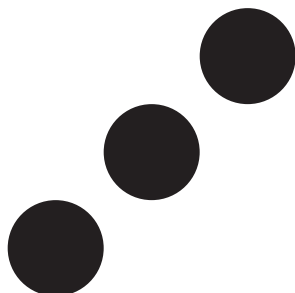


3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

6.1: How Many Do You See: Introduction

How many do you see?

How do you see them?



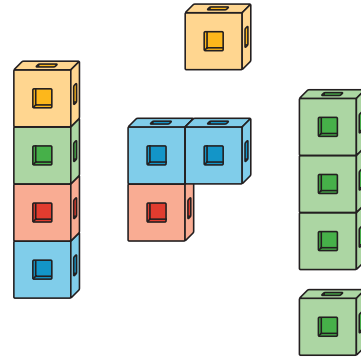
6.3: Centers: Choice Time

Choose a center.

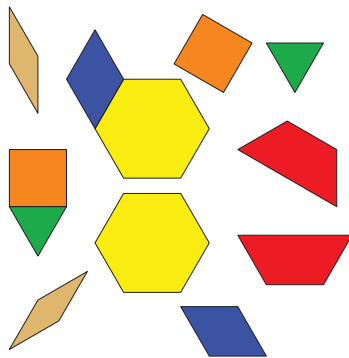
Geoblocks



Connecting Cubes



Pattern Blocks



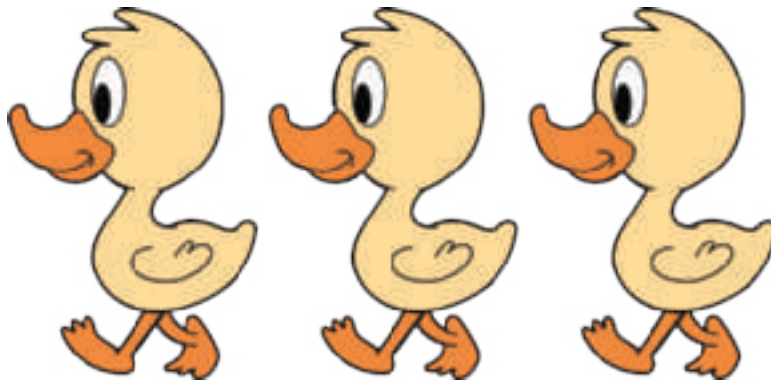
Picture Books



Lesson 7: Classroom Scavenger Hunt

- Let's look for groups of objects in the classroom.

Warm-up: Act It Out: How Can We Show It?

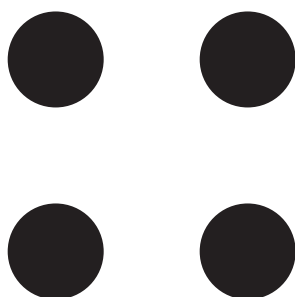
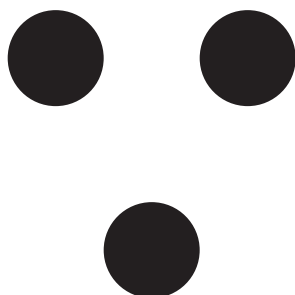


3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

7.1: How Many Do You See: Two Images

How many do you see?

How do you see them?



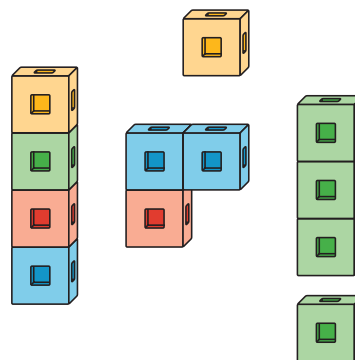
7.3: Centers: Choice Time

Choose a center.

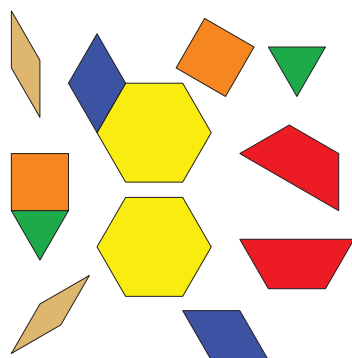
Geoblocks



Connecting Cubes



Pattern Blocks



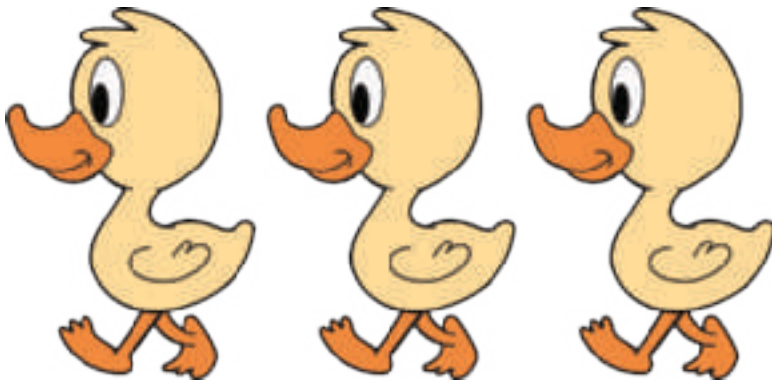
Picture Books



Lesson 8: Different Groups, Same Quantity

- Let's find groups that have the same number of things.

Warm-up: Act It Out: Another Way

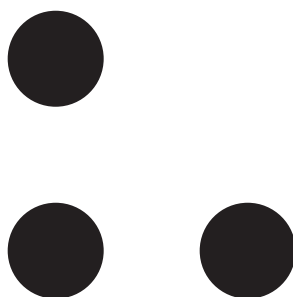


3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

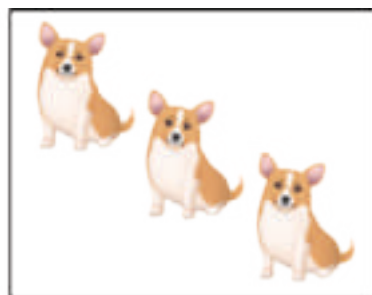
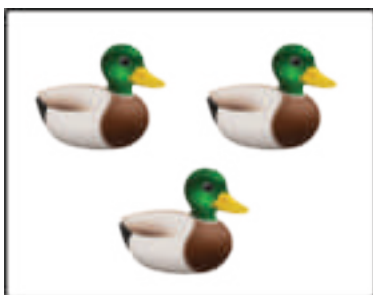
8.1: How Many Do You See: 1, 2, 3

How many do you see?

How do you see them?



8.2: Different Groups, Same Quantity



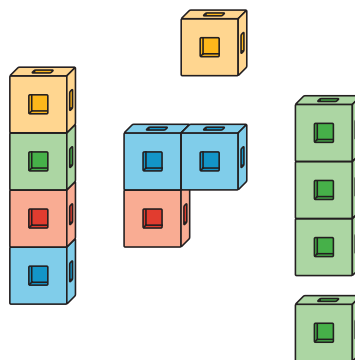
8.3: Centers: Choice Time

Choose a center.

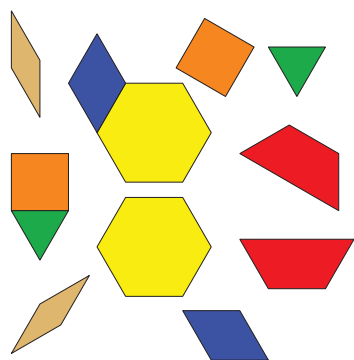
Geoblocks



Connecting Cubes



Pattern Blocks



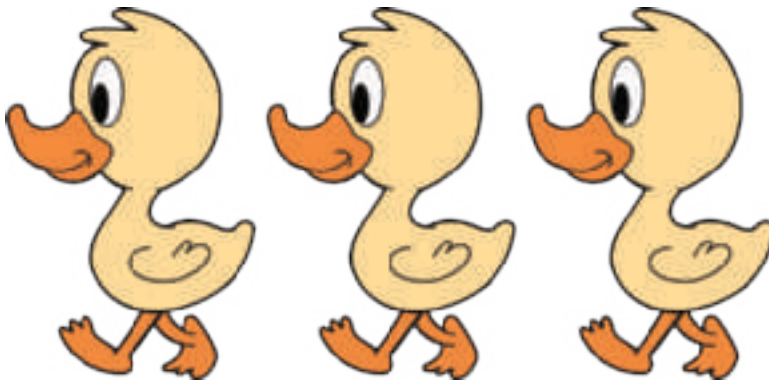
Picture Books



Lesson 9: Create Picture Books

- Let's make picture books about our classroom.

Warm-up: Act It Out: The Story Changes



3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 3 little ducks came back.

3 little ducks went out one day,
over the hill and far away.
Mother duck said, "Quack, quack, quack."
Then 2 little ducks came back.

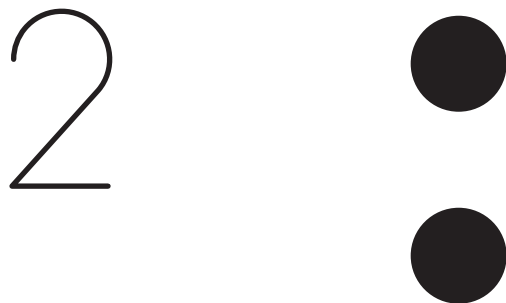
9.1: How Many Do You See: What Do You Notice?

How many do you see?

How do you see them?



9.2: Introduce Picture Books, Create



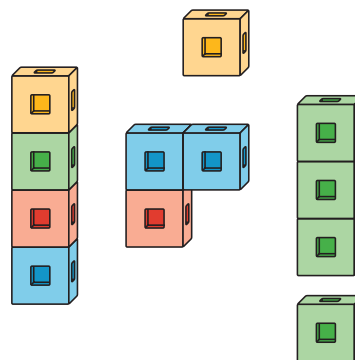
9.3: Centers: Choice Time

Choose a center.

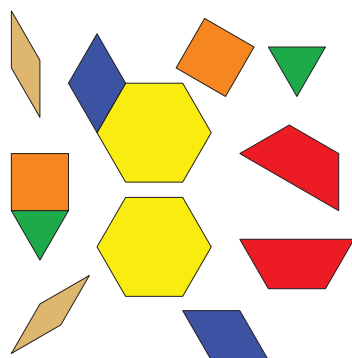
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

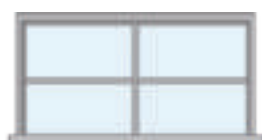
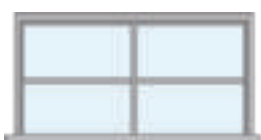


Section Summary

Section Summary

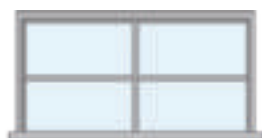
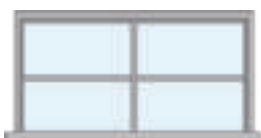
In this section, we noticed math in our world.

We found groups of things in our classroom and in books.
We used our fingers and said numbers to tell how many things there are.



2

We found groups that have the same number of things.



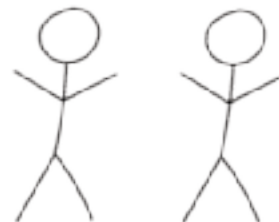
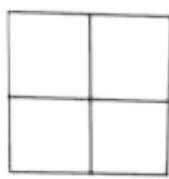
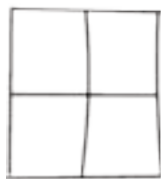
There are 2 windows and 2 tables.



There are 3 stars and 3 soccer balls.
They look different but they are both 3.

We created our own books to show groups that have the
same number of things in our classroom.

2.



Lesson 10: Are There Enough?

- Let's figure out if there are enough supplies for everyone.

Warm-up: How Many Do You See: Building On

How many do you see?

How do you see them?



10.1: Act It Out: Four Little Speckled Frogs (Part 1)



4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

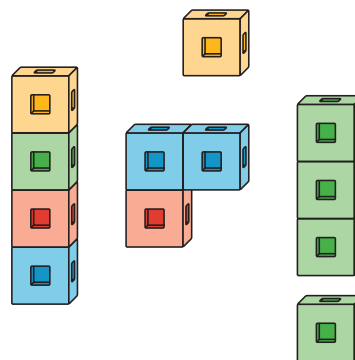
10.3: Centers: Choice Time

Choose a center.

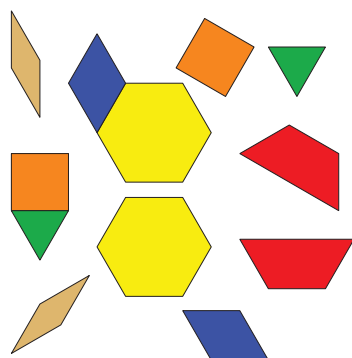
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books



Lesson 11: Get Enough

- Let's get enough pencils for everyone.

Warm-up: How Many Do You See: In a Flash

How many do you see?

How do you see them?



11.1: Act It Out: Four Little Speckled Frogs (Part 2)



4 little speckled frogs sat on a speckled log,
eating the most delicious bugs. Yum! Yum!
1 jumped into the pool, where it was nice and cool.
Now there are 3 green speckled frogs. Glub! Glub!

11.2: Get Enough



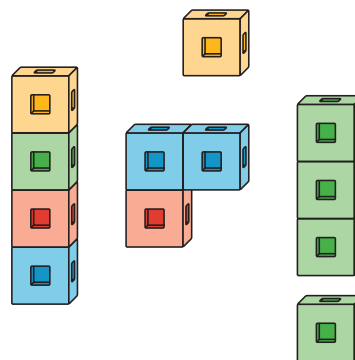
11.3: Centers: Choice Time

Choose a center.

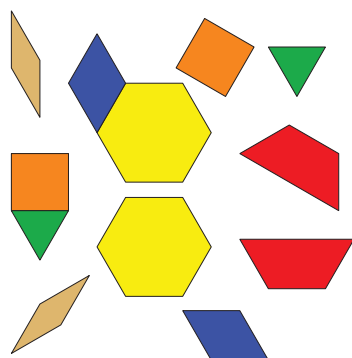
Geoblocks



Connecting Cubes



Pattern Blocks



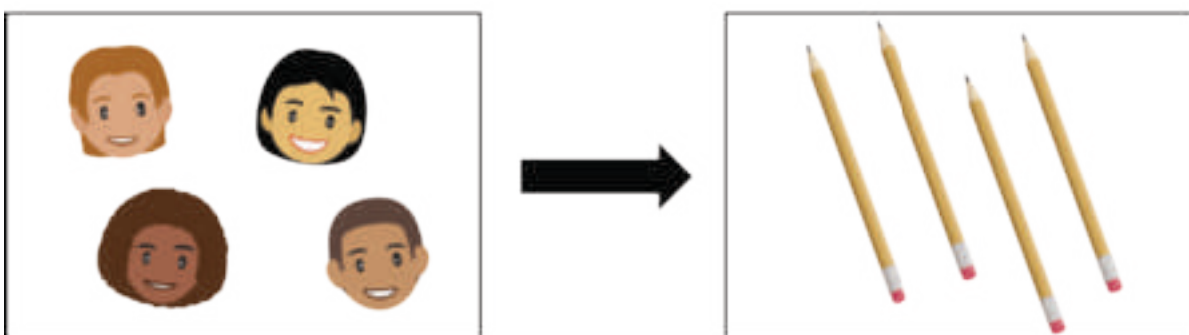
Picture Books



Section Summary

Section Summary

In this section, we figured out if there were enough pencils for everyone in our group.



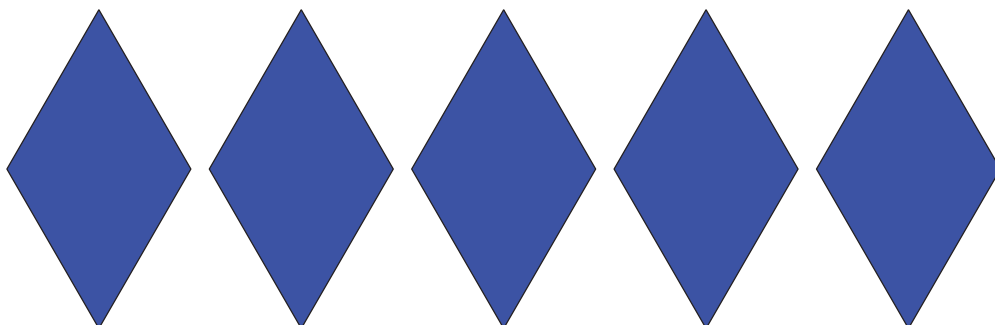
We matched each pencil with one person.

Lesson 12: How Many Are There? (Part 1)

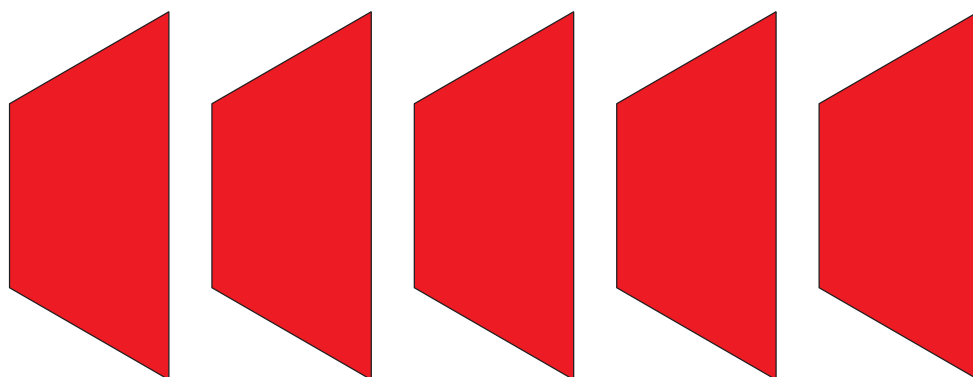
- Let's count collections of objects.

12.3: Introduce Pattern Blocks, Get and Build

5



5

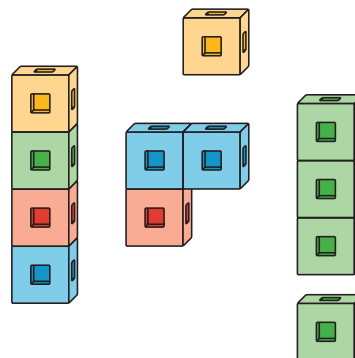


Choose a center.

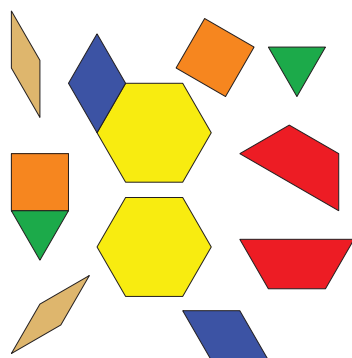
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books



Lesson 13: How Many Are There? (Part 2)

- Let's count collections of objects.

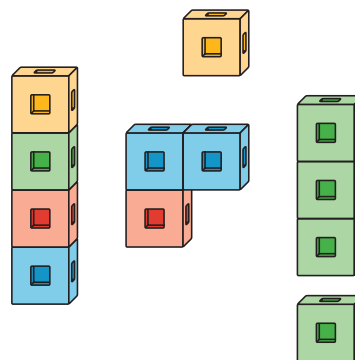
13.3: Centers: Choice Time

Choose a center.

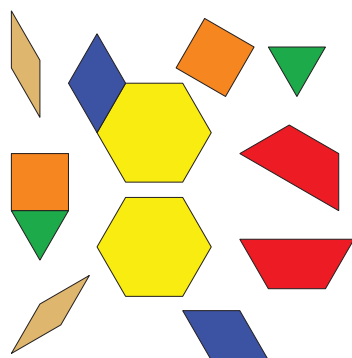
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books

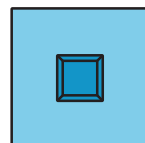
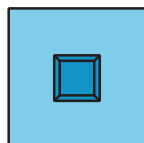
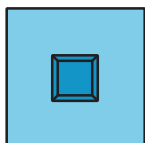
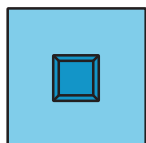


Lesson 14: Answer “How Many” Questions

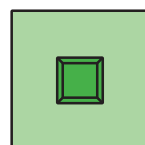
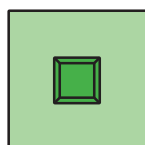
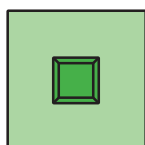
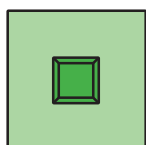
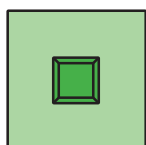
- Let’s count to figure out how many objects are in our collections.

14.3: Introduce Connecting Cubes, Get and Build

4



5

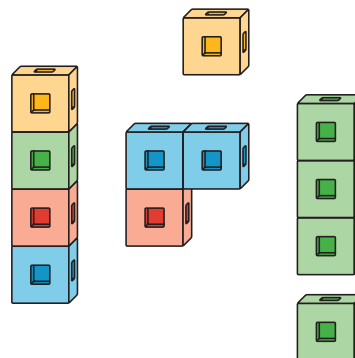


Choose a center.

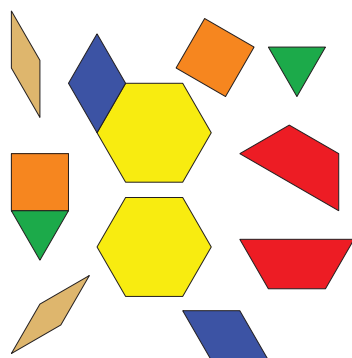
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books



Lesson 15: Explain How You Counted

- Let's count collections of objects and tell our partners how we counted.

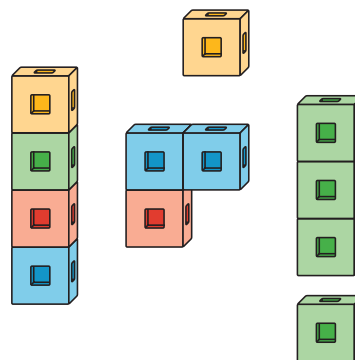
15.3: Centers: Choice Time

Choose a center.

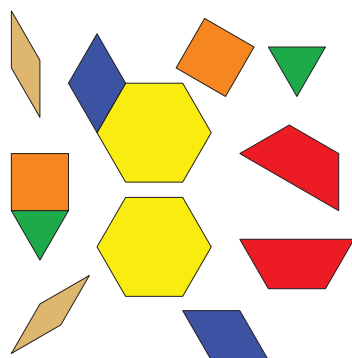
Geoblocks



Connecting Cubes



Pattern Blocks



Picture Books



Lesson 16: Represent Our Collections

- Let's count collections of objects and show how we counted.

16.1: Counting Collections: Show How Many

Show how many objects are in your collection.

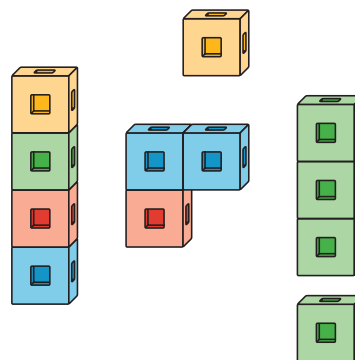
16.3: Centers: Choice Time

Choose a center.

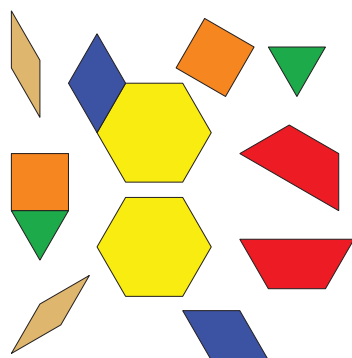
Geoblocks



Connecting Cubes



Pattern Blocks



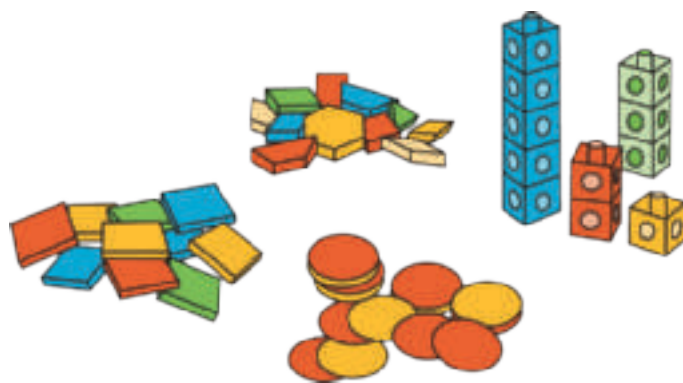
Picture Books



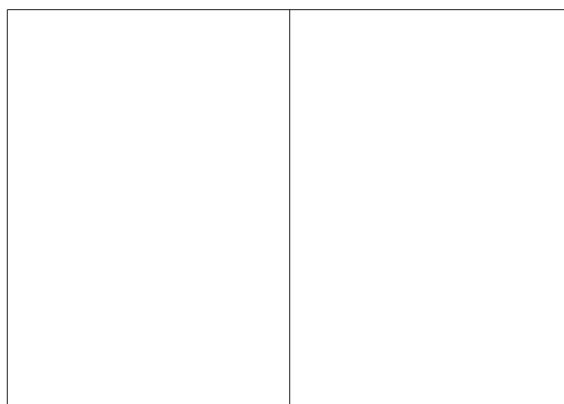
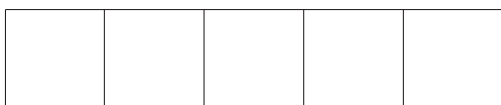
Section Summary

Section Summary

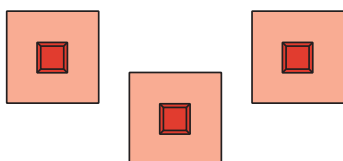
In this section, we counted collections of objects.



We counted each object and kept track of which objects we've counted. We used 5-frames and counting mats to help us.



We said a number to tell how many objects there are.



3

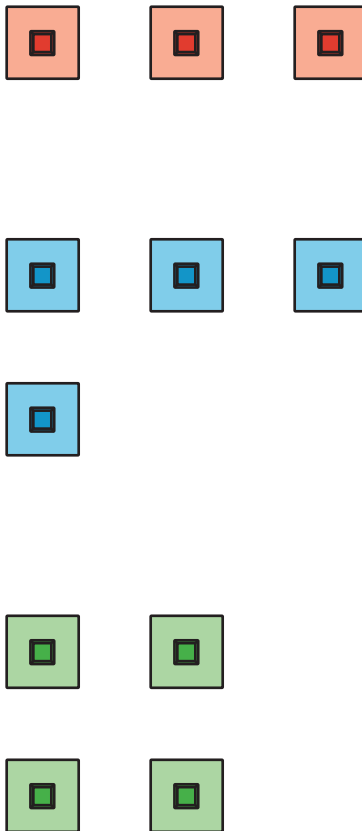
Lesson 17: Connecting Cube Sculptures

- Let's build with connecting cubes and figure out how many we have.

Warm-up: How Many Do You See: Connecting Cube Flash

How many do you see?

How do you see them?



Credits

CKMath K–8 was originally developed by Open Up Resources and authored by Illustrative Mathematics, <https://www.illustrativemathematics.org>, and is copyrighted as 2017–2019 by Open Up Resources. It is licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0). The Open Up Resources K–8 Math Curriculum is available at: <https://www.openupresources.org/math-curriculum/>.

Adaptations and updates to the IM K–8 Math English language learner supports are copyright 2019 by Open Up Resources and licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0),

Adaptations and updates to IM K–8 Math are copyright 2019 by Illustrative Mathematics, including the additional English assessments marked as "B", and the Spanish translation of assessments marked as "B". These adaptations and updates are licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

This particular work is based on additional work of the Core Knowledge® Foundation (www.coreknowledge.org) made available through licensing under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License.

Illustration and Photo Credits

Panther Media GmbH / Alamy Stock Vector: Cover B

Illustrative Math K–8 / Cover Image, all interior illustrations, diagrams, and pictures / Copyright 2019 / Licensed under the Creative Commons Attribution 4.0 International License (CC BY 4.0).

These materials include public domain images or openly licensed images that are copyrighted by their respective owners, unless otherwise noted/credited. Openly licensed images remain under the terms of their respective licenses.



CKMath™
Core Knowledge **MATHEMATICS™**

CKMath™
Core Knowledge MATHEMATICS™

A comprehensive program for mathematical skills and concepts
as specified in the **Core Knowledge Sequence**
(content and skill guidelines for Grades K–8).

Core Knowledge MATHEMATICS™
units at this level include:

Math in Our World

Numbers 1-10

Flat Shapes All Around Us

Understanding Addition and Subtraction

Composing and Decomposing Numbers to 10

Numbers 0–20

Solid Shapes All Around Us

Putting it All Together

www.coreknowledge.org

Core Knowledge Curriculum Series™

ISBN: 979-8-88970-974-9