VariQuest

Math Toolkit
Hybrid Learning

FOR TEACHERS AND FAMILIES

VariQuest Visual and Kinesthetic Learning Suite

IN PARTNERSHIP WITH CATHY HENRY OF FREEWORDWORK.COM | 2020

Math Toolkit for Hybrid Learning:

Many teachers have been working to create individual math kits for their students. These are being assembled both for classroom use, where teachers are attempting to prevent shared resources, and as a collection to send home for student use during distance learning.

As teachers, we know that children learn best when they can explore via hands-on activities and collaboration. The need to sanitize materials in between use and to distance students is adding a challenge to what we believe is best for our students and their learning.

By assembling individual toolkits, you will be able to provide students with resources they need to explore math concepts using the tools they are used to in the classroom.

At VariQuest, we have partnered with Cathy Henry from Free Word Work and The Curriculum Corner, to bring you this guide for creating your own math toolkits. You will find a list of the resources you can create and print using the **VariQuest® Visual and Kinesthetic Learning Suite** and the **Engage Every Learner™ Content in our Design Center Software**. We have also written an introductory lesson to help your students become familiar with their toolkits and what they contain. At the end of this booklet, you will also find a lesson on Ten Frames and Number Bonds for K-2 students, as they work on mastering number sense both in the classroom and from home.

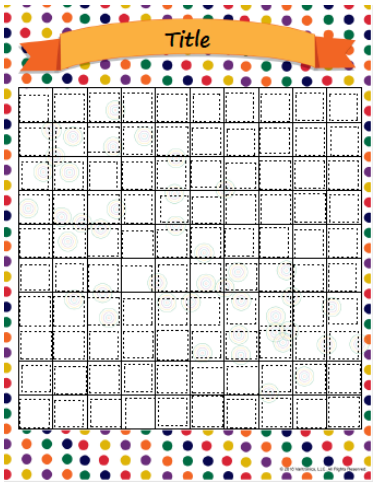
We have divided this resource into two sections. The first is geared toward the primary grades. The resources suggested will mostly fit into kindergarten through third grade classrooms. The second section focuses on materials in the intermediate grades. These will mostly fit into fourth through sixth grade classrooms. We say mostly because all classrooms are different. Also, there is a big range of abilities between kindergarten and third grade students. The lists we are providing will be your starting point. As a third-grade teacher, you might look and decide to eliminate the five and ten frames but add a fraction resource from our intermediate kit instead.

Be sure to use the **VariQuest Motiva® 400 Specialty Printer** to print student labels for each kit with their name and title of the packet. *(Our Engage Every Learner™ template ID # MTCH071 is a great option for this).*

We hope the suggested materials in this guide are helpful to you, your students, and parents, as together you navigate both classroom and distance learning.

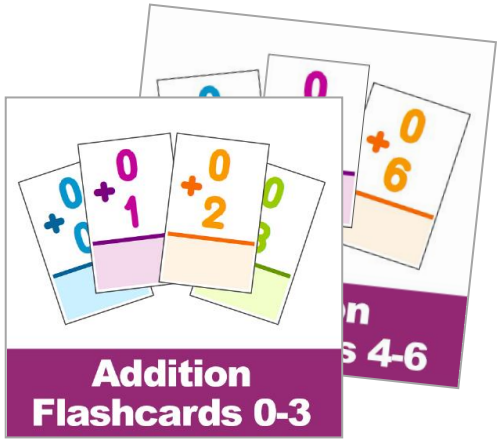
Primary Math Toolkit

Use the VariQuest Perfect® STP Series Printer to print many of the suggested resources to poster-size for anchor visuals in the classroom, then use the printer's built-in scanner to shrink to individual student copies for your toolkits. Also print 3" or 4" stickers and cards using the Motiva® 400 Specialty Printer to include in your student packets for hands-on learning from home. Laminate your materials in advance using the VariQuest Cold Laminator for durability and cleanliness. Not only will this make disinfecting easy when needed, it will also allow students to use dry erase markers to write on, wipe clean and reuse.



- **100s Chart** - *(ID # MTH033 or ID # MTH025)* print to poster-size using the Perfecta, then scan to an 8.5"x11" student copy.
- **Place Values Whole Numbers** - *(ID # MTH027)* print to poster-size for in-class review, then use the Motiva to print stickers/cards *(ID # MMTH026)* for your math toolkits, or to use at your math center.
- **Clock** - *(ID # MMTH076)* print this clock using the Motiva as a base to show counting by fives around the clock.
- **Shapes Stickers** - *(ID #s MMTH073 & MMTH073)* great addition to your math toolkits for student practice and identifying shapes at home.
- **Number Lines** - *(ID #s MMTH037-MMTH040)* print as stickers or cards using the Motiva for hands-on practice with addition and subtraction.

- **Number Bond** - *(ID # MTH056)* 0-10 or *(ID # MTH055)* 0-20 print a Perfecta poster for whole-class instruction, then send home Motiva Number Bond Cards *(ID #s MMTH091 or MMTH092)* in your toolkits. *(see lesson at the end of this guide)*
- **Money Cutouts** - *(ID #s MTH206-MTH211)* use the VariQuest Cutout Maker to cut these simple shapes on laminated construction paper for extra durability before adding to your math toolkits, and/or placing at your math center.
- **Math Flashcards** - *(ID #s VMC013-VMC016)* print a set of flashcards using the Motiva for take-home student manipulatives.
- Use the Cutout Maker to cut additional shapes that support your math lessons both in the classroom and at home-



- ✓ **Flap Facts**
- ✓ **Flashcard Wheels**
- ✓ **BINGO Cards**
- ✓ **2D and 3D Math Shapes**

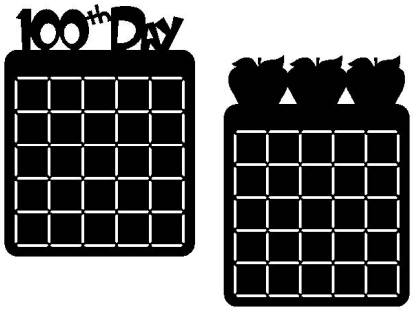
Other Materials to Include in Your Math Toolkit:

- ❖ Mini erasers – a great, fun tool to add to a student's learning. Children can use these simply as counters, but they can also be used on their five and ten frame boards.
- ❖ Unifix cubes in two colors for modeling addition and subtraction.
- ❖ Dry erase markers
- ❖ Square piece of felt to use as an eraser *(or simply suggest students use a tissue or an old sock)*
- ❖ Ruler

Intermediate Math Toolkit

- ❖ **Decimal Flashcards** - *(ID # VMC004)* print a set of flashcards using the **Motiva** on 3" or 4" cardstock – great for test review and practice at home. Anchor a **Perfecta** poster (ID # VIS366) in your classroom, and scan and print as an 8.5"x11" copy to send home with your students.
- ❖ **Number Line for Decimals** - *(ID # MMTH040)* print from the **Motiva** and use with tenths and hundredths markers for work on the order of decimals both in the classroom and at home.
- ❖ **Math Symbols** - *(ID #s VIS329 & VIS330)* enlarge to poster-size for classroom review of common shapes and geometry terms, and print **Motiva** stickers *(ID #s MMTH074 & MMTH078-MMTH080)* to insert in your math toolkits for students to affix to their planners and notebooks.
- ❖ **Order of Operations Chart** - *(ID # MTH001)* use the **Perfecta** to enlarge this anchor visual for your classroom – ideal for an introduction to fourth and fifth grade students, and print a smaller version using the Motiva *(ID # MMTH083)* for student planners. For students working on more challenging math tasks, print *(ID # MTH024)* to poster-size and reinforce this strategy with individual stickers using the **Motiva** *(ID # MMTH024)*.
- ❖ **Fraction Strips** - *(ID # MMTH022)* printed from the **Motiva** these stickers are an excellent way to help students visualize the value of each fraction and the comparing of fractions.

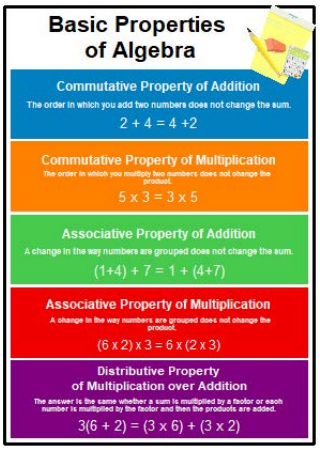
- **Fraction Flashcards** - *(ID # VMC003)* print a set of flashcards using the **Motiva** for student practice and review at home.
- **Bingo Cards -** using assorted bingo cards in the ***VariQuest Design Center Software***, cut to the desired size using the **Cutout Maker** and add to your toolkits for math bingo during virtual instruction time.*(Reminder to cold laminate your sheets of construction paper before you cut!)*

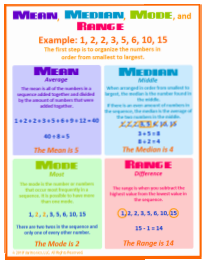


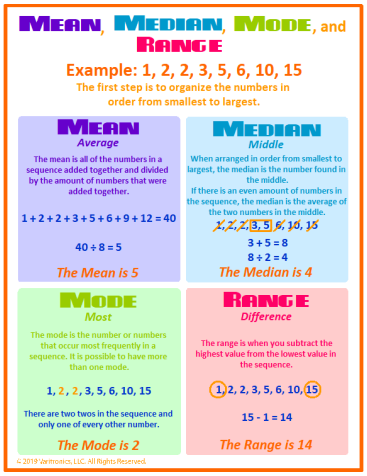
Additional Assets for Hybrid Learning:

Print as posters for classroom instruction and to reference on your virtual calls, plus use the same template to print as stickers or card sets for hands-on learning at home.

- **Place Value Chart**
  - ✓ Perfecta Poster *(MTH027)*
  - ✓ Motiva Sticker *(MMTH026)*
- **Properties of Algebra Chart**
  - ✓ Perfecta Poster *(VIS479)*
  - ✓ Motiva Sticker *(MTH087)*
- **Types of Quadrilaterals Chart**
  - ✓ Perfecta Poster *(MTH052)*
  - ✓ Motiva Sticker *(MMTH088)*
- **Finding Volume**
  - ✓ Perfecta Poster *(MTH059)*
  - ✓ Motiva Sticker *(MMTH094)*
- **Parts of a Circle/Formulas**
  - ✓ Perfecta Poster *(MTH058)*
  - ✓ Motiva Sticker *(MMTH095)*
- **Mean, Median, Mode, Range Chart**
  - ✓ Perfecta Poster *(MTH106)*
  - ✓ Motiva Sticker (MMTH106)







Other Materials to Include in Your Math Toolkit:

- Ruler
- Protractor
- Compass

Exploring Your Math Toolkit Activity

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Activity Focus: Exploring Your Math Toolkit

Objective:

- Students will become familiar with the items provided in their toolkit. They will explore what has been provided.

Materials:

- Math Toolkit

Material Preparation:

- Create a just-right math toolkit for your students. Be sure to include the resources they will need for learning math at home *(reference the list above to build your kit)*.
- Include a set of the printables for each student in their packets.

Lesson Plan for Teachers:

- Talk to your students about rules for using their toolkit at home. Ideas your students might come up with may include the following:
    - I will always put all toolkit pieces back when done using them.
    - I can play with the materials before or after my math lesson. I will try not to play while I am supposed to be doing math.
    - Remember to erase the dry erase marker when I am finished with my math lesson.
    - Take care of the materials given to me – do not bend them on purpose.
- Let the children explore. This time can be similar to when you are doing a "What do you notice?" activity in a writing workshop. Children will have free time to just play. As they play, their job is to record anything they notice. An example of this might include the mini erasers fit in the boxes on the five and ten frames. Or, on the hundreds chart, each number increases by ten when you go down the line.
- Just like you would do in the classroom, after children have had time to explore, come back together to share their observations.

Description of Activities for Families:

How to help your child with

Exploring Their Toolkit

- A math toolkit has been sent home for your child to use while learning math at home this year. This will become an important part of your child's math instruction.
- In the classroom we use manipulatives (or math tools) as often as possible. Allowing students to get "hands-on" while learning math is invaluable to their understanding of the concepts. One of the hardest parts of virtual learning is the expectation that math concepts are learned through a computer screen, or with the simple use of paper and pencil. For this reason, I have worked to create a math toolkit for each student in my class. Sometimes I will ask your child to use a specific tool when completing an activity. If I have not suggested a tool for an activity but your child thinks it would help their learning, please encourage them to use the tool! It is always ok for them to use these tools in any way that will help their learning and understanding.
- When we introduce manipulatives in the classroom, we always begin with free exploration time. Children are going to want to play with these new items they have been given – making this play time off limits will just lead to a lack of focus when the actual teaching and learning begins.
- Today your child is going to be given the opportunity to simply explore using their toolkit. The guidelines will be very loose and even though you might not feel your child is learning a new math skill, this is an important part of the process we do not want to skip.
- If your child enjoys time spent with their math toolkit, it is ok for them to explore more on their own time. Encourage them to keep the tools in one spot so they are easily accessible when needed for their math lesson.

Lesson Extension:

Encourage your students to think about other tools they might use for math. Their challenge could be to find one or two items to add to their toolkit. During the next day's math introduction, have children share the items they have gathered and why they might be helpful to use during math time.

Name: _____

Exploring Your Math Toolkit

Directions: Today you will spend time exploring your math toolkit.

Step 1: Are there any rules that you think are important to follow when using our toolkits? Make a list of important ideas here:

Step 2: Noticings – What do you notice about the tools in your toolkit? Share your observations in the boxes. You will share with the class after our exploration time.

More Noticings

Name: _____

What Would I Add?

Directions: Today we explored our math toolkits. Can you think of any other tools that might be helpful to have in your toolkit? Find one or two items you would like to add. Share the item and how it might be useful.

Item #1

Item #2

Number Bond and Ten Frames Lesson

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Activity Focus: Ten Frames and Number Bonds (K-2)

Objective:

- Students will learn how to represent numbers using ten frames and number bonds to build number sense.

Materials:

- Number Bond & Ten Frames poster printed from the **VariQuest Perfecta® STP Series Printer** and template ID # *MTH056* or *MTH055*, depending on the needs of your students.
- Laminate the poster using the **VariQuest Cold Laminator** for use with dry erase markers.
- Smaller size of the Number Bond & Ten Frames poster (13”x19”), also laminated to send home with students.
- Dry erase markers for writing on the laminated mats. Children can also use counters to fill in the ten frames on their mats.
- A set of printables for each student.

Reinforce this activity with the ability to scan the anchor charts you are using in the classroom with the Perfecta's built-in scanner. That way students have a copy of the work you have done together, which will be a useful tool to support hybrid learning! You can work on the anchor chart as a whole-class activity, or in small groups, then scan it afterwards. You will be able to share the digital anchor chart with students on Canvas or any other platform you are using, or print as an 8.5"x11" copy. Students can use the anchor chart as a reference during distance learning, and parents will appreciate having this as a guide when working with their children from home.

Lesson Plan for Teachers:

1. Introduce the anchor chart that fits your students. Give children a focus number and have a volunteer write it in the whole number spot.
2. Have a student show the number in the tens frame. They can color in the correct number of circles.
3. Ask a volunteer for a way to make the whole number. They will fill in the “part” circles.
    a. For example, if the number in the whole circle is 8, the numbers in the part circles might be 5 and 3.
4. If using the poster with two ten frames, you can give your children numbers up to 20.

Description of Activities for Families:

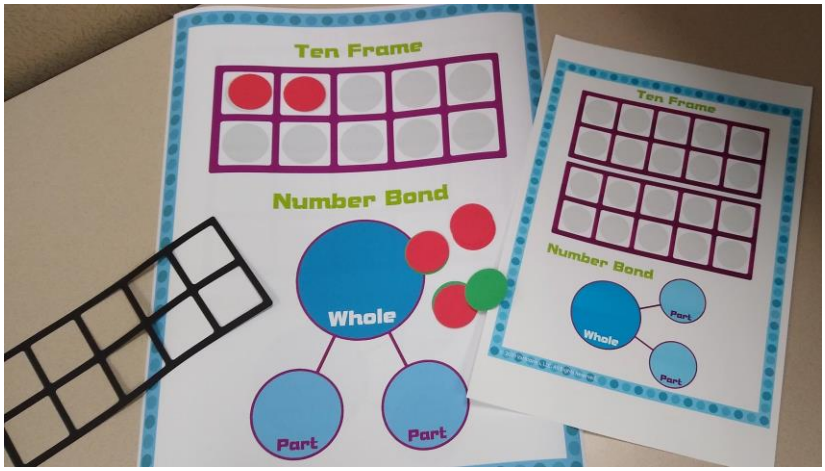
How to help your child with

Ten Frames & Number Bonds

- In class we practiced representing numbers using ten frames and number bonds. These are tools we use at school to help children build number sense.
- Today your child will be continuing the practice we started at home. They have a wipe-off version of the anchor chart we used during class.
- To help your child practice, give them a number between 1 and 10 or between 1 and 20. *(Modify these directions to fit your class.)*
- Your child will then color in the number on the ten frame. In class, we sometimes use two different shapes or colors to make the number. *(For example, if the number is 8, we might draw 5 stars and 3 circles.)*
- Next, your child will put the number in the circle labeled whole. Then, they will write two numbers that will add up to create the whole. These numbers go in the sections labeled part. *(If using the example from above, 8 would go in the whole and then 5 and 3 in the part circles.)*
- Continue to practice by giving your child more whole numbers.

Lesson Extension:

Use the **VariQuest Cutout Maker** to create your own ten frames (*ID # MTH451*). These can be used at a math center along with two colors of counters. Children can fill in the ten frame with their counters. They will then create their own matching number bond on a dry erase board. If you would like to create a larger visual number bond use a cloud shape



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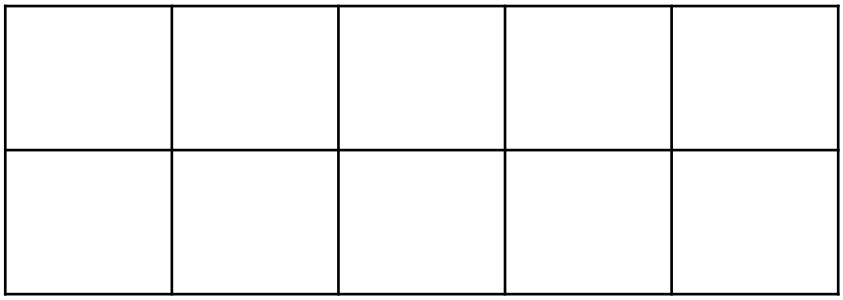
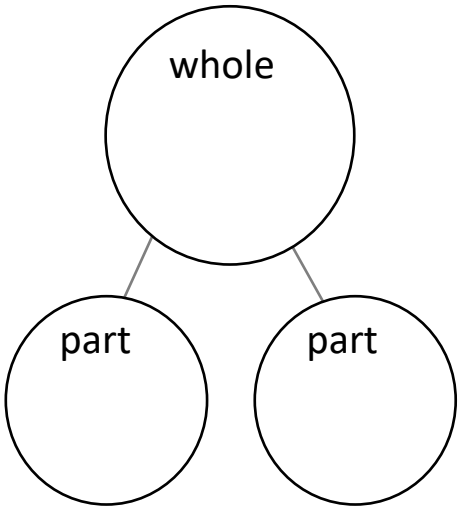
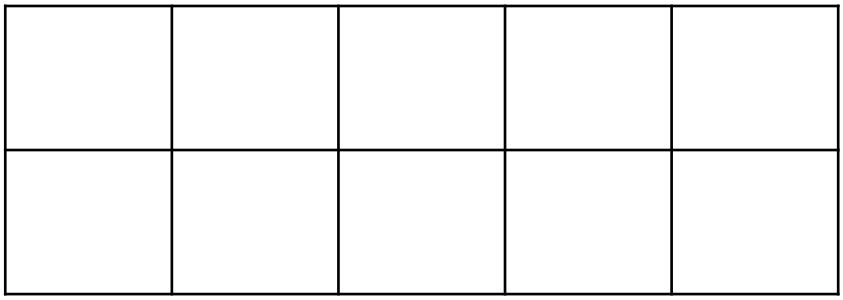
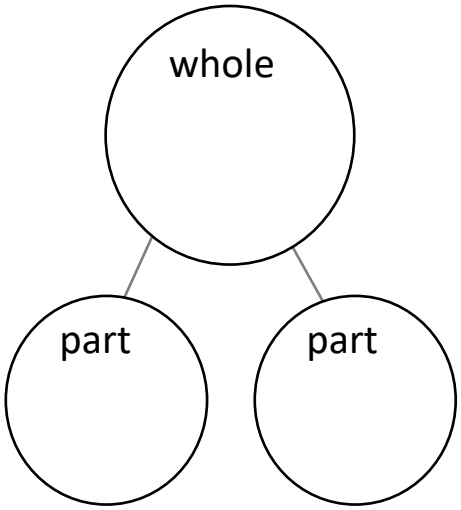
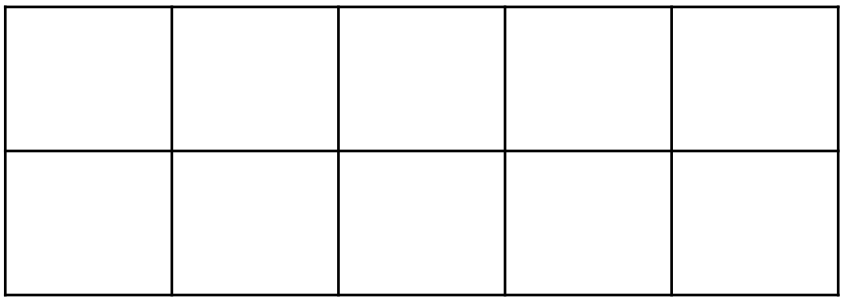
Ten Frames & Number Bonds

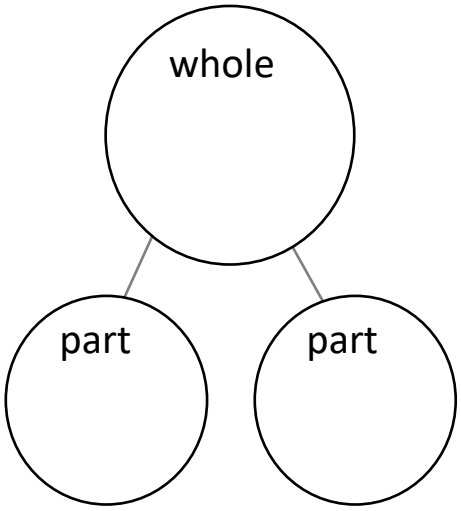












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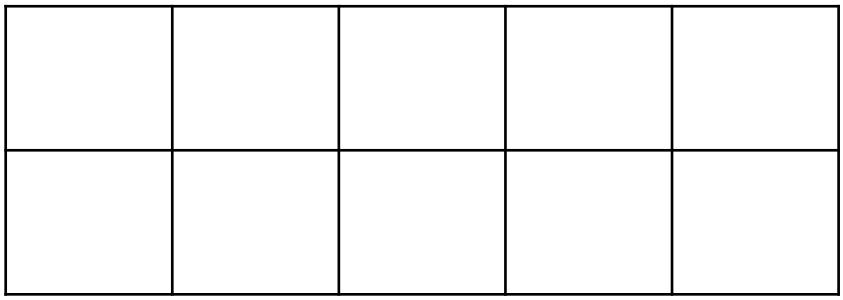
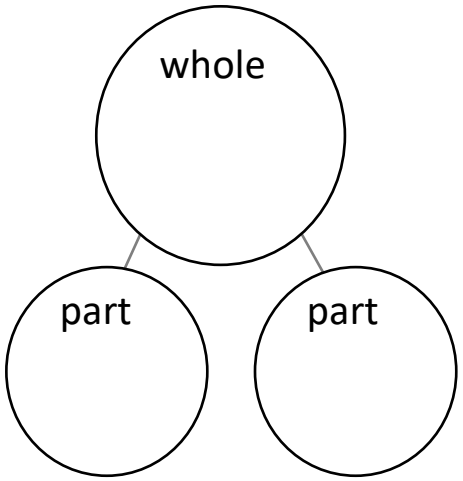
Exit Ticket

Ten Frames & Number Bonds





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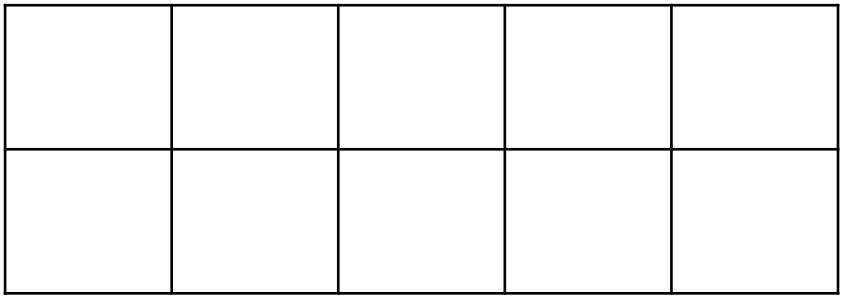

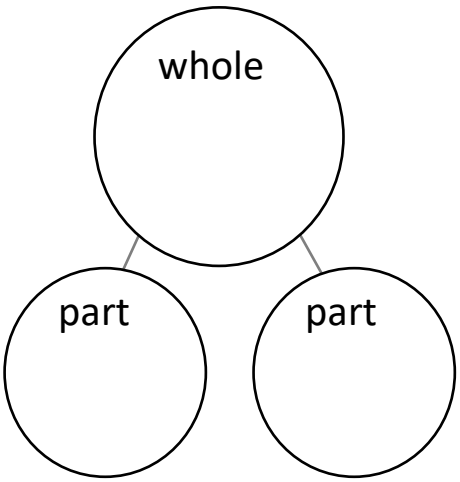

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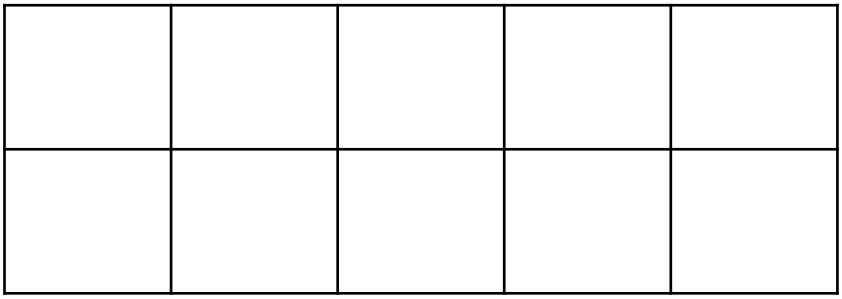

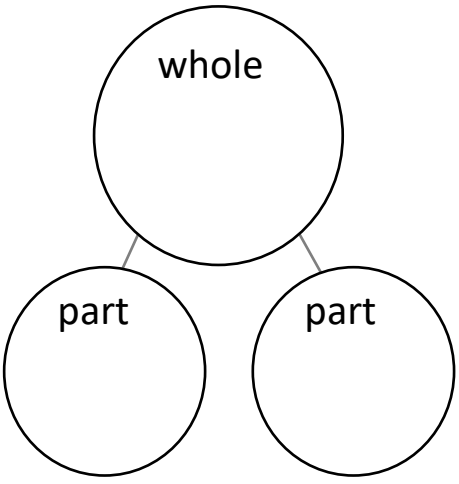

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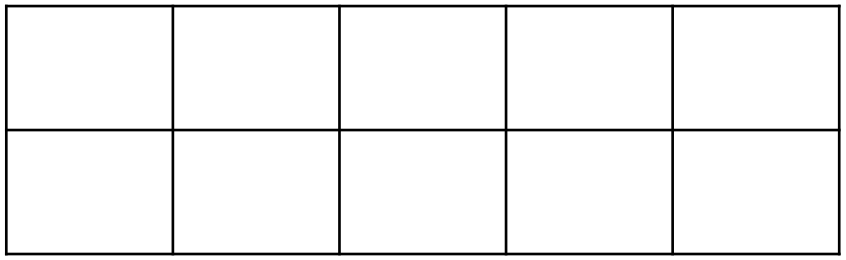

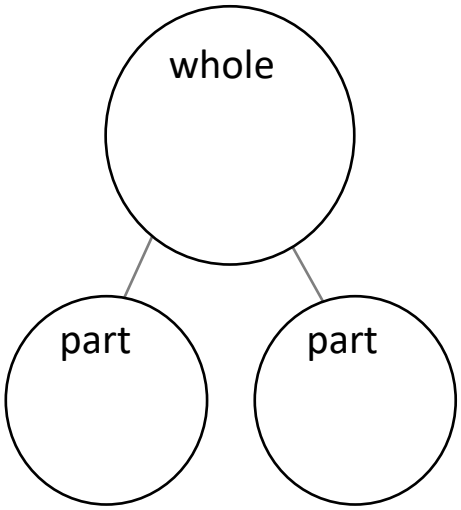

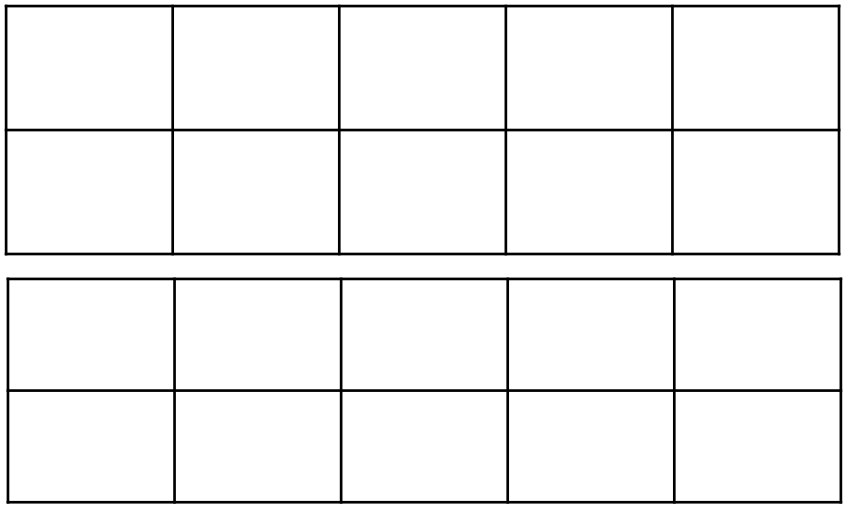

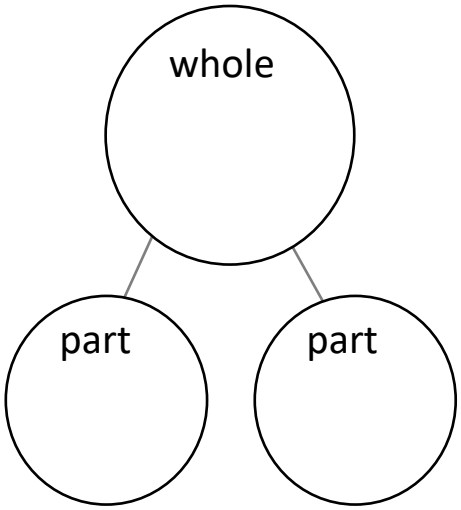

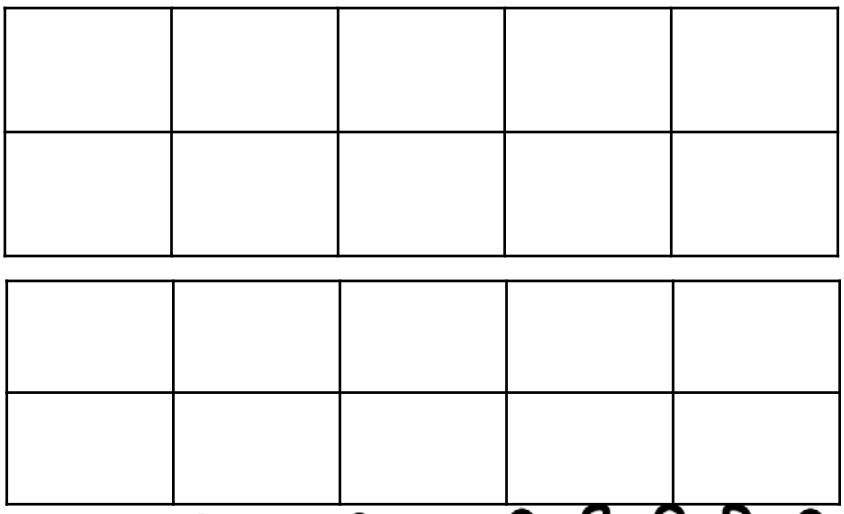

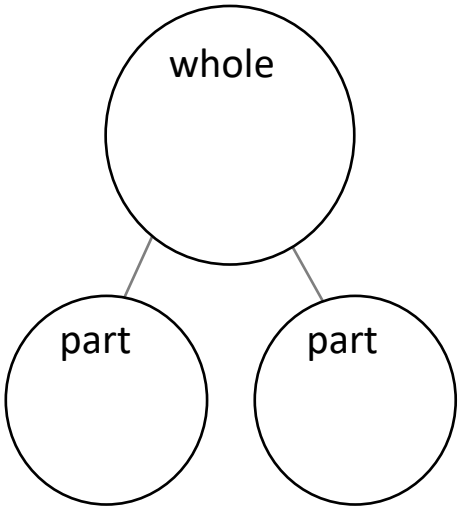

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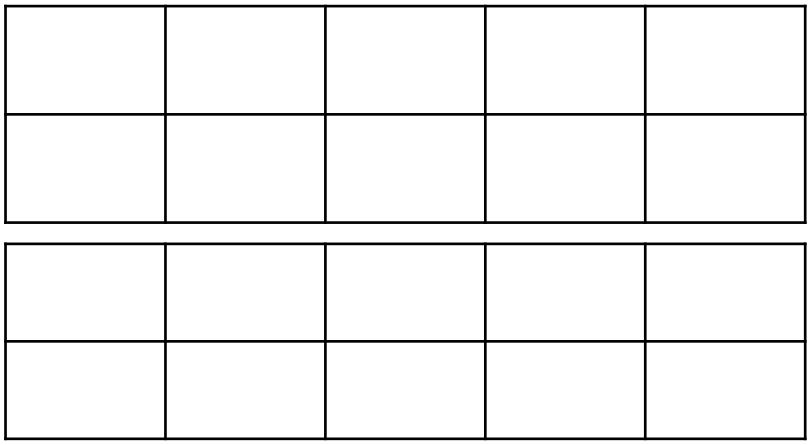
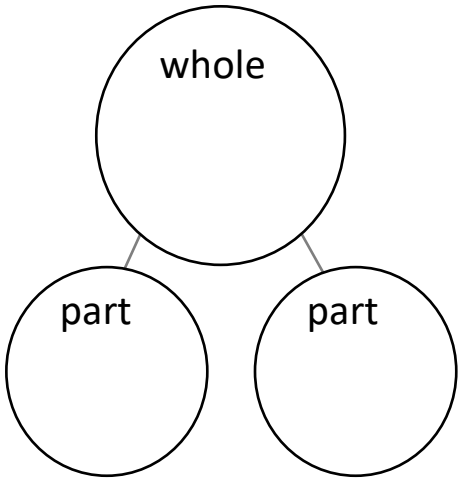
Ten Frames & Number Bonds





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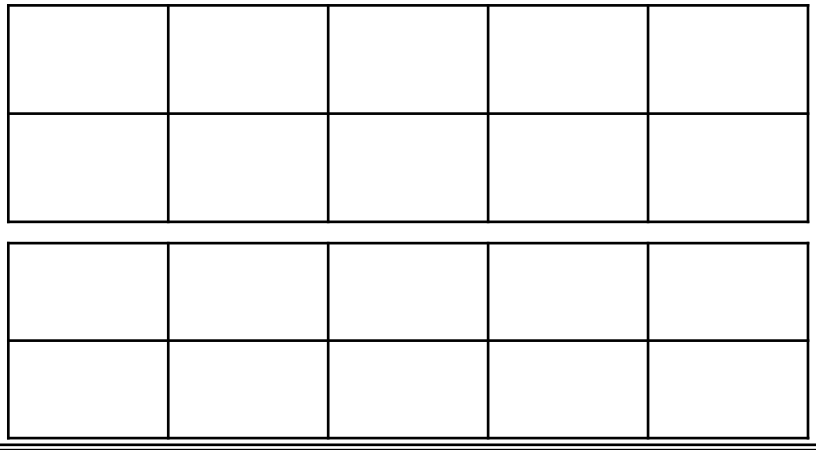

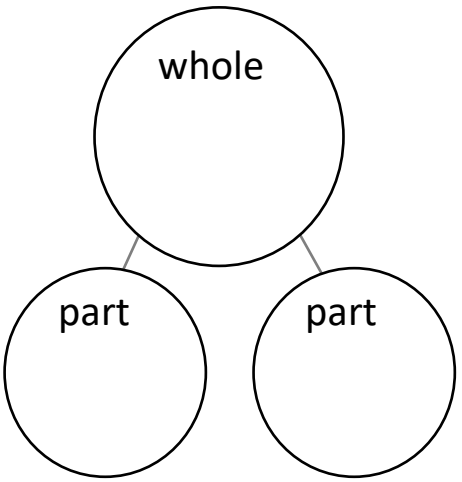

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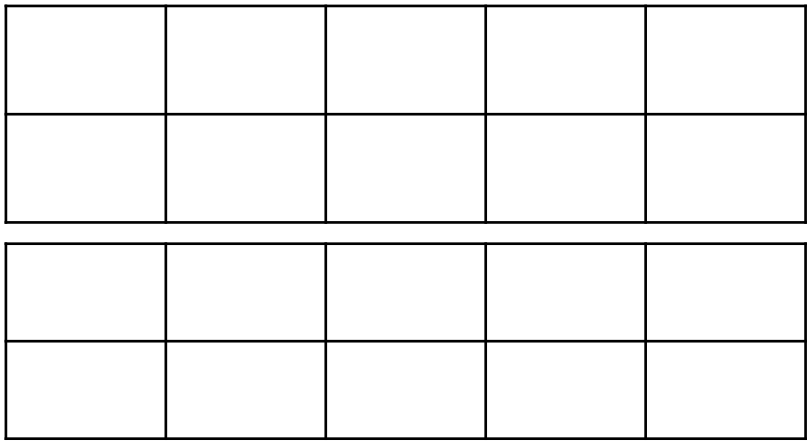

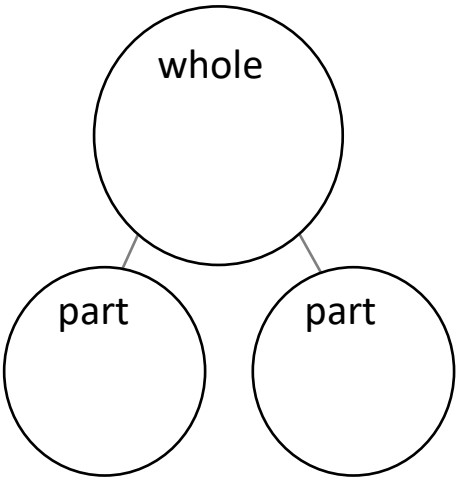

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