KENTUCKY CENTER FOR MATHEMATICS

# *The Kentucky Numeracy Project*

**Session 5 – Structuring to Twenty**

**March 31, 2011**

**Alice Gabbard**

**Cindy Aossey**

**Kris Jarboe**


The Kentucky
Numeracy
Project
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KNP TASK GROUPS 214, 266
KNP TASK GROUPS 295, 267, 213
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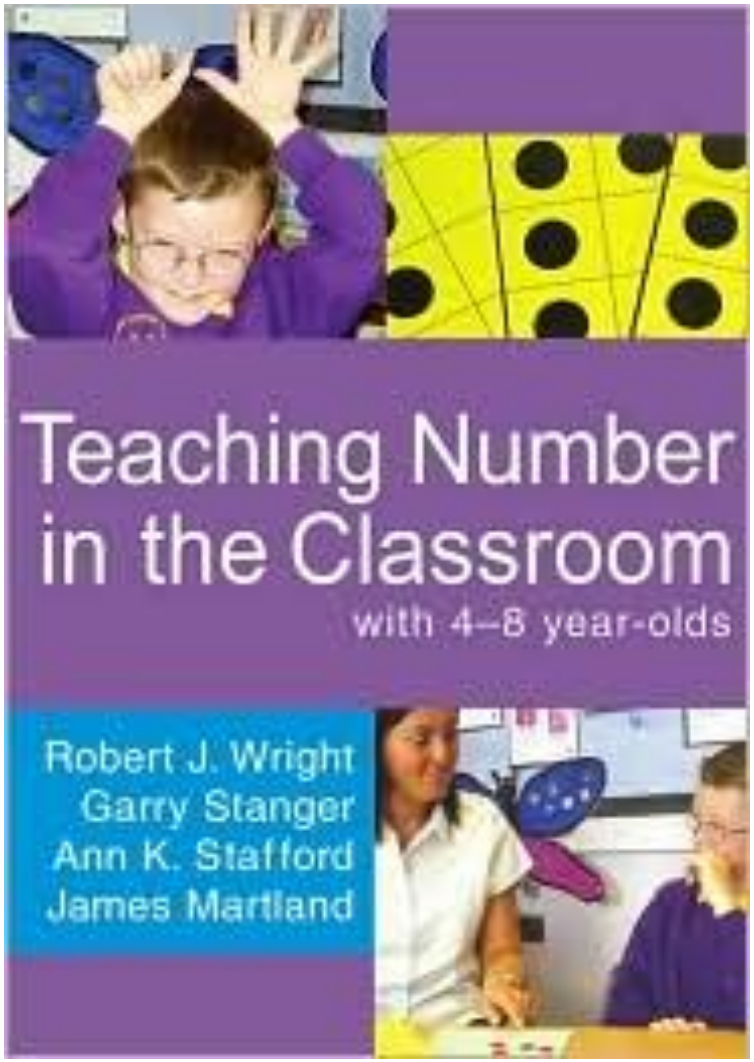
KENTUCKY CENTER FOR MATHEMATICS




SAGE Publications 2006 (reprinted 2009),
ISBN 978-1-4129-0758-3


# Kentucky Common Core Academic Standards for Mathematical Practice

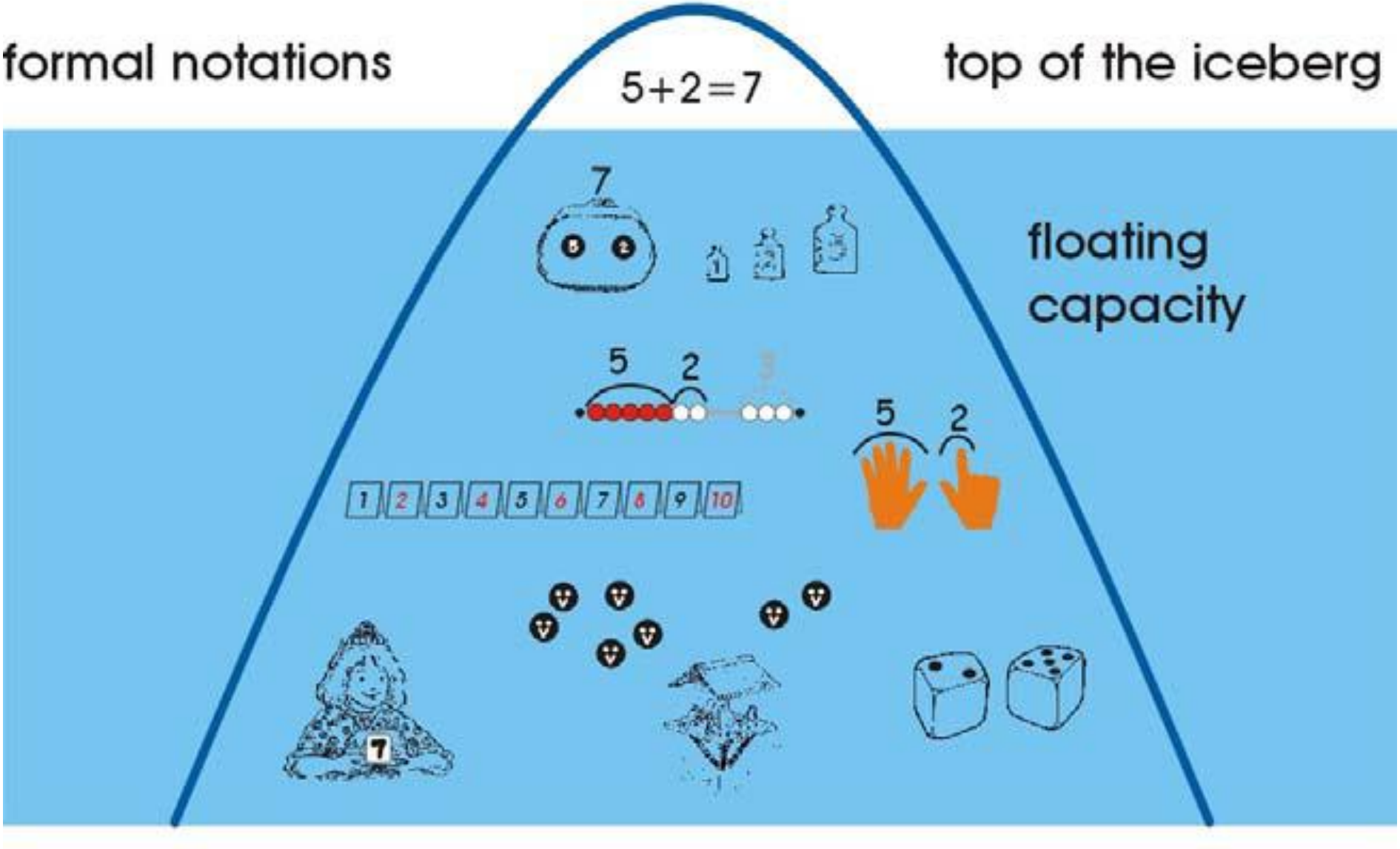
**3 Construct viable arguments and critique the reasoning of others.**

… Elementary students can construct arguments using concrete referents such as objects, drawings, diagrams, and actions. Such arguments can make sense and be correct, even though they are not generalized or made formal until later grades….


**Kentucky Common Core Academic Standards for Mathematical Practice**

## 6 Attend to precision.

Mathematically proficient students try to communicate precisely to others. … They calculate accurately and efficiently … In the elementary grades, students give carefully formulated explanations to each other.




Truss Dekker, Freudenthal Institute, The Netherlands
http://www.spd.dcu.ie/main/academic/education/documents/proceedingsMEI2.pdf

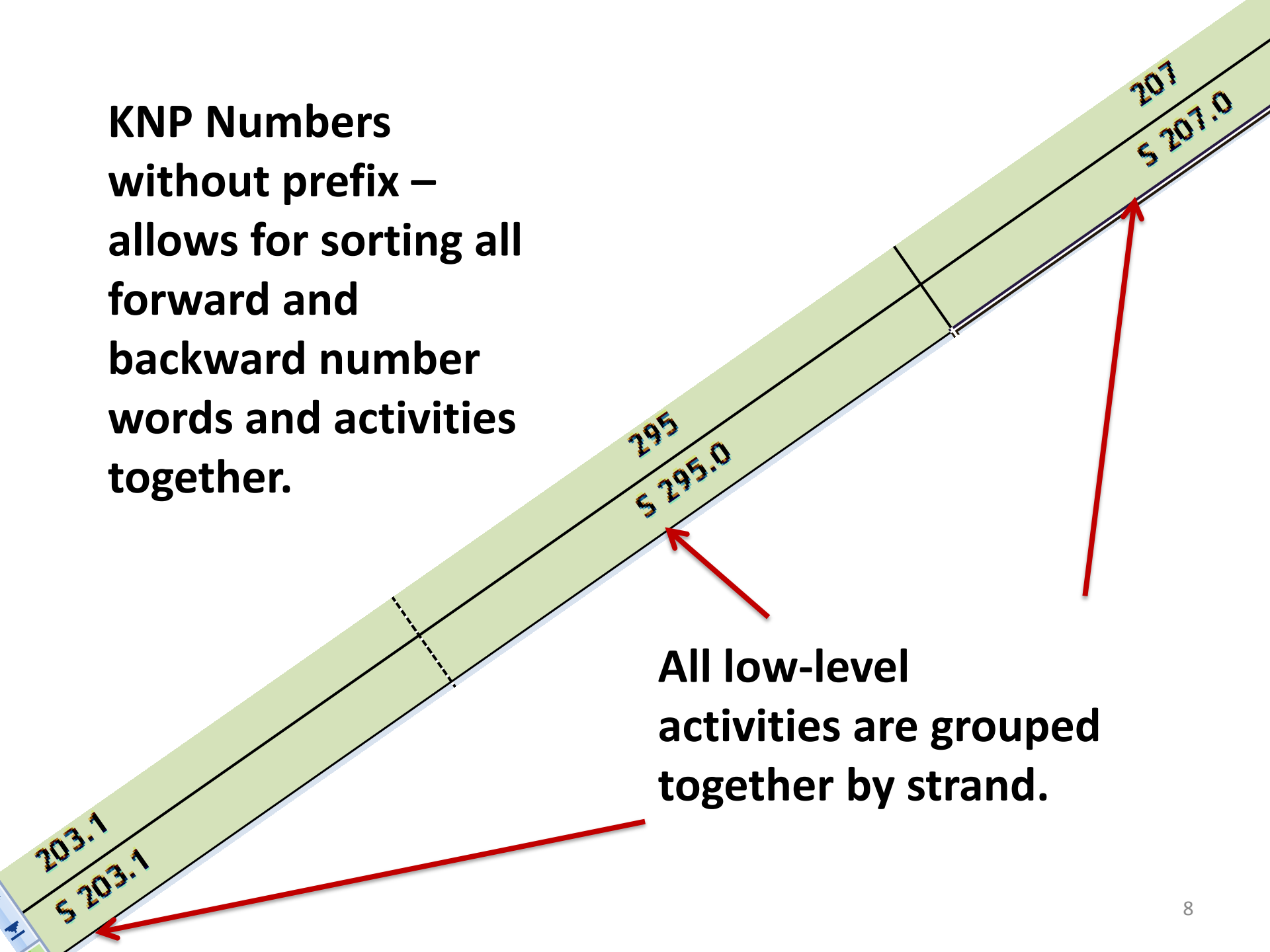
| g | Numeracy Strand | Construct/Level (from AVMR) | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) |
|---|---|---|---|---|---|
| ome tell st cond | Addition & Subtraction | 0 to 1 RED | Perceptual counting | ... tell the sum of two collections. | Show the student counters to display one of the following: 7 red and 2 blue; 5 red and 4 blue; 9 red and 3 blue, etc. and ask her to tell how many in all. |
| lor tells | Addition & Subtraction | 0 to 1 RED | Perceptual Counting | ... take away items from a collection and tell how many are left. | Give the student 9 counters and taking away 3 counters, student tells how many are left. |

| KNP# with prefix | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|
| A 301.1 | individual or small group | | | | | Watch how students find the total number student often will touch counters, coun numbers on a number line to keep trac something they touch, see or feel t |
| A 302.1 | individual or small group | | | | | Watch how students keeps track of remov for strategy if needed, ask how did yo |

**Default sort:**

**1 - Numeracy strand; 2 - Construct/level; 3 - KNP Number**

**KNP Numbers without prefix – allows for sorting all forward and backward number words and activities together.**




**All low-level activities are grouped together by strand.**

| | | | | | | | | | | |
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| Structuring | 0 RED | intermediate structures to five | … identify regular spatial patterns to 6 and write the corresponding numeral | Flash* a regular dot pattern with 4 dots and ask student "Write the number that says how many dots.". Repeat for other dot patterns to 6. Note if student immediately recognizes the pattern or needs to count the dots. | small group | | | | | The large 6 inch foam dice work will for student to be able to immediately know needing to count th |
| Structuring | 0 RED | intermediate structures to five | … recognize regular dot patterns to 6 | Flash* a card showing 4 dots arranged in a regular dice pattern. Ask how many dots. Repeat with other regular patterns in range 1 to 6. | various | | | | | Regular pattern dot cards can be made paper plates or index cards in regular di addition to dot cards, other images su frames can be used. The goal is for stu the dots. If the dot patterns are new f time to see, count, and possib |
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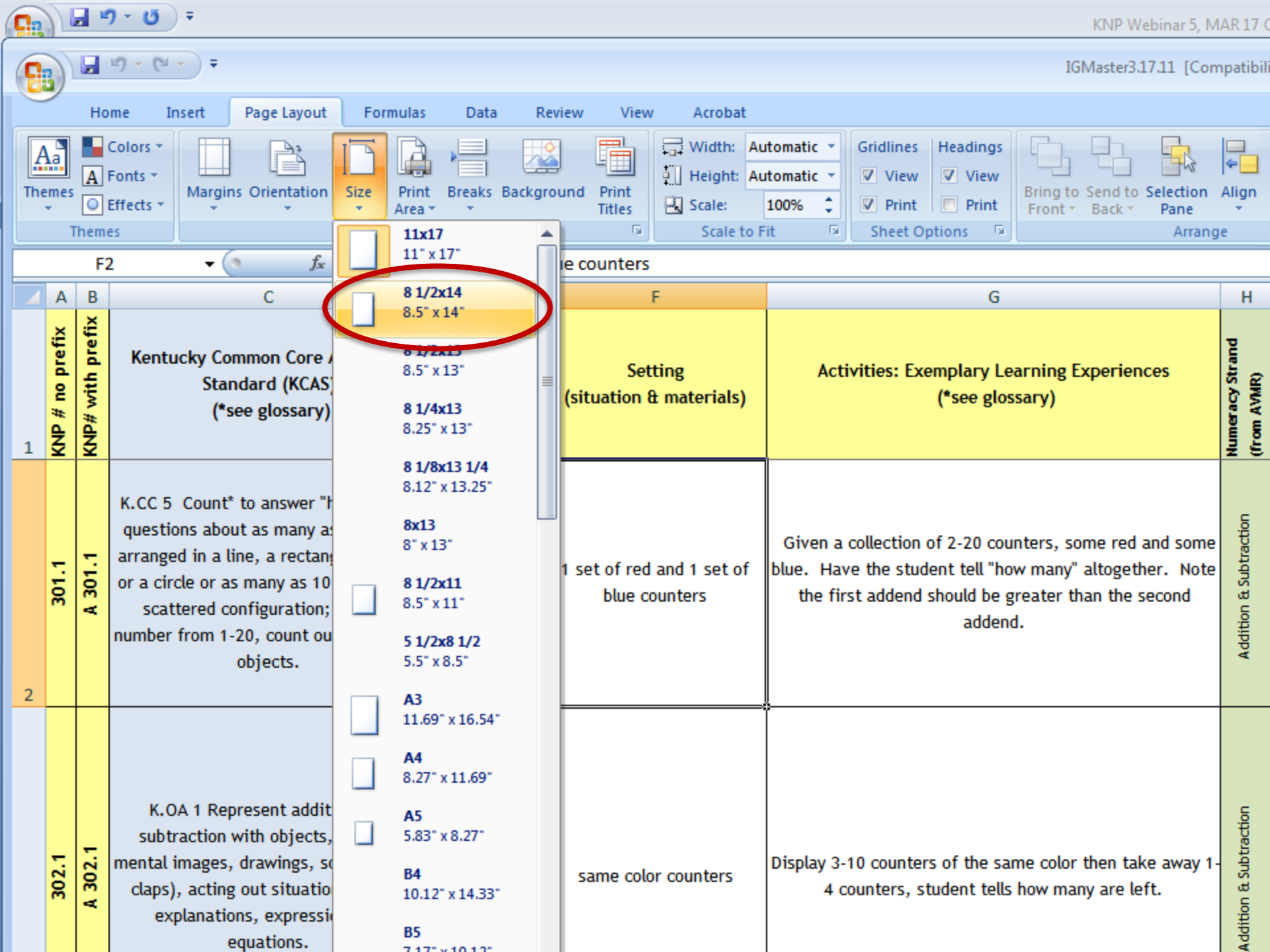
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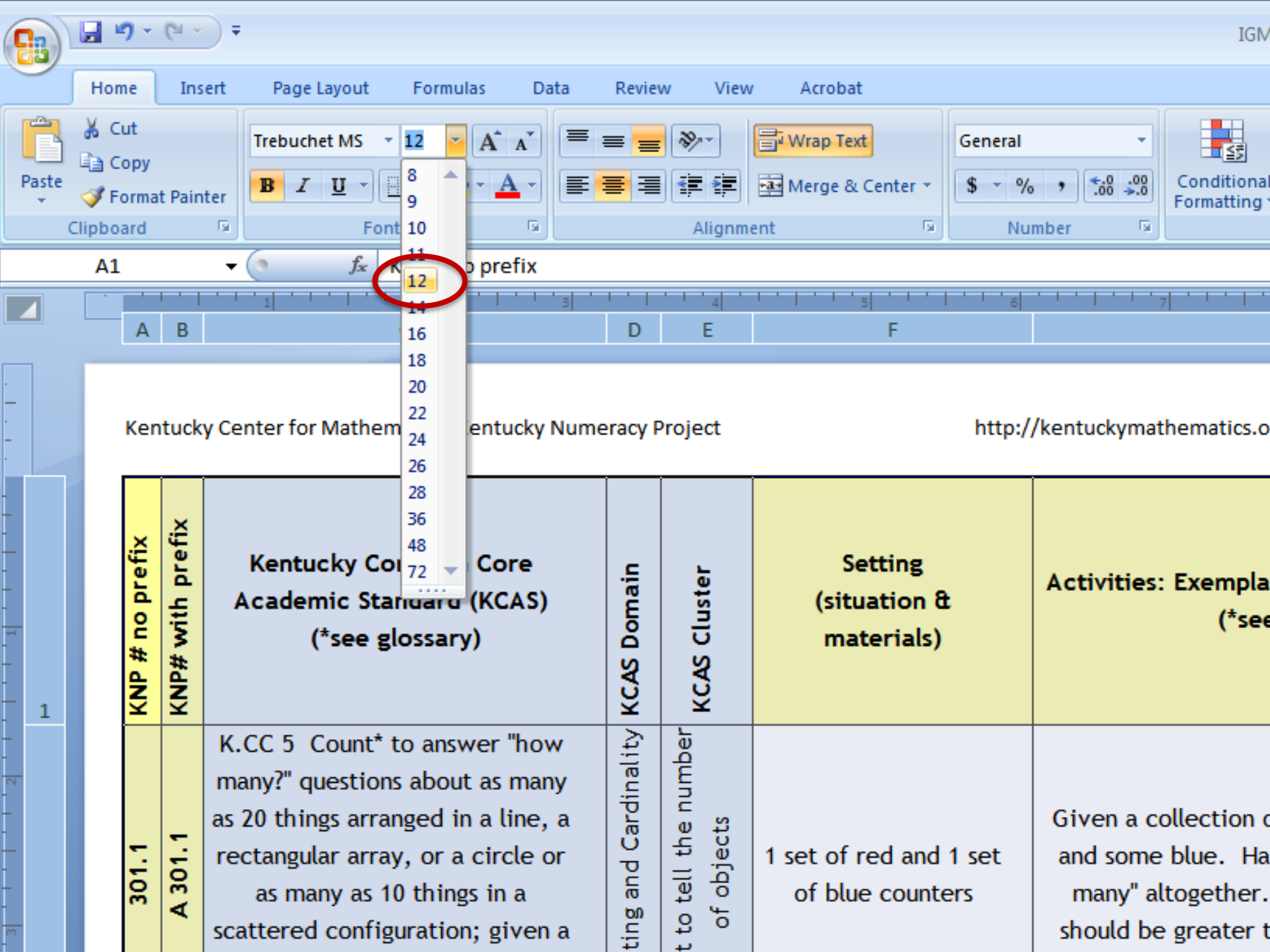
5.5" x 8.5"
A3
11.69" x 16.54"
A4
8.27" x 11.69"
A5
5.83" x 8.27"
B4
10.12" x 14.33"
B5
F2
Setting (situation & materials)
Activities: Exemplary Learning Experiences (*see glossary)
Numeracy Strand (from AVMR)
KNP # no prefix
KNP# with prefix
Kentucky Common Core Standard (KCAS) (*see glossary)
301.1
A 301.1
K.CC 5 Count* to answer "h questions about as many as arranged in a line, a rectang or a circle or as many as 10 scattered configuration; number from 1-20, count ou objects.
1 set of red and 1 set of blue counters
Given a collection of 2-20 counters, some red and some blue. Have the student tell "how many" altogether. Note the first addend should be greater than the second addend.
Addition & Subtraction
302.1
A 302.1
K.OA 1 Represent addit subtraction with objects, mental images, drawings, sc claps), acting out situatio explanations, expressi equations.
same color counters
Display 3-10 counters of the same color then take away 1-4 counters, student tells how many are left.
Addition & Subtraction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Given a collection
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| KNP | KNP | | KCA | KCA |
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| 207 | S 207.0 | K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal explanations, expressions or equations. | Operations and Algebraic Thinking | Understand addition as putting together and subtraction as taking apart and taking from |

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Preview

The game should continu
at least 5

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Title Page | Intervention Guide | Glossary | Color Codes | References

Ready | Page: 454 of 750

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Kentucky Center for Mathematics; Kentucky Numeracy Project http://kentuckymathematics.org 3/17/2011

| KNP # no prefix | KNP# with prefix | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) |
|---|---|---|---|---|---|---|---|---|---|---|
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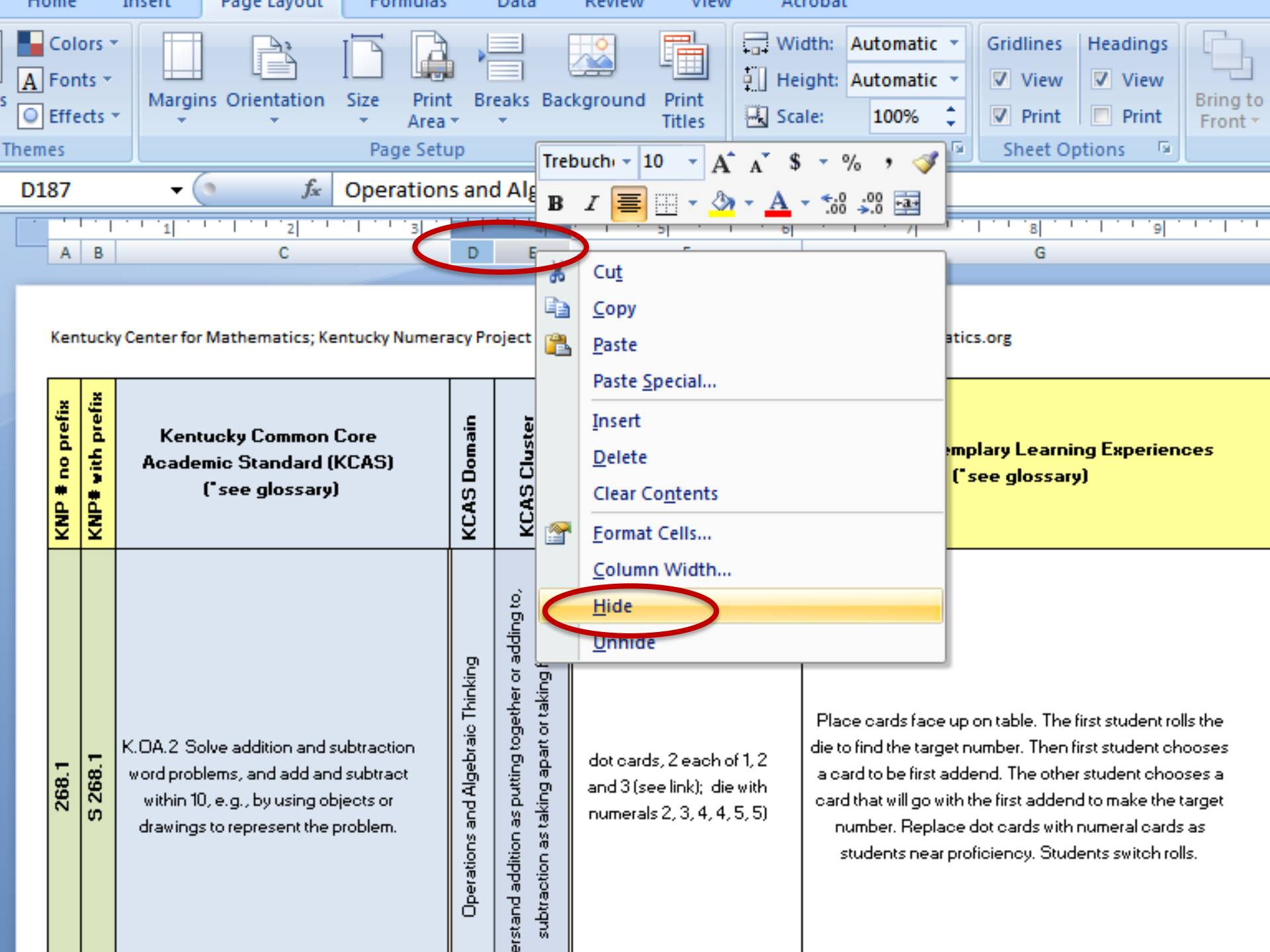
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KNP# with prefix
Kentucky Common Core Academic Standard (KCAS) (*see glossary)
KCAS Domain
KCAS Cluster
emplary Learning Experiences (*see glossary)
268.1
S 268.1
K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.
Operations and Algebraic Thinking
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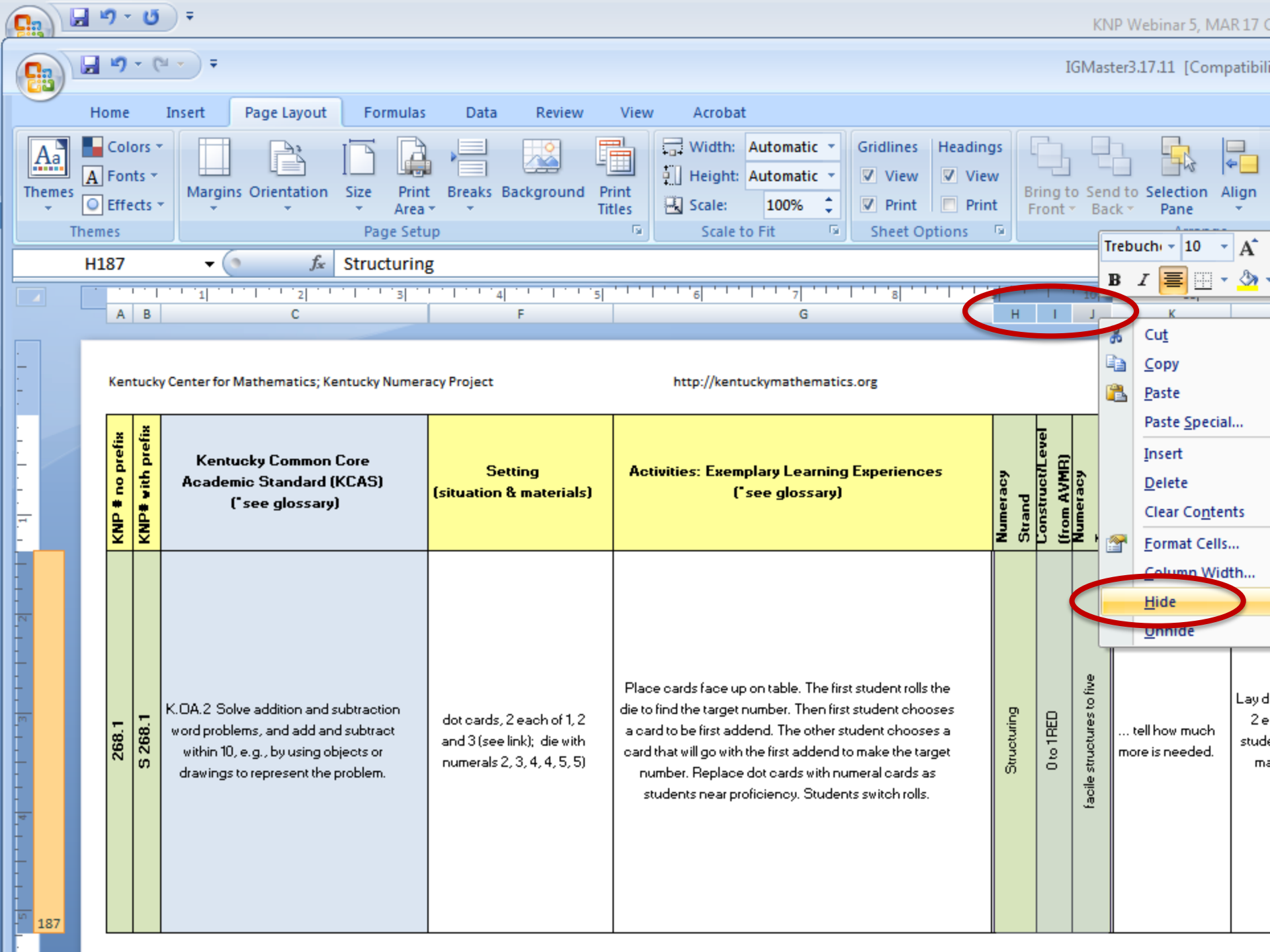
Place cards face up on table. The first student rolls the die to find the target number. Then first student chooses a card to be first addend. The other student chooses a card that will go with the first addend to make the target number. Replace dot cards with numeral cards as students near proficiency. Students switch rolls.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Structuring
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facile structures to five
... tell how much more is needed.
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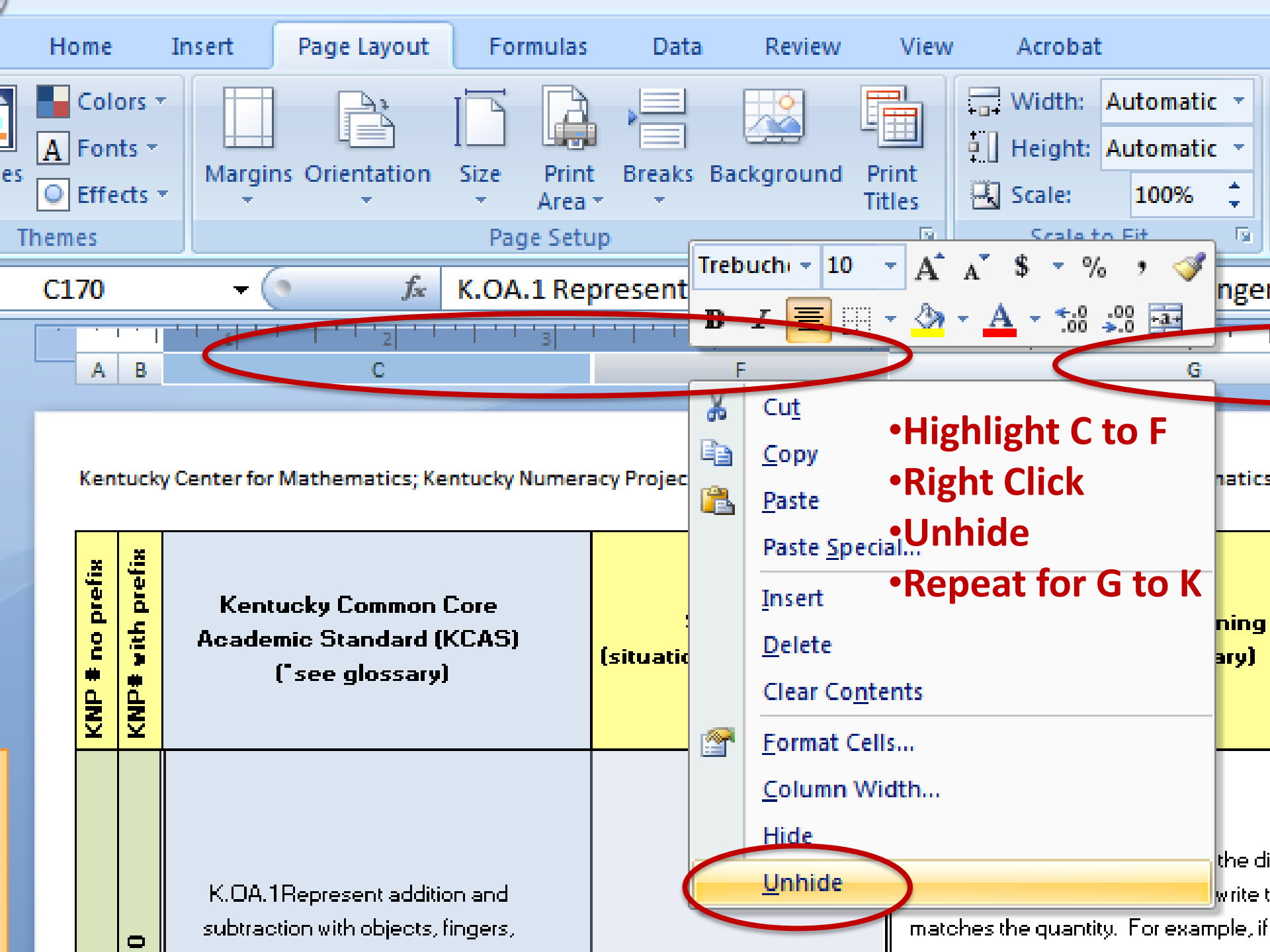
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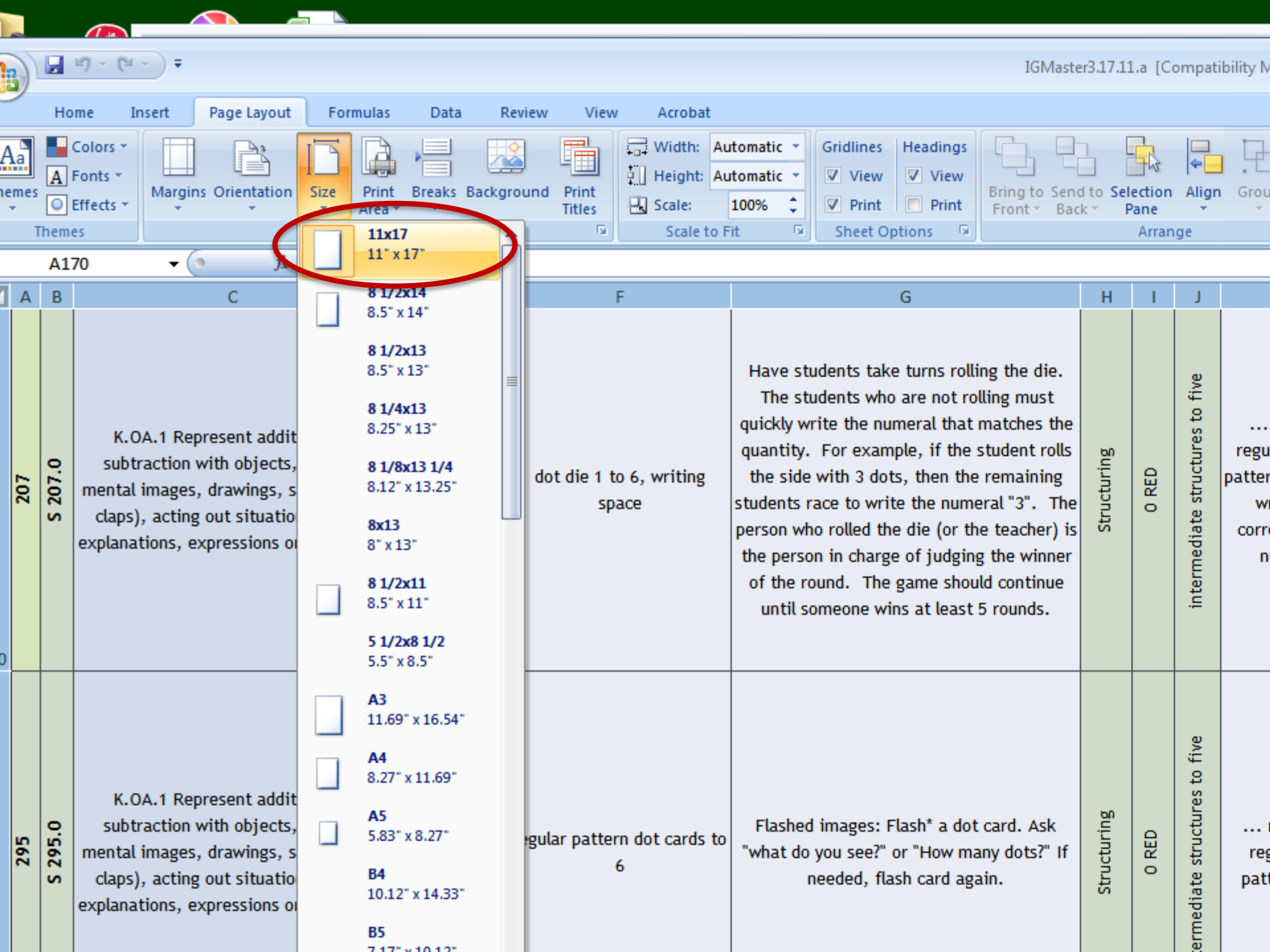
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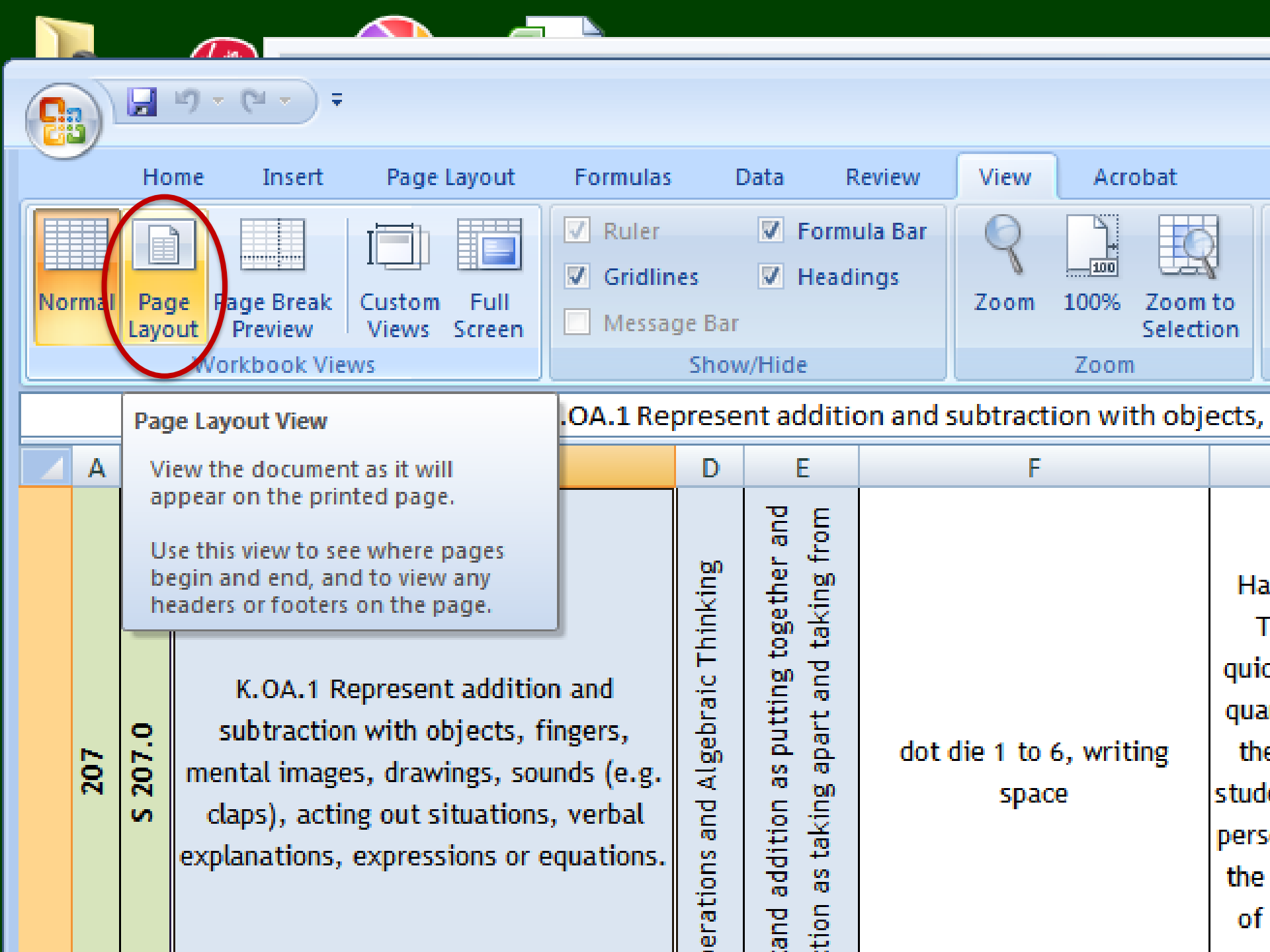
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Preview

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Ready | Page: 155 of 260

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| KNP # no prefix | KNP# with prefix | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
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Intervention
Kentucky Center for Mathematics

KENTUCKY CENTER FOR
MATHEMATIC

Kentucky Numeracy

Webinar Archives:

**KNP Webinar Session 1 - Introduction**

**KNP Webinar Session 2 - Number Words and Numerals**

**KNP Webinar Session 3 – Structuring to Five and Ten**

**KNP Webinar Session 4 - Addition and Subtraction**

**.xls** - **Kentucky Numeracy Project Intervention Guide** - More to come…. KNP ta
KNP Webinar topics. We are also still working on the Glossary denotations. This will
stay tuned. - *revised 11:34am March 17, 2011*

***Word version of the Kentucky Numeracy Project Intervention Guide*** - *revised*

Return to KN

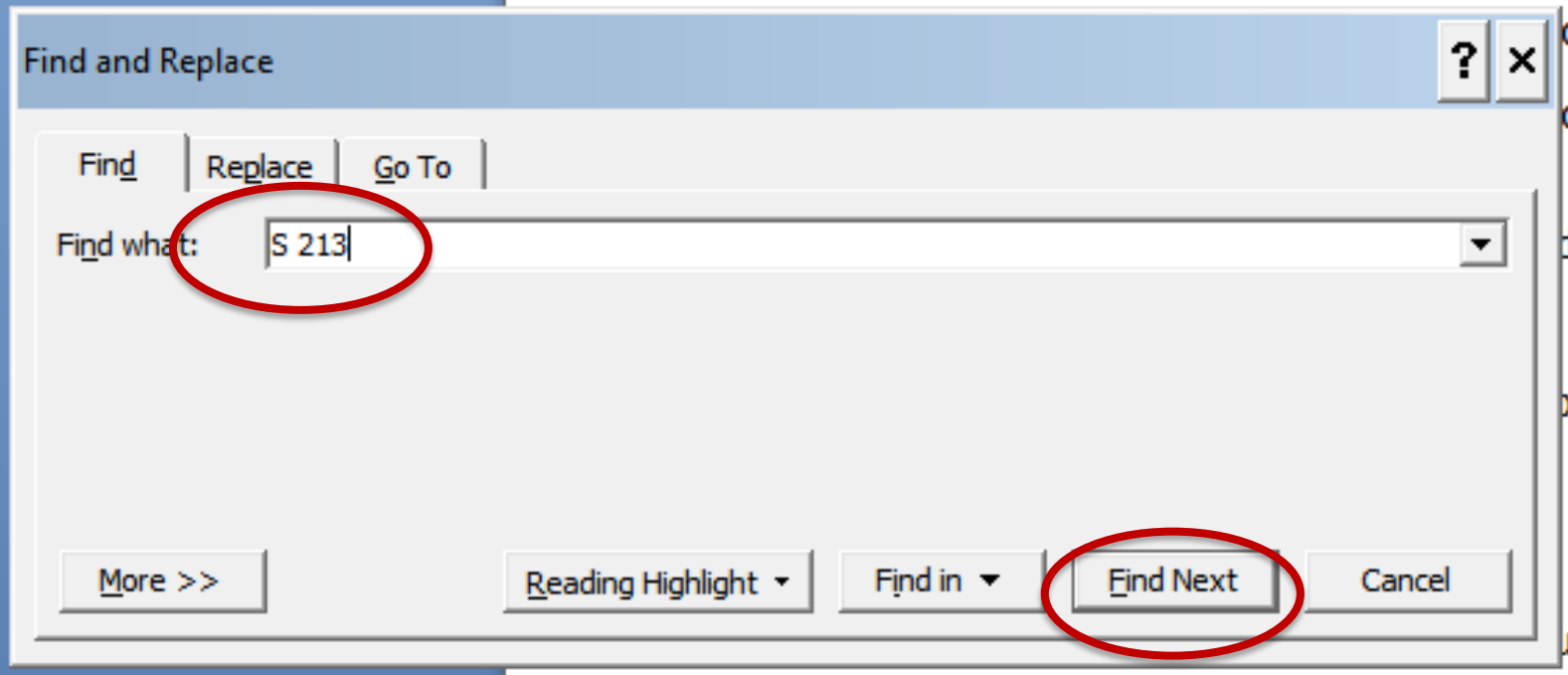
**Default sort: KNP Number with Prefix**

**A 301.0**

**Kentucky Common Core Academic Standard:** K.CC 5 Count
questions about as many as 20 things arranged in a line, a rec
many as 10 things in a scattered configuration; given a numbe
many objects.

**KCAS Domain:** Counting and Cardinality

**KCAS Cluster:** Count to tell the number of objects

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**S 213.1**

**Kentucky Common Core Academic Standard:** K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

**KCAS Domain:** Operations and Algebraic Thinking

**KCAS Cluster:** Understand addition as putting together & adding to, subtraction as taking apart & taking from

**Setting** (situation & materials): 6X7 Four in a Row board with numbers 0-5 (see link), cube with numerals 0-5

**Activity:** Make 5 Four in a row: Students roll a die, place a marker (counter, bean, etc.) on the number that goes with it to make 5. Ex., if the student rolls a 4, they mark a 1 on the board. (Teacher could also use a dot die 0-5) Play until someone has 4 in a row.

**Numeracy Strand** (from AVMR): Structuring

**Construct Level** (from AVMR): 0 to 1 RED

**Numeracy Target** (from AVMR): facile structures to five

**"I CAN":** ... identify the number needed to make 5.

**Assessment for Learning :** Ask student "tell me two numbers that go together to make 5."

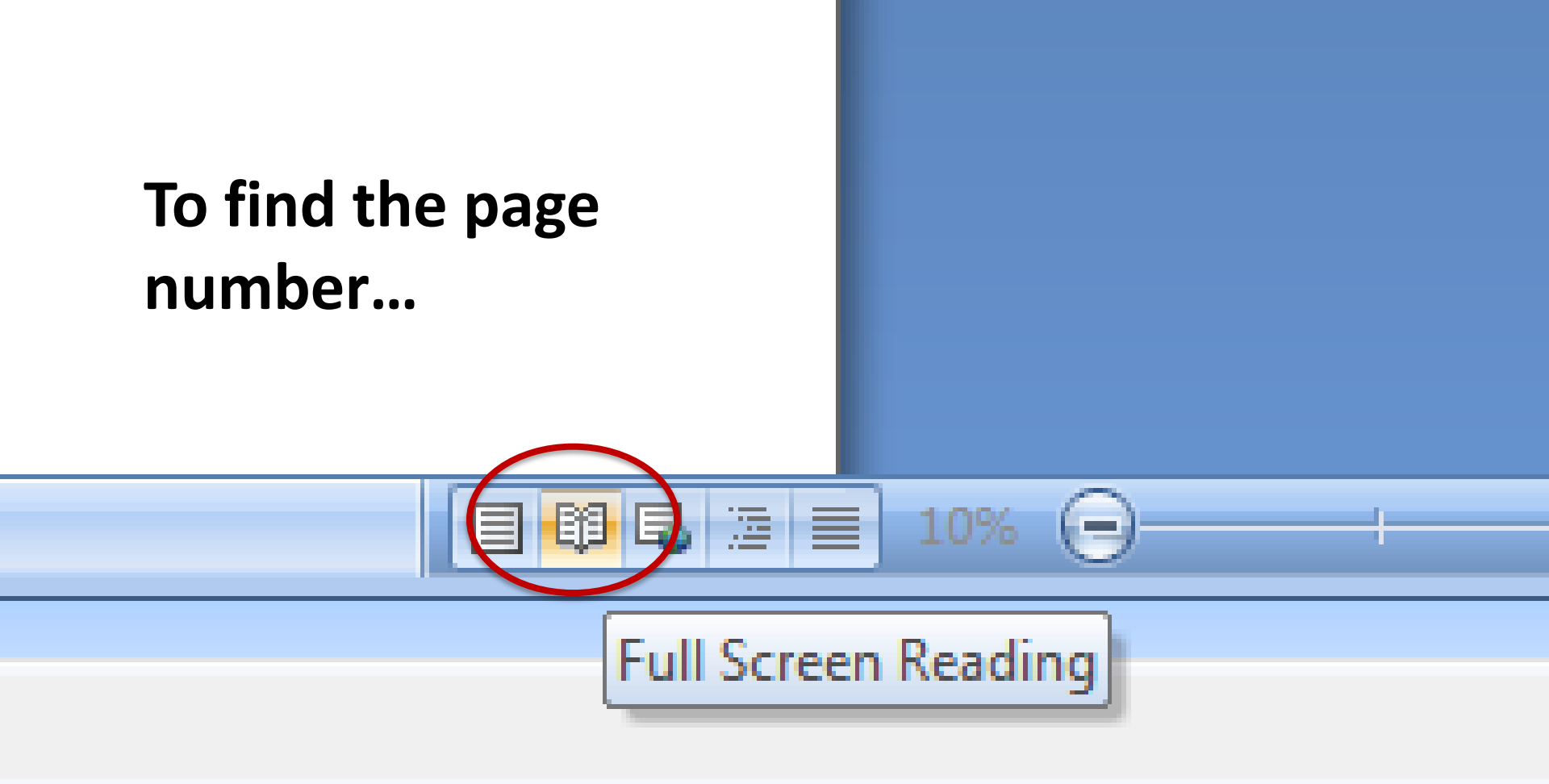
**Student Grouping:** individual / small group / partners / whole class

*For the following hyperlink(s) please copy and paste the URL into your internet browser:*
**Video Link:**
**Print Link:** http://www.kymath.org/intervention/doc/NumeracyProject/S_213-1.pdf
**Website Link:**

**Reference** (see IG spreadsheet): 18

**Teacher Notes:** Alternate link

**To find the page number…**



# Kentucky Numeracy Project

## The Kentucky Center for Mathematics

www.kentuckymathematics.org

**S 213.1**

**Kentucky Common Core Academic Standard:** K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

**KCAS Domain:** Operations and Algebraic Thinking

**KCAS Cluster:** Understand addition as putting together & adding to, subtraction as taking apart & taking from

**Setting (situation & materials):** 6X7 Four in a Row board with numbers 0-5 (see link), cube with numerals 0-5

**Activity:** Make 5 Four in a row: Students roll a die, place a marker (counter, bean, etc.) on

problem.

**KCAS Domain:** Operations and Algebraic Thinking

**KCAS Clu** ng
apart & t

**Setting** with
numerals

**Activity** .) on
the numb he
board. (

**Numera**

**Constru**

**Numera**

**"I CAN":**

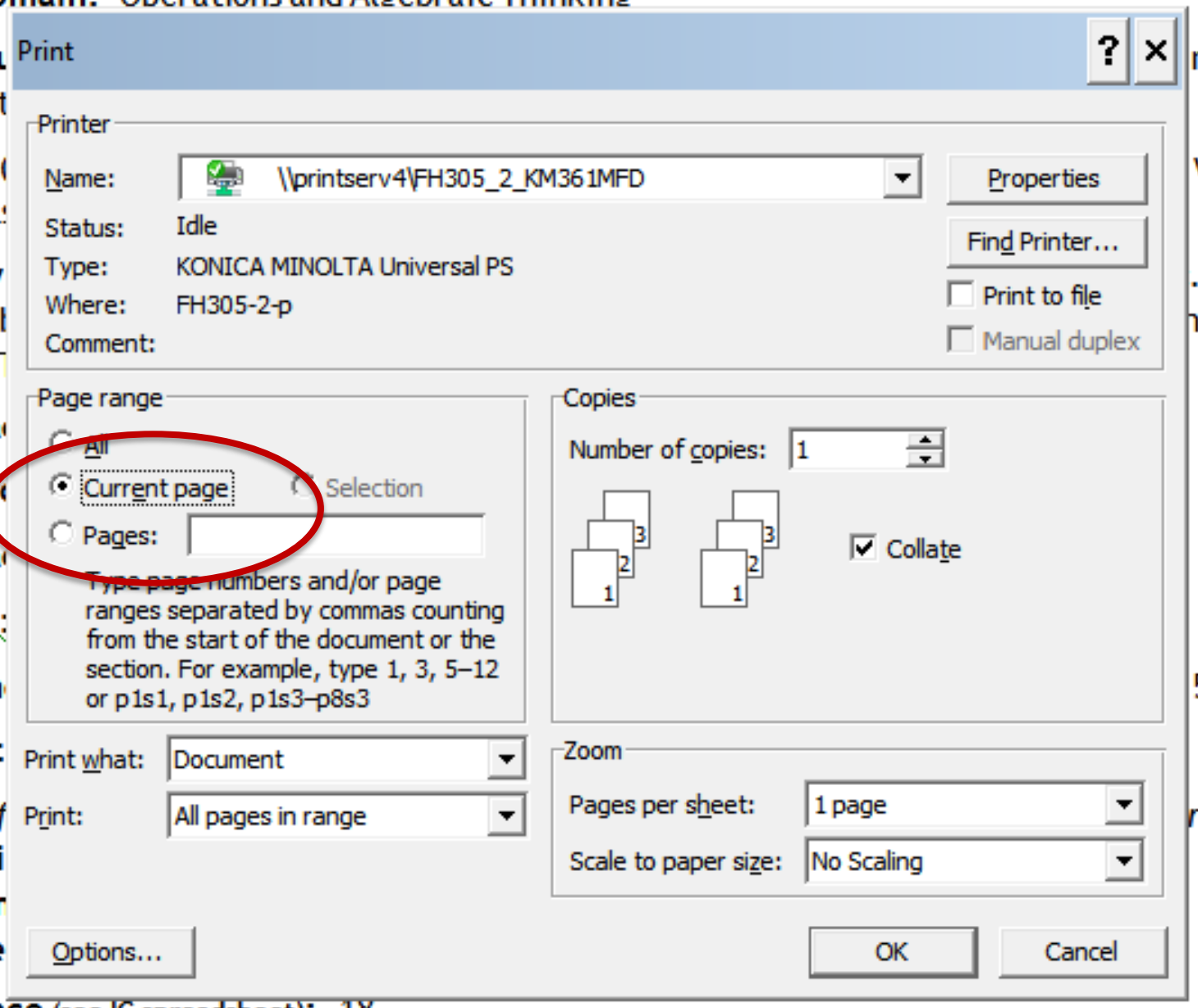
**Assessm** 5."

**Student**

*For the f r:*
**Video Li**
**Print Lir**
**Website**

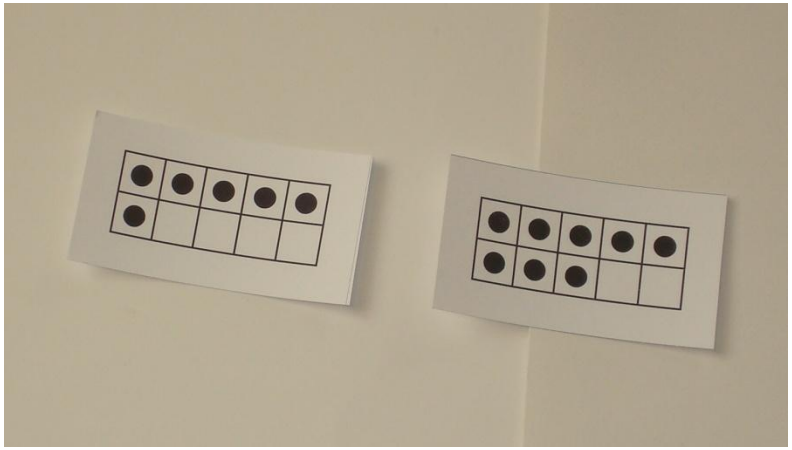
**Reference** (see IG spreadsheet): 18

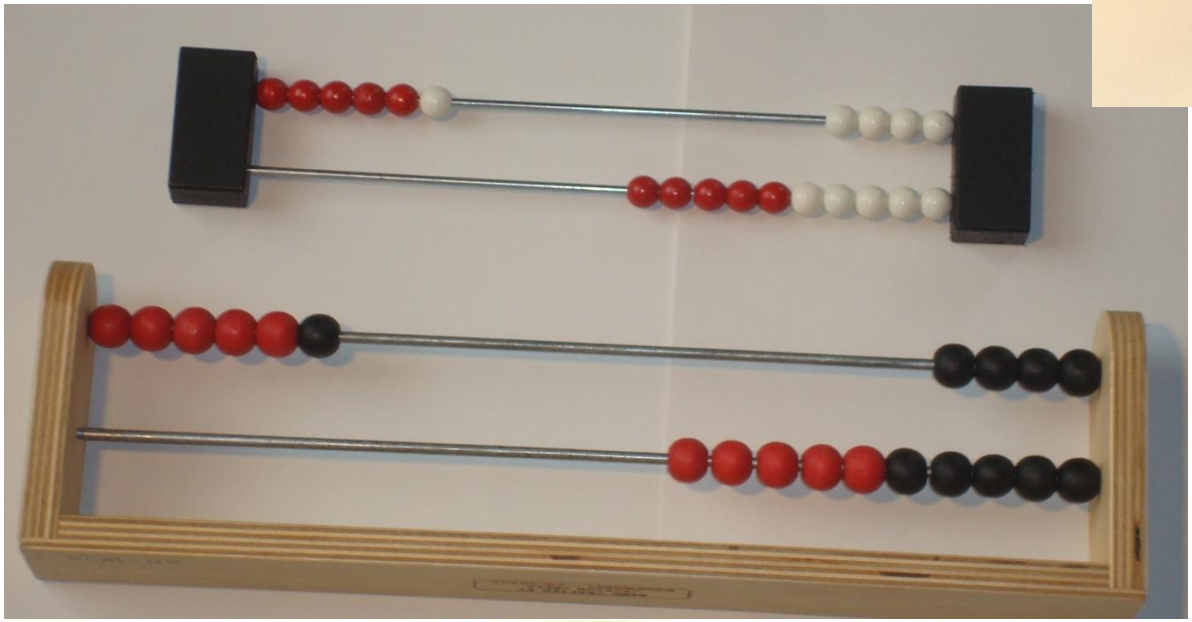
**Teacher Notes:** Alternate link



KENTUCKY CENTER FOR MATHEMATICS

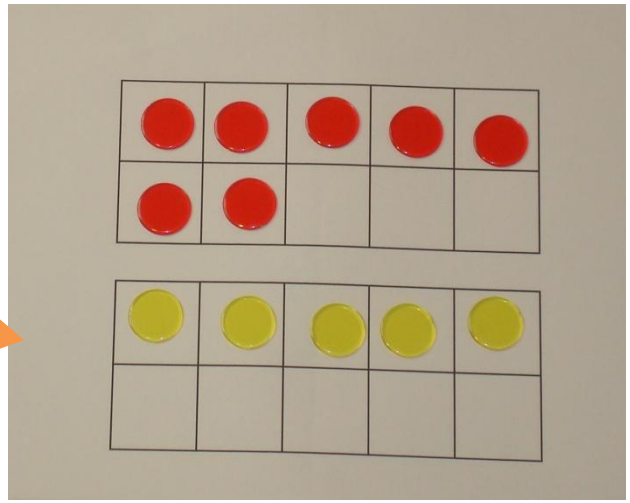
# Tools for Structuring

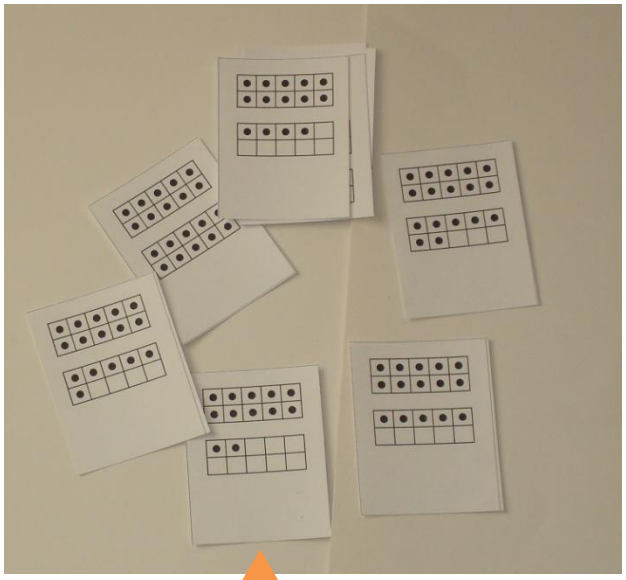




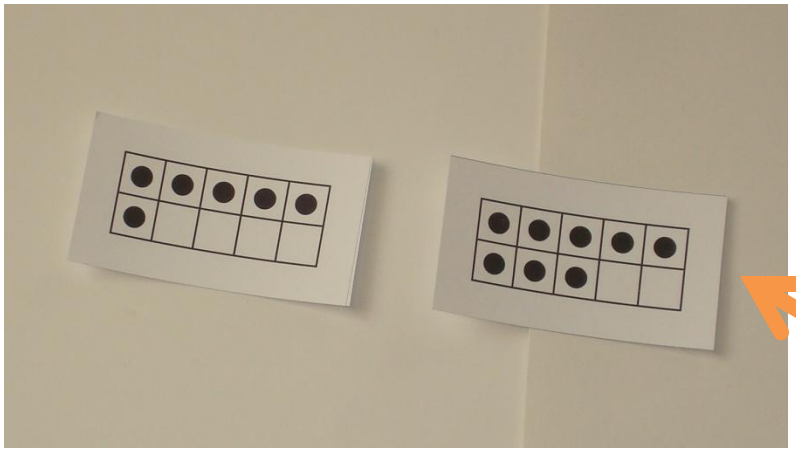
# Double 10 frames

Loose counters placed on a pair of empty 10 frames





Cards showing a pair of 10 frames already filled in



Laying two 10 frames next to each other

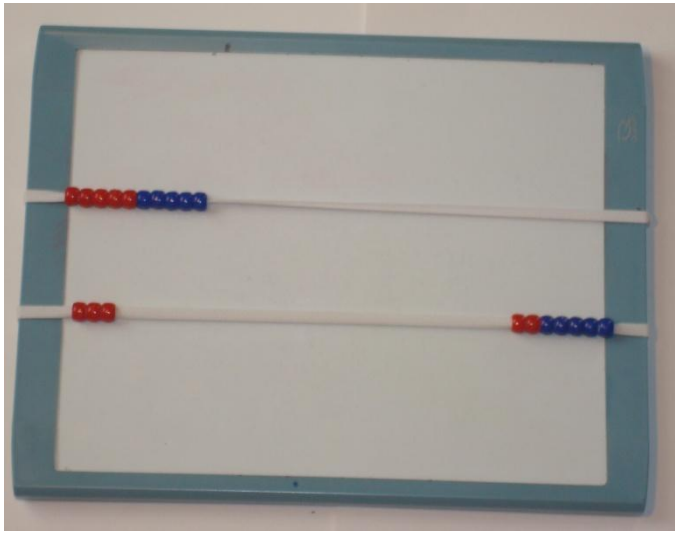
# Fingers

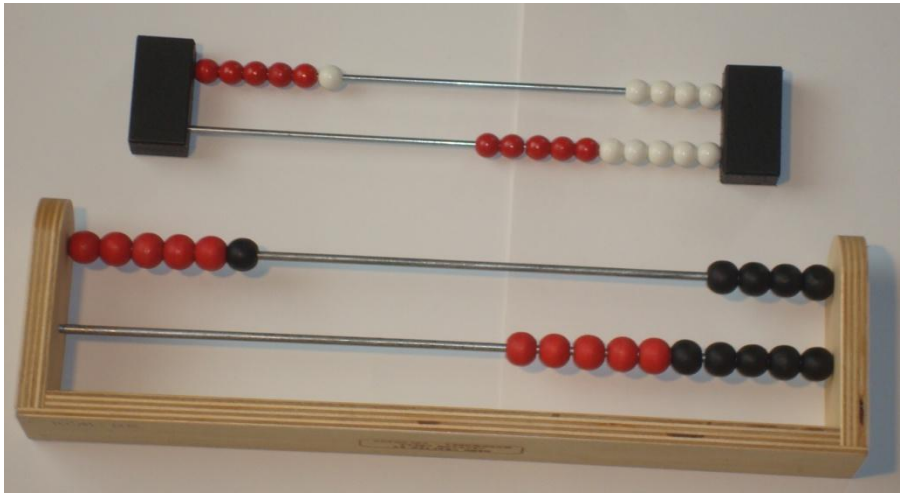
Partners can work together to quantities up to 20

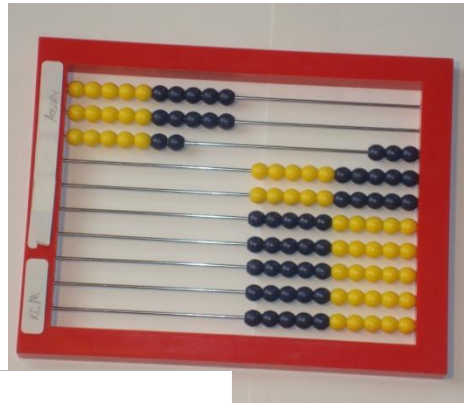
# Bead Racks

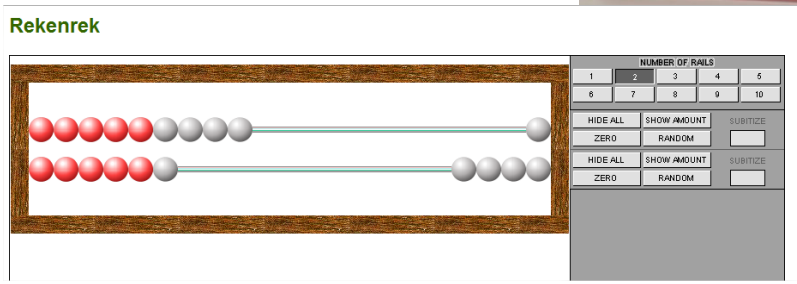
- Sometimes called a “mathrack” or “rekenrek”

- Come in a variety of configurations





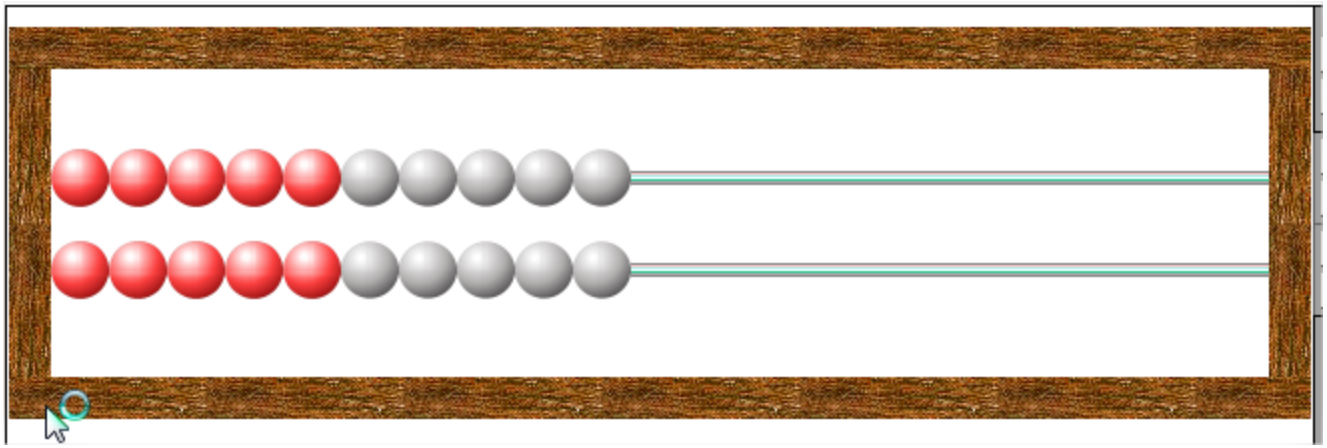




# Bead Racks

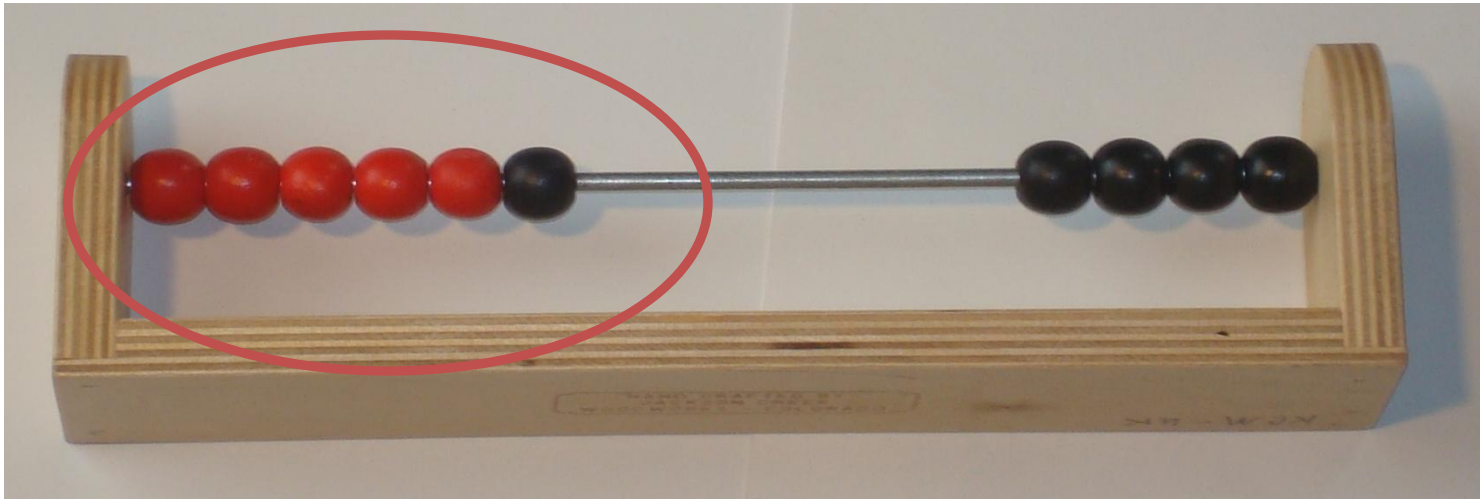
Most bead racks are arranged in rows of 10 beads.

Each row of 10 has 5 beads in one color, 5 in another.



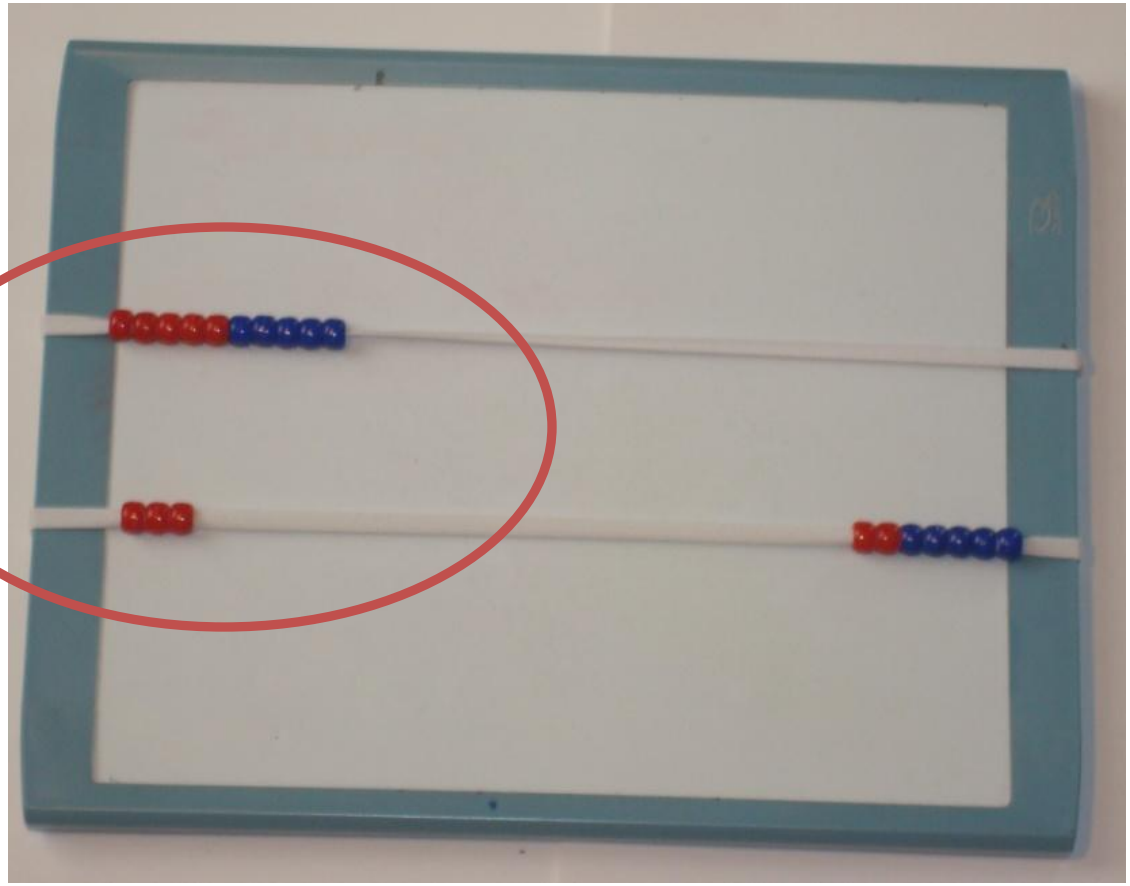
# Bead Racks

We “read” a math rack by looking at the beads on the left.



This rack shows 6 beads ….. with 4 leftover

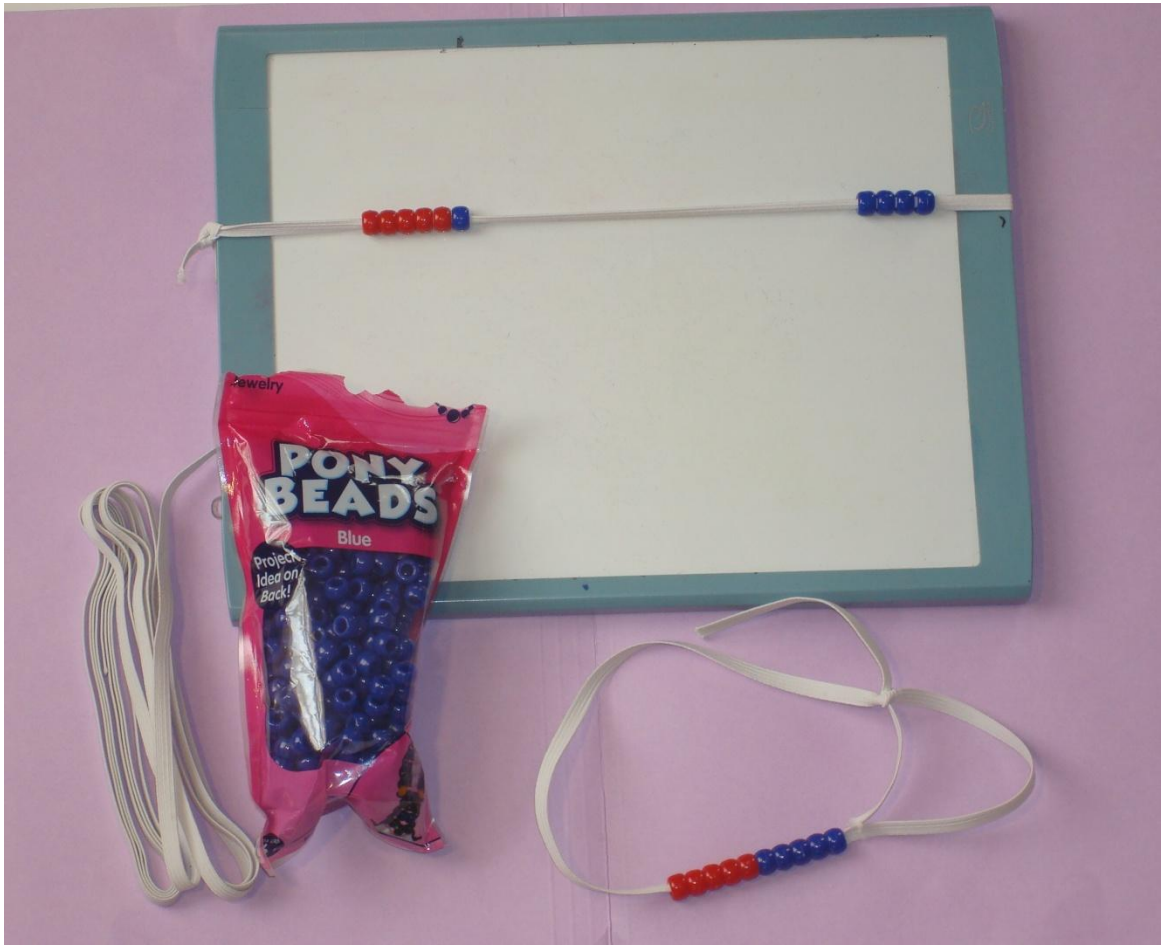
# Bead Racks



This rack shows 13 beads (10 on top and 3 on bottom)

There are 7 leftover

# Bead Racks




Materials:

- Sewing elastic (either 1/8 or ¼ inch wide)
- Plastic pony beads in two colors (your choice of colors)

Directions:

Thread beads onto elastic, cut elastic to fit and tie elastic to form a loop. Stretch loop(s) around a student dry erase board.

# S 295 Task group

| KNP Entry | | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct/L | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295 | S 295.0 | K.OA.1 Represent addition and subtraction with objects, fingers | Operations and Algebraic | Understand addition as putting | regular pattern dot cards to 6 | Flashed images: Flash* a dot card. Ask "what do you see?" or "How many dots?" If needed, flash card again. | Structuring | 0 RED | intermediate | ... recognize regular dot patterns to 6 | Flash* a card showing 4 dots arranged in a regular dice pattern. Ask how many dots | various |
| 295.1 | S 295.1 | K.OA.1 Represent addition and subtraction with objects, fingers | Operations and Algebraic | Understand addition as putting | dot cards showing up to 5 dots in either 1 or 2 | Flashed images: Flash* a dot card. Ask "How many dots?" When appropriate, ask about any groups visible in the card. For example, if flashing a 1 & 3 domino, ask | Structuring | 0 to 1 RED | facile | ... subitize* quantities to 5 | Flash* a dot card with 2 red dots and 3 blue dots. Ask student "How many dots?" | various |
| 295.2 | S 295.2 | K.OA.2 Solve addition and subtraction word problems, and add | Operations and Algebraic | Understand addition as putting | dot cards showing 5 to 10 dots in a pair-wise* or | Flashed images: Flash* a card. Ask "How many?" When appropriate, ask about any groups visible on the card. For example, if showing a finger pattern card with 5 fingers | Structuring | 1 to 2 BLUE | intermediate | ... recognize quantities up to 10 shown either five- | Hold up 7 fingers (5 on one hand, 2 on other) for 2-3 seconds. Ask student "How many | various |
| 295.3 | S 295.3 | K.OA.2 Solve addition and subtraction word problems, and add | Operations and Algebraic | Understand addition as putting | dot cards showing up to 10 dots in either 1 or | Flashed images: Flash* a card. Ask "How many?" When appropriate, ask about any groups visible on the card. For example, if flashing a card with 4 blue dots and 3 green | Structuring | 2 to 3 GREEN | facile | ... quickly determine the number of dots in a | Flash* a domino with 6 and 2 dots. Ask student "What do you see?" If needed | various |
| 295.4 | S 295.4 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and | Operations and Algebraic | Add and subtract within 20 | double 10 frame or twenty frame cards (see | Flashed images: Flash* a frame card. Ask student to say (or write) the number of dots. If desired, ask about the number of dots on each row. Alternatively, quantities | Structuring | 3 to 4 | intermediate | ... recognize quantities 11 to 20 shown in either a ten- | Use a double bead rack*, flash* 14 (shown as 7 & 7). Ask student "What do you | various |
| 295.5 | S 295.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies. 2 By end of | Operation & Algebraic | Add and subtract within 20 | 10 frames (1 to 10 - 2 each, see link) or bead rack* | Flashed images: Place two 10 frames under a cover. Briefly lift cover to show the pair. Ask student to say (or write) the total number of dots and the number of dots on | Structuring | 4 to 5 PINK | facile | ... fluently add two sets of dots or beads when each set | Using a double bead rack*, flash 14 (shown as 8 and 6). Ask student "What do you | various |

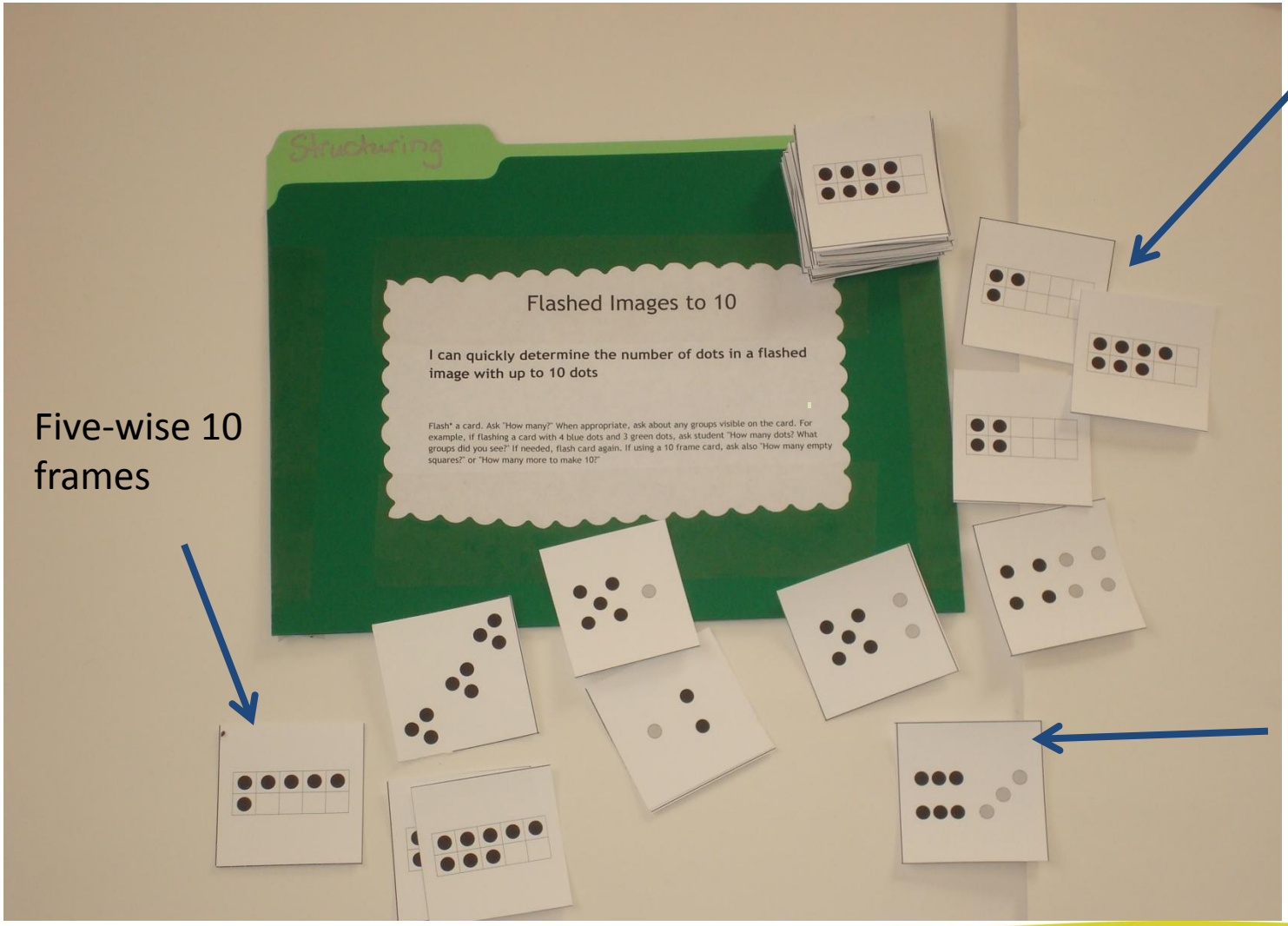
# AVMR Levels and Folders

| KNP Entry | Level | Folder Color | Numeracy Target |
|---|---|---|---|
| S 295.0 | 0 | RED | structures to five |
| S 295.1 | 0 to 1 | | |
| S 295.2 | 1 to 2 | BLUE | structures to ten |
| S 295.3 | 2 to 3 | GREEN | |
| S 295.4 | 3 to 4 | PURPLE | structures to twenty |
| S 295.5 | 4 to 5 | PINK | |

# S 295.3

| KNP Entry | | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295.3 | S 295.3 | K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. | Operations and Algebraic Thinking | Understand addition as putting together & adding to, subtraction as taking apart & taking from | dot cards showing up to 10 dots in either 1 or 2 colors, dominoes with sums up to 10 and/or 10 frame cards (see link) | Flashed images: Flash* a card. Ask "How many?" When appropriate, ask about any groups visible on the card. For example, if flashing a card with 4 blue dots and 3 green dots, ask student "How many dots? What groups did you see?" If needed, flash card again. If using a 10 frame card, ask also "How many empty squares?" or "How many more to make 10?" | Structuring | 2 to 3 GREEN | Tactile structures to | ... quickly determine the number of dots in a flashed image with up to 10 dots | Flash* a domino with 6 and 2 dots. Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each side. Repeat with the 3&4 domino. If desired, continue with other dominos or with dot cards. | various |
| | | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and | | | | | | | | | Use a double bead | |

# S 295.3




Pair-wise 10 frames

Five-wise 10 frames

Dot cards to 10

# S 295.3

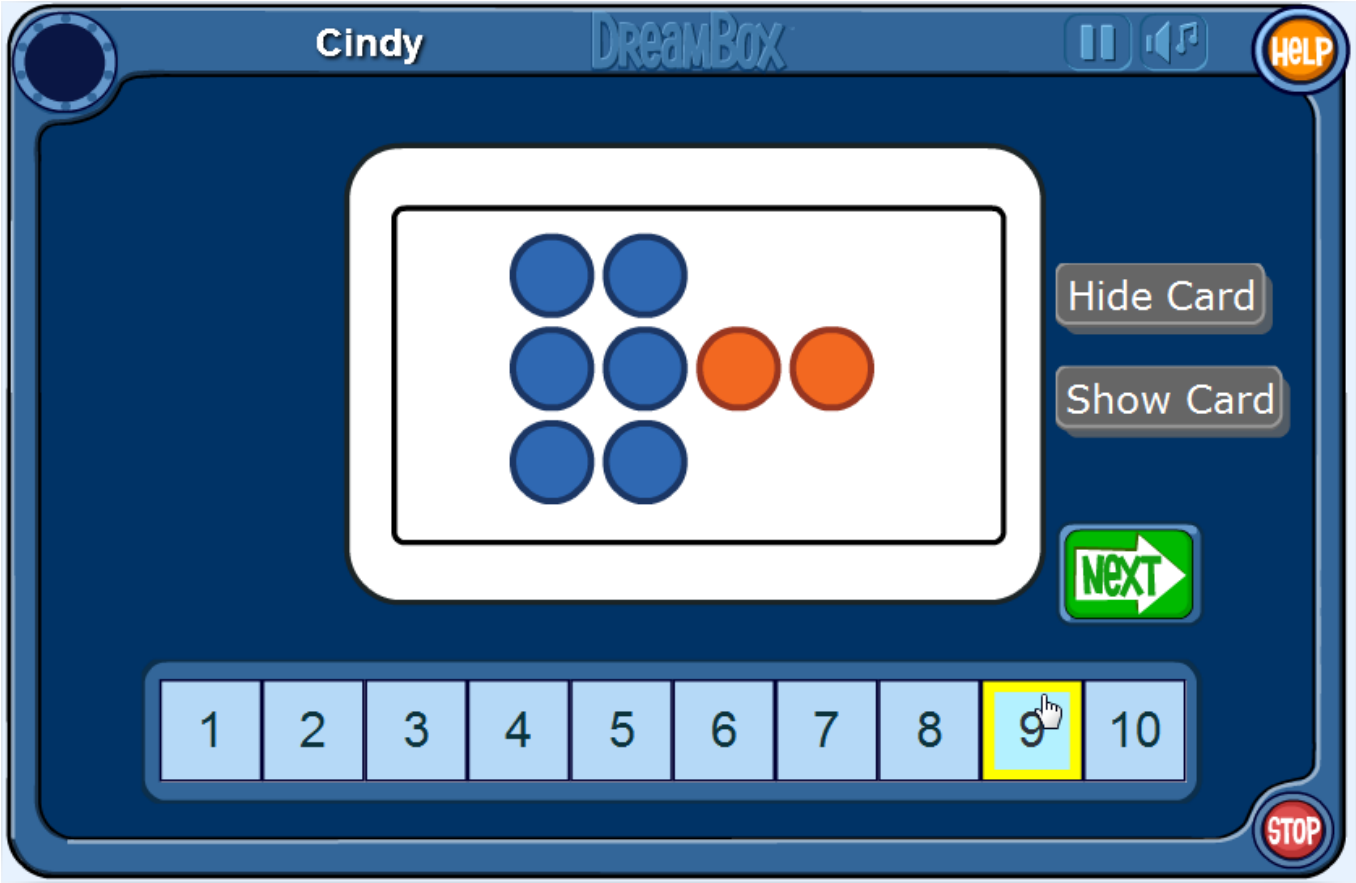
| rning | Numeracy | Construct/L | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Ask "How about any xample, if nd 3 green ots? What flash card , ask also How many | Structuring | 2 to 3 GREEN | facile structures to ten | ... quickly determine the number of dots in a flashed image with up to 10 dots | Flash* a domino with 6 and 2 dots. Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each side. Repeat with the 3&4 domino. If desired, continue with other dominos or with dot cards. | various | | http://teachmath.openschoolnetwork.ca/Subitizing.htm | http://www.dreambox.com/teachertools-quick-images | | Printables and examples of dot cards are available using the print link. Dot cards can be made by placing sticker dots on index cards or paper plates. In addition to dot cards, other images such as 10 frames & finger patterns can be used. The goal is for student to subitize* sub-groups and then determine the whole without counting by ones. At this point, students should be linking to and building on the standard structures (i.e. doubles and five-wise) that they learned in entry 294.2. For example, if student is flashed the domino with 4 &3, a student should immediately recognize the "4" and "3". The student might reason, "since 3 and 3 is 6, this is 7 in all". Similarly, if a student is flashed the domino 6 & 2, the student might reason "I know 5& 3 is 8 so that is 9." The interactive website link is to the Dreambox teacher tools. There you can use the "Quick images" lesson "Numbergram from 4 to 10" to show a variety of dot patterns to 10 using a projector. Also, the website hosted by the Freudenthal institute (see the interactive website link for S 294.2) has a dice activity and an egg carton activity that children can play. |

# Dreambox Teacher Tools

## Lesson: Numbergram 4 to 10

### Questions

- What do you see?
- How many dots?
- How many blue dots?
- How many orange dots?
- How did you figure it out?

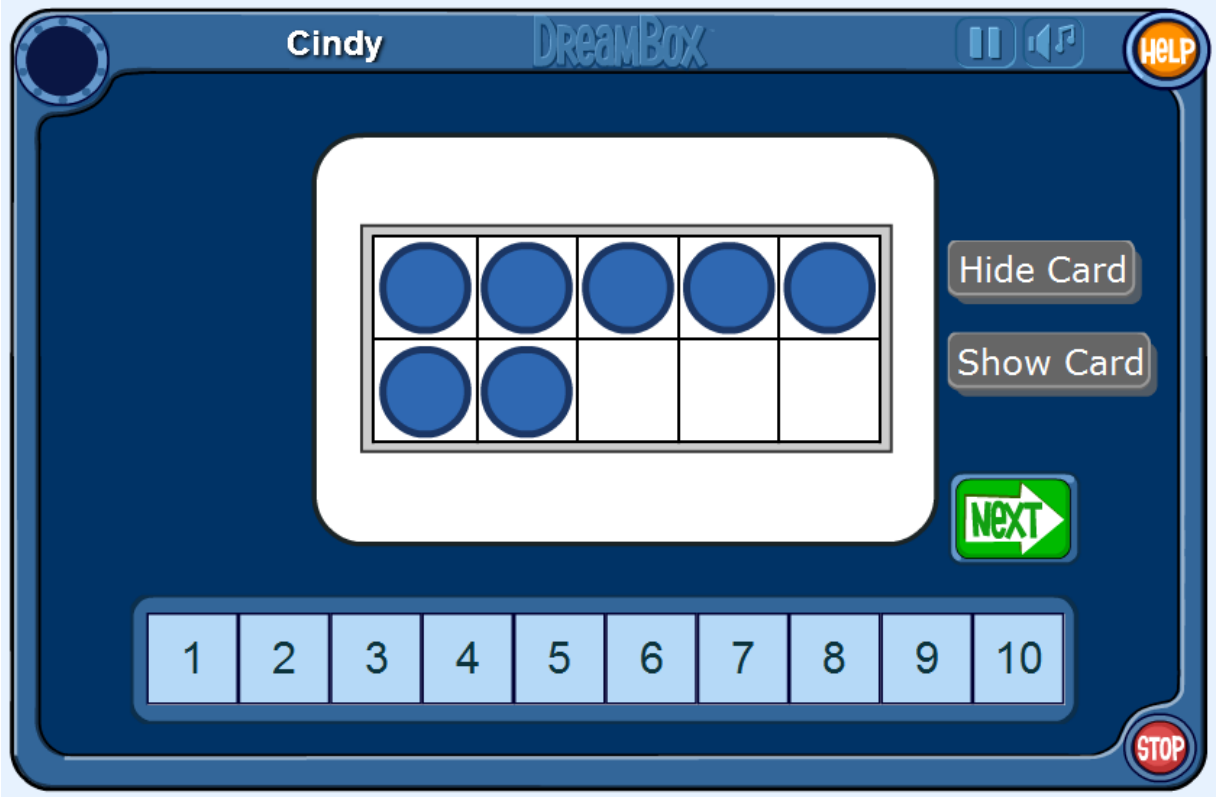


# Dreambox Teacher Tools

## Lesson: 10 frame 4 to 10

## Questions

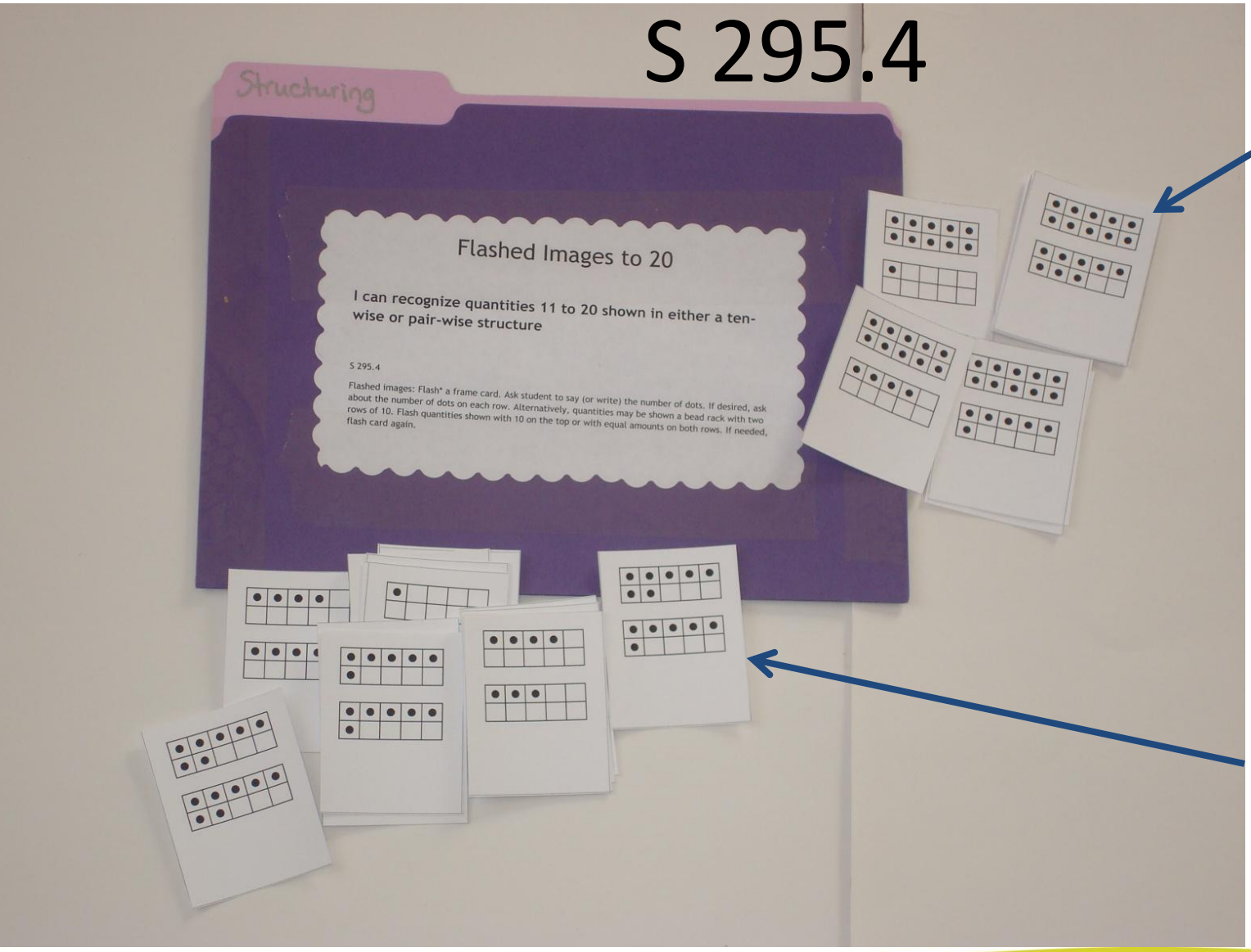
- What do you see?
- How many dots?
- How many in the top row?
- How many in the bottom row?
- Show me what you see on your fingers? How many fingers on your right hand? On your left?
- How many are empty? How many more to make 10?



# S 295.4

| KNP Entry | | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295.4 | S 295.4 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. 8+6=8+2+4=10+4=14); decomposing a number leading to a ten (e.g. 13-4=13-3-1=10-1=9); use the relationship between addition and subtraction (e.g. know that 8 + 4 = 12, one knows 12 - 8 = | Operations and Algebraic Thinking | Add and subtract within 20 | double 10 frame or twenty frame cards (see link) showing up to 20 dots in a pair-wise* or ten-wise* arrangement or a double bead rack* | Flashed images: Flash* a frame card. Ask student to say (or write) the number of dots. If desired, ask about the number of dots on each row. Alternatively, quantities may be shown a bead rack with two rows of 10. Flash quantities shown with 10 on the top or with equal amounts on both rows. If needed, flash card again. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... recognize quantities 11 to 20 shown in either a ten-wise or pair-wise structure | Use a double bead rack*, flash* 14 (shown as 7 & 7). Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each row. Similarly, show 16 (shown as 10 & 6) and show 18 (shown as 9&9). Continue with other amounts. | various |
| | | | | | | Flashed images: Place two 10 frames under | | | | | Using a double bead | |

# S 295.4




Double 10 frames arranged **ten-wise**

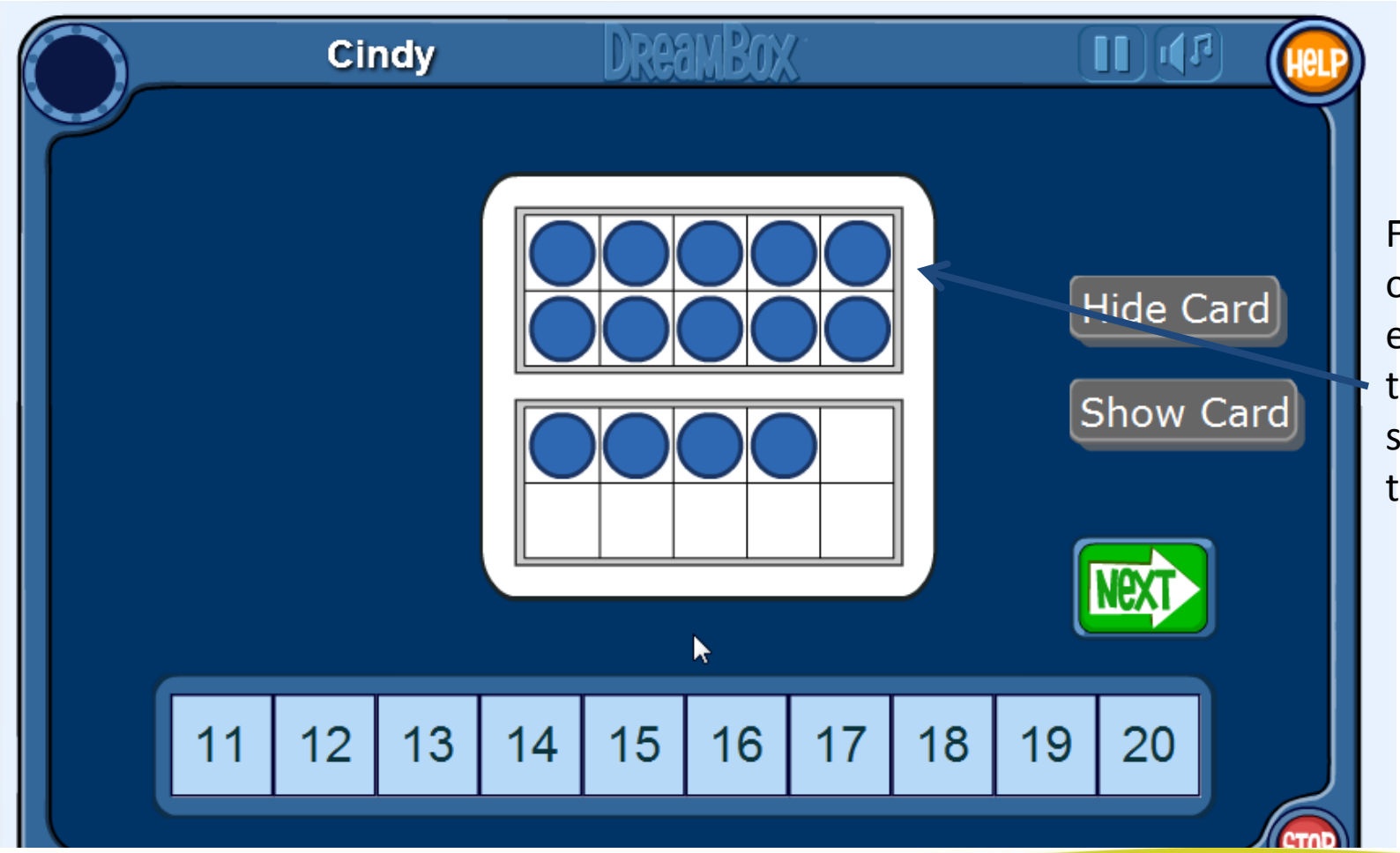
Double 10 frames arranged **pair-wise**

# S 295.4

| ning | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| card. Ask mber of umber of quantities wo rows of 10 on the h rows. If . | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... recognize quantities 11 to 20 shown in either a ten-wise or pair-wise structure | Use a double bead rack*, flash* 14 (shown as 7 & 7). Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each row. Similarly, show 16 (shown as 10 & 6) and show 18 (shown as 9&9). Continue with other amounts. | various | | http://www.kymath.org/intervention/doc/NumeracyProject/S295-4.pdf | http://www.dreambox.com/teachertools-quick-images | | The interactive website link is to the Dreambox teacher tools. There you can use the "Quick images" lessons "Ten frame from 11 to 20"; "One-Wire Mathrack from 4 to 10"; "Two-Wire Mathrack from 11 to 20" and "Two-Wire Mathrack from 4 to 20 (displayed as doubles)" to show a variety of 10+ and pair-wise images using a projector. Also, the website hosted by the Freudenthal institute (see the interactive website link for S 294.2)has a beadrack to 20 activity that children can play. To use a virtual beadrack where the user determines the amount shown, use the interactive website link for activity S 295.5. |
| mes under | | | | | Using a double bead | | | oj | N | | If students are working on a beadrack without a teacher, the |

# Dreambox Teacher Tools

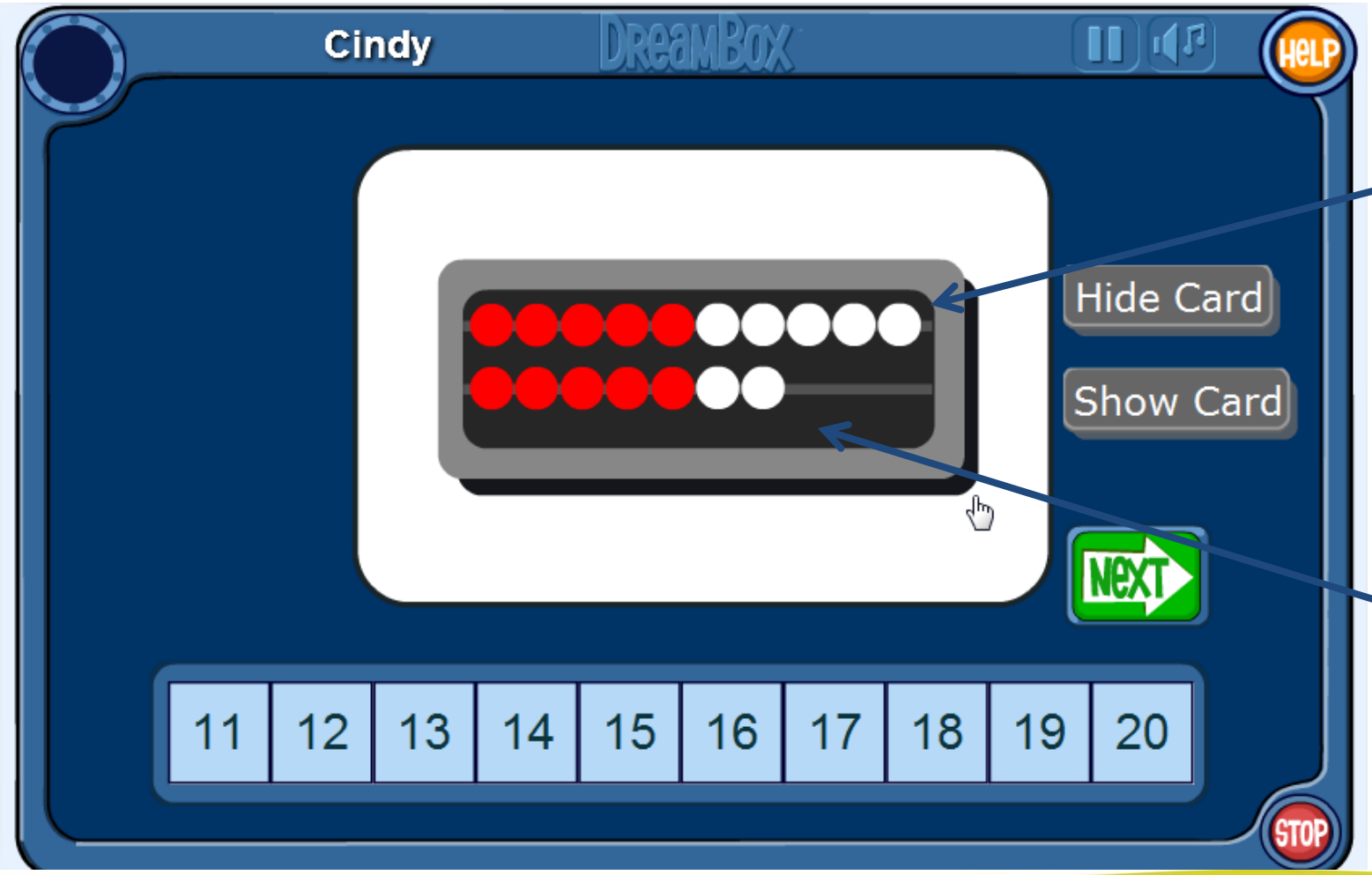
## Lesson: 10 frame from 11 to 20




Full 10 frame on top emphasizes the ten-wise structure of teen numbers

# Dreambox Teacher Tools

## Lesson: Two-wire mathrack from 11 to 20

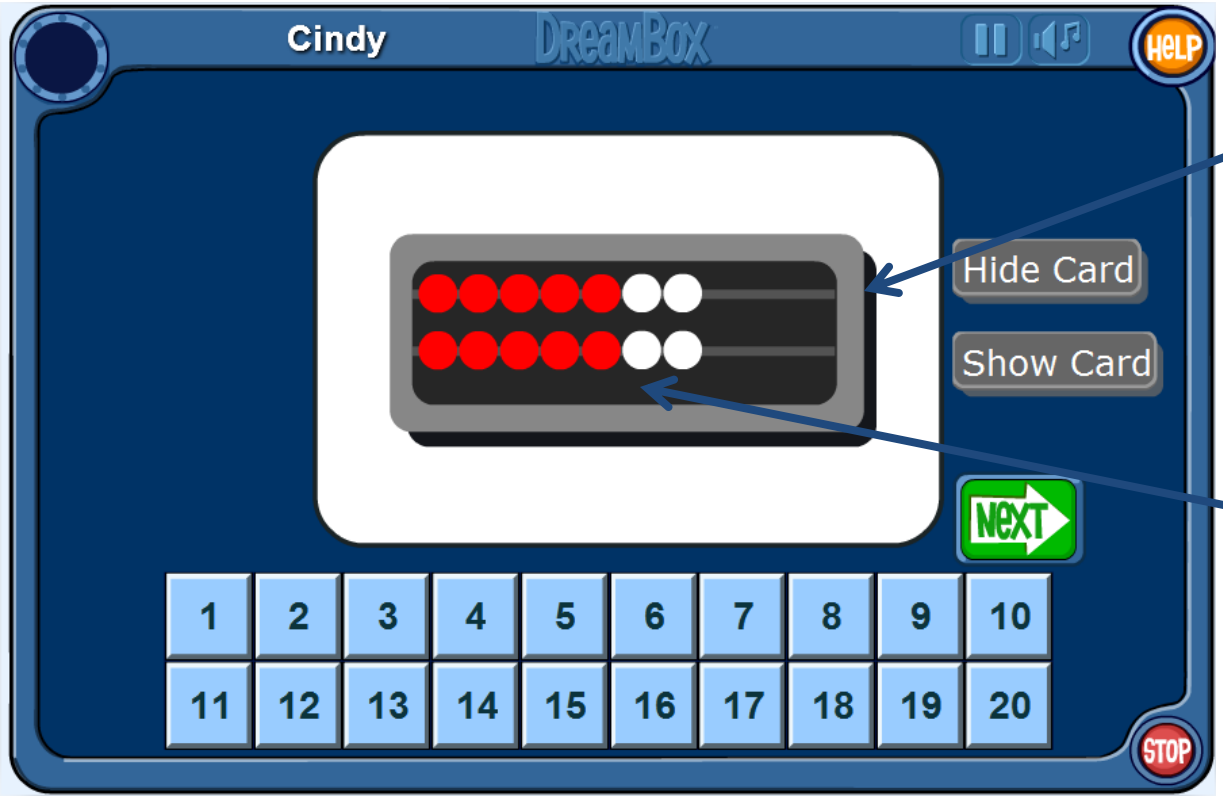



Full row of 10 on top

Red and white five-wise structure of 7

# Dreambox Teacher Tools

## Lesson: Two-wire mathrack from 4 to 20 (displayed as doubles)

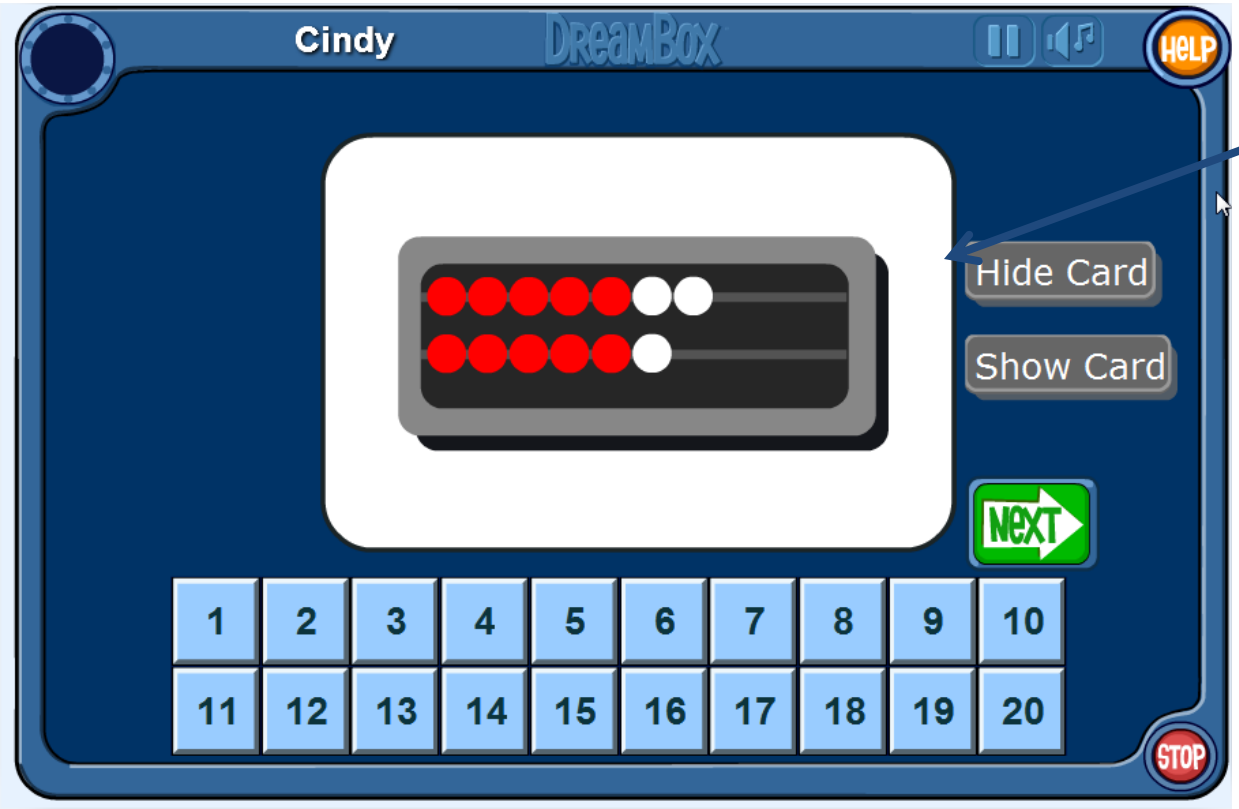



Equal amounts top & bottom

Red and white five-wise structure of 7

# Dreambox Teacher Tools

## Lesson: Two-wire mathrack from 4 to 20 (displayed as doubles)

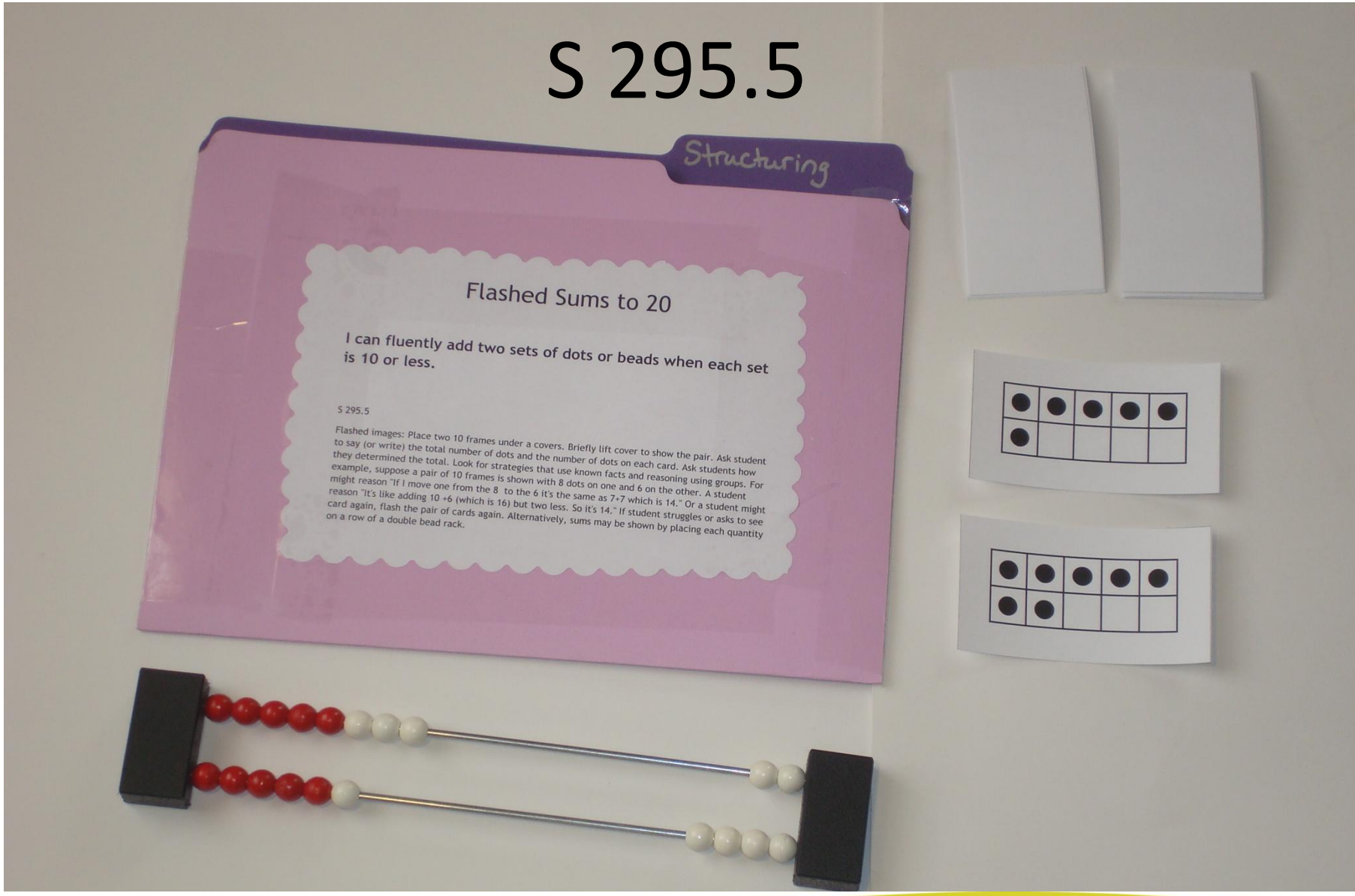



Near doubles arrangement for odd quantities

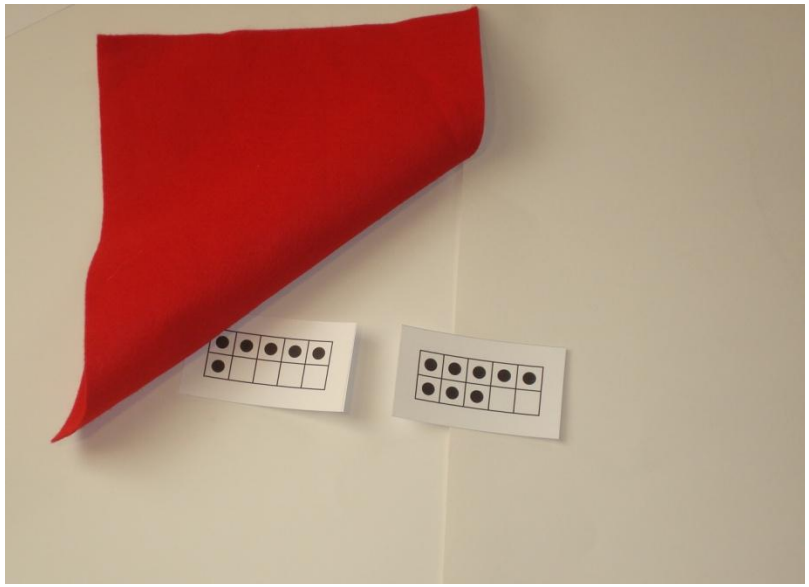
# S 295.5

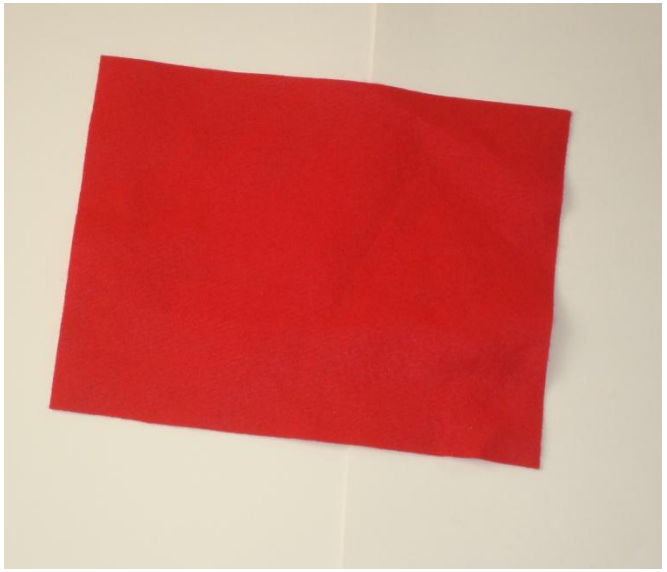
| KNP Entry | | Kentucky Common Core Academic Standard (KCAS) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numerac | Constru | Numerac | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Groupin | Video |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 295.5 | S 295.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operation & Algebraic Thinking | Add and subtract within 20 | 10 frames (1 to 10 - 2 each, see link) or bead rack* with 2 rows of 10 beads | Flashed images: Place two 10 frames under a covers. Briefly lift cover to show the pair. Ask student to say (or write) the total number of dots and the number of dots on each card. Ask students how they determined the total. Look for strategies that use known facts and reasoning using groups. For example, suppose a pair of 10 frames is shown with 8 dots on one and 6 on the other. A student might reason "If I move one from the 8 to the 6 it's the same as 7+7 which is 14." Or a student might reason "It's like adding 10 +6 (which is 16) but two less. So it's 14." If student struggles or asks to see card again, flash the pair of cards again. Alternatively, sums may be shown by placing each quantity on a row of a double bead rack. | Structuring | 4 to 5 PINK | facile structures to twenty | ... fluently add two sets of dots or beads when each set is 10 or less. | Using a double bead rack*, flash 14 (shown as 8 and 6). Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each row. Repeat showing 17 (as 9 & 8) and 13 (shown as 5 and 8). If desired, continue with other amounts. Look for explanations that show student is not counting by ones to determine the total. | various | |
| | | | | | | | | | | | | | |

# S 295.5


Structuring
Flashed Sums to 20
I can fluently add two sets of dots or beads when each set is 10 or less.
S 295.5
Flashed images: Place two 10 frames under a covers. Briefly lift cover to show the pair. Ask student to say (or write) the total number of dots and the number of dots on each card. Ask students how they determined the total. Look for strategies that use known facts and reasoning using groups. For example, suppose a pair of 10 frames is shown with 8 dots on one and 6 on the other. A student might reason "If I move one from the 8 to the 6 it's the same as 7+7 which is 14." Or a student might reason "It's like adding 10 +6 (which is 16) but two less. So it's 14." If student struggles or asks to see card again, flash the pair of cards again. Alternatively, sums may be shown by placing each quantity on a row of a double bead rack.

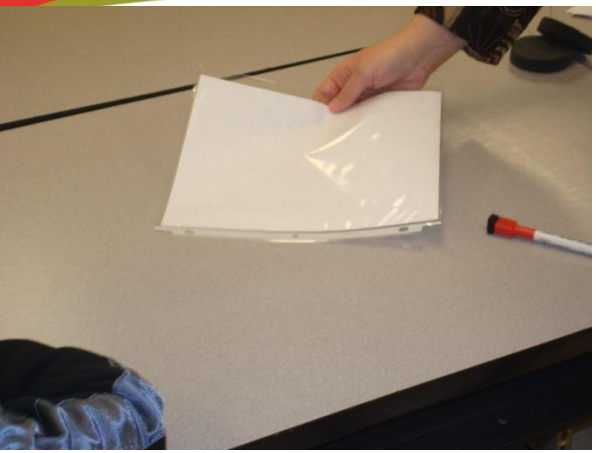
# S 295.5





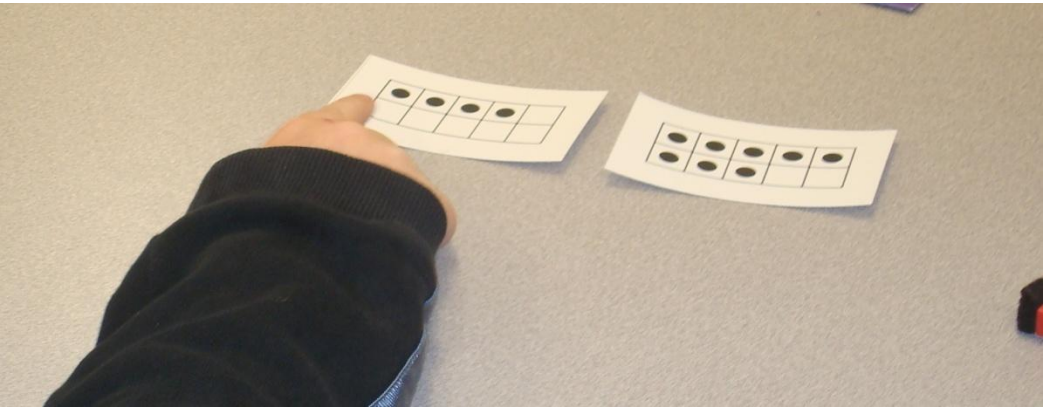
Show the pair of 10 frames briefly, then screen.

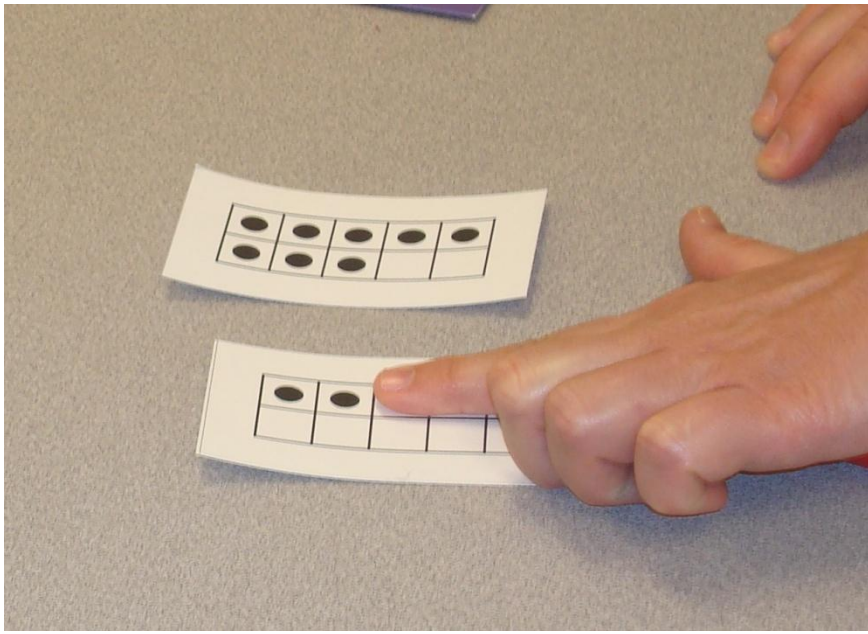
What did you see?
How many dots?
How much on each card?
How did you figure that out?
Is there another way to figure that out?



# S 295.5

Flash pair of cards briefly
Prompt for multiple ways to solve



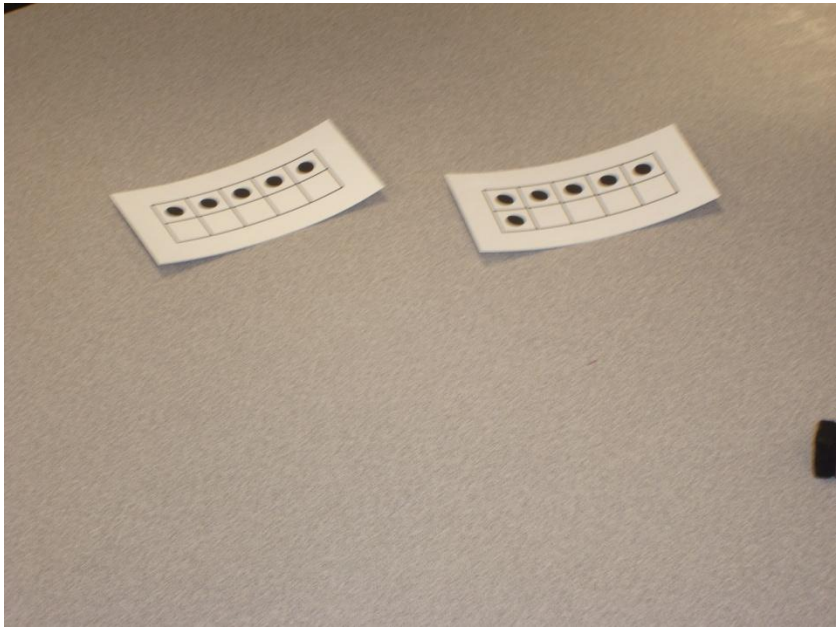


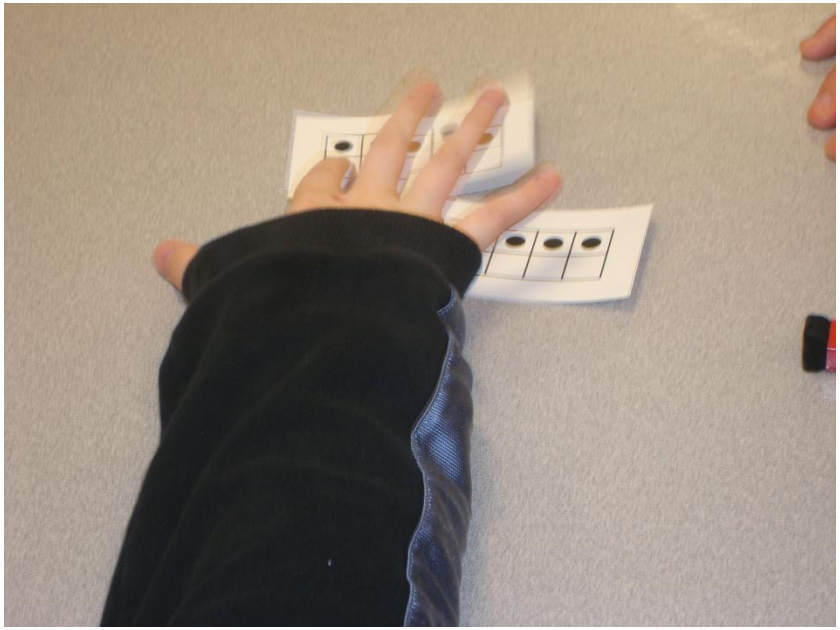
"I counted… 9, 10, 11, 12:

"You could move 2 from the 4 to the 8. Then it's 10 and 2…that's 12."

# S 295.5

Look for non-counting strategies





“You can put the 5 and 5 together and then there’s one more… it’s 11”

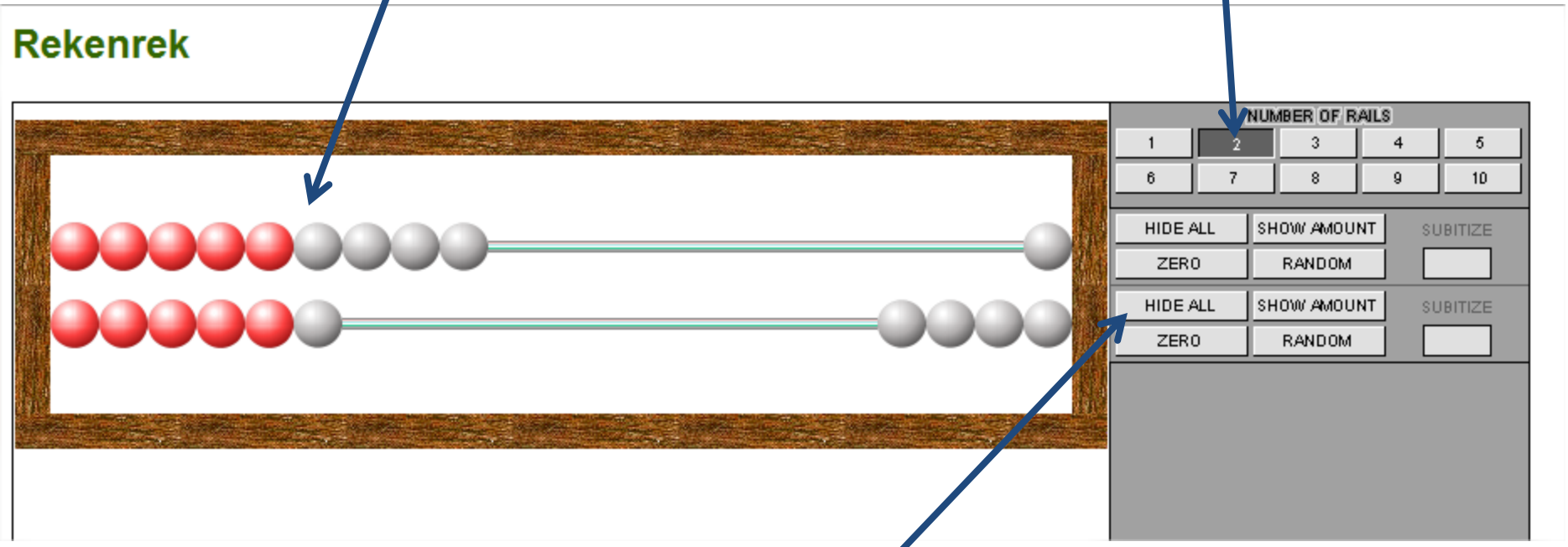
# S 295.5

| ...ing | Numeracy | Construct/L | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ...nes under the pair. e total f dots on they rategies ng using air of 10 ne and 6 ason "If I the same t might ich is 16) udent in, flash ely, sums ntity on a . | Structuring | 4 to 5 PINK | facile structures to twenty | ... fluently add two sets of dots or beads when each set is 10 or less. | Using a double bead rack*, flash 14 (shown as 8 and 6). Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each row. Repeat showing 17 (as 9 & 8) and 13 (shown as 5 and 8). If desired, continue with other amounts. Look for explanations that show student is not counting by ones to determine the total. | various | | http://www.kymath.org/intervention/doc/NumeracyProject/S295-5.pdf | http://www.ronblond.com/MathGlossary/Division01/RekenrekEKENREK/index.html | | If students are working on a beadrack without a teacher, the students can use a 0 to 9 die to determine how many beads to place on each row. If the teacher is generating the tasks, the teacher can choose problems to bring out specific ideas (such as adding through 10 or near doubles). The teacher should invite students to share multiple strategies for working out each problem. If using the beadrack, the student or teacher can move beads to help illustrate a strategy. The interactive website link is for a virtual bead rack. With this beadrack, the teacher can control the number of rows (up to 10 rows) and the amount on each row. Click on the beads or enter an number in the box to move beads on the rack. The matching numeral can be shown by clicking "show amount" or turned off by clicking "hide amount". Click "hide all" to hide the beads of the row. When hidden, click "subitize" to briefly show the row. A minor drawback is that the subitize appears to work for only one row at a time. However, the webpage can be minimized to "screen" rack. |

# Virtual Rekenrek (Beadrack)

Choose number of wires

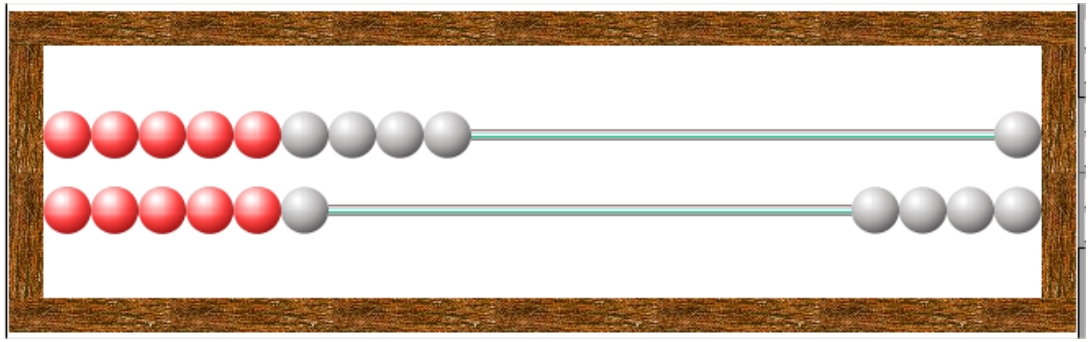
Click on beads to move them




Click on HIDE ALL to hide the beads

# Virtual Rekenrek (Bead Rack)

9+6



Possible solutions:

I imagined moving a bead from the bottom to the top.
That's 10 + 5 which is 15.

It's like 10 + 6 but it's one less so it's 15.

I saw 10 red beads and 5 white beads so that's 15.

# S 295


Structuring
Flashed Sums to 20
I can fluently add two sets of dots or beads when each set is 10 or less.
Structuring
Flashed Images to 20
Structuring
Flashed Images to 10
I can quickly determine the number of dots in a flashed image with up to 10 dots
Flash* a card. Ask "How many?" When appropriate, ask about any groups visible on the card. For example, if flashing a card with 4 blue dots and 3 green dots, ask student "How many dots? What groups did you see?" If needed, flash card again. If using a 10 frame card, ask also "How many empty squares?" or "How many more to make 10?"

# Task group 267

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy |
|---|---|---|---|---|---|---|
| S 267.0 | K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal | Operations and Algebraic | Understand addition as | fingers | Finger patterns: Teacher will say "Show me 5 fingers." Repeat for other quantities 1 to 5. Students may initially need to look at fingers or raise fingers sequentially. Teacher may ask students to make a fist between each pattern. Teacher may | Structuring |
| S 267.1 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each | Operations and Algebraic | Understand addition as | fingers | Finger patterns: Teacher will say "Show me 5 fingers. Show me 4 fingers. How many fingers are up? How many fingers are down?" If needed, clarify that the question refers to the fingers on one hand only. Continue with other quantities to 5. | Structuring |
| S 267.2 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each | Operations and Algebraic | Understand addition as | fingers | Finger patterns: Teacher will say "Show me 6 fingers. How many fingers did you put on your right hand? On your left?" Repeat for quantities 6 to 10. After student are confident, teacher may ask students to place their hands above their | Structuring |
| S 267.3 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each | Operations and Algebraic | Understand addition as | fingers | Finger Patterns: Teacher will say: "Put 3 fingers up on each hand. How many fingers do you have up in all?" Repeat for all doubles to 10 until students can answer quickly without counting. After students are confident, teacher will say "Show | Structuring |
| S 267.4 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. | Operations and Algebraic | Add and subtract | fingers | Finger patterns: Students work in a pairs. The teacher (or a student) will say a number in the range 6 to 10. Both students make that number on their fingers using a 5-wise arrangement. The students put together their "5" hands (to | Structuring |
| S 267.5 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. | Operations and Algebraic | Add and subtract | fingers | Finger patterns: Students work in pairs. The teacher (or a student) gives a target sum in the range 11 to 15. Students work together to put up that many fingers in all. Student say or write the related addition sentence. The teacher may add | Structuring |

# Finger Patterns

Kids can “create” the quantity in an instant!

# Finger patterns to 5

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S 267.0 | K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g. claps), acting out situations, verbal explanations, expressions or equations. | Operations and Algebraic Thinking | Understand addition as putting together and subtraction as taking apart and taking from | fingers | Finger patterns: Teacher will say "Show me 5 fingers." Repeat for other quantities 1 to 5. Students may initially need to look at fingers or raise fingers sequentially. Teacher may ask students to make a fist between each pattern. Teacher may ask students to place their hands above their heads (to prevent students from counting their fingers). Teacher might encourage students to raise fingers simultaneously by saying things like "Quick as you can, show me...". Teacher may ask students to use their other hand. | Structuring | 0 to 1 RED | intermediate structures to five | ... quickly show 1 to 5 fingers on one hand. | Say to student "Put your hand on your head. Quickly, show me 3." Repeat for other quantities 1 to 5. | independent / group / whole class | | | | This a a per initial ra Activ s simul th |
| S 267.1 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1) | Operations and Algebraic Thinking | Understand addition as putting together or adding to, subtraction as taking apart or | fingers | Finger patterns: Teacher will say "Show me 5 fingers. Show me 4 fingers. How many fingers are up? How many fingers are down?" If needed, clarify that the question refers to the fingers on one hand only. Continue with other quantities to 5. Teacher may alternatively ask "How many needed to make 5?". After students can answer quickly and without counting, ask student to hold his/her hand above his/her head while answering. | Structuring | 0 to 1 RED | facile structures to five | ...determine what goes with a number (1 to 5) to make 5. | Say to student "Put your hand on your head. Show me 2. How many fingers are down?" Repeat for other quantities 1 to 5. | independent / group / whole class | | | | T stude shou days an |

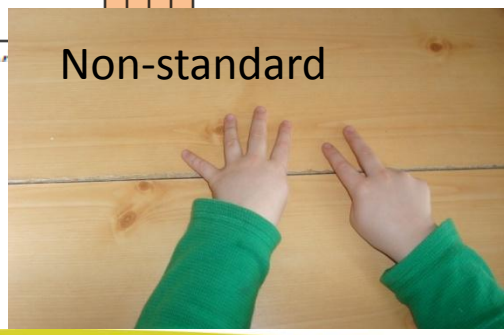
# Finger patterns to 10

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning | Student | Video Link | Print Link | Interactive | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S 267.2 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each deco draw (e.g | s and Algebraic Thinking | ddition as putting together or action as taking apart or taking | fingers | Finger patterns: Teacher will say "Show me 6 fingers. How many fingers did you put on your right hand? On your left?" Repeat for quantities 6 to 10. After student are confident, teacher may ask ts to place their hands ve their heads while oing the activity. | Structuring | 1 to 2 BLOC | intermediate structures to ten | ... show 6 to 10 on my fingers. | Say to student "Put your hands on your head. Quickly, show me 7. Now, show me 9." Repeat for quantities up to 10. | independent / group / whole class | | | | This activity should be do period of weeks after stu facile with 267.1. Stude initially need to look at fi raise fingers sequent Encourage students to "th finger patterns without co saying things like "show or "quick, put up __ fing students are showing oth five-wise arrangeme acknowledge their correct prompt for another way |
| | K.OA | | | | Patterns: Teacher will "Put 3 fingers up on | | | | | | | | | | his activity should be do |

# Finger patterns to 10

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning | Student | Video Link | Print Link | Interactive | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S 267.3 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). | Operations and Algebraic Thinking | derstand addition as putting together or adding to, subtraction as taking apart or taking from | fingers | Finger Patterns: Teacher will say: "Put 3 fingers up on each hand. How many fingers do you have up in all?" Repeat for all doubles to 10 until students can answer quickly without counting. After students are confident, teacher will say "Show 3 fingers on each hand. Now put up one more. How many fingers in all? How many on each hand?" Repeat for other near doubles. Teacher may | Structuring | 2 to 3 GREEN | facile structre to 10 | ... show on my fingers all the ways to equal sums 6 to 10 including pairwise and five-wise. | Say to student "Put your hands on your head. Quickly, show me 8. Show me 8 a different way. Show me 6. | | | | | This activity should be do period of weeks. Studer initially need to count fi raise fingers sequentially last step, look for stud quickly show quantities us wise and pair-wise arran without counting. Non-s configurations, such as s & 2 to make 6, are cer acceptable as wel |





# Finger patterns to 20

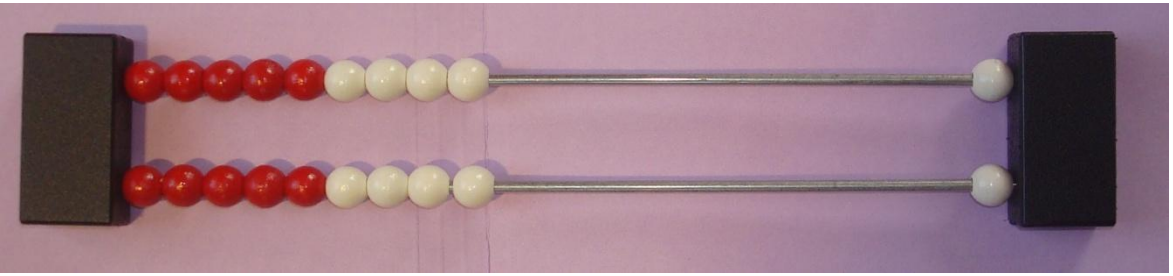
| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning | Student | Video Link | Print Link | Interactive | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S 267.4 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. 8+6=8+2+4=10+4=14 ); decomposing a number leading to a | Operations and Algebraic Thinking | Add and subtract within 20 | fingers | Finger patterns: Students work in a pairs. The teacher (or a student) will say a number in the range 6 to 10. Both students make that number on their fingers using a 5-wise arrangement. The students put together their "5" hands (to make 10) and their "non-5" hands (to makes a known double of 1 - total. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... determine the double of a number 6 through 10. | Teacher will say "Show me 7. What is 7+7?" Repeat for other quantities 6 to 10. | group / whole class | | | | Do this activity after students are proficient with creating five-wise fingers patterns and know the doubles of 1 to 5. Students should also know the 10+ structure of teens (i.e. 10+2 is 12). |

Students work together to make 7+7

# Finger patterns to 20

Working together to make 9+9

*5+5 is 10*
*4+4 is 8*
*Together it's 18!*



The bead rack setting supports similar thinking:

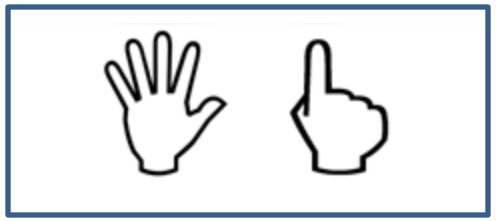
*5 red and 5 red makes 10*
*3 white and 3 white make 8*
*Together it's 18!*

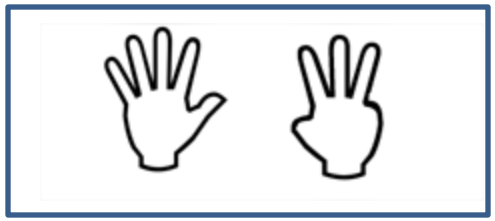
# Finger patterns to 20

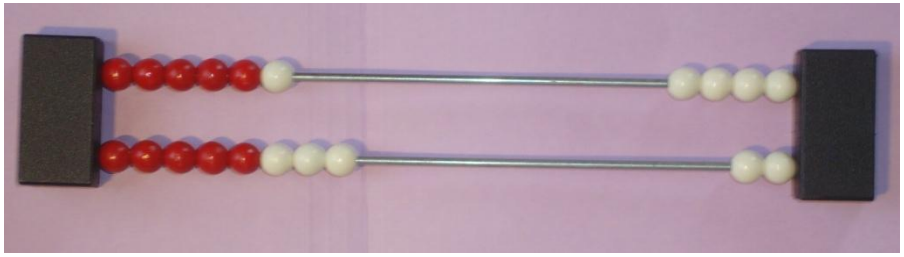
| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy | Construct | Numeracy | "I CAN ....." (*see glossary) | Assessment for Learning | Student | Video Link | Print Link | Interactive | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S 267.5 | 1.OA.6 Add and subtract within 20, demonstrate fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. 8+6=8+2+4=10+4=14 ); decomposing a number leading to a ten (e.g. 13-4=13-3-1=10-1=9); use the relationship between addition and subtraction (e.g. know that 8 + 4 = 12, one knows | Operations and Algebraic Thinking | Add and subtract within 20 | fingers | Finger patterns: Students work in pairs. The teacher (or a student) gives a target sum in the range 11 to 15. Students work together to put up that many fingers in all. Student say or write the related addition sentence. The teacher may add the requirement that students show the quantity as a double or near double. For example, if 15 is the number, one student would show 7 and the other student would show 8. | Structuring | 4 to 5 Pink | facile structures to twenty | ... solve missing addend for sums to 15 (or 20). | Give a target sum of 13. Show 7 on your fingers. Ask student to show on their fingers what goes with 7 to make 13. Repeat for other targets and starting values. | group / whole class | | | | The range of numbers may be extended to 20. |

# Finger patterns to 20

"Work together to show me 14 fingers"







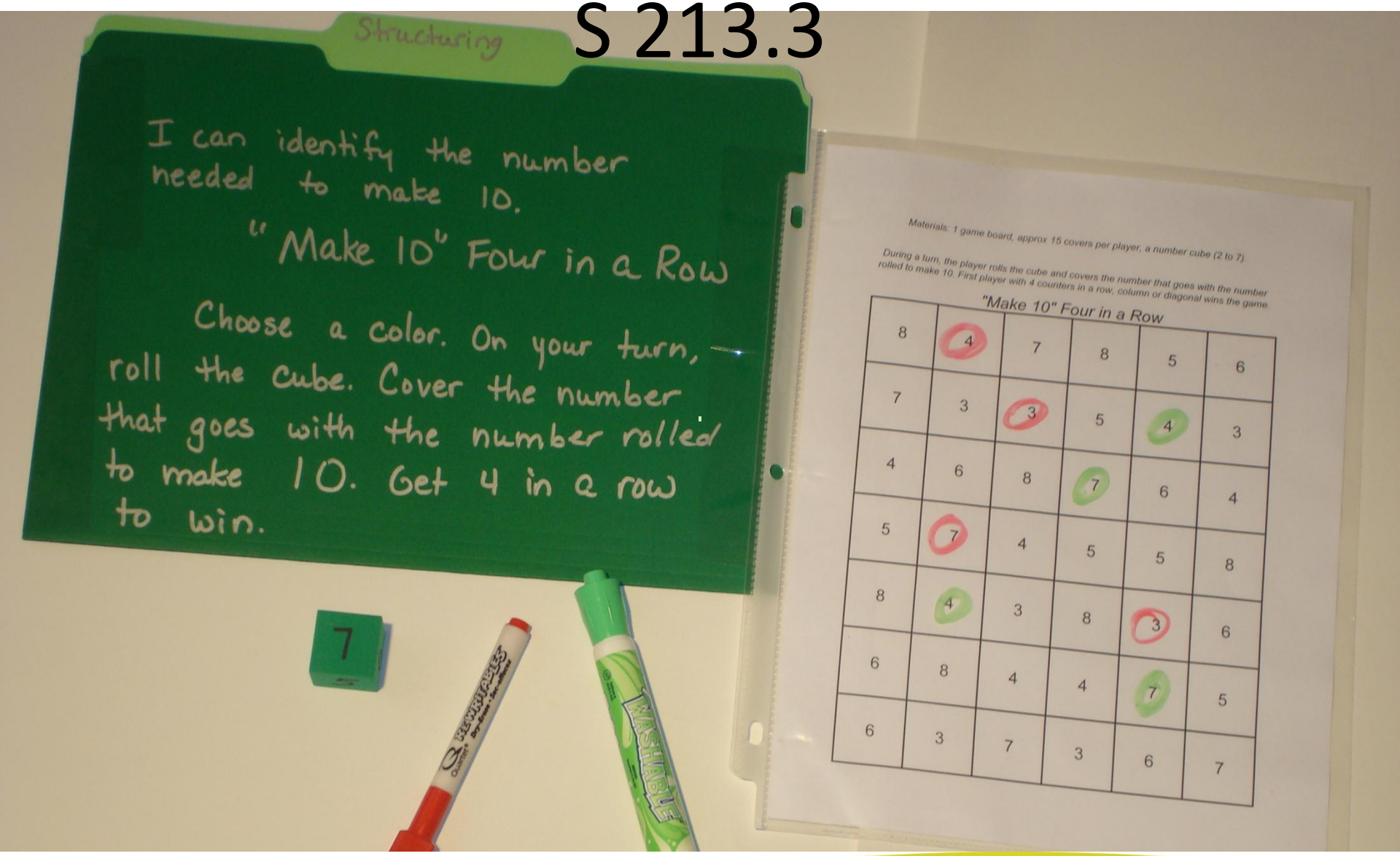
As an alternative, students can show the amount on a bead rack.

KENTUCKY CENTER FOR MATHEMATICS

# S 213.3

| KNP # no prefix | KNP# with prefix | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 213.3 | S 213.3 | K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. | Operations and Algebraic Thinking | Understand addition as putting together & adding to, subtraction as taking apart & taking from | 6X7 Four in a Row board with numbers 5-10 and die with numerals 2, 3, 4, 5, 6, 7 | Make 10 Four in a Row: Students roll the die and place a marker (counter, bean, piece of paper) on the number that goes with it to make 10. For example, if the student rolls a 4 they would mark a 6 on the board. Play ends when someone has 4 in a row. Students play together on one board in a group of 2-4. | Structuring | 2 to 3 GREEN | facile structures to ten | ... identify the number needed to make 10. | Ask student "tell me two numbers that go together to make 10." | small group / partners | |
| | | K.NBT.1 Compose and decompose numbers from 11 to | | ue | | | | | | | | | |

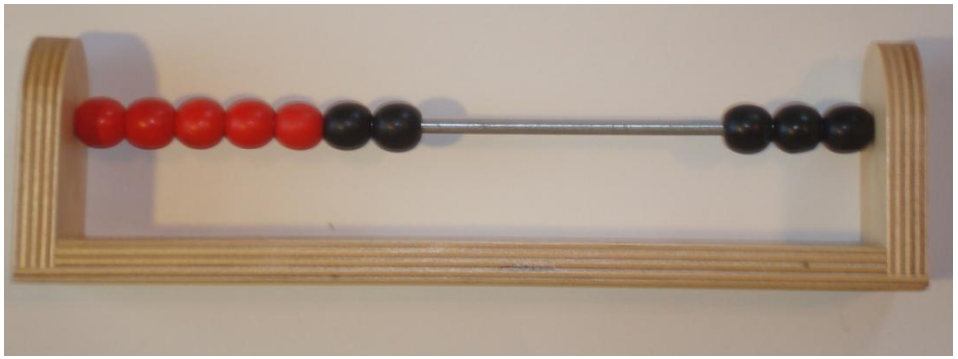
# S 213.3


Structuring
I can identify the number needed to make 10.
"Make 10" Four in a Row
Choose a color. On your turn, roll the cube. Cover the number that goes with the number rolled to make 10. Get 4 in a row to win.
7
Materials: 1 game board, approx 15 covers per player, a number cube (2 to 7)
During a turn, the player rolls the cube and covers the number that goes with the number rolled to make 10. First player with 4 counters in a row, column or diagonal wins the game.
"Make 10" Four in a Row
8 4 7 8 5 6
7 3 3 5 4 3
4 6 8 7 6 4
5 7 4 5 5 8
8 4 3 8 3 6
6 8 4 4 7 5
6 3 7 3 6 7

# S 213.3

How can students figure out what goes with 7 to make 10?

Finger use:
Put up 7 and think about how many fingers are down



Bead rack:
7 beads are pushed over…how many are leftover?

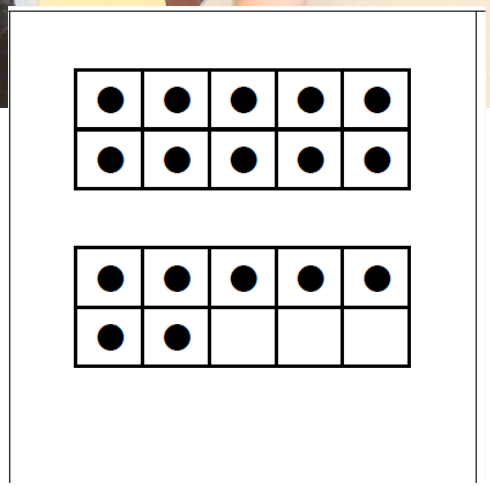
# S 213.4

| KNP # no prefix | KNP# with prefix | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 213.4 | S 213.4 | K.NBT.1 Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones. | Number Base 10 | Work with numbers 11-19 to gain foundations for place value | 6X7 Four in a Row board with numbers 10-19 (see link), die with numerals 0-9 | Ten plus Four in a Row: Students roll the die and place a marker (counter, bean, piece of paper) on the number that is ten more than the number rolled. For example, if the student rolls a 4 they would mark a 14 on the board. Play ends when someone has 4 in a row. Students play together on one board in a group of 2-4. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... use the ten-wise structure of numbers up to 20. | Flash a 20 frame card with 18 dots. Ask student "How many dots? How do you know?" Continue with other 20 frames. | small group / partners | |
| | | | | | | Make 20 Four in a Row: Students | | | | | | | |

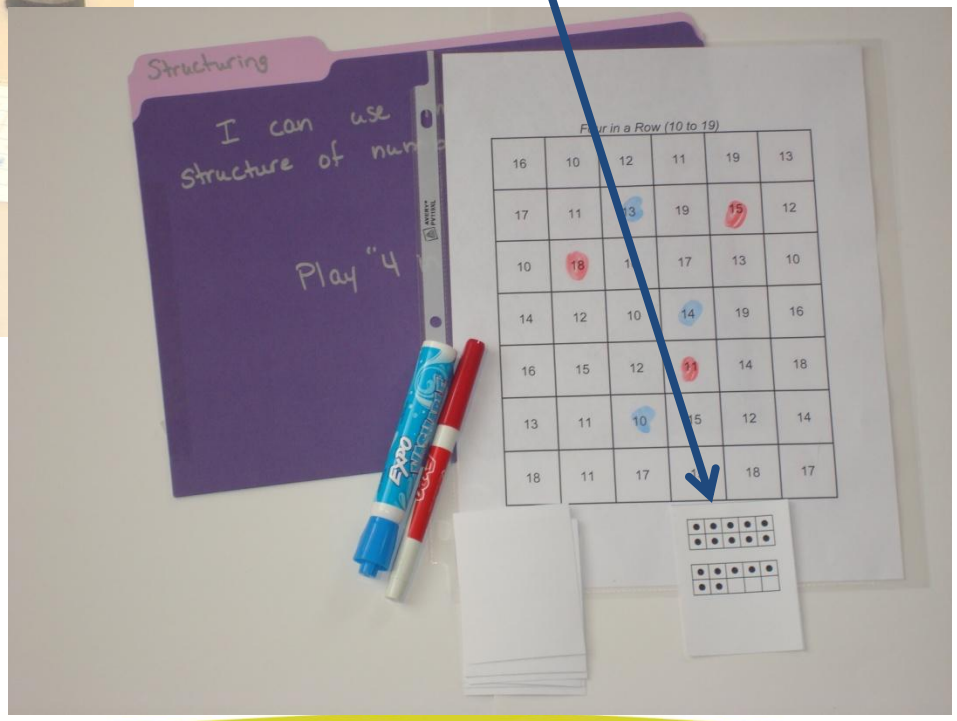
# S 213.4


Structuring
I can use t
structure of num
Play "4 in
Four in a Row (10 to 19)
16 10 12 11 19 13
17 11 13 19 15 12
10 18 16 17 13 10
14 12 10 14 19 16
16 15 12 11 14 18
13 11 10 15 12 14
18 11 17 15 18 17
EXPO
10
7

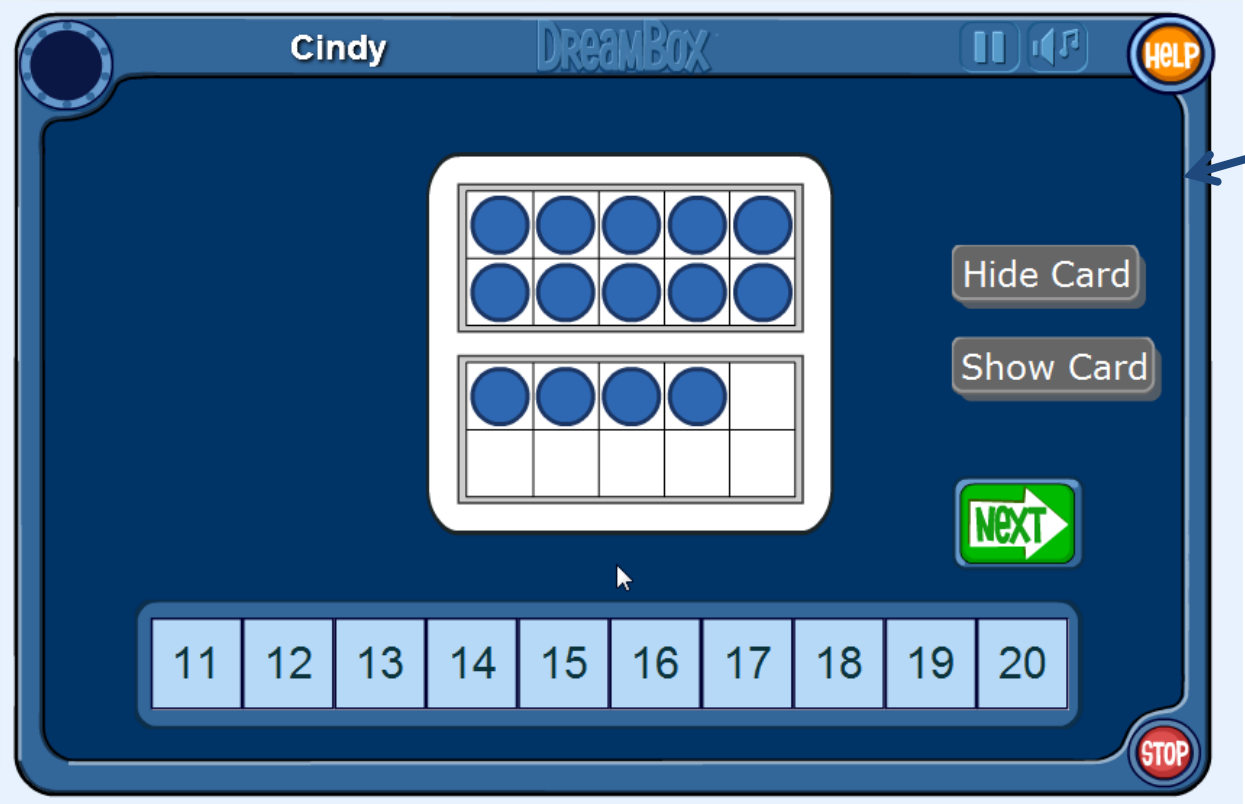
# S 213.4



In place of dice, partner flashes a double 10 frame



# Dreambox Teacher Tools

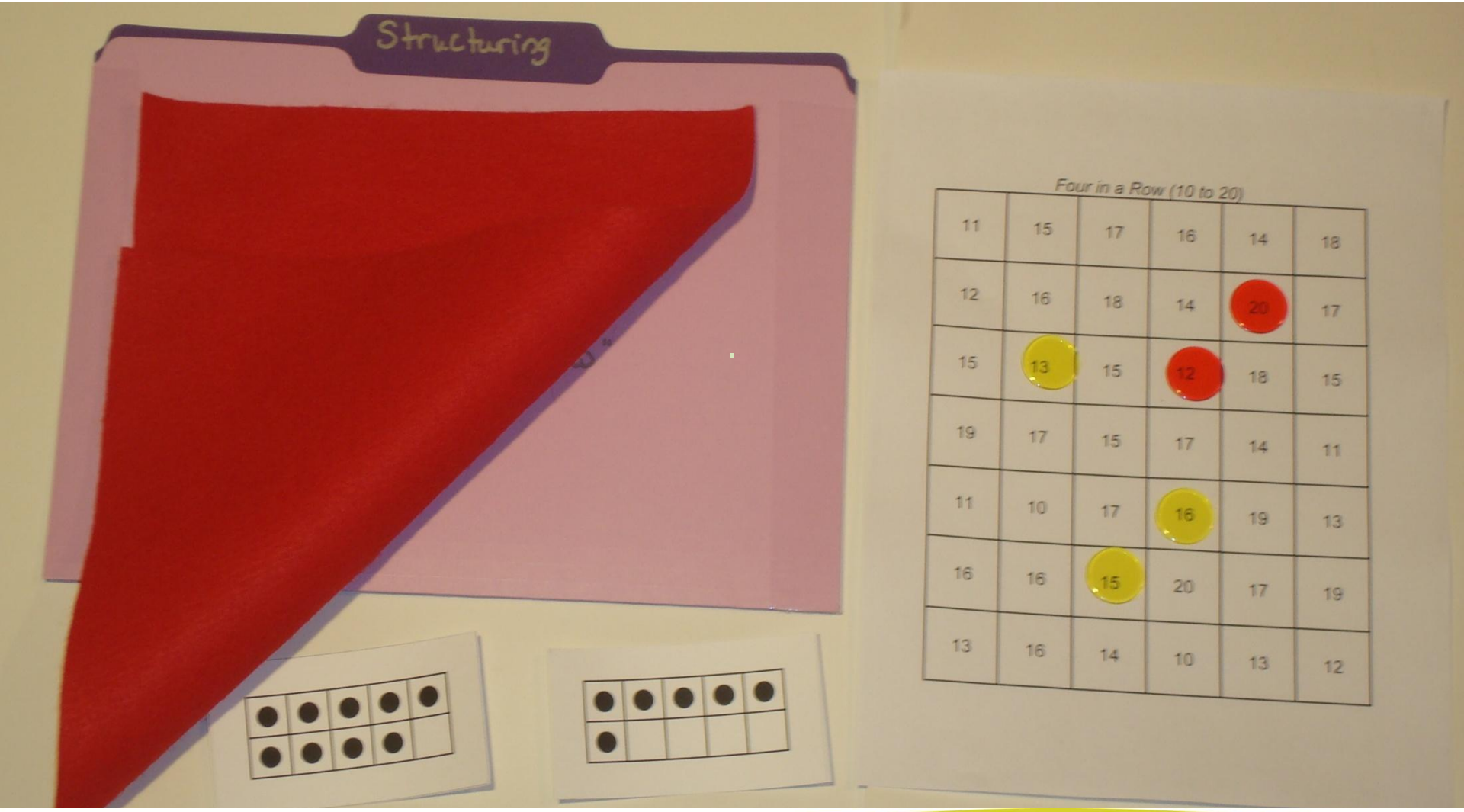



Technology can be used to flash the quick image

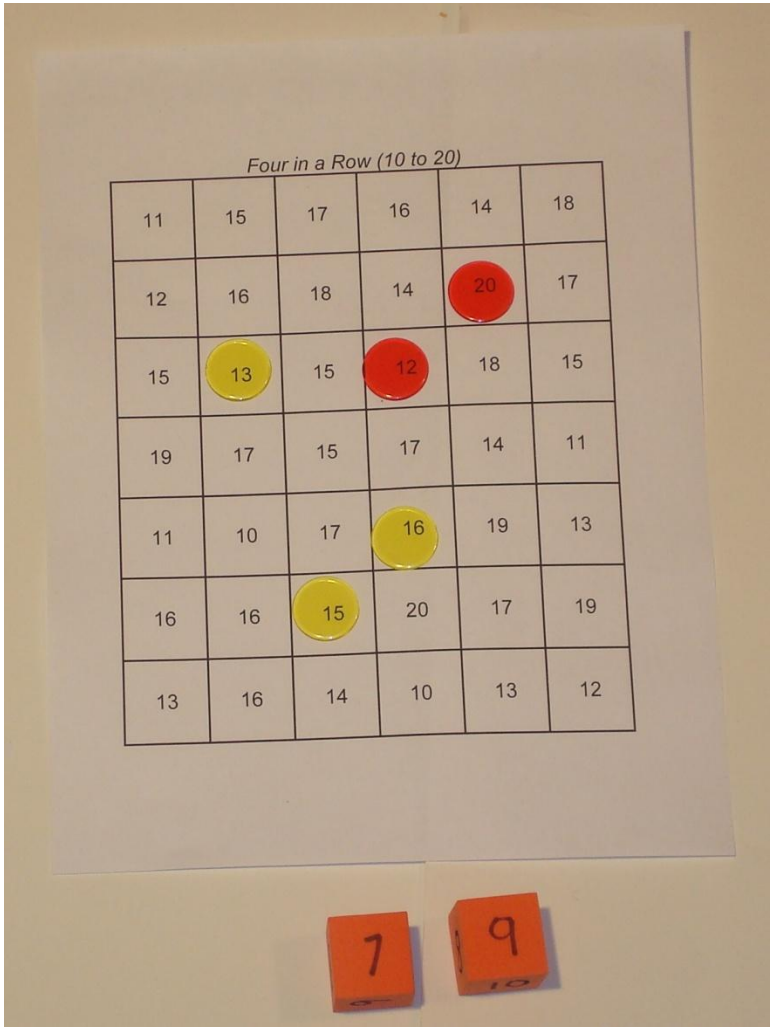
# S 213.5

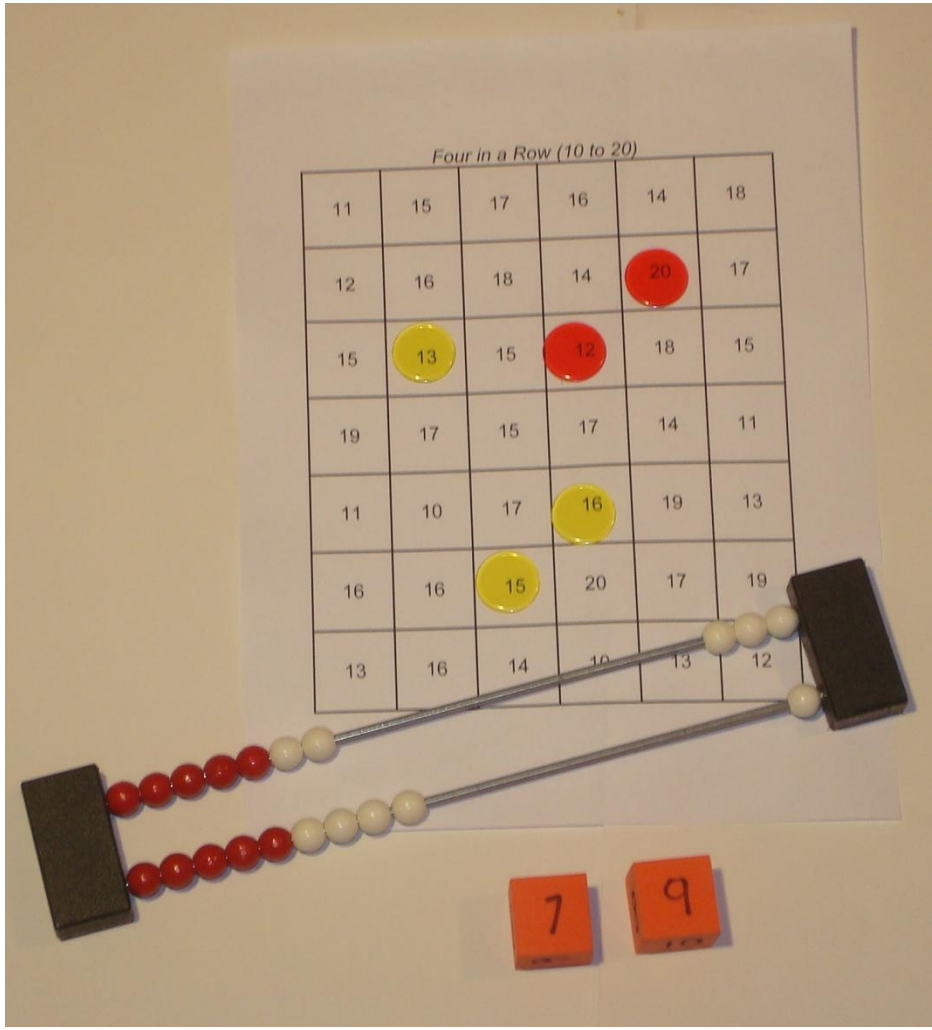
| KNP # no prefix | KNP# with prefix | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand | Construct/Level | Numeracy Target | "I CAN ....." (*see glossary) | Assessment for Learning (*see glossary) | Student Grouping | Video Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 213.5 | S 213.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operations and Algebraic Thinking | Add and subtract within 20 | 6X7 Four in a Row board with numbers 10-20, 10 frames filled will 5 to 10 dots, at least 2 each (see link), counters to use as game covers | Sums to 20 Four in a Row: Each player chooses 1 color to use as a cover. On a turn, the player draws 2 10 frames randomly. The player will place a marker on the sum. Play until one player has 4 adjacent counters in any direction. Play together on one board in a group of 2-4. The frame cards should be shown only briefly then either covered or placed face down. | Structuring | 4 to 5 PINK | facile structures to twenty | ... fluently add two sets of dots or beads when each set is 10 or less. | Briefly flash a 10 frame with 8 dots next to a 10 frame with 6 dots. Ask student "What do you see?" If needed, prompt student to state the total and the amounts on each card. Repeat showing 17 (as 9 & 8) and 13 (shown as 5 and 8). Continue with other amounts. Look for explanations that show student is not counting by ones to determine the total. If student is counting on, prompt for ways | small group / partners | |

# S 213.5

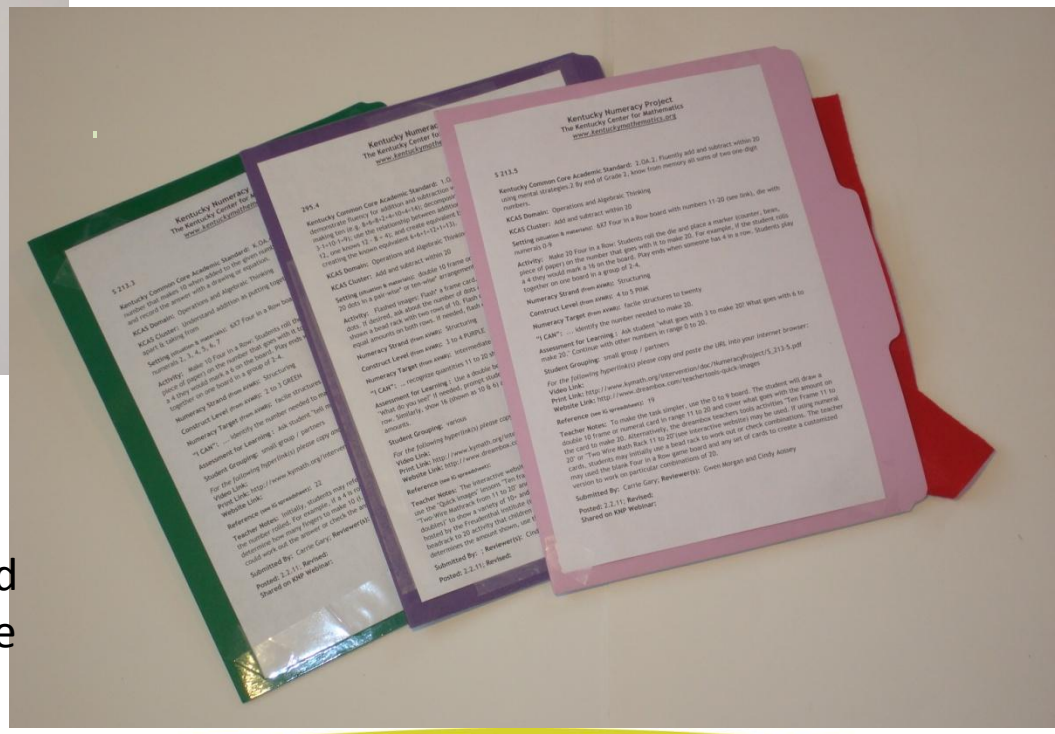

Structuring
Four in a Row (10 to 20)
11 15 17 16 14 18
12 16 18 14 20 17
15 13 15 12 18 15
19 17 15 17 14 11
11 10 17 16 19 13
16 16 15 20 17 19
13 16 14 10 13 12

# S 213.5


Four in a Row (10 to 20)
11 15 17 16 14 18
12 16 18 14 20 17
15 13 15 12 18 15
19 17 15 17 14 11
11 10 17 16 19 13
16 16 15 20 17 19
13 16 14 10 13 12
7
9


Four in a Row (10 to 20)
11 15 17 16 14 18
12 16 18 14 20 17
15 13 15 12 18 15
19 17 15 17 14 11
11 10 17 16 19 13
16 16 15 20 17 19
13 16 14 13 12
7
9

# S213 Task Group

I printed the page from the word version of the intervention guide to place on the back

KENTUCKY CENTER FOR MATHEMATICS

# S214.3

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 214.3 | K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation. | Operations and Algebraic Thinking | Understand addition as putting together & adding to, subtraction as taking apart & taking from | numeral cards 1-5, at least 4 each | Top It: Evenly split cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. |

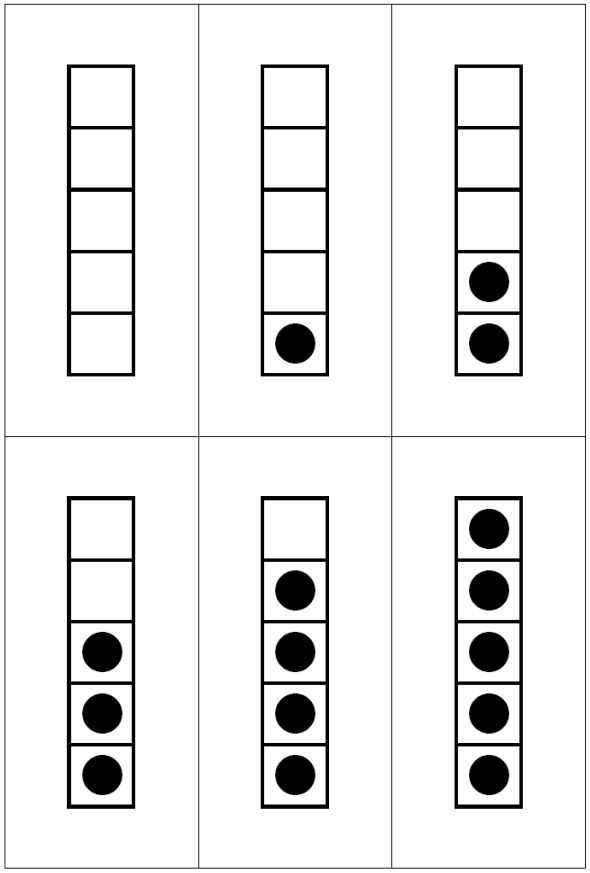
# S214.3

| Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping |
|---|---|---|---|---|---|---|---|
| numeral cards 1-5, at least 4 each | Top It: Evenly split cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. | Structuring | 2 to 3 GREEN | facile structures to 10 | I can add quantities to 10 without always counting on by ones. I can explain how I combined two quantities. | Show numeral card pairs - 3 and 5, 4 and 4, 3 and 3 to the students and have them write the sum of the pairs | small group / partners |

# S214.3

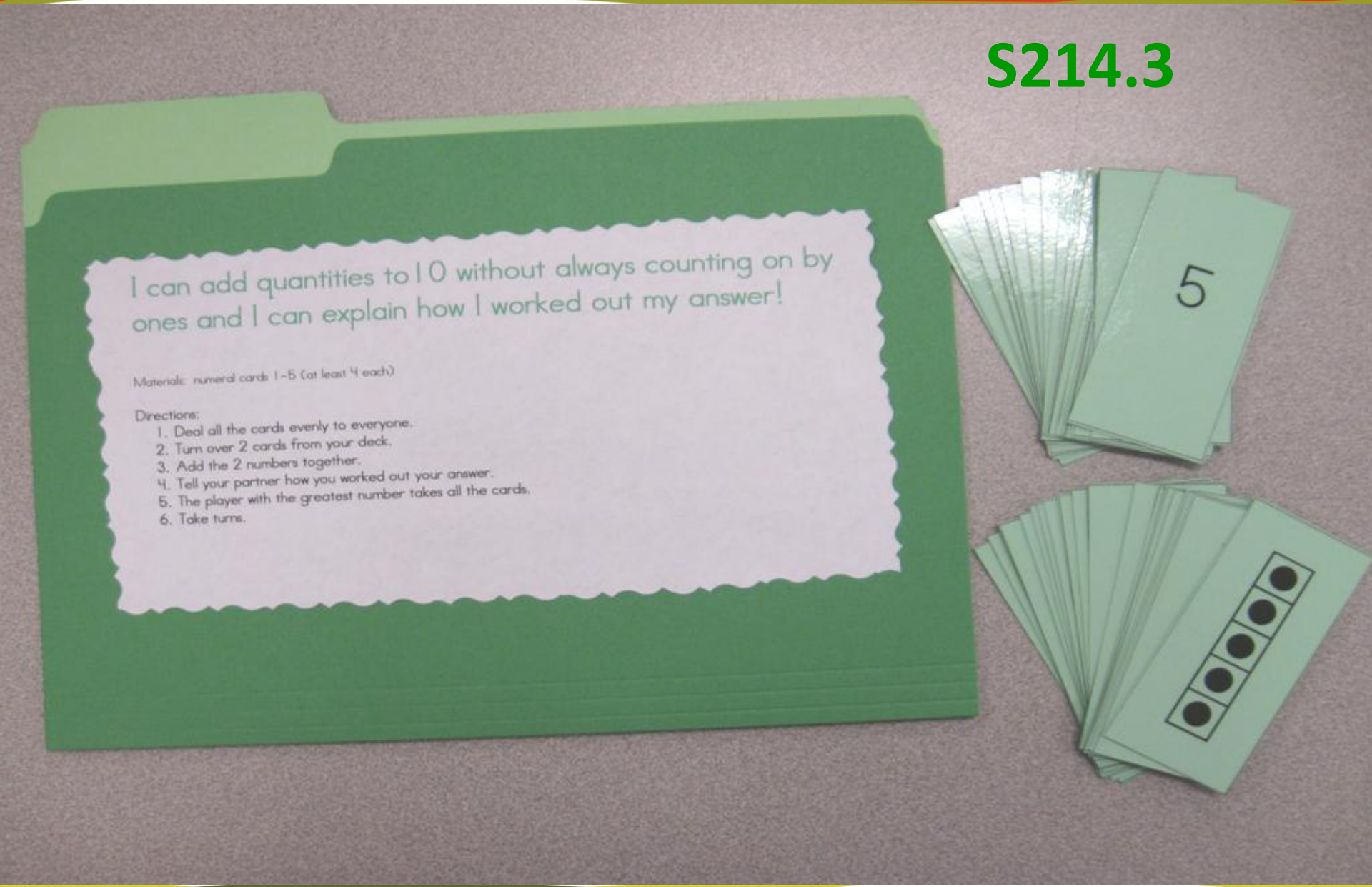
| Assessment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|
| Show numeral card pairs - 3 and 5, 4 and 4, 3 and 3 to the students and have them write the sum of the pairs | small group / partners | | Numeral Cards and 5 frames 0 to 5 | | | Initially 5 frame cards may be used by themselves or mixed in with the numeral cards. |

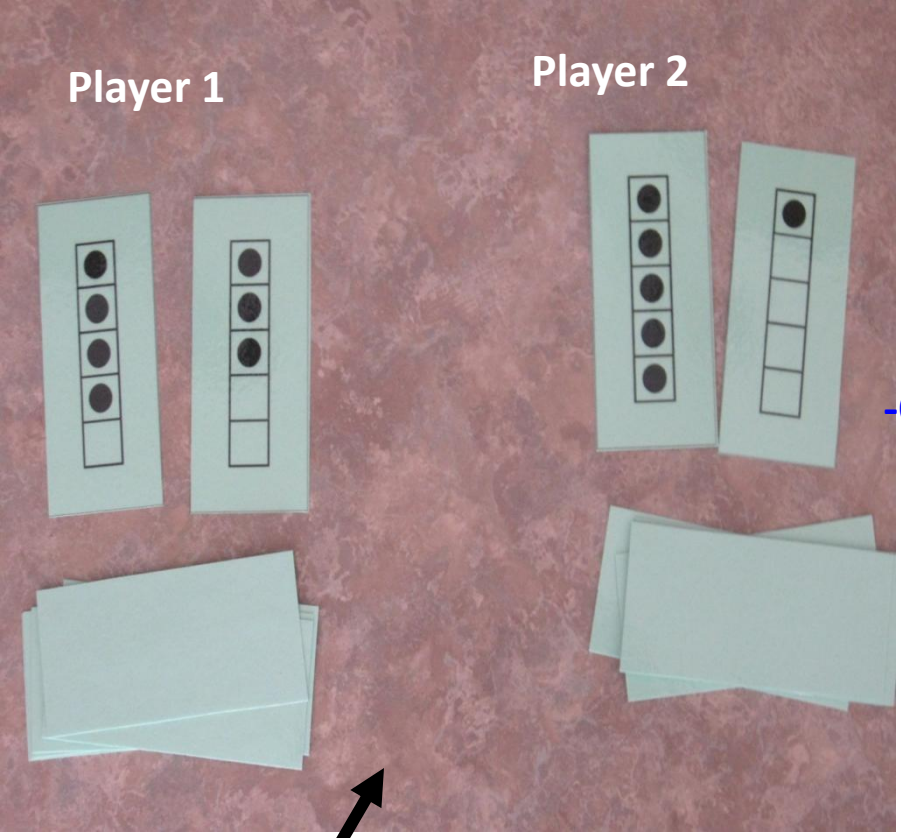
| | | |
|---|---|---|
| 0 | 1 | 2 |
| 3 | 4 | 5 |



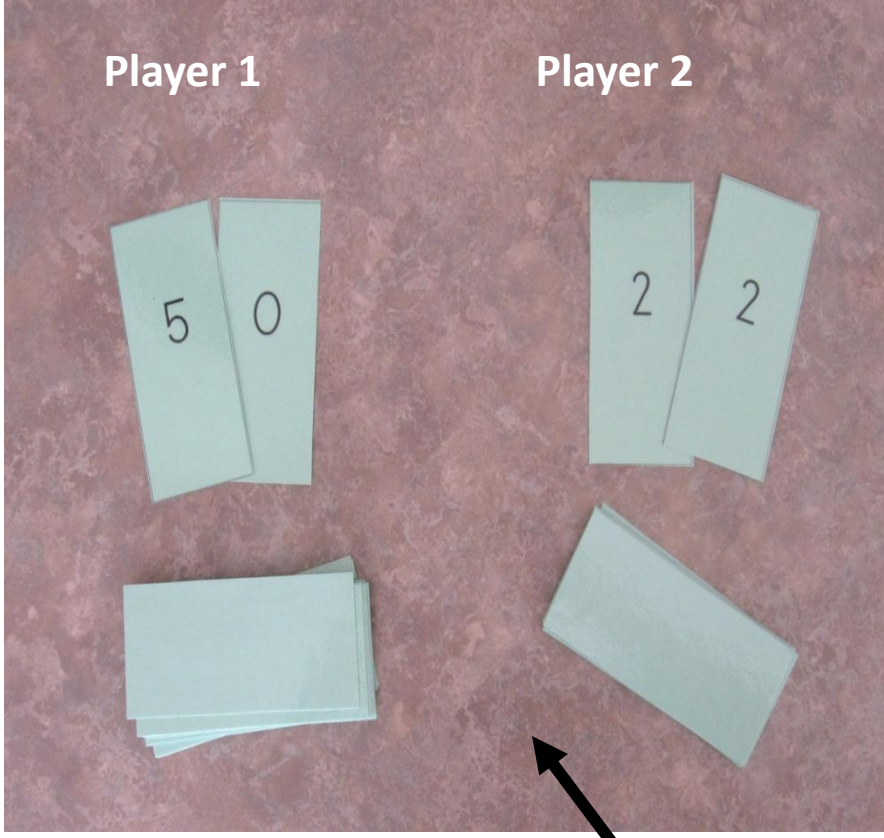
**Be sure to print at least 4 copies**

# S214.3


I can add quantities to 10 without always counting on by ones and I can explain how I worked out my answer!
Materials: numeral cards 1-5 (at least 4 each)
Directions:
1. Deal all the cards evenly to everyone.
2. Turn over 2 cards from your deck.
3. Add the 2 numbers together.
4. Tell your partner how you worked out your answer.
5. The player with the greatest number takes all the cards.
6. Take turns.
5




-OR-




w/5-frame cards

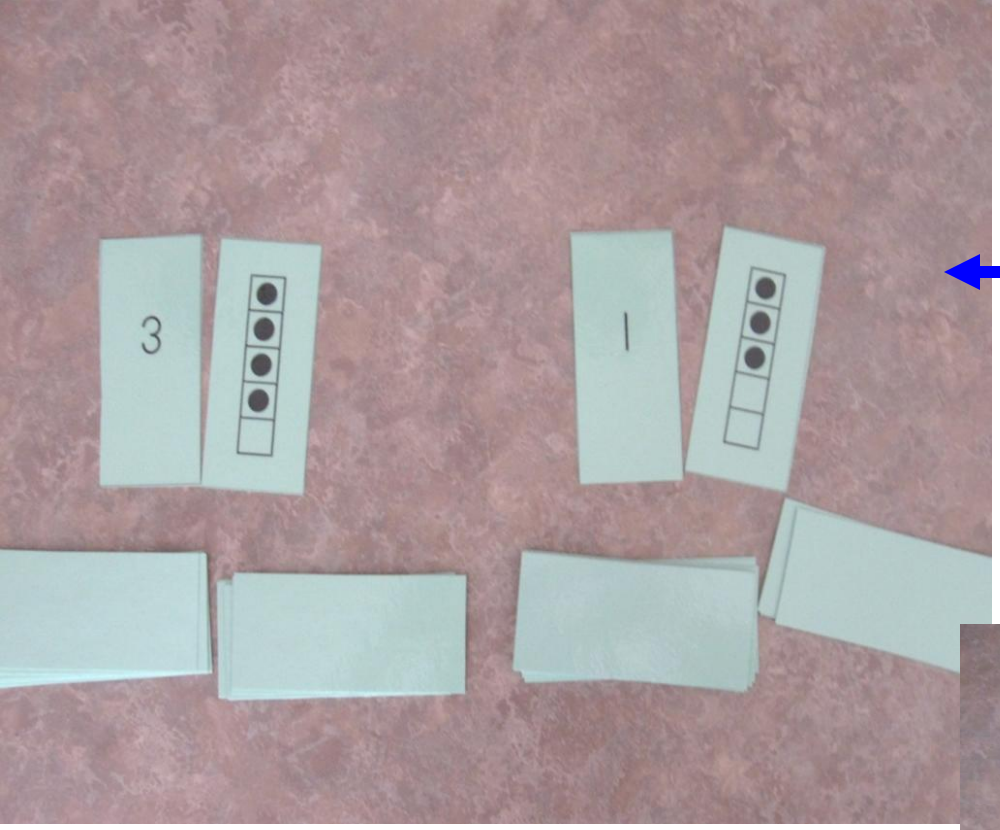
w/numeral cards

**“How many do you have altogether?”**

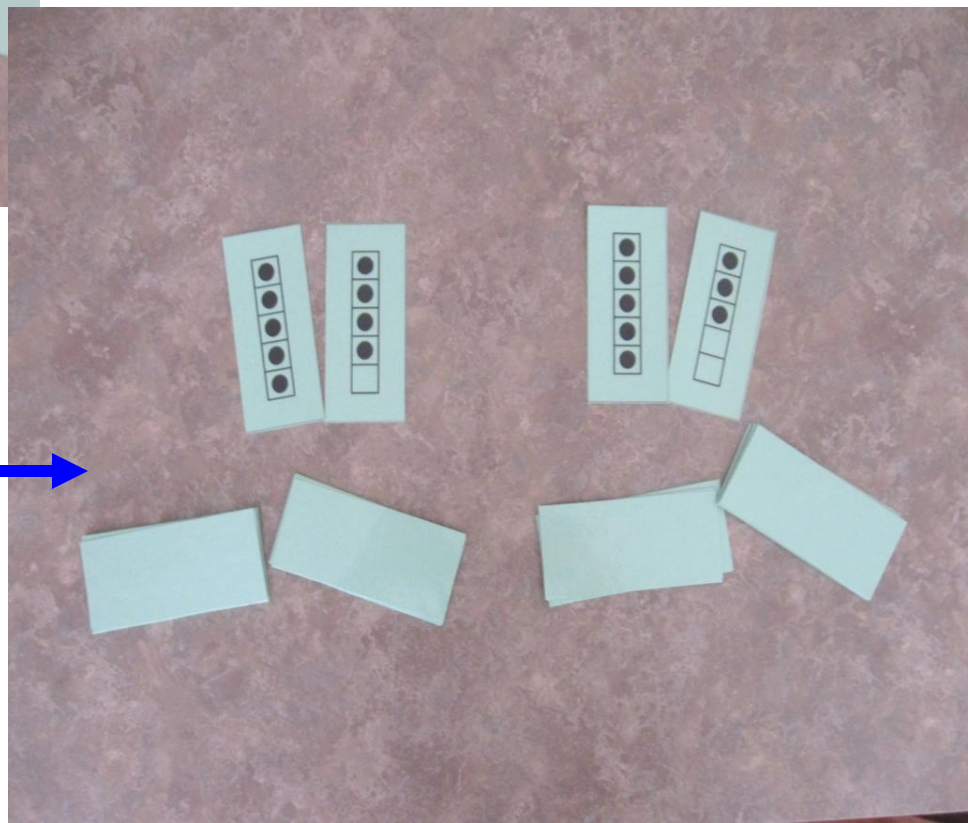
**“Who has more?”**

**“How did you work it out?”**

Numeral card and dot card combination to support counting on




Dot cards arranged as 5+ combinations



# S214.4

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 214.4 | 1.OA.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within [20]. (...) | Operations and Algebraic Thinking | Add and subtract within 20 | ten grid cards (From Great Source) or 10 frame cards (see link) | Top It: Students use ten frame cards to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. |

# S214.4

| demic | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | A |
|---|---|---|---|---|---|---|---|---|---|
| in 20, dition (...) | Operations and Algebraic Thinking | Add and subtract within 20 | ten grid cards (From Great Source) or 10 frame cards (see link) | Top It: Students use ten frame cards to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | I can add quantities with addends up to 20 without always counting on by ones. I can explain how I combined two quantities. | fr e a st t si |

# S214.4

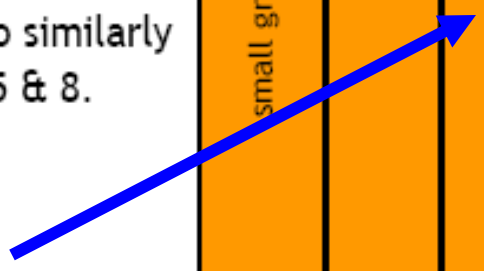
| demic | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | |
|---|---|---|---|---|---|---|---|---|---|
| in 20, dition (...) | Operations and Algebraic Thinking | Add and subtract within 20 | ten grid cards (From Great Source) or 10 frame cards (see link) | Top It: Students use ten frame cards to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | I can add quantities with addends up to 20 without always counting on by ones. I can explain how I combined two quantities. | fr e a st t si |

# S214.4

| demic | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | A |
|---|---|---|---|---|---|---|---|---|---|
| in 20, dition (...) | Operations and Algebraic Thinking | Add and subtract within 20 | ten grid cards (From Great Source) or 10 frame cards (see link) | Top It: Students use ten frame cards to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among students. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined quantities. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | I can add quantities with addends up to 20 without always counting on by ones. I can explain how I combined two quantities. | fr e a st t si |

# S214.4

| ment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|
| ten frames cards, for and 4, and ask child ine the total. Note if s are able to solve ounting. Do similarly 9 & 6 and 5 & 8. | small group / partners | | 10 frame cards | | | Look for and encourage students to use a non-count by-ones strategy. Provide a bead rack for support if needed. Or provide a page with two blank 10 frames and counters. |



| 0 zero | 0 zero | 0 zero | 0 zero |
|---|---|---|---|
| 1 one | 1 one | 1 one | 1 one |



| 2 two | 2 two | 2 two | 2 two |
|---|---|---|---|
| 3 three | 3 three | 3 three | 3 three |



| 4 four | 4 four | 4 four | 4 four |
|---|---|---|---|
| 5 five | 5 five | 5 five | 5 five |



| 6 six | 6 six | 6 six | 6 six |
|---|---|---|---|
| 7 seven | 7 seven | 7 seven | 7 seven |

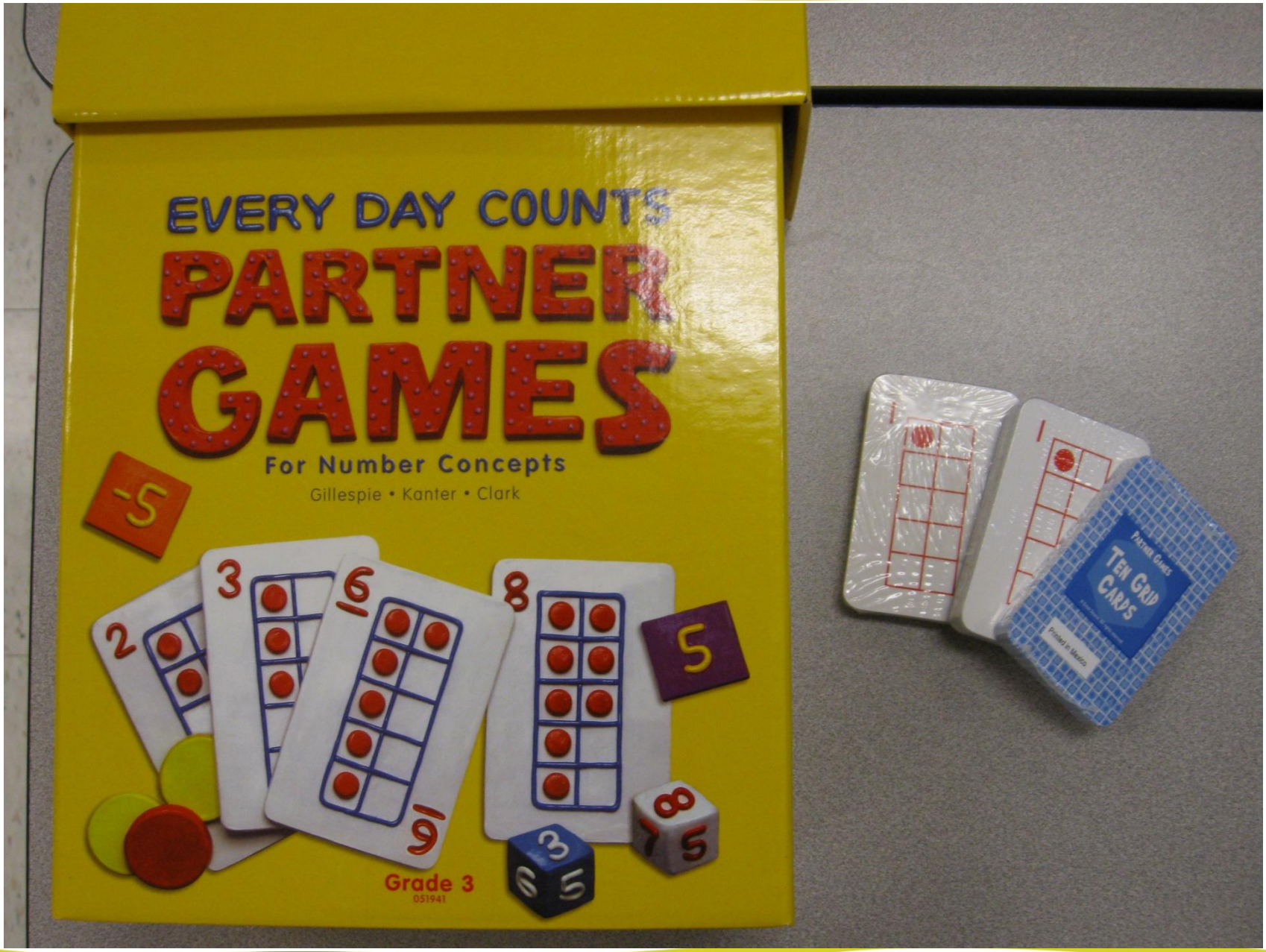


| 8 eight | 8 eight | 8 eight | 8 eight |
|---|---|---|---|
| 9 nine | 9 nine | 9 nine | 9 nine |

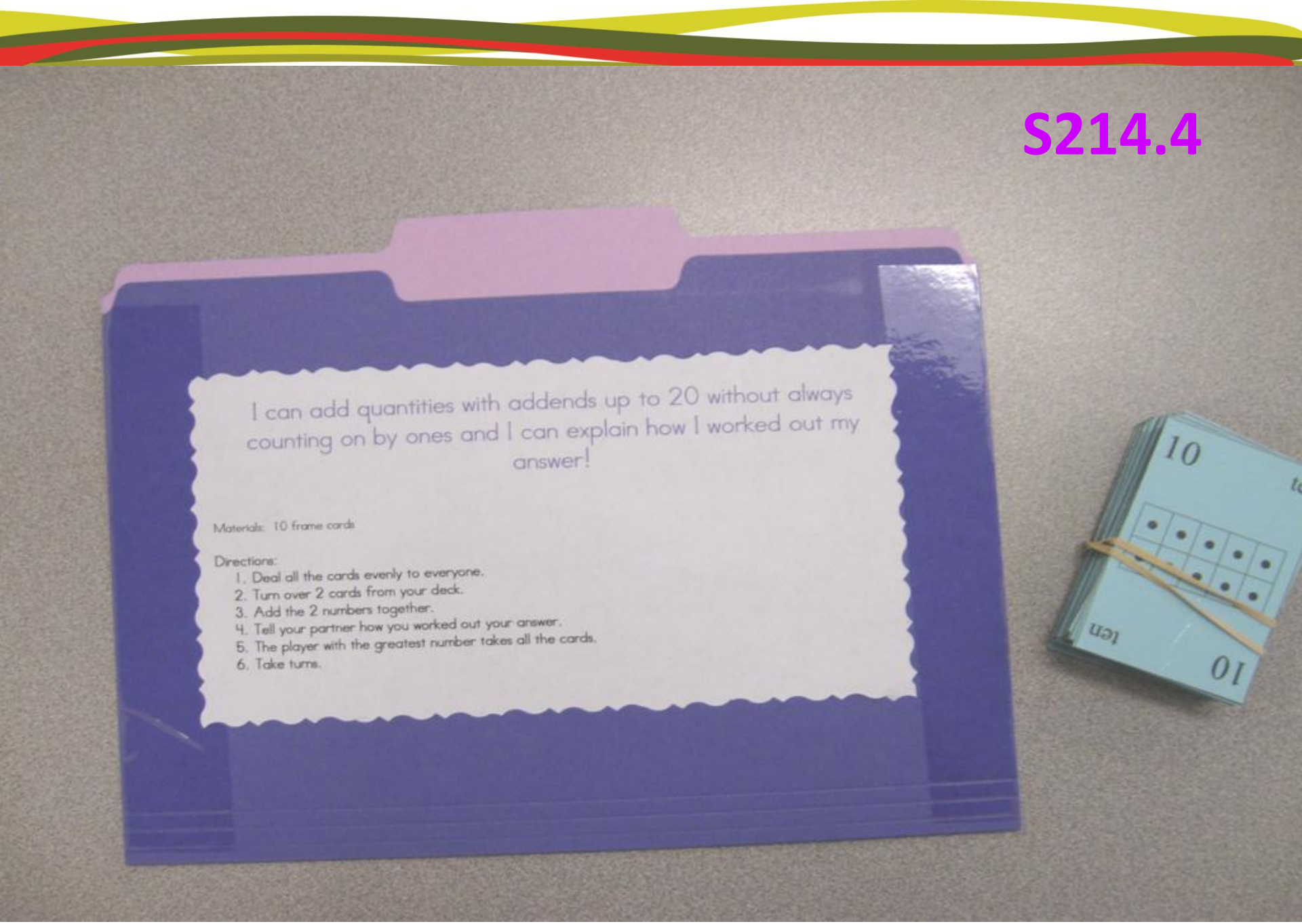


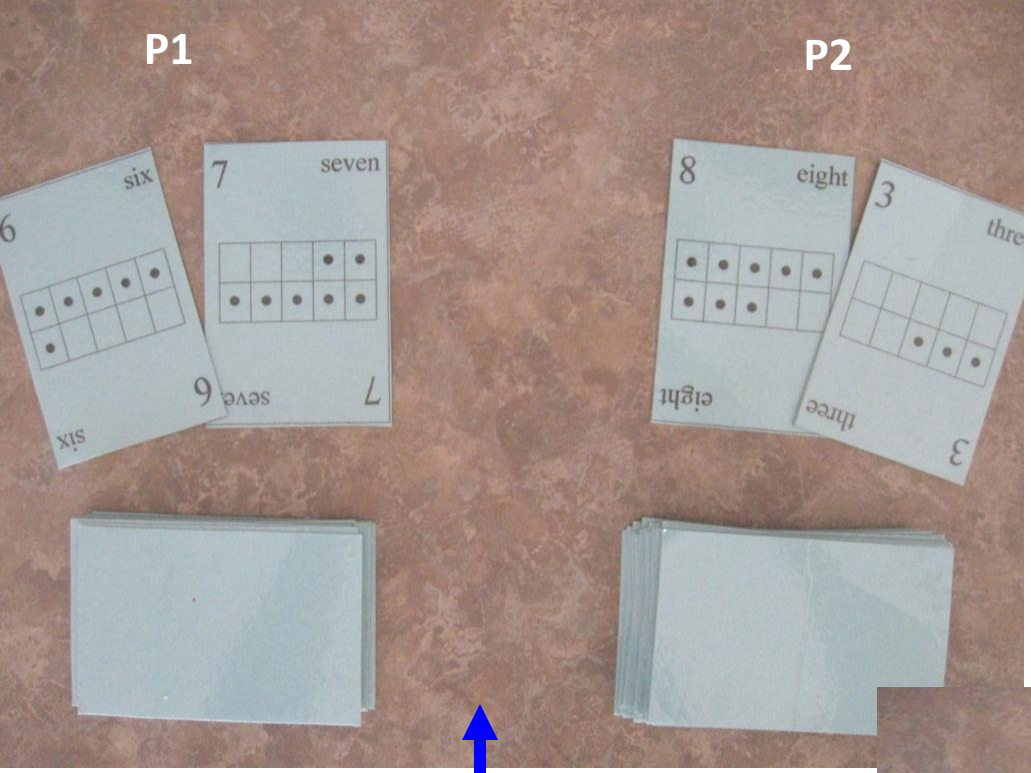
| 10 ten | 10 ten | 10 ten | 10 ten |
|---|---|---|---|
| wild card | wild card | wild card | wild card |

10 ten
6 six
4 four
10 ten
6 six
8 eight
7 seven
9
3 three
2
ten
10


EVERY DAY COUNTS
PARTNER GAMES
For Number Concepts
Gillespie • Kanter • Clark
Grade 3
051941
TEN GRID CARDS

# S214.4


I can add quantities with addends up to 20 without always counting on by ones and I can explain how I worked out my answer!
Materials: 10 frame cards
Directions:
1. Deal all the cards evenly to everyone.
2. Turn over 2 cards from your deck.
3. Add the 2 numbers together.
4. Tell your partner how you worked out your answer.
5. The player with the greatest number takes all the cards.
6. Take turns.
10

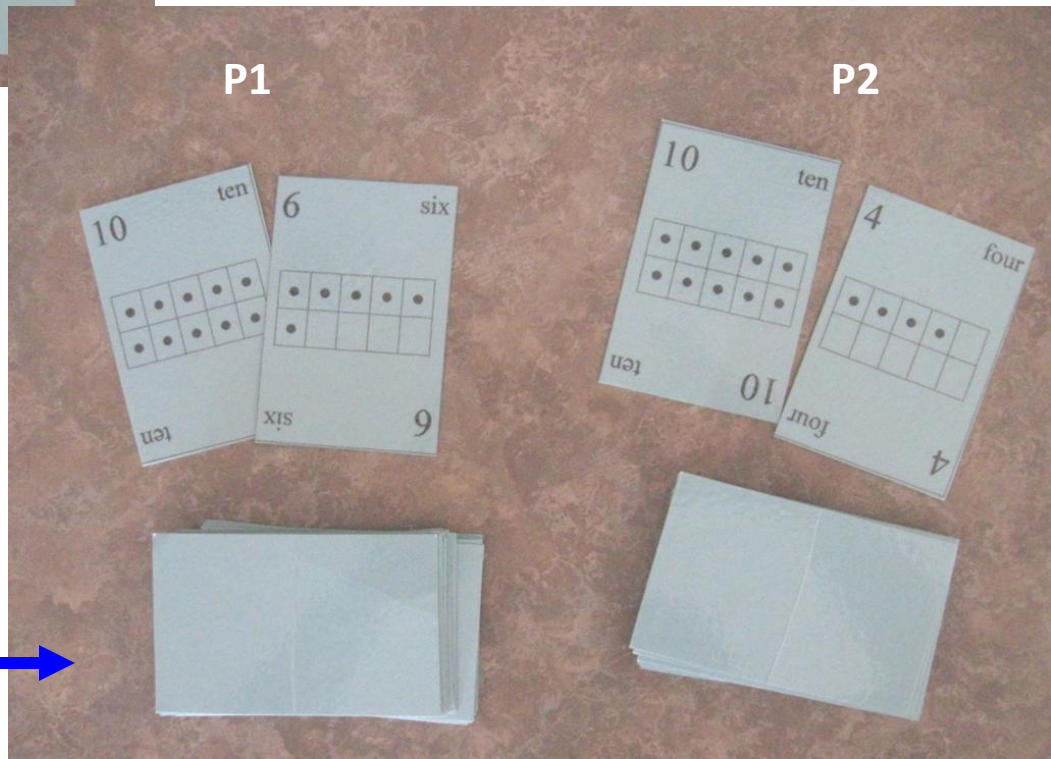



"How many do you have altogether?"

"Who has more?"

"How did you work it out?"

Random combinations




10+ combinations

# S214.5

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 214.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operations and Algebraic Thinking | Add and subtract within 20 | numeral cards 1-10 (see link) | Top-It: Students use numeral cards 1-10 to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among players. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined the quantities. |

# S214.5

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 214.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operations and Algebraic Thinking | Add and subtract within 20 | numeral cards 1-10 (see link) | Top-It: Students use numeral cards 1-10 to begin mentally combining quantities without counting by ones. Divide a deck of cards between or among players. Students turn over two cards from their deck and determine the sum. The student with the larger sum collects the cards and explains how they combined the quantities. |

# S214.5

| (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4 to 5 PINK | facile structures to twenty | I can add quantities to 20 without always counting on by ones. I can explain how I combined two quantities. | Show numeral card pairs - 5 and 2, 4 and 8, 6 and 5, to the students and have them write the sum of the pairs | small group / partners | | numeral cards 0 to 10 | | 20 | Look for and encourage students to use a non-count-by-ones strategy. Provide a bead rack for support if desired. |

# S214.5

| (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 4 to 5 PINK | facile structures to twenty | I can add quantities to 20 without always counting on by ones. I can explain how I combined two quantities. | Show numeral card pairs - 5 and 2, 4 and 8, 6 and 5, to the students and have them write the sum of the pairs | small group / partners | | numeral cards 0 to 10 | | 20 | Look for and encourage students to use a non-count-by-ones strategy. Provide a bead rack for support if desired. |

| | | |
|---|---|---|
| 0 | 1 | 2 |
| 3 | 4 | 5 |

| | | |
|---|---|---|
| 6 | 7 | 8 |
| 9 | 10 | |

# SEN Teacher

free teaching resources for special education

## Maths Printables





Adobe Flash Player 8 or better is required to view and print these resources.





### Nets (3D Models)

Prints out a selection of nets with which to make common 3D shapes.

### Read Clocks

Print random analogue clock faces at various levels for reading activities.

### Numeracy Fans


Make your own customised numeracy fans including negative numbers and a decimal point

### Number Cards


This generator allows the speedy creation of number cards including cards with decimals and negatives.

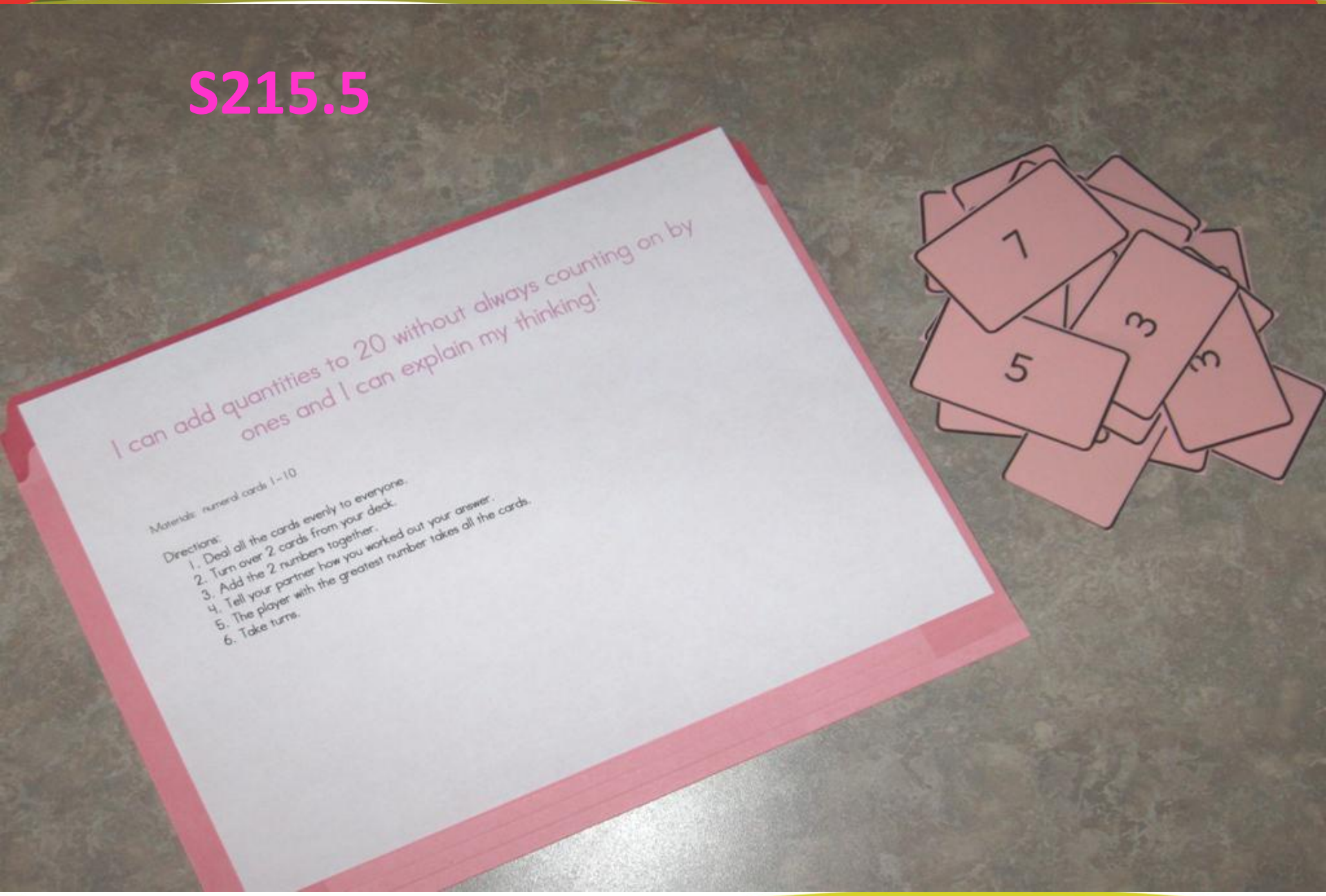
### Coin Worksheets

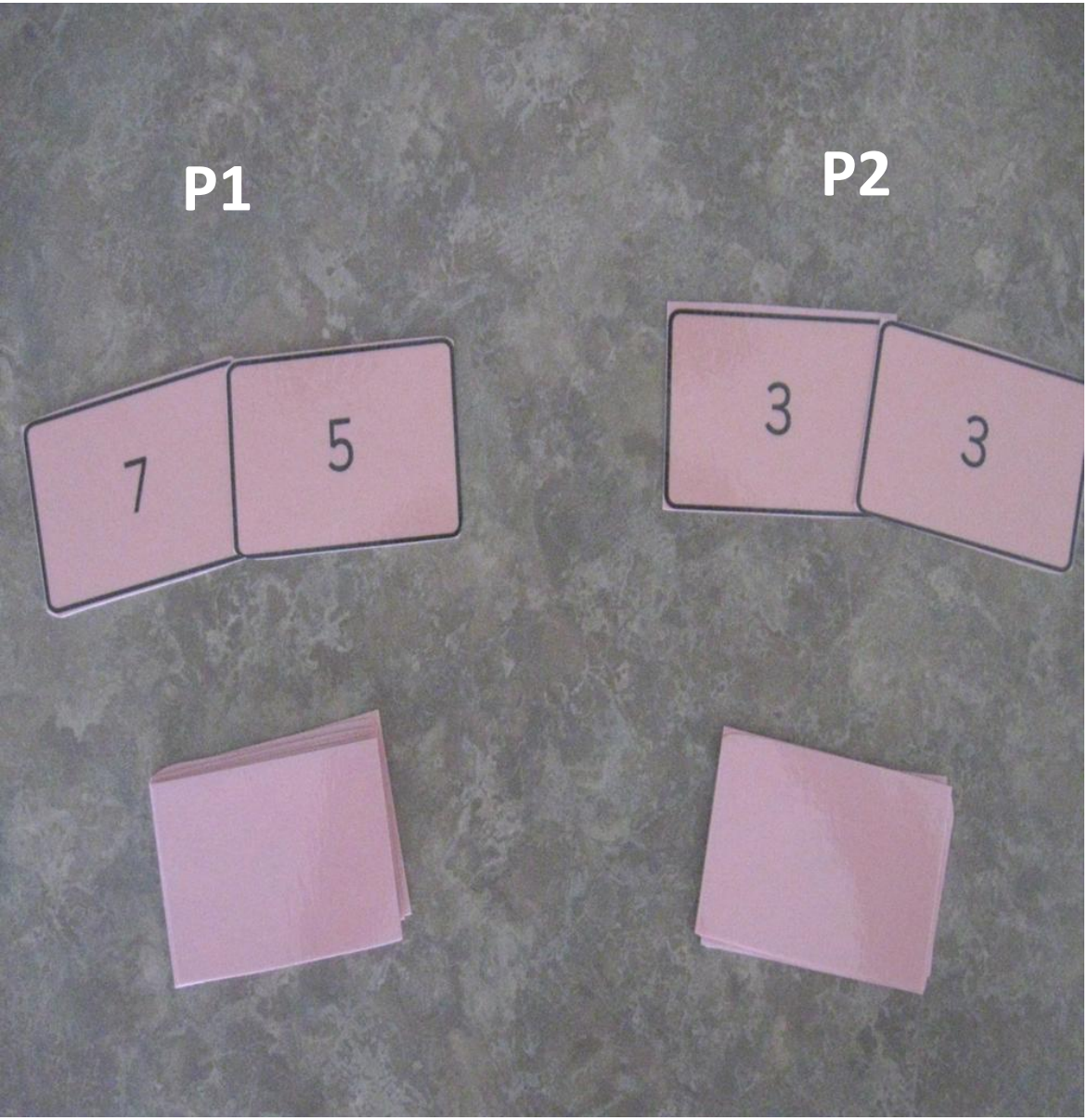
Generate random coin addition worksheets using UK, USA, Australian and Euro coins.

### Make and Draw Clocks

Print paper clock models and clock worksheets on which hands must be drawn.

# S215.5


I can add quantities to 20 without always counting on by ones and I can explain my thinking!
Materials: numeral cards 1–10
Directions:
1. Deal all the cards evenly to everyone.
2. Turn over 2 cards from your deck.
3. Add the 2 numbers together.
4. Tell your partner how you worked out your answer.
5. The player with the greatest number takes all the cards.
6. Take turns.
7
3
5
3




**“How many do you have altogether?”**

**“Who has more?”**

**“How did you work it out?”**

# S266.3

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Lea Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.3 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). | Operations and Algebraic Thinking | Understand addition as putting together or adding to, subtraction as taking apart or taking from | combinations of 10 cards with numerals | Numeral combinations to 10: combination cards on card stoc fold as indicated. Open one flap numeral and the student tells t that goes with it to make the indicated at top. Next time th used, the other flap is ope |

# S266.3

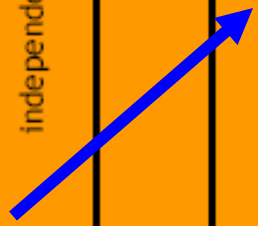
| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Lea Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.3 | K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). | Operations and Algebraic Thinking | Understand addition as putting together or adding to, subtraction as taking apart or taking from | combinations of 10 cards with numerals | Numeral combinations to 10: combination cards on card stoc fold as indicated. Open one flap numeral and the student tells t that goes with it to make the indicated at top. Next time th used, the other flap is ope |

# S266.3

| Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) |
|---|---|---|---|---|---|
| combinations of 10 cards with numerals | Numeral combinations to 10: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a numeral and the student tells the number that goes with it to make the number indicated at top. Next time the card is used, the other flap is opened. | Structuring | 2 to 3 GREEN | facile structures to ten | ... tell the combinations of 6, 7, 8, 9, 10 when given one number in bare numerals. |

# S266.3

| essment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|
| w the students the dot<br>for 3 and ask "What goes<br>3 to equal 5?" Show the<br>nts the dot pattern for 2<br>sk "What goes with 2 to<br>equal 4?" | independent / group / whole class | | numeral combination cards | | | Similarly, combination cards for doubles, near<br>doubles (i.e. 4+3), non-standard combinations (i<br>4+2) and combination of 10 (i.e. 6+4) can also b<br>used. |



Cut on dotted lines. Fold paper edges to meet at center line

8


5 3

Cut on dotted lines. Fold paper edges to meet at center line

8


4 4

Cut on dotted lines. Fold paper edges to meet at center line

8

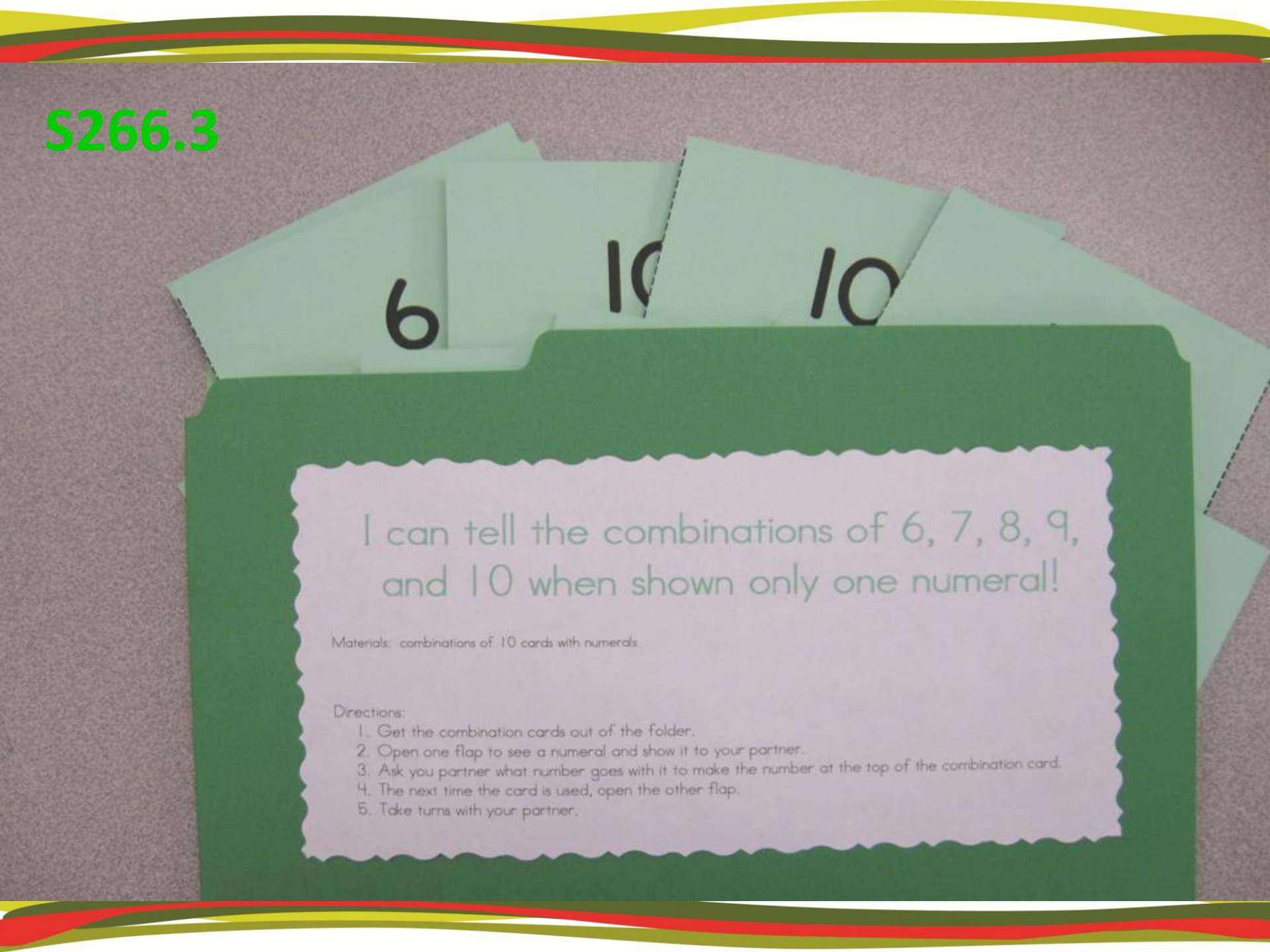

6 2

Cut on dotted lines. Fold paper edges to meet at center line

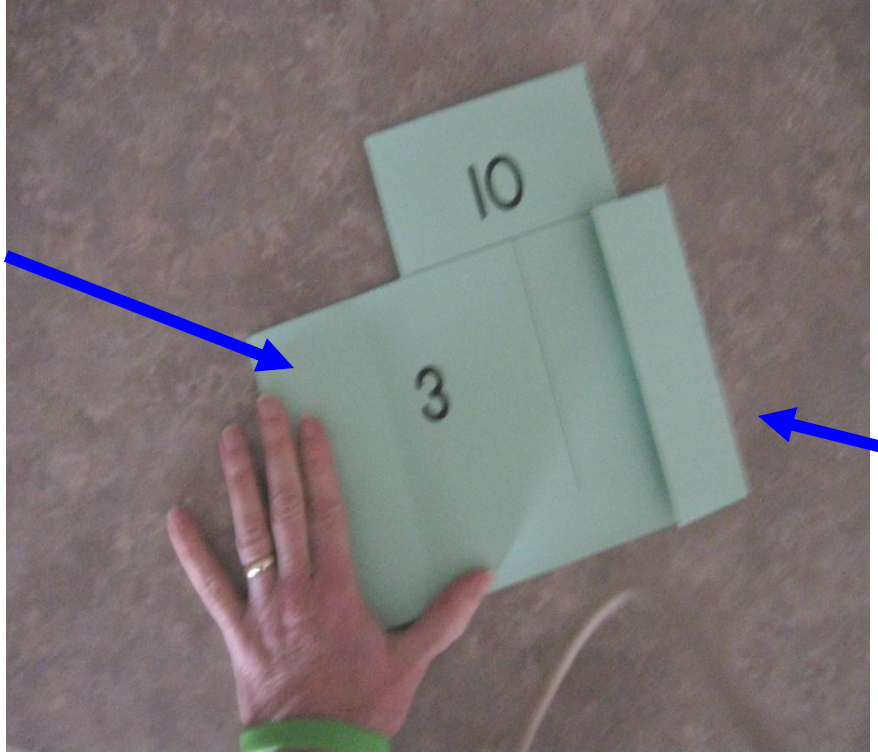
8


1 7

S266.3

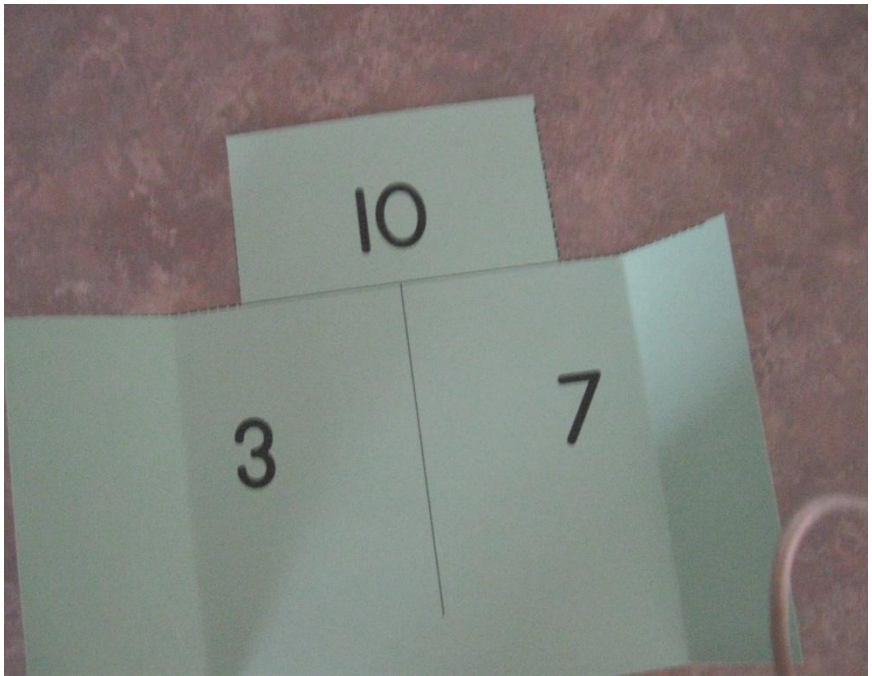

6
10
10
I can tell the combinations of 6, 7, 8, 9, and 10 when shown only one numeral!
Materials: combinations of 10 cards with numerals
Directions:
1. Get the combination cards out of the folder.
2. Open one flap to see a numeral and show it to your partner.
3. Ask you partner what number goes with it to make the number at the top of the combination card.
4. The next time the card is used, open the other flap.
5. Take turns with your partner.

"There is a 3 behind this door."




"What number is behind this door if we have 10 altogether?

"Were you correct?"

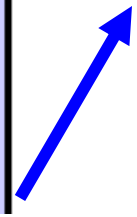



"How did you work it out?"

# S266.4

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.4 | 1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g. 13 - 4 = 13 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g. know that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). | Operations and Algebraic Thinking | Add and subtract within 20 | 10-plus combination cards with dot patterns | Combination Cards to 20: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a given number of dots and have the student tell the number that goes with it to make the total indicated at top. Next time the card is used, the other flap is opened. |

# S266.4

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.4 | 1.OA.6 Add and subtract within 20, demonstrating fluency for addition and subtraction with 10. Use strategies such as counting on; making ten (e.g. 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g. 13 - 4 = 13 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g. know that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). | Operations and Algebraic Thinking | Add and subtract within 20 | 10-plus combination cards with dot patterns  | Combination Cards to 20: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a given number of dots and have the student tell the number that goes with it to make the total indicated at top. Next time the card is used, the other flap is opened. |

# S266.4

| ting tion & erials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping | Video Link | Print Link |
|---|---|---|---|---|---|---|---|---|---|
| plus ination with dot terns | Combination Cards to 20: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a given number of dots and have the student tell the number that goes with it to make the total indicated at top. Next time the card is used, the other flap is opened. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... tell the combinations of numerals from 11-20 given one number in the form of dot cards. | Show the students the dot pattern for 7 and ask "What goes with 7 to equal 14?" Show the students the dot pattern for 10 and ask "What goes with 10 to equal 17?" | independent / group / whole class | | combination cards |

# S266.4

| ting tion & erials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) | Assessment for Learning | Student Grouping | Video Link | Print Link |
|---|---|---|---|---|---|---|---|---|---|
| plus ination with dot terns | Combination Cards to 20: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a given number of dots and have the student tell the number that goes with it to make the total indicated at top. Next time the card is used, the other flap is opened. | Structuring | 3 to 4 PURPLE | intermediate structures to twenty | ... tell the combinations of numerals from 11-20 given one number in the form of dot cards. | Show the students the dot pattern for 7 and ask "What goes with 7 to equal 14?" Show the students the dot pattern for 10 and ask "What goes with 10 to equal 17?" | independent / group / whole class | | combination cards |

Cut on dotted lines. Fold paper edges to meet at center line

10


Cut on dotted lines. Fold paper edges to meet at center line

11


Cut on dotted lines. Fold paper edges to meet at center line

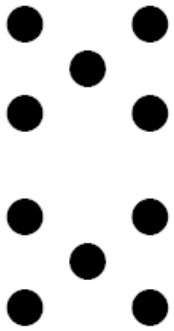
11

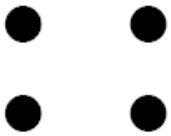

Cut on dotted lines. Fold paper edges to meet at center line

12

Cut on dotted lines. Fold paper edges to meet at center line

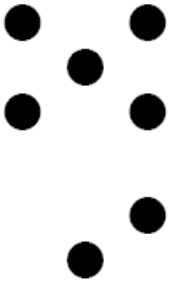
14

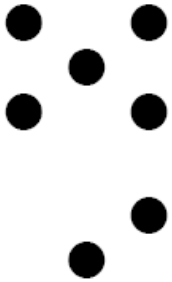





Cut on dotted lines. Fold paper edges to meet at center line

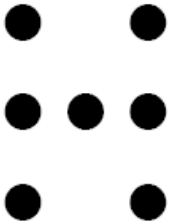
14

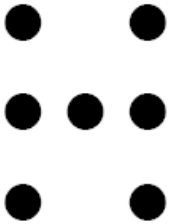





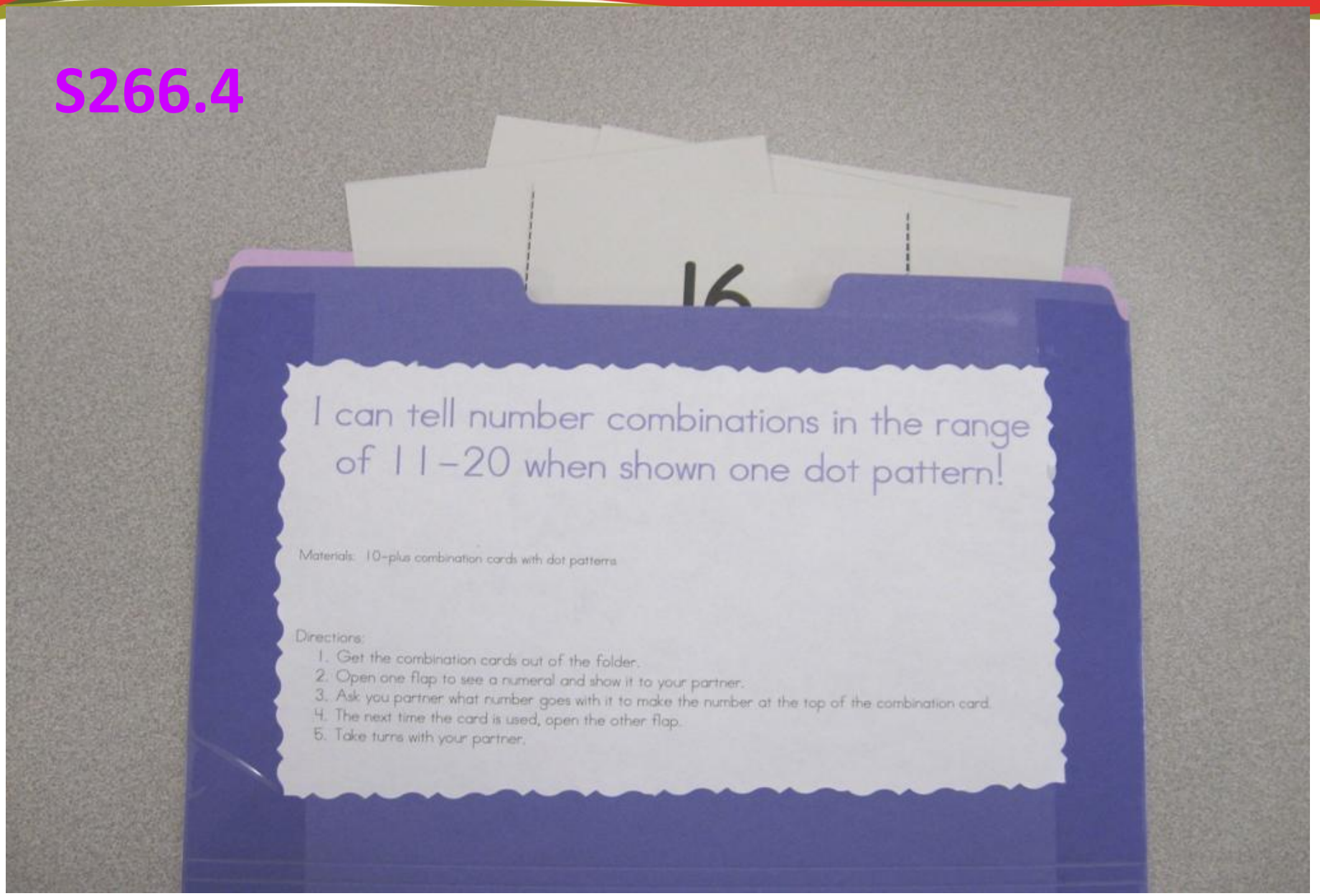
Cut on dotted lines. Fold paper edges to meet at center line

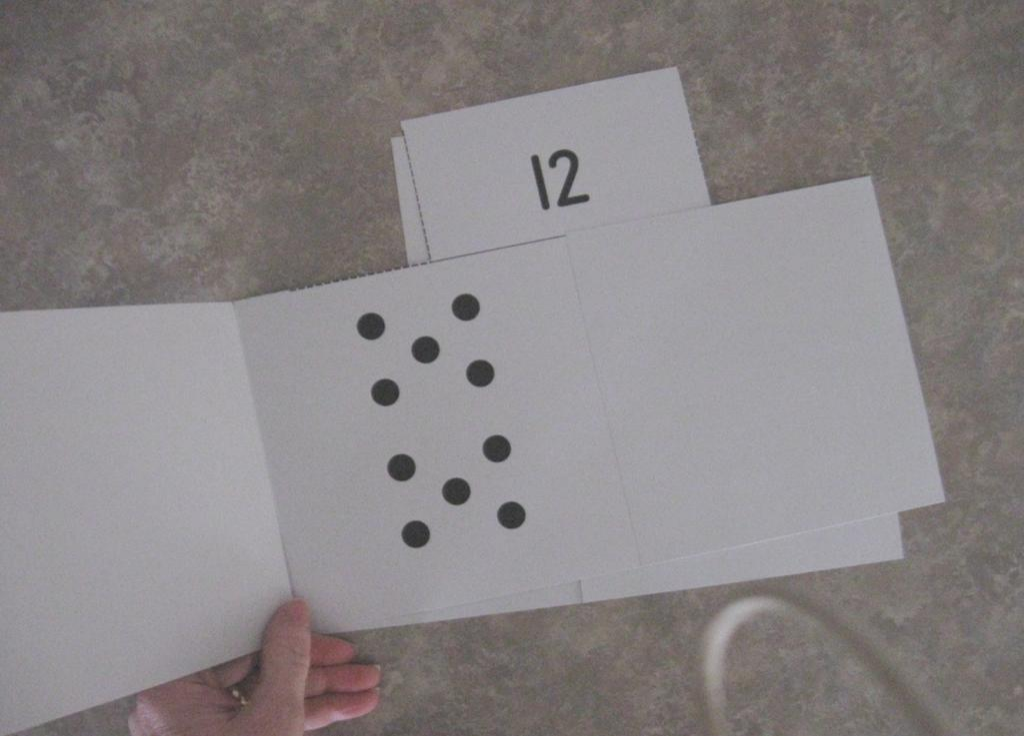
14

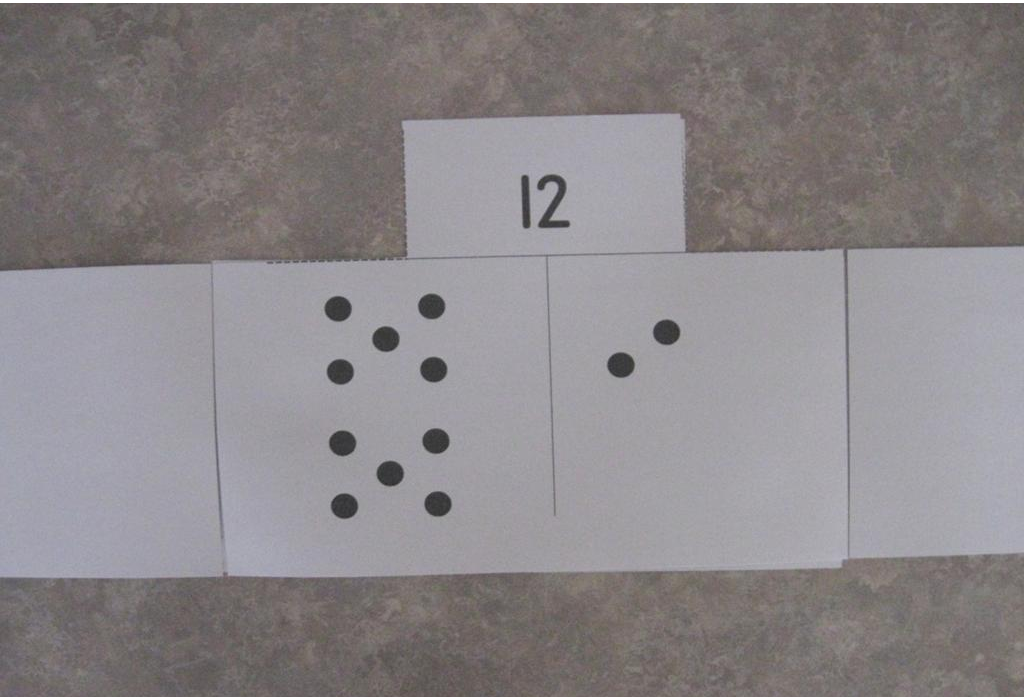





# S266.4


16
I can tell number combinations in the range of 11–20 when shown one dot pattern!
Materials: 10-plus combination cards with dot patterns
Directions:
1. Get the combination cards out of the folder.
2. Open one flap to see a numeral and show it to your partner.
3. Ask you partner what number goes with it to make the number at the top of the combination card.
4. The next time the card is used, open the other flap.
5. Take turns with your partner.




**“How many dots do you see?”**

**“How many more dots do we need to make 12?”**

**“Were you correct?”**

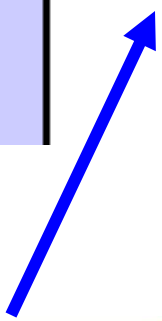
**“How did you work it out?”**

# S266.5

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Lea Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operations and Algebraic Thinking | Add and subtract within 20 | 10-plus combination cards with numerals | Numeral combinations to 20: combination cards on card stoc fold as indicated. Open one flap numeral and the student tells t that goes with it to make the indicated at top. Next time th used, the other flap is ope |

# S266.5

| KNP Entry | Kentucky Common Core Academic Standard (KCAS) (*see glossary) | KCAS Domain | KCAS Cluster | Setting (situation & materials) | Activities: Exemplary Lea Experiences (*see glossary) |
|---|---|---|---|---|---|
| S 266.5 | 2.OA.2. Fluently add and subtract within 20 using mental strategies.2 By end of Grade 2, know from memory all sums of two one-digit numbers. | Operations and Algebraic Thinking | Add and subtract within 20 | 10-plus combination cards with numerals | Numeral combinations to 20: combination cards on card stoc fold as indicated. Open one flap numeral and the student tells t that goes with it to make the indicated at top. Next time th used, the other flap is ope |



# S266.5

| Setting (situation & materials) | Activities: Exemplary Learning Experiences (*see glossary) | Numeracy Strand (from AVMR) | Construct/Level (from AVMR) | Numeracy Target (from AVMR) | "I CAN ....." (*see glossary) |
|---|---|---|---|---|---|
| 10-plus combination cards with numerals | Numeral combinations to 20: Print the combination cards on card stock. Cut and fold as indicated. Open one flap to reveal a numeral and the student tells the number that goes with it to make the number indicated at top. Next time the card is used, the other flap is opened. | Structuring | 4 to 5 PINK | facile stuctures to twenty | ... tell the combinations of numerals from 11-20 given one number in th form of bare numerals |

# S266.5

| Assessment for Learning | Student Grouping | Video Link | Print Link | Interactive Website | Reference | Teacher Notes |
|---|---|---|---|---|---|---|
| student "What goes with 5 ake 13?" Do the same for 10 make 16) and 9 (to make 17). | independent / group / whole class | | numeral combination cards | | | A variety of other combinations can be use |

Cut on dotted lines. Fold paper edges to meet at center line

10


5 5

Cut on dotted lines. Fold paper edges to meet at center line

11


6 5

Cut on dotted lines. Fold paper edges to meet at center line

11


1 10

Cut on dotted lines. Fold paper edges to meet at center line

12


2 10

Cut on dotted lines. Fold paper edges to meet at center line

14


7

7

Cut on dotted lines. Fold paper edges to meet at center line

14


10

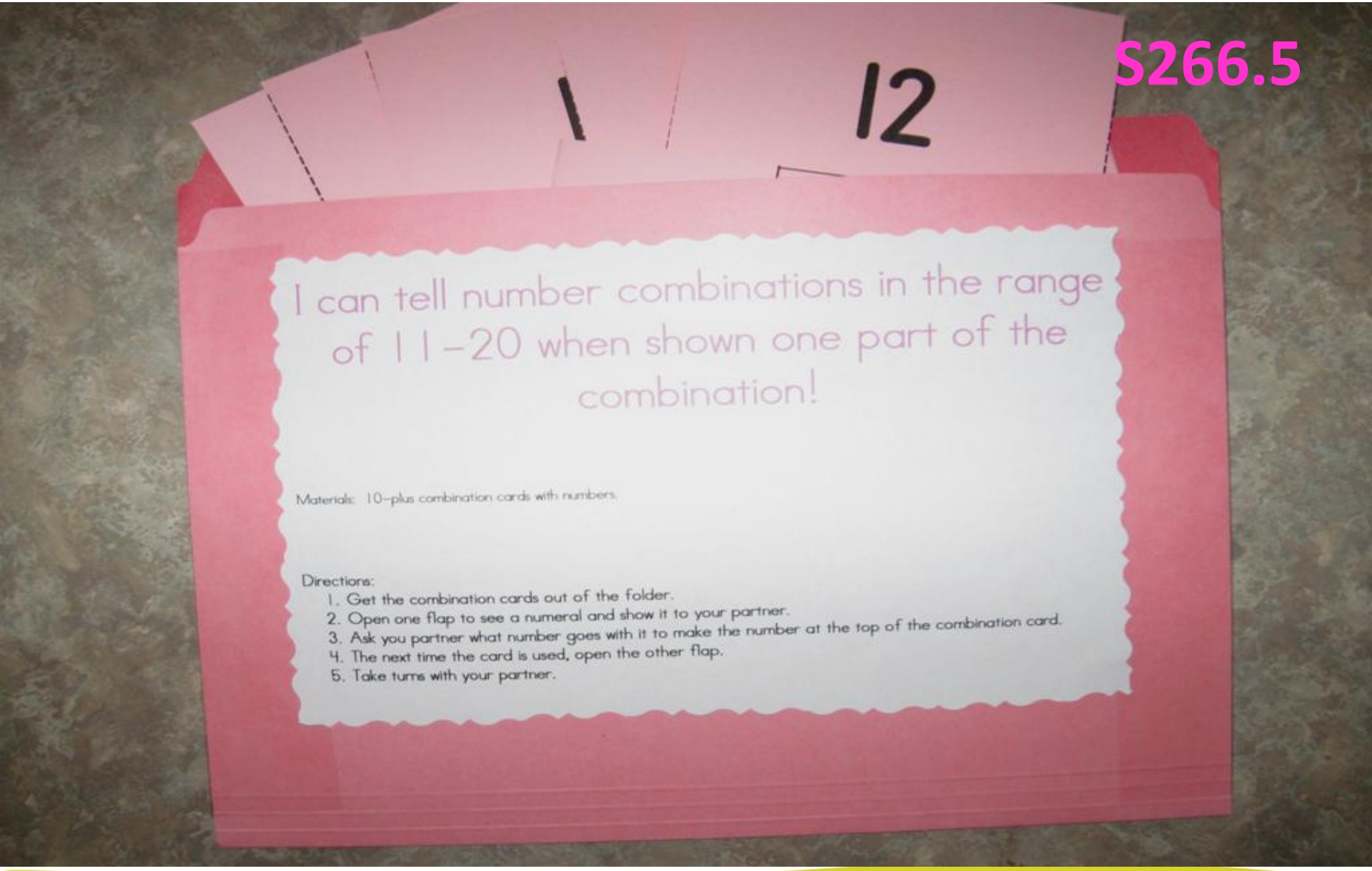
4

Cut on dotted lines. Fold paper edges to meet at center line

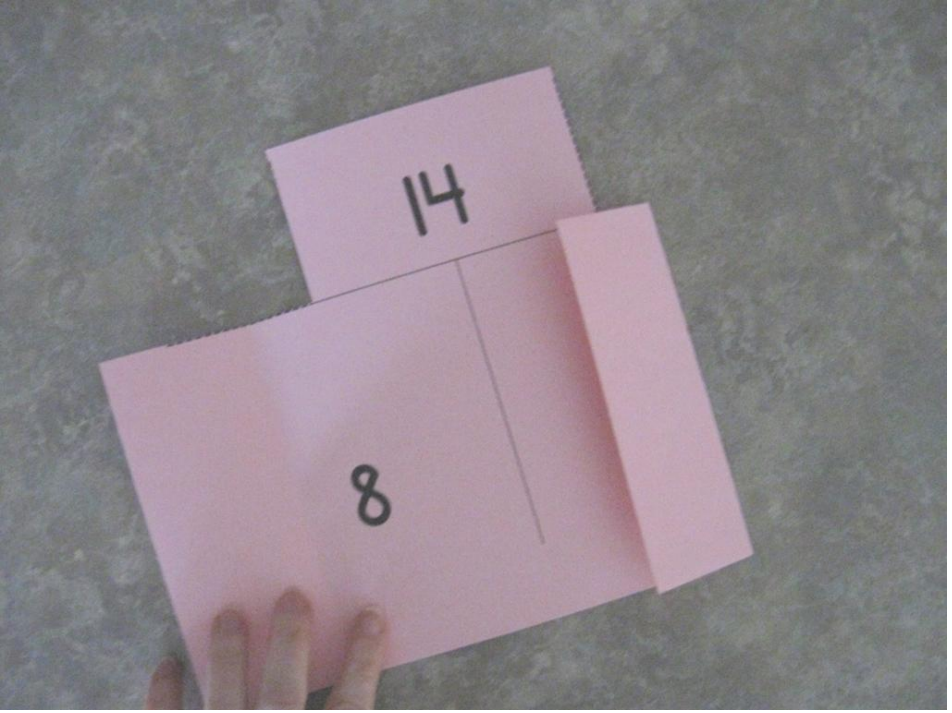
14


8

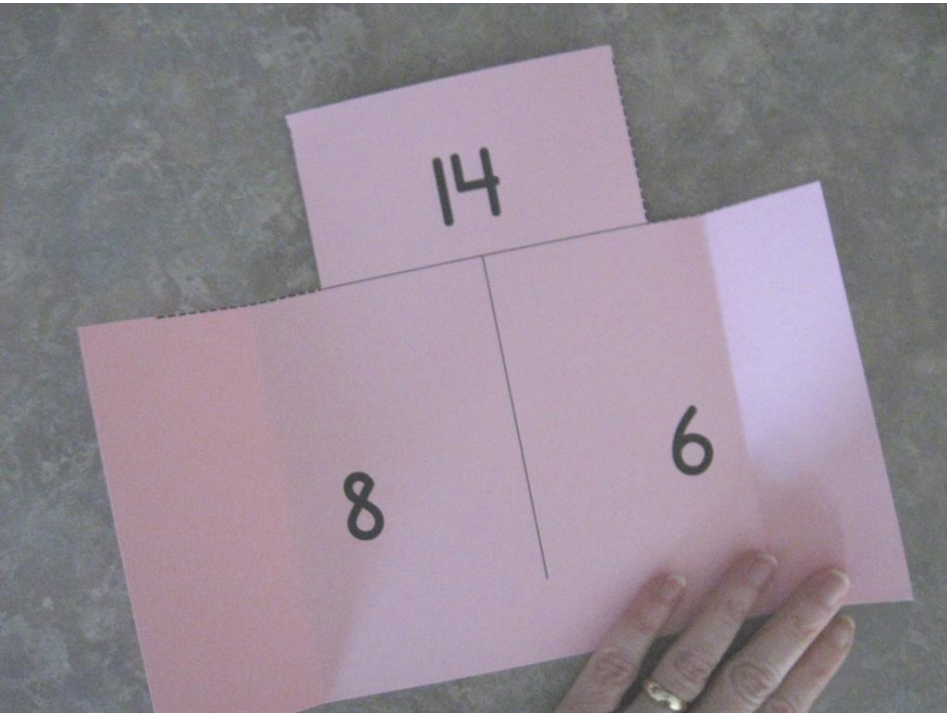
6


12
I can tell number combinations in the range of 11–20 when shown one part of the combination!
Materials: 10-plus combination cards with numbers.
Directions:
1. Get the combination cards out of the folder.
2. Open one flap to see a numeral and show it to your partner.
3. Ask you partner what number goes with it to make the number at the top of the combination card.
4. The next time the card is used, open the other flap.
5. Take turns with your partner.

S266.5




**“We have 8, but we need 14 altogether. How much more do we need?”**




**“How did you work it out?”**

# Go Cats!

KENTUCKY CENTER FOR MATHEMATICS

# http://mathrack.com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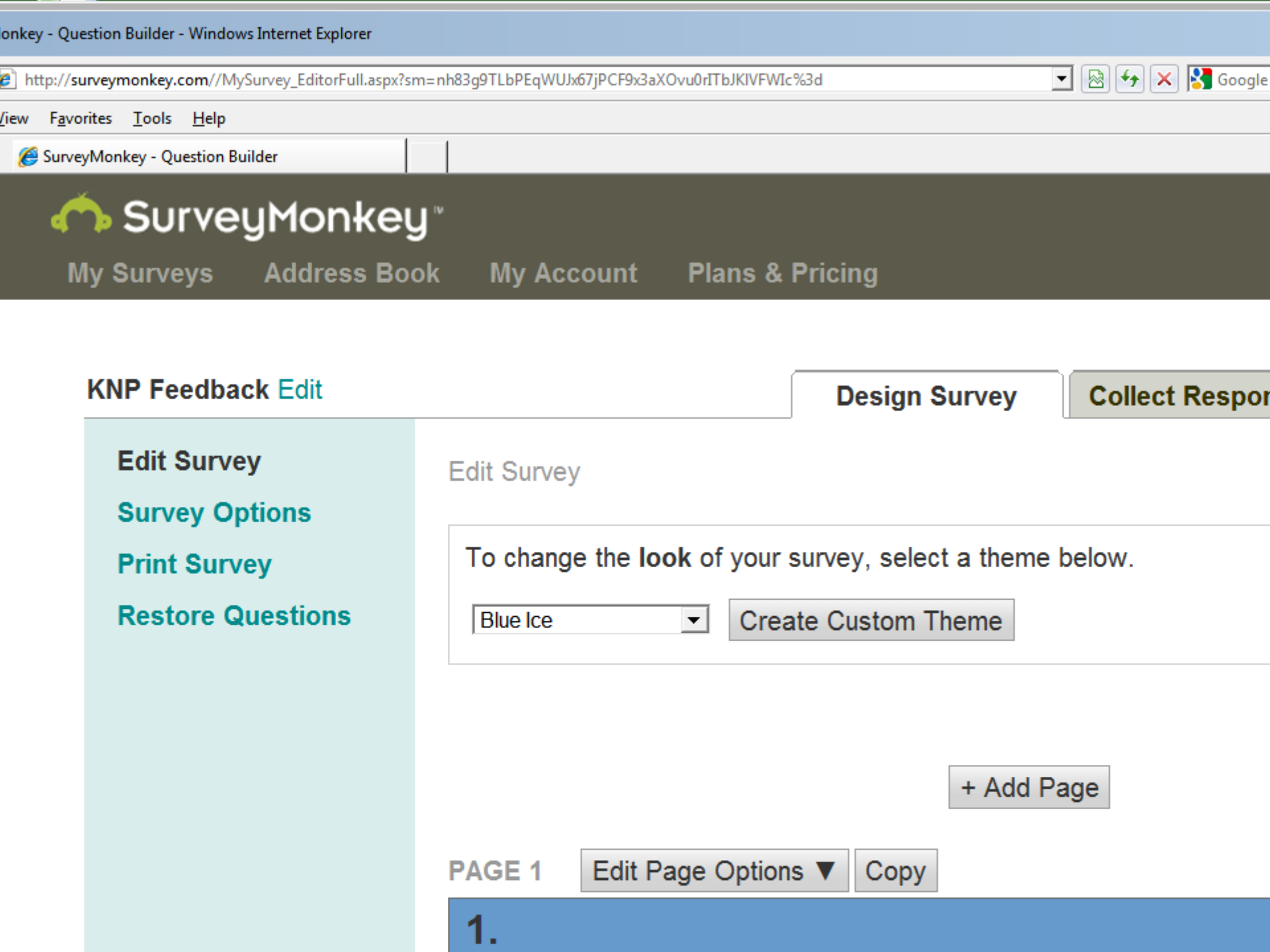
MathRack20 ▼

## How to use a MathRack?

The following instructions on the use of the MathRack 20™ have been compiled by Angela G. Andrews. Angela is an expert on using MathRacks and can be contacted at auntymath@comcast.net for information on MathRack™ workshops.

## MathRack 20TM


onkey - Question Builder - Windows Internet Explorer
http://surveymonkey.com//MySurvey_EditorFull.aspx?sm=nh83g9TLbPEqWUJx67jPCF9x3aXOvu0rITbJKIVFWIc%3d
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iew Favorites Tools Help
SurveyMonkey - Question Builder
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Edit Survey
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Restore Questions
Edit Survey
To change the look of your survey, select a theme below.
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KENTUCKY CENTER FOR MATHEMATICS

# Upcoming KNP Sessions, 3:30 to 4:30 p.m. ET

- April 21 – Advanced Addition and Subtraction
- May 12 – Multiplication and Division
- June 2 – Tens and Ones

http://kymath.org/intervention/iKNP.asp

# Reflection Questions

1) How might you promote opportunities for rich, constructive number talk among and between students?
2) How might you confirm that students are facile with structuring to five and ten before working on structuring to twenty?
3) How does work with structuring number support the acquisition of basic facts?