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## Math Fact Fluency Playground

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- Website: Math Fact Fluency Playground
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## Welcome to this book!

I am so excited that you are here to share this with me. This is the everything you ever wanted, needed, thought you might need, never even knew that you needed mega book of guided math division templates. It is written as a book in the spirit of acceleration and differentiation. The templates are differentiated along the learning progression so that you can meet your students where they are in small groups.

How to Use this Book!
This book has templates that the teacher can use for guided math groups, whole class activities, workstations and homework! The teacher can pull the different templates and make a binder for each person in the group. In the binder, put the templates in sheet protectors or laminate them so they can be used over and over again! Each student will have their own binder and they can use it as needed!

## Big Ideas/Priority Standards

This book is aligned to the Big Ideas/Priority standards in k-2. It can be used as a supplement to any program. We have created a variety of templates to address the variations in state standards. These templates will provide you a way to reach back to eatch up as well as extend learning for those students who are ready to go to the next steps.

Learning Trajectories
Speaking of steps, we have based all of our templates with the learning trajectories in mind. A learning trajectory is a developmental path that shows the landscape of learning a particular concept. Clements and Sarama have written extensively about learning trajectories (www.learningtrajectories. org). In the front of each book, you will find the learning trajectories for the topic.
$\bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet$ -Guided Math

- Guided Math is a way of teaching students in small - groups. Small groups allow us to get up close and
- personal with our students and their learning. In a small
- guided math group, there should be no more than 3-5 - students. Groups meet for $10-15$ minutes. The focus is - on DOING MATH. These templates help you to do just that! - They provide a space for students to explore, think, talk - and work. In the small guided math group, students will - make sense of math through working with their peers, - their teacher and the different math materials (thinking - mats, manipulatives, vocabulary/language talk frames). - While students are working together, the teacher - guides them, asks important questions and provides the - necessary feedback on their attempts at making sense of - the math so that they can make the necessary connections - and corrections and build a deeper understanding of the - math concepts. The learning spirals and children build on $\bullet$ prior knowledge as they engage in new experiences. - (Dewey 1933/I998; Piaget, 1972; Vygotsky, I978; - Bruner. 1973, 1990). In the guided math group, the - Student's should spend most of the time doing math - rather than listening to the teacher talk about math. - Experiences are scaffolded in a way to
- maximize the learning opportunities. Students are - working in their Zone of Proximal Development, meaning - that they are working at a level that is just right, not too - easy and not too difficult (Vygotsky, 1978). Through - interaction with more capable peers, adults who are $\bullet$ facilitating their learning and artifacts lin this case - appropriately selected materials such as manipulatives, - books, computer programs etc.), students make meaning - of the math (Vygotsky).
- While differentiation "advocates attending to students as individuals, it does not assume a separate assignment - for each learner"(Tomlinson). "Differentiation needs to - be student-centered, rooted in assessment, and dynamic" -Serravello. 2010. We are constantly adjusting our - teaching in response to what students are telling and - showing us in their work and talk. Teachers who : differentiate must take the time to get to know their - students well. They have to understand them as people. - learners and know what motivates them to reach their - goals. Robb notes that "Differentiation is a way of - teaching, it's not a program or a package of worksheets. - It asks teachers to know their students well so they can ${ }^{0}$ provide each one with experiences and tasks that will - improve learning" (2008, p.13).


## -Math Talk

One of the most important things that happen in the - math class is the discussion. We have to teach students ? to be active participants and engaged listeners. We want - them to respect each other deeply and seek to truly - understand each other without judgment. They have to ${ }_{-}^{0}$ learn to develop and defend their thinking, justify their - answers and respectfully disagree with each other. The - National Council of Teachers of Mathematics (NCTM) ${ }_{0}^{0}$ defines math talk as "the ways of representing, thinking. - talking, and agreeing and disagreeing that teachers and - students use to engage in [mathematical] tasks" (NCTM, - 1991).

## - Questioning

It is so important to ask good questions. The - questions should reach beyond the answer. As Phil Daro notes, we have to go "beyond answer-getting (https://vi-- meo.com/79916037)." The questions in the guided math - group should be designed to get students to understand - more fundamentally the mathematics of the grade level. -Good questions don't just happen. they are planned for. - The teacher should know ahead of time the types of -questions that she will ask and why she will ask them. - In the plan for the lesson, the teacher should brainstorm - some possible questions that push student thinking. - These are not yes or no questions, but rather ones that ${ }_{0}^{0}$ require students to explain themselves, show what they - know and defend and justify their thinking.

## repeated subtraction <br> repeates

## (3) skip counting

## (4) uspereycted <br> 4 mutefulication focts

(s) Pröperties
(6) Yearned facts

I can model division with equal groups

I can model division with anays



##  

## ALMOST THERE!

DIVIDING A NUMBER By
ITS HALF

# VOCABULARY CARDS 



## VOCABULARY CARDS

## EQUAL SHARE


$5 \times 3=15$
$15 \div 3=5$
$15 \div 5=3$


## VOCABULARY CARDS

Division Equation/ Number Sentence


DIVIDEND


DIVISIOR

Equal Sign


QUOTIENT


# DIVISION 







L






# DIVISION TEMPLATE 



## DICE TEMPLATE



## DICE TEMPLATE



## DICE TEMPLATE



## DICE TEMPLATE









~
?



## HUNDRED CHART DIVISION

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| II | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 |
| 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |



## HUNDREDS A CHART

|  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 1314 | 14 | 15 |  |  |  |  |
|  | 22 | 2324 | 2425 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 46 |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 66. |  |  |  |
|  |  | 37 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |


| 4 |
| :---: |
| 5 |
| 6 |
|  |

It GOES BY
A COLUMN GOES UP AND


A ROW GOES LEFTAND

| 34 | 35 | 36 | 37 |
| :--- | :--- | :--- | :--- | IT GOES BY

## DIVISION TABLES



## DIVISION TABLES




## DIVISION CHART

|  | $\div 1$ | $\div 2$ | $\div 3$ | $\div 4$ | $\div 5$ | $\div 6$ | $\div 7$ | $\div 8$ | $\div 9$ | $\div 10$ | $\div 11$ | $\div 12$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $=1$ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| $=2$ | 2 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 22 | 24 |
| $=3$ | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 | 33 | 36 |
| $=4$ | 4 | 8 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 | 44 | 48 |
| $=5$ | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| $=6$ | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 60 | 66 | 72 |
| $=7$ | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | 70 | 77 | 84 |
| $=8$ | 8 | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 | 88 | 96 |
| $=9$ | 9 | 18 | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 | 99 | 108 |
| $=10$ | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 |
| $=11$ | 11 | 22 | 33 | 44 | 55 | 66 | 77 | 88 | 99 | 110 | 121 | 132 |
| $=12$ | 12 | 24 | 36 | 48 | 60 | 72 | 84 | 96 | 108 | 120 | 132 | 144 |

Example:

| 9 | $\div 3$ | $=3$ |
| :--- | :--- | :--- |




## CUBE COUNTERS



## CIRCLE COUNTERS




www.mathfactfluencuplayground.com 41




## BEAR COUNTERS




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www.mathfactfluencuplayground.com 49

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# PENNY COUNTERS 



$$
0
$$



$$
8
$$



$\bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet$
SPINNER


-
$\begin{array}{ll}\bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \bullet \\ \bullet & ~ \& ~ D ~ N ~ N ~ E ~\end{array}$

## Tic Tac Toe
















# Fact Families Multiplying by 4 







## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## Division

$6 \div 6=1$
$12 \div 6=2$
$18 \div 6=3$
$24 \div 6=4$
$30 \div 6=5$
$36 \div 6=6$
$42 \div 6=7$
$48 \div 6=8$
$54 \div 6=9$
$60 \div 6=10$
$66 \div 6=11$
$72 \div 6=12$


## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS



## BOOKMARKS

$$
\begin{aligned}
& 11 \div 11=1 \\
& 22 \div 11=2 \\
& 33 \div 11=3 \\
& 44 \div 11=4 \\
& 55 \div 11=5 \\
& 66 \div 11=6 \\
& 77 \div 11=7 \\
& 88 \div 11=8 \\
& 99 \div 11=9 \\
& 110 \div 11=10 \\
& 121 \div 11=11 \\
& 132 \div 11=12
\end{aligned}
$$



$$
24 \div 12=2
$$

$$
36 \div 12=3
$$

$$
48 \div 12=4
$$

$$
60 \div 12=5
$$

$$
72 \div 12=6
$$

$$
84 \div 12=7
$$

$$
96 \div 12=8
$$

$$
108 \div 12=9
$$

$$
120 \div 12=10
$$

$$
132 \div 12=11
$$

$$
144 \div 12=12
$$



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Tomlinson (2001)

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