



Essential Thinking Strategies for Fact Fluency

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NUMBER FACT STRATEGIES

ADDITION

- Count-on 1, 2 and 0
- Doubles and near doubles
- Make ten

SUBTRACTION

- Think addition

MULTIPLICATION

- Use tens (5s)
- Make generalizations (1s and 0s)
- Use doubles (2s, 4s and 8s)
- Build up/down (9s and 6s)

DIVISION

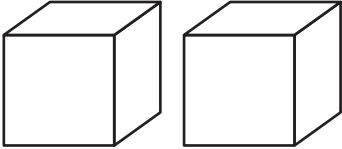
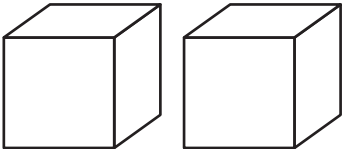
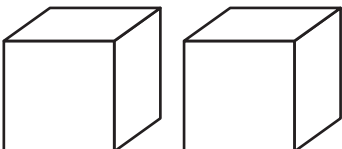
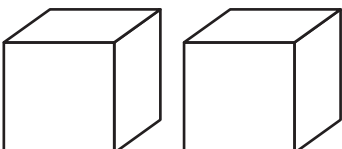
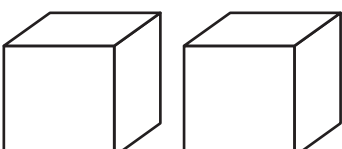
- Think multiplication

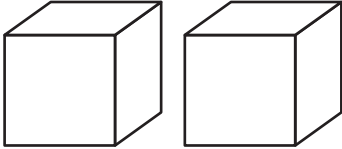
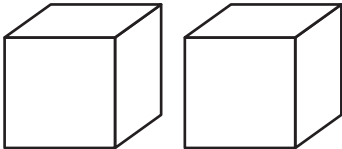
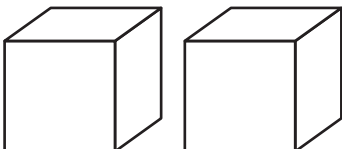
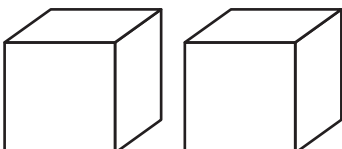
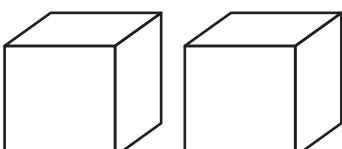
TEACHING SEQUENCE

- Introduce
- Reinforce
- Practice
- Extend

REINFORCE: Count on 1 and 2

- Roll your number cubes and count on 1 or 2.
- Find your answer below.
- Write your numbers on the number cubes. Write the number fact.

 ____ + ____ = 11
 ____ + ____ = 5
 ____ + ____ = 9
 ____ + ____ = 8
 ____ + ____ = 7

 ____ + ____ = 6
 ____ + ____ = 8
 ____ + ____ = 7
 ____ + ____ = 6
 ____ + ____ = 10

Cube A: 4, 5, 6, 7, 8, 9

Cube B: 

ADDITION CHART

+	0	1	2	3	4	5	6	7	8	9
0	0	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9	10
2	2	3	4	5	6	7	8	9	10	11
3	3	4	5	6	7	8	9	10	11	12
4	4	5	6	7	8	9	10	11	12	13
5	5	6	7	8	9	10	11	12	13	14
6	6	7	8	9	10	11	12	13	14	15
7	7	8	9	10	11	12	13	14	15	16
8	8	9	10	11	12	13	14	15	16	17
9	9	10	11	12	13	14	15	16	17	18

- ☐ Count-on facts
- ☐ Use doubles facts
- ☐ Make ten facts

REINFORCE: Double-add-1

11	19	13	15
13	9	17	19
17	11	15	9

Cube: 4, 5, 6, 7, 8, 9 (Same as previous game)

INTRODUCE: Make Ten

ORIGO Education: *Box of Facts (Addition and Subtraction)*

REINFORCE: Make Ten

- Roll your number cubes and write the fact below the example in the grid that will help you figure out the answer.
- Write the answer to both facts.

$10 + 6 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 5 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 5 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 4 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 4 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 3 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 3 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 2 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 1 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$

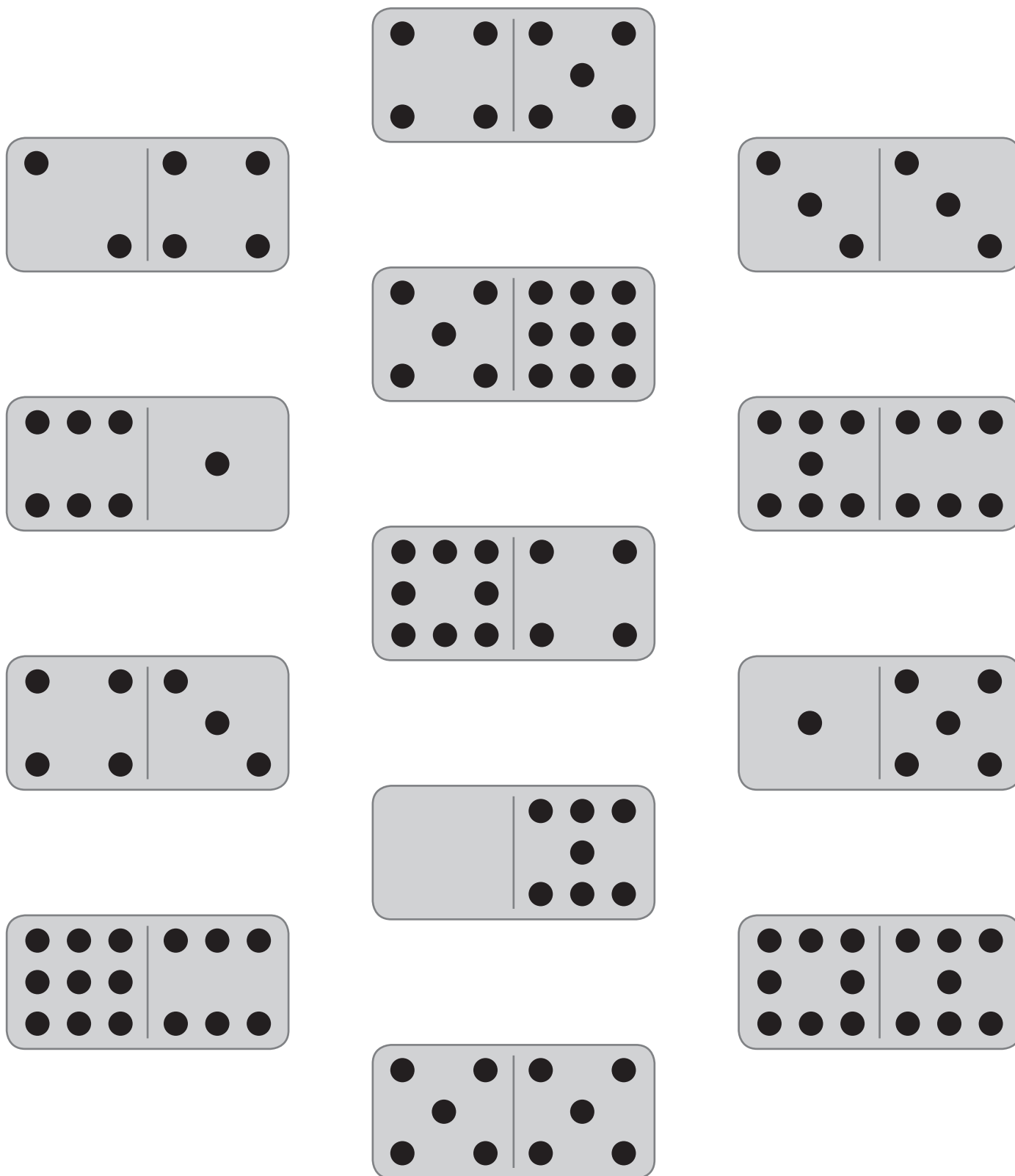
$10 + 6 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 5 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 5 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 4 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
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$10 + 2 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$
$10 + 1 = \underline{\quad}$ $\underline{\quad} + \underline{\quad} = \underline{\quad}$

Cube A: 8, 8, 8, 9, 9, 9

Cube B: 3, 4, 5, 5, 6, 7

DOMINO SORT

Sort these dominos according to the addition strategy you would use to calculate the total number of dots.



☐ Count On ☐ Use Doubles ☐ Make Ten

CONNECT ADDITION AND SUBTRACTION

Take or Tally

Player 1	Player 2
$13 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$13 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
$12 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$12 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
$11 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$11 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
$10 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$10 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
$9 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$9 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
$8 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$	$8 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$
Tally	Tally

Cube A: 1, 2, 3, 1, 2, 3
Cube B: 7, 8, 9, 10, 11, 12

Tens Or Fives

$2 \times 10 = \underline{\hspace{1cm}}$ $2 \times 5 = \underline{\hspace{1cm}}$	$4 \times 10 = \underline{\hspace{1cm}}$ $4 \times 5 = \underline{\hspace{1cm}}$	$7 \times 10 = \underline{\hspace{1cm}}$ $7 \times 5 = \underline{\hspace{1cm}}$	$3 \times 10 = \underline{\hspace{1cm}}$ $3 \times 5 = \underline{\hspace{1cm}}$	$2 \times 10 = \underline{\hspace{1cm}}$ $2 \times 5 = \underline{\hspace{1cm}}$
$6 \times 10 = \underline{\hspace{1cm}}$ $6 \times 5 = \underline{\hspace{1cm}}$	$2 \times 10 = \underline{\hspace{1cm}}$ $2 \times 5 = \underline{\hspace{1cm}}$	$8 \times 10 = \underline{\hspace{1cm}}$ $8 \times 5 = \underline{\hspace{1cm}}$	$5 \times 10 = \underline{\hspace{1cm}}$ $5 \times 5 = \underline{\hspace{1cm}}$	$1 \times 10 = \underline{\hspace{1cm}}$ $1 \times 5 = \underline{\hspace{1cm}}$
$9 \times 10 = \underline{\hspace{1cm}}$ $9 \times 5 = \underline{\hspace{1cm}}$	$8 \times 10 = \underline{\hspace{1cm}}$ $8 \times 5 = \underline{\hspace{1cm}}$	$3 \times 10 = \underline{\hspace{1cm}}$ $3 \times 5 = \underline{\hspace{1cm}}$	$7 \times 10 = \underline{\hspace{1cm}}$ $7 \times 5 = \underline{\hspace{1cm}}$	$5 \times 10 = \underline{\hspace{1cm}}$ $5 \times 5 = \underline{\hspace{1cm}}$
$3 \times 10 = \underline{\hspace{1cm}}$ $3 \times 5 = \underline{\hspace{1cm}}$	$7 \times 10 = \underline{\hspace{1cm}}$ $7 \times 5 = \underline{\hspace{1cm}}$	$6 \times 10 = \underline{\hspace{1cm}}$ $6 \times 5 = \underline{\hspace{1cm}}$	$2 \times 10 = \underline{\hspace{1cm}}$ $2 \times 5 = \underline{\hspace{1cm}}$	$9 \times 10 = \underline{\hspace{1cm}}$ $9 \times 5 = \underline{\hspace{1cm}}$
$8 \times 10 = \underline{\hspace{1cm}}$ $8 \times 5 = \underline{\hspace{1cm}}$	$1 \times 10 = \underline{\hspace{1cm}}$ $1 \times 5 = \underline{\hspace{1cm}}$	$9 \times 10 = \underline{\hspace{1cm}}$ $9 \times 5 = \underline{\hspace{1cm}}$	$4 \times 10 = \underline{\hspace{1cm}}$ $4 \times 5 = \underline{\hspace{1cm}}$	$7 \times 10 = \underline{\hspace{1cm}}$ $7 \times 5 = \underline{\hspace{1cm}}$

Cube A: 6, 5, 4, 3, 2, 1
Cube B: 9, 9, 8, 8, 7, 7

REINFORCE: Double and Halve

Nice and Easy

30×3	50×3	70×3	90×3
30×4	50×4	70×4	90×4
30×6	50×6	70×6	90×6
30×7	50×7	70×7	90×7
30×8	50×8	70×8	90×8
30×9	50×9	70×9	90×9

Cube A: 15, 15, 25, 35, 45, 45

Cube B: 6, 8, 12, 14, 16, 18

Nice and Easy Too!

90	150	210	270
120	200	280	360
180	300	420	540
210	350	490	630
240	400	560	720
270	450	630	810

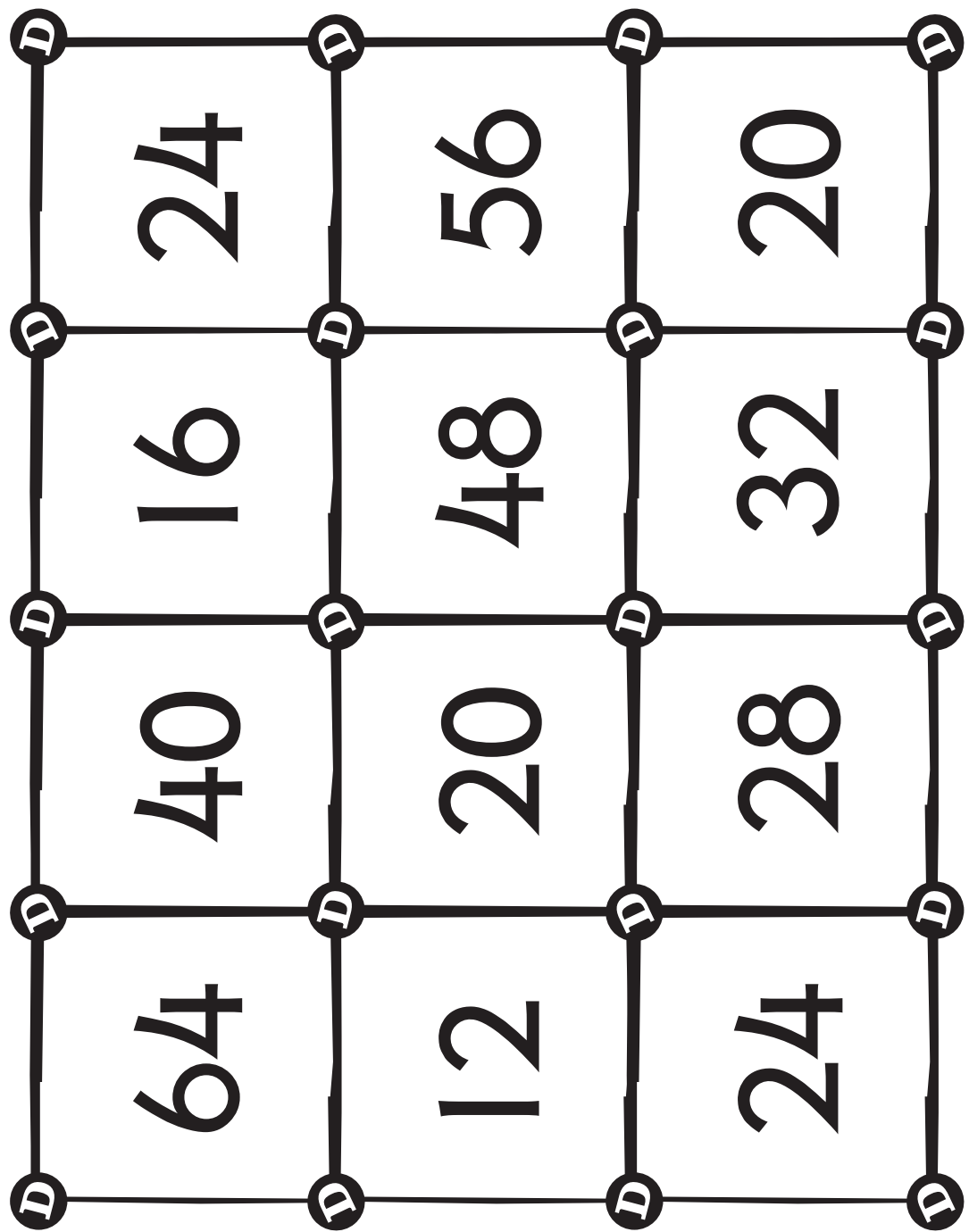
MULTIPLICATION CHART

×	0	1	2	3	4	5	6	7	8	9
0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9
2	0	2	4	6	8	10	12	14	16	18
3	0	3	6	9	12	15	18	21	24	27
4	0	4	8	12	16	20	24	28	32	36
5	0	5	10	15	20	25	30	35	40	45
6	0	6	12	18	24	30	36	42	48	54
7	0	7	14	21	28	35	42	49	56	63
8	0	8	16	24	32	40	48	56	64	72
9	0	9	18	27	36	45	54	63	72	81

- ☐ Use tens (5s)
- ☐ Make generalizations (0s, 1s)
- ☐ Use doubles (2s, 4s, 8s)
- ☐ Build up/down (9s, 6s)

REINFORCE: Fours and Eights Facts

Do the *D*s



Cube A: 3, 4, 5, 6, 7, 8

Cube B: DD, DD, DD, DDD, DDD, DDD