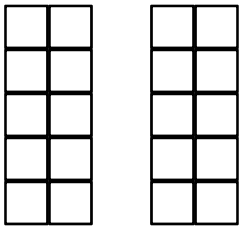
Basic fact derived fact strategies

Stuff to know:

- Addition and subtraction basic facts are the addition and subtraction problems where the parts are 10 or less and the total is 20 or less.
- A sum is the answer to an addition problem, and the difference is the answer to a subtraction problem: addend + addend = sum; minuend – subtrahend = difference.
- Facts we'd like children to learn (memorize) first are:
  - compositions and decompositions within 10 (problems where the total is 10 or less)
  - doubles (a number plus itself
  - partners that make 10
- Using those memorized facts, children should develop strategies to figure out other sums and differences quickly

1. Use doubles to add:
   a) For which of these problems is using doubles a good strategy (circle all that apply):
      5+6 7+4 6+8 7+6 8+4 8+9
   b) Show on these 10 frames, how a child could use doubles to add 7+5:



   c) Explain, using numbers/equations, two ways that a child could use doubles to add 6 + 7

2. Use 10 to add:
   a) For which of these problems is using 10 to add a good strategy? (circle all that apply)
      9 + 5 8 + 5 7 + 9 7 + 2 6 + 7
   b) Show using an open number line how to use 10 to add 6 + 9:

   c) Show using equations how to use 10 to add 8 + 7

3. Add up using 10 to subtract

a) For which of these problems is add up using 10 to subtract a good strategy? (circle all that apply)

16 – 5 14 – 9 15 – 8 9 – 3

b) Show using an open number line how to add up using 10 to subtract to solve 15 – 9

c) Show using equations how to add up using 10 to subtract to solve 13 – 8

4. Think addition to subtract:

a) Make a bar diagram for 12 – 5, and write the missing number addition problem that fits with it.

b) In the problem 12 – 5, which number is the whole (if any)? Which is the part or parts? Is the unknown a part or the whole?

Do 5-7 on a separate sheet of paper

5. Show how to compute 64+37 using each strategy:

a. Add on in chunks using multiples of 10 and 100 as bridge numbers (show on an open number line)
b. Add in place values and combine (write out using equations)
c. Add highest place values and compensate

6. Show how to compute 83 - 59 using each strategy:

a. Add up to the minuend in chunks using multiples of 10 and 100 as bridge numbers (show on an open number line)
b. Subtract in place values using negative numbers (the negative numbers algorithm)
c. Subtract highest place values and compensate

7. A student is subtracting 71-28 by:

subtracting the tens	70 - 20 = 50
adjusting the answer for the 8 in 28	50 – 8 = 42
adjusting the answer for the 1 in 71	42 + 1 = 43

a. in step 2, why is the 8 subtracted rather than added?
b. in step 3, why is the 1 added rather than subtracted?