

$$F = G \frac{m_1 m_2}{d^2}$$

Primary 1 and 2

Numeracy Workshop

$$\frac{\partial^2 u}{\partial t^2} = c^2 \frac{\partial^2 u}{\partial x^2}$$

$$\frac{df}{dt} = \lim_{h \rightarrow 0} \frac{f(t+h) - f(t)}{h}$$

Aims

- To briefly look at the current teaching of numeracy and mathematics in school
- To explain some of the resources that are used in school
- To demonstrate ways you can help at home

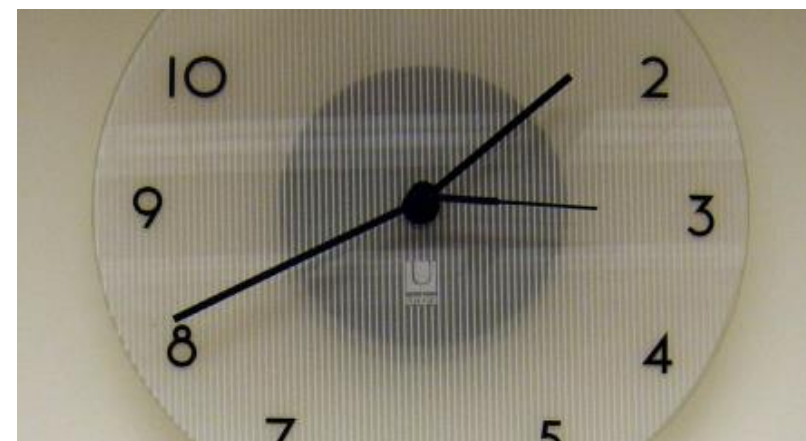




Mon.-Fri. 9:00-6:30
Sat. 10:00-6:00
Sun. 11:00-5:00



LIMIT
5



Concrete

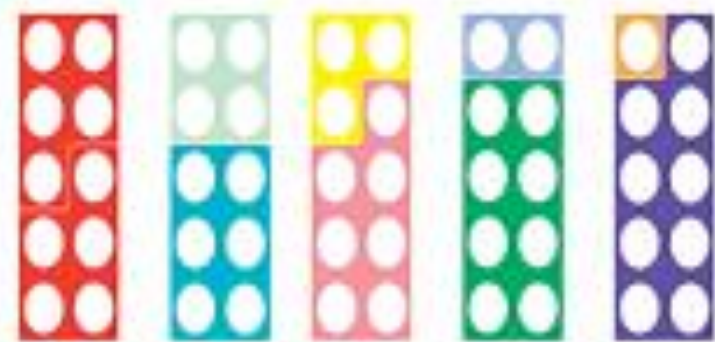


Pictorial

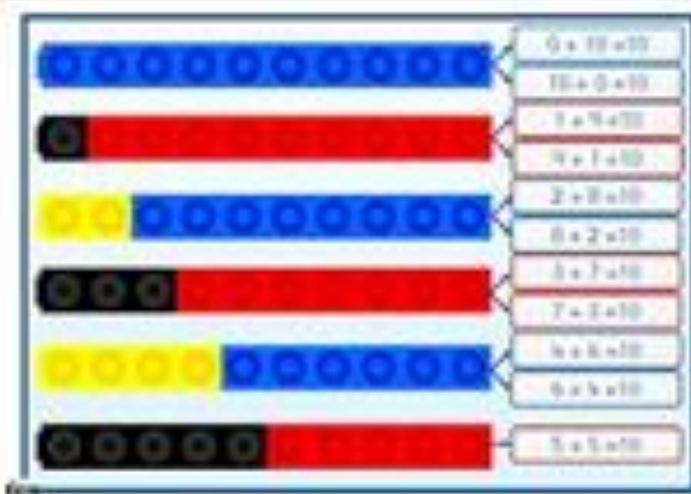


Abstract

$$2+2=4$$



5+5 6+4 7+3 8+2 9+1



$$10 + 0 = 10$$

$$9 + 1 = 10$$

$$8 + 2 = 10$$

$$7 + 3 = 10$$

$$6 + 4 = 10$$

$$5 + 5 = 10$$

$$4 + 6 = 10$$

$$3 + 7 = 10$$

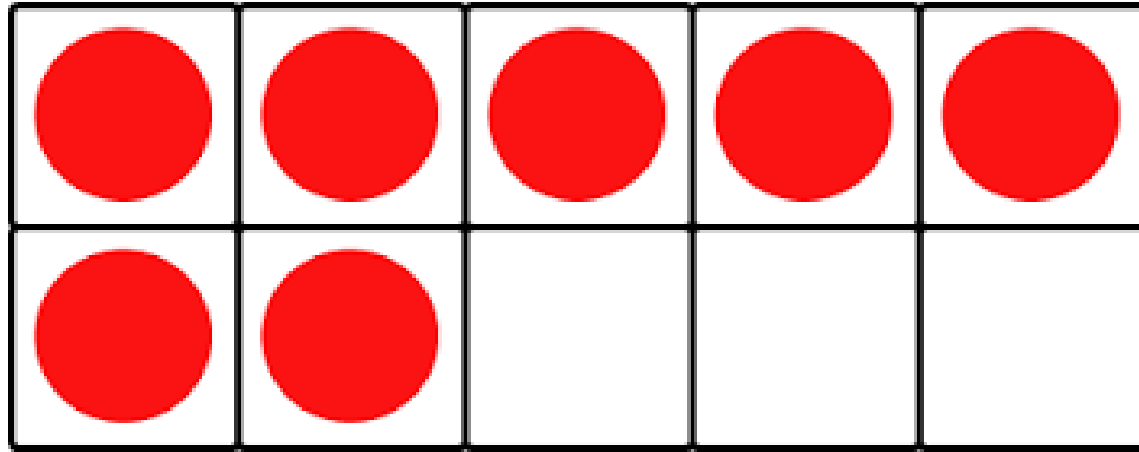
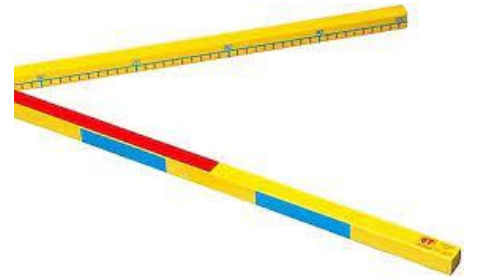
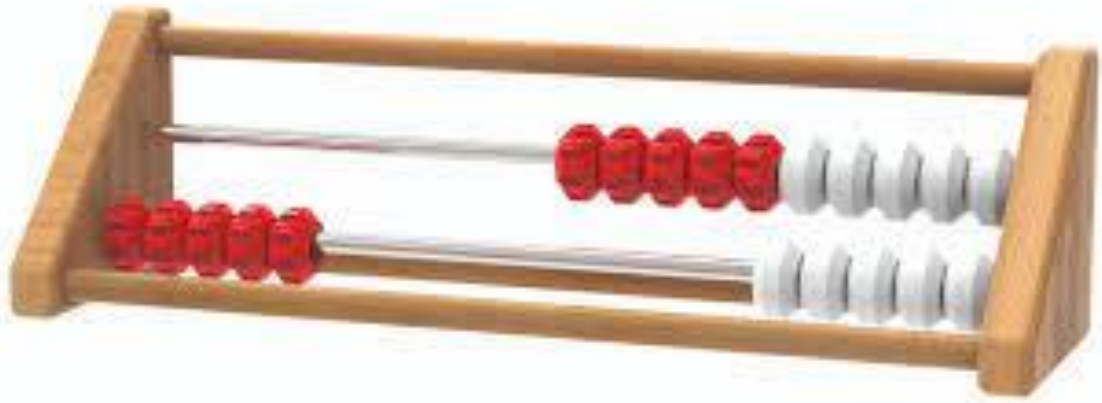
$$2 + 8 = 10$$

$$1 + 9 = 10$$

$$0 + 10 = 10$$

$$4 + 6 = 10$$





PINK

I SAY... YOU COPY

FORWARDS

COUNTING

BACKWARDS

20-1 10-1 5-1

RANDOM STARTING NUMBER...

YOU SAY...

NUMERAL MATCHING + RECOGNITION

0-3
0-3
0-3
0-3

MATCH KEYS TO TAGS

DO I KNOW 3 OR DO I ASSOCIATE BLUE WITH 3?

OR DO I ASSOCIATE BLUE WITH 3?

CLOSING THE GAP

2 3 5 7

4 6

2 7 9 5 4

PUT CARDS ON THE CORRECT ONE ... SMALLEST FIRST...

0

1-5

1-10

1-20

WHAT COMES AFTER 12?

NUMBERS IN THE ENVIRONMENT

CAR PARK

1 2 3

4 5 6

CAR REGISTRATION

642 738

HOUSE NUMBERS

23 58 95 123

Which NUMBER is this?

can you point to number 4?

SEQUENCING ...

2 3 4 5

- Counting forward and backwards
- Numeral recognition
- Number after/before

- How many beats?
- Can you copy the claps?
- 1 to 1 correspondence
- Gross movement activities





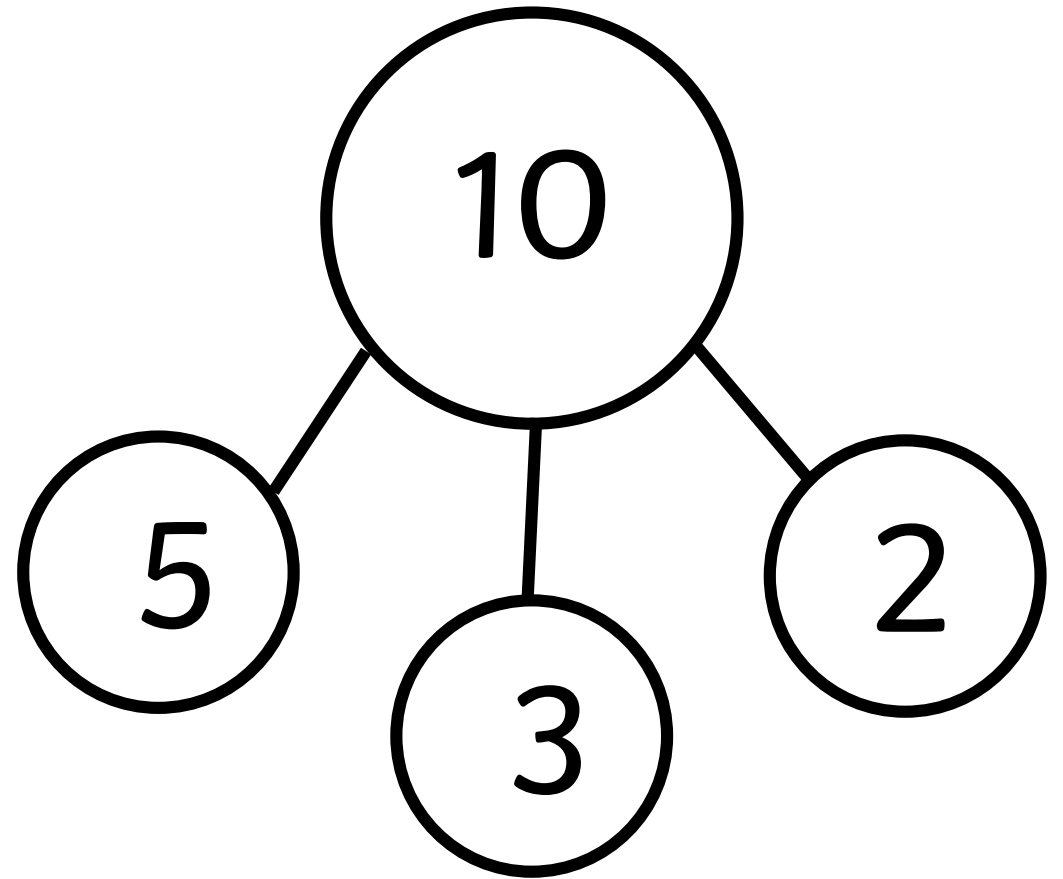
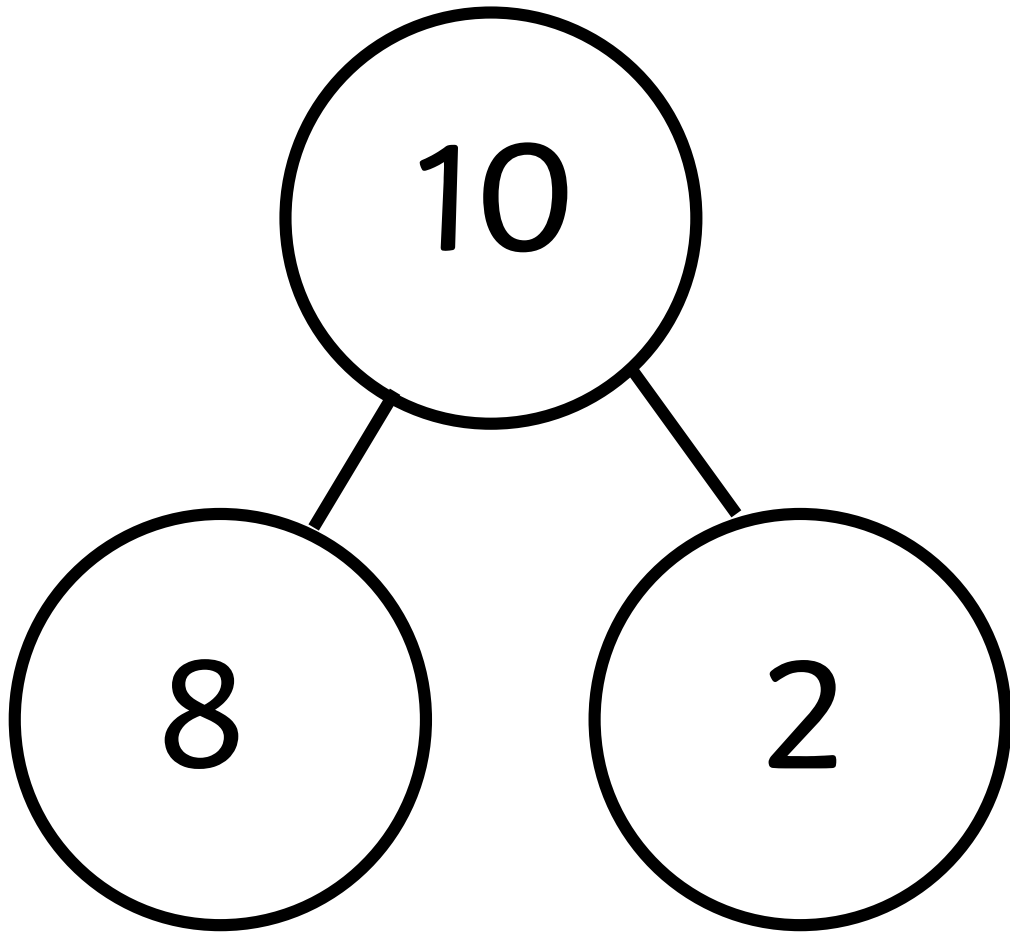
- Subitising
- Ten frames – five wise and pair wise

- Arrays
- Sharing equally/grouping

Place value – tens and ones

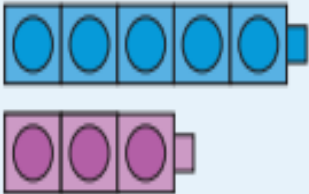
52

Part-Part Whole

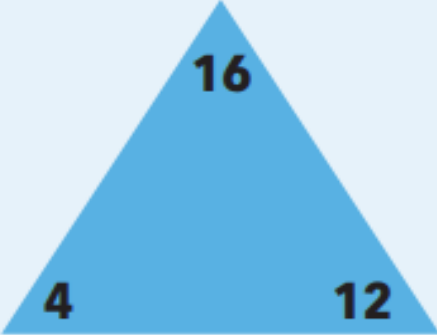



Fact Families

Learners should be able to mentally subtract for all number combinations within 10



5 + 3 = 8
3 + 5 = 8
8 - 5 = 3
8 - 3 = 5



16
4 12
4 + 12 = 16
12 + 4 = 16
16 - 12 = 4
16 - 4 = 12




Adding


and



Subtracting

Wonder Doubles





$5+6$

Double 5 and add one more
 or double 6 and subtract one

$5 + 5 + 1 = 11$


$6 + 6 - 1 = 11$

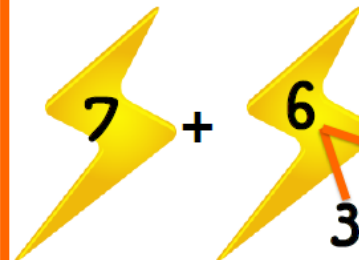
- ★ $14 + 15 =$ double 14 and add 1 or double 15 and subtract 1
- ★ $30 + 29 =$ double 30 and subtract 1
- ★ $18 + 16 =$ double 18 and subtract 2 or double 16 and add 2.

Wonder Woman knows her doubles and this helps her to add and subtract quickly

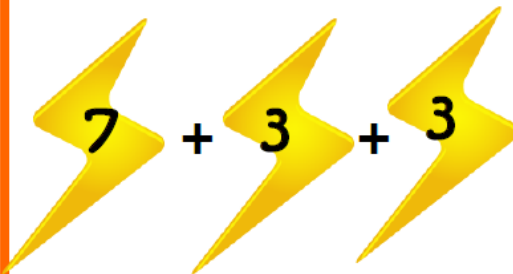
POW! Doubles/Near Doubles Strategy

Flash Through Ten





$7 + 6$




$7 + 3 + 3 = 13$

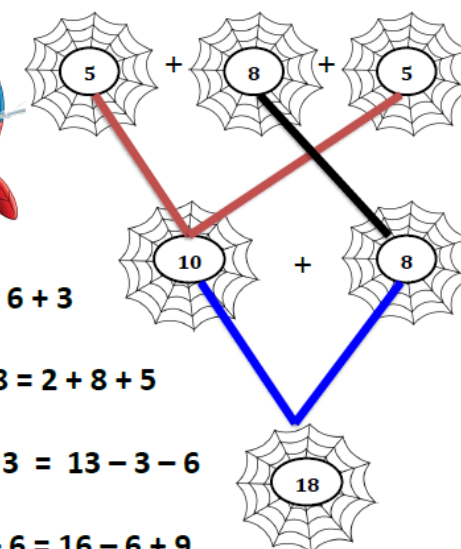
⚡ $6 + 7 = 6 + 4 + 3$
 ⚡ $23 - 8 = 23 - 3 - 5$

Flash knows when a number is close to ten or is a multiple of ten. This makes it easy for him to add and subtract.

BAM! Bridging Through Ten

Spider-Man Shuffle





$5 + 8 + 5$

$10 + 8$

18

- 🕸 $3 + 6 = 6 + 3$
- 🕸 $2 + 5 + 8 = 2 + 8 + 5$
- 🕸 $13 - 6 - 3 = 13 - 3 - 6$
- 🕸 $16 + 9 - 6 = 16 - 6 + 9$
- 🕸 $7 + 2 + 3 + 5 + 8 = 10 + 10 + 5 = 25$

Spider-Man shuffles the numbers around to make it easier to add and subtract.

POW! Reordering Strategy

Spiderman Shuffle - Re-ordering

$6 + 3 = 9$

$3 + 6 = 9$

↑ ↑ ↑
addend addend sum

$6 + 3 = 9$

$3 + 6 = 9$

$$6 + 3 = 9$$

$$3 + 6 = 9$$

Learners are encouraged to put the 'big' number first. They should have instant recall of number bonds within 10.

Spider-Man Shuffle

- $3 + 6 = 6 + 3$
- $2 + 5 + 8 = 2 + 8 + 5$
- $13 - 6 - 3 = 13 - 3 - 6$
- $16 + 9 - 6 = 16 - 6 + 9$
- $7 + 2 + 3 + 5 + 8 = 10 + 10 + 5 = 25$

Spider-Man shuffles the numbers around to make it easier to add and subtract.


Reordering Strategy

Hulk Breaks Apart



$$\begin{aligned}20 + 38 \\&= 20 + 30 + 8 \\&= 50 + 8 \\&= 58\end{aligned}$$

 $68 - 30 = 60 - 30 + 8$


$$\begin{aligned}35 + 14 &= 30 + 5 + 10 + 4 \\&= 30 + 10 + 5 + 4 \\&= 49\end{aligned}$$

The Hulk can break numbers into tens and ones. This helps him to add and subtract.



Partitioning Strategy

Superman Quick Change



$$\begin{aligned}33 + 18 &\xrightarrow{+2} 33 + 20 \\33 + 20 &= 53 \\53 - 2 &= 51\end{aligned}$$

$34 + 9 =$ round the 9 up to 10 by adding 1



$34 + 10 = 44$

Subtract the 1 that was added to make 43.

$70 - 18 =$ round 18 up to 20 by adding 2



$70 - 20 = 50$

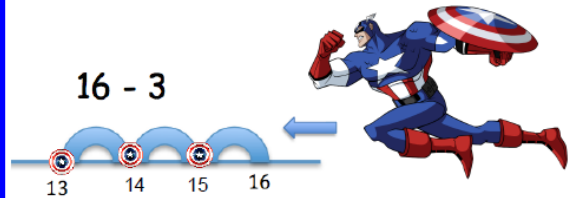
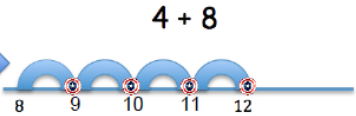
Add on the 2 to make 52

Superman likes a quick change. He can round a number to make a multiple of ten then add or subtract to get the answer.



Compensation Strategy

Captain Count On or Back



- Ⓢ 4 + 7 count on in ones from 4 or count on in ones from 7
- Ⓢ 18 - 3 count back in ones from 18
- Ⓢ 18 - 6 count back in twos from 18
- Ⓢ 40 + 3 count on in ones from 40

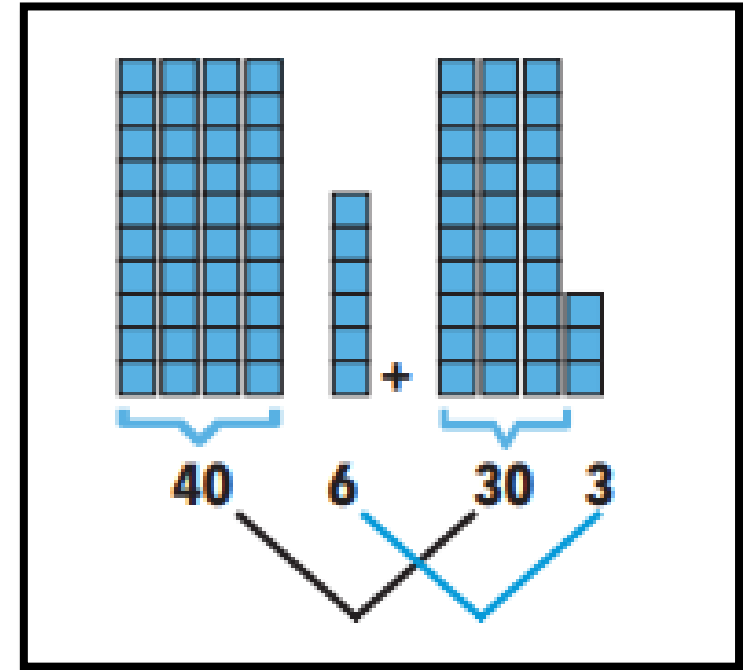
Captain America can count on to add and count back to subtract.



Counting On or Back Strategy

Hulk Smash - Partitioning

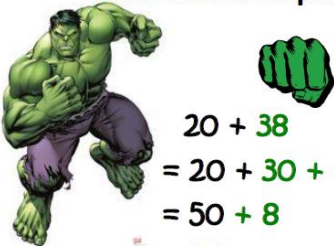
$$46 + 33 =$$




$$40 + 30 = 70 \quad 6 + 3 = 9$$

$$70 + 9 = 79$$

Hulk Breaks Apart


$$\begin{aligned} 20 + 38 \\ = 20 + 30 + 8 \\ = 50 + 8 \\ = 58 \end{aligned}$$
$$\begin{aligned} 68 - 30 &= 60 - 30 + 8 \\ 35 + 14 &= 30 + 5 + 10 + 4 \\ &= 30 + 10 + 5 + 4 \\ &= 49 \end{aligned}$$

The Hulk can break numbers into tens and ones. This helps him to add and subtract.

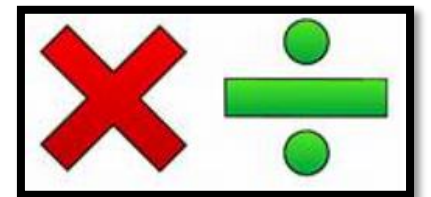
 Partitioning Strategy

Ready for Multiplication and Division?

Learners should be able to:

- Count securely
- Understand basic addition and subtraction facts
- Form groupings of the same size without and with remainders

The Key concepts introduced through activities at Early Level should be revised at First Level and Second Level to ensure there is developmentally secure understanding.



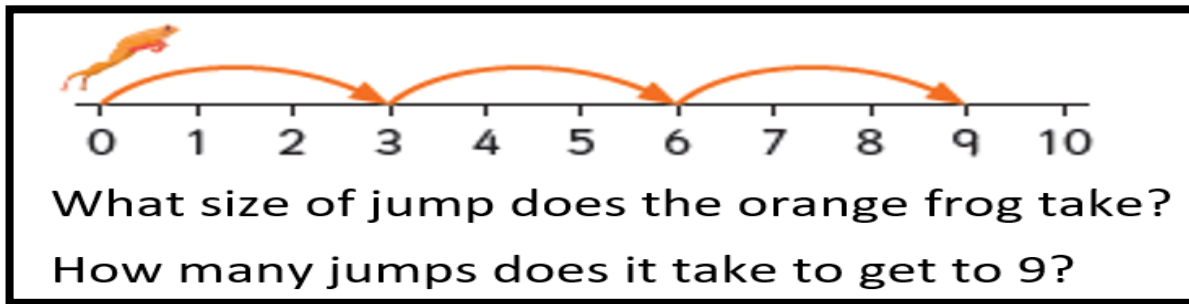
Repeated addition

Objects



$$3 + 3 + 3 + 3$$

Number line



Cuisenaire Rods



$$4 + 4 + 4 + 4$$



THANK

YOU