

# Simply Addition

Learning to add  
with a rekenrek

Incremental lessons

Level 2: Addition within 20



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**Introduction**

Here are the most sequential and incremental steps to using a Rekenrek for addition. Both the student and the teacher should have their own rekenrek, so the teacher can model on her rekenrek and the student can copy on his.

**Modeling and copying:** Most of the learning will happen by the student copying your work on his/her own rekenrek. Always introduce each new concept by demonstrating first. Encourage your student to copy *everything* you do on his/her own rekenrek. Once your student has fully grasped a concept, slowly encourage independence, first by taking turns and then by giving the student work to do independently.

**Worksheet Tip:** Make two copies of each worksheet: one for your student and one for yourself. Do the worksheets together, so your student can copy what you are doing by watching you work. Another day, give him the same worksheets to try independently.

Keep the **tone of each lesson** playful and light-hearted. Never show disappointment when a student makes a mistake. Mistakes are part of the learning process but should be down-played. Offer lots of encouragement and praise for every effort.

It is not expected that a child complete one lesson in a day or even in a week. Spend as much time as needed for mastery before moving on.

**Materials you need:**

- Two 20 bead rekenreks ( one for student, one for teacher)
- Index cards to make addition flash cards (for facts on the following page)
- Number line (see appendix)
- Rekenrek cards (see appendix)
- Twenty Frame and counters (see appendix)

**To make flash cards:** write the equation on one side of an index card and the answer on the other. This way, your student can flip the card over to check the answer. Use the color coding on the following page.

$$3 + 1 =$$

$$4$$



**Practice the math facts daily on the rekenrek with flash cards or addition/subtraction sheets.**

20-Bead Rekenreks are available at Amazon.

**Lesson Overview**

Step 1a	Learn about teen numbers on the twenty-frame
Step 1b	Learn about the teen numbers on the rekenrek Solve $10 + \underline{\quad}$ facts
Step 1c	Learn that two tens make twenty
Step 2	Count to 20 by rote
Step 3	Name and write numerals 1 - 20
Step 4	Sequence numbers from 10-20:
Step 5	Count on into the teen numbers
Step 6	Add into the teen numbers by counting on: $7+4$ , $8+3$ , $8+4$ , $9+2$ , $9+3$ , $9+4$
Step 7a	Two ways to make ten
Step 7b	Count by twos to twenty horizontally and vertically
Step 8a	Add into the teens with double-row ten Sums adding up to 15
Step 8b	Add into the teens with double-row ten Sums adding up to 20
Step 9	Memorize the teen doubles facts
Step 10a (Optional)	Add $+9$ facts by making a ten
Step 10b (Optional)	Add $+8$ facts by making a ten
Step 11	Add teen numbers with single digits
Step 12	Practice Mixed Facts
Step 13a	Add vertically
Step 13b	More Practice with Vertical Addition
Step 14	Identify Odd and Even numbers

### Step 1b: Learn About the Teen Numbers on the Rekenrek

#### Daily review:

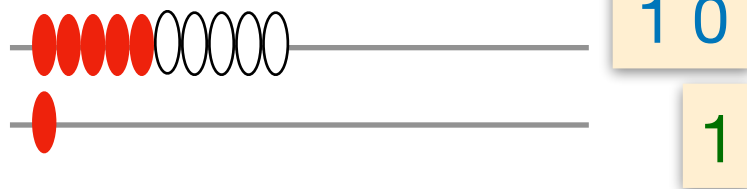
- Count from 1-10 and then from 10-1 with a number line
- Addition and subtraction review sheets

#### Materials:

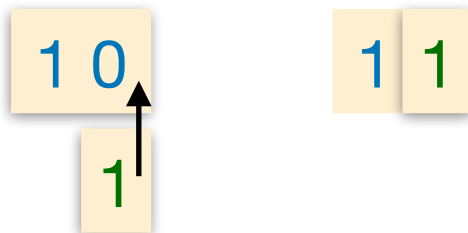
- two rekenreks
- “1-10 on Two Bars” cards
- Wooden Montessori Numbers
- 1-20 Number line

#### Lessons:

1. Build 11 on two bars on the rekenrek. Say: ***How much is on the top row? How much is on the bottom row?***
  - Place the wooden numbers beside the rekenrek.



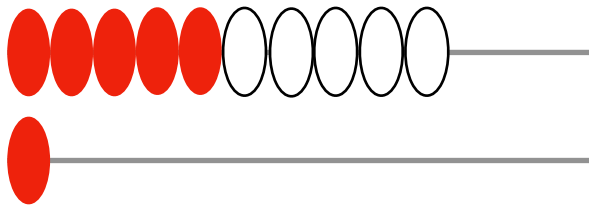
- Say: ***Ten and one is eleven.*** As you say this, put the 1 card over the zero on the 10 card.



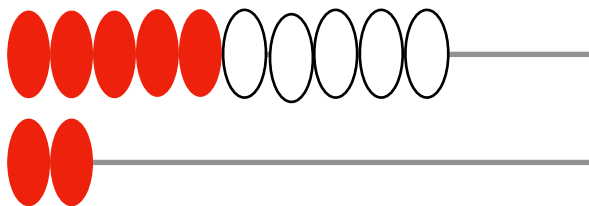
2. Repeat this to **build 12, 13, 14, and 15** on the rekenrek and with the wooden numbers. As you do so, say:
  - ten and two is twelve***
  - ten and three is thirteen***
  - ten and four is fourteen***
  - ten and five is fifteen.***
3. Take out the **11-20 number line**. Invite your student to point to a number.
  - Together, build the number on the rekenrek and with the wooden numbers.
  - **Count from 1-20** on the number line and then with the rekenrek.
4. Together, work on **Step 1b worksheets**.



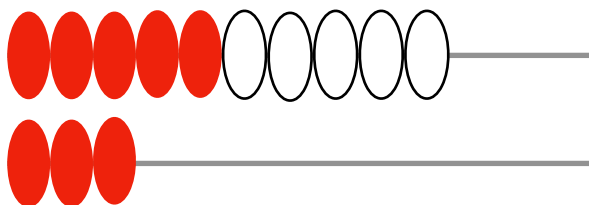
Step 1b  
Learning About Teens Numbers on the Rekerek



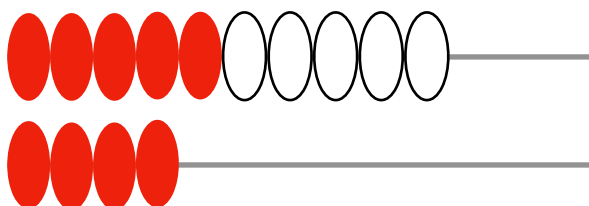
$$10 + 1 =$$



$$10 + 2 =$$

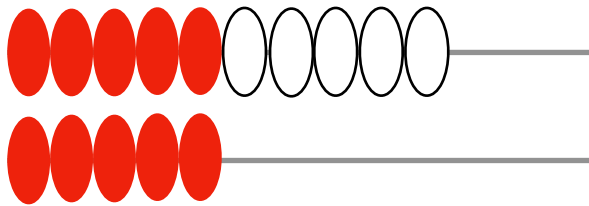


$$10 + 3 =$$

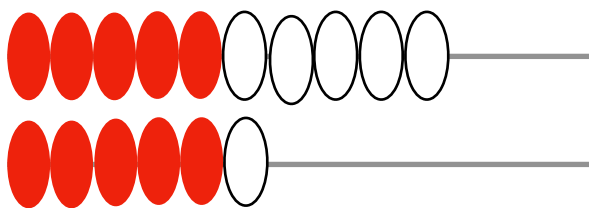


$$10 + 4 =$$

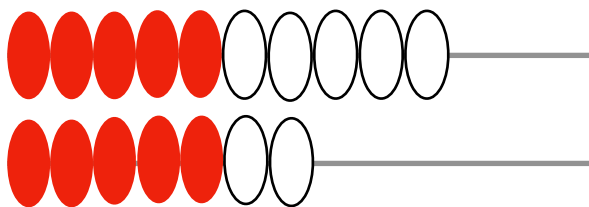
Step 1b  
Learning About Teen Numbers on the Rekenrek



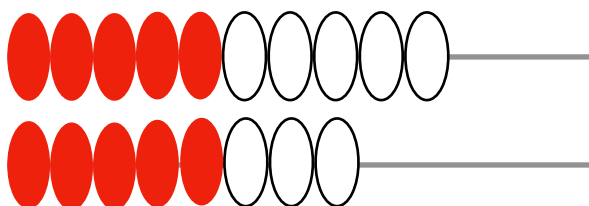
$$10 + 5 =$$



$$10 + 6 =$$

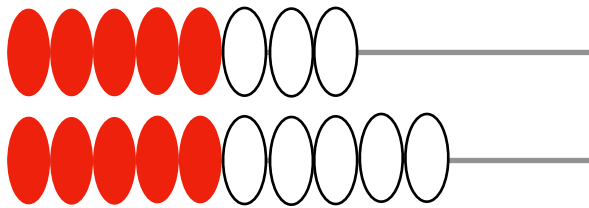


$$10 + 7 =$$

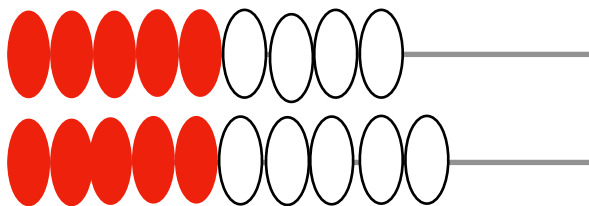


$$10 + 8 =$$

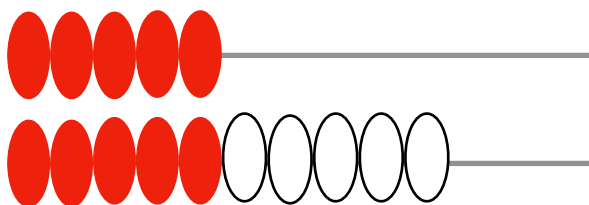
Step 1b  
Learning About Teen Numbers on the Rekenrek



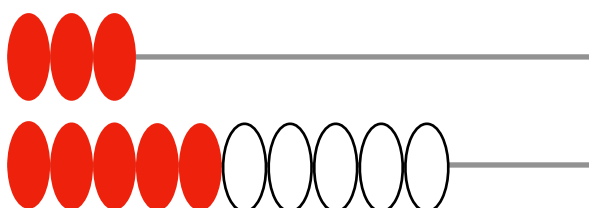
$$8 + 10 =$$



$$9 + 10 =$$



$$5 + 10 =$$



$$3 + 10 =$$

13

## Step 1b: Adding 10

Use two bars on the rekenrek to add.

$10 + 1 = \underline{\quad}$

$1 + 10 = \underline{\quad}$

$10 + 5 = \underline{\quad}$

$5 + 10 = \underline{\quad}$

$10 + 3 = \underline{\quad}$

$3 + 10 = \underline{\quad}$

$10 + 7 = \underline{\quad}$

$7 + 10 = \underline{\quad}$

$10 + 4 = \underline{\quad}$

$4 + 10 = \underline{\quad}$

## Review: Addition within Ten

less					more				
1	2	3	4	5	6	7	8	9	10

$8 + 2 = \underline{\quad}$

$1 + 2 = \underline{\quad}$

$6 + 3 = \underline{\quad}$

$3 + 4 = \underline{\quad}$

$5 + 1 = \underline{\quad}$

$7 + 3 = \underline{\quad}$

$4 + 4 = \underline{\quad}$

$6 + 2 = \underline{\quad}$

$9 + 0 = \underline{\quad}$

$1 + 1 = \underline{\quad}$

## Review: +1 Addition within Ten

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

$1 + 1 = \underline{\quad}$

$8 + 1 = \underline{\quad}$

$3 + 1 = \underline{\quad}$

$7 + 1 = \underline{\quad}$

$5 + 1 = \underline{\quad}$

$9 + 1 = \underline{\quad}$

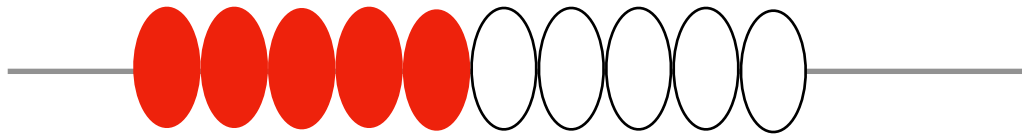
$4 + 1 = \underline{\quad}$

$6 + 1 = \underline{\quad}$

$6 + 1 = \underline{\quad}$

$0 + 1 = \underline{\quad}$

## Review: -4/-5/-6 Subtraction Facts



$$8 - 4 =$$

$$9 - 6 =$$

$$5 - 5 =$$

$$4 - 4 =$$

$$7 - 6 =$$

$$6 - 5 =$$

$$9 - 4 =$$

$$8 - 6 =$$

$$10 - 5 =$$

$$5 - 4 =$$



### Step 8a: Add into the teens with double-row ten With sums adding up to 15

#### Daily review:

- Count 1-20, count by 2s to 20 with the rekenrek or number line
- Put number cards in order from 11-20
- Practice counting on 5 numbers from 6,7,8,9, or 10
- Practice the addition and subtraction facts

#### Materials:

- 1-20 number line (see appendix)
- Twenty frame (see appendix) and 20 counters
- Two rekenreks
- 1-20 number cards (see appendix)
- Wooden Montessori number cards
- 

#### Lessons:

1. Say: ***Today we are going to solve more sums that make teen numbers.***
  - On a piece of paper write  $5 + 6 =$
  - Demonstrate adding  $5 + 6$  on the rekenrek using two rows:



- Say: ***Do you remember that five and five make ten? Look, here is a five on the top row and a five on the bottom row.***
- Say: ***How many red beads are there? Yes...ten!***
- Place the wooden ten card on the table.
- ***How many white beads? Yes... one.***
- Place the wooden one card on the table.



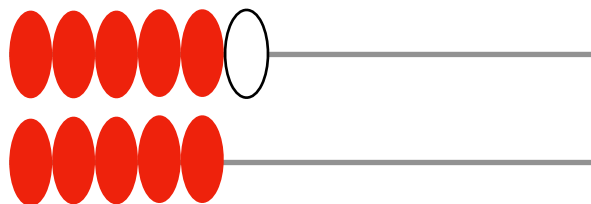
- Say: ***Ten and one make.... eleven. So five plus six is eleven.***
- Write 11 on the paper.

2. Repeat this process with some of the following sums:

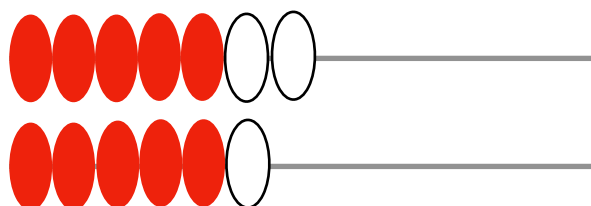
5+7, 5+8, 5+9, 6+6, 6+7, 6+8, 6+9, 7+5, 7+6, 7+7, 7+8,  
8+5, 8+6, 8+7, 9+5, 9+6,

3. Together, complete **Step 8a worksheets.**

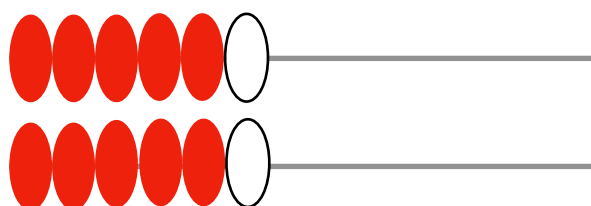
Step 8a  
Adding with Double Row Ten



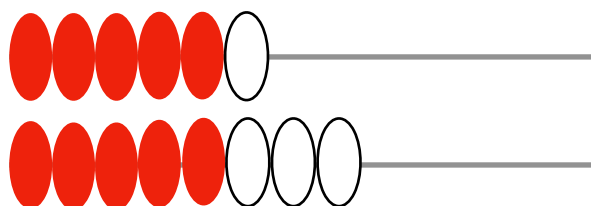
$$6 + 5 =$$



$$7 + 6 =$$

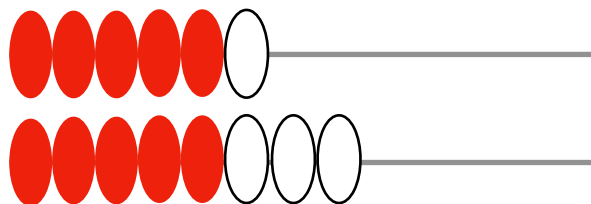


$$6 + 6 =$$

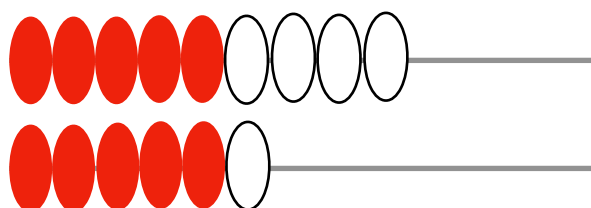


$$6 + 8 =$$

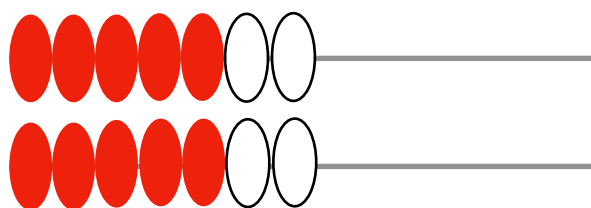
Step 8a  
Adding with Double Row Ten



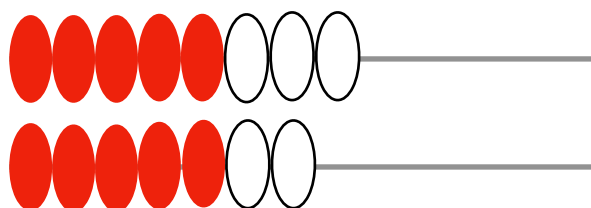
$$6 + 8 =$$



$$9 + 6 =$$



$$7 + 7 =$$



$$8 + 7 =$$

## Step 8a: Adding with Double Row Ten



Slide the beads.

**10** See the ten

Add the white beads.

$5 + 7 = \underline{\quad}$

$7 + 8 = \underline{\quad}$

$9 + 5 = \underline{\quad}$

$5 + 8 = \underline{\quad}$

$6 + 6 = \underline{\quad}$

$7 + 7 = \underline{\quad}$

$8 + 6 = \underline{\quad}$

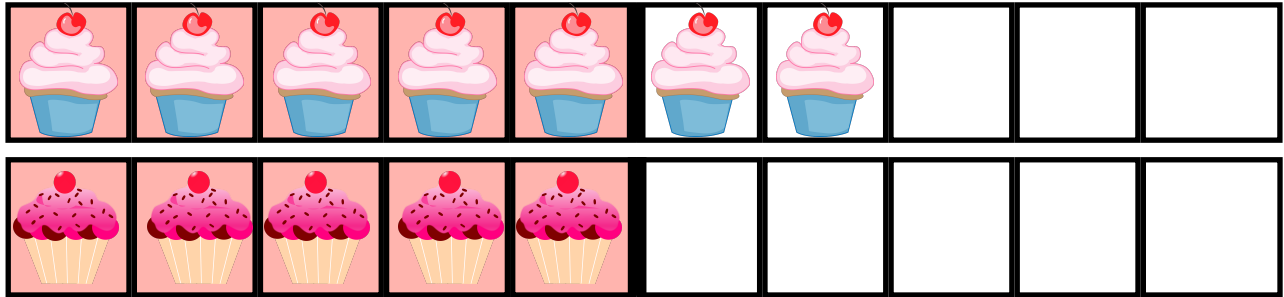
$7 + 5 = \underline{\quad}$

$9 + 5 = \underline{\quad}$

$6 + 9 = \underline{\quad}$

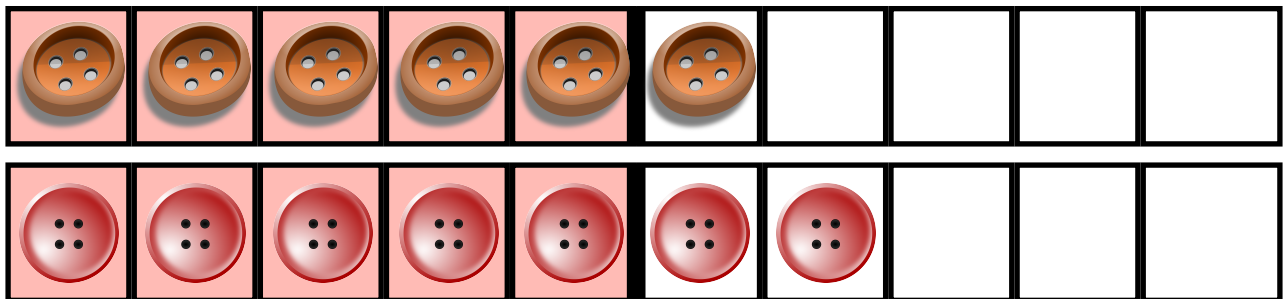
## Step 8 Math in Real Life

1. Kim made 7 cupcakes. Then she made 5 more. How many did she make altogether?



$$\square + \square = \square$$

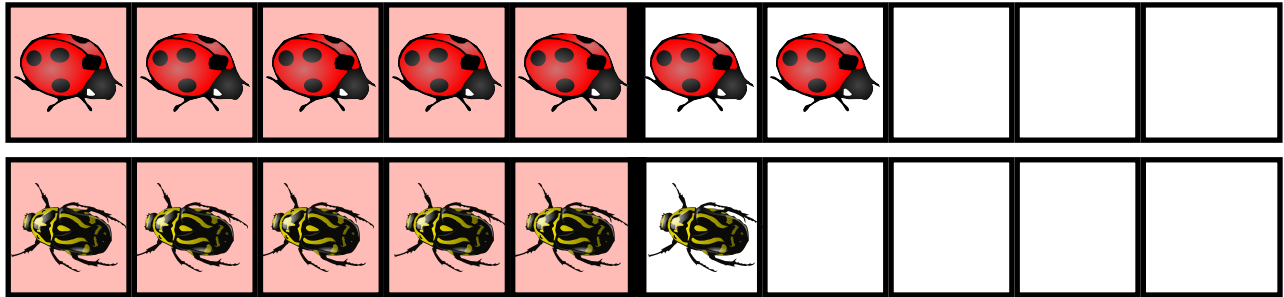
2. Tim bought 6 buttons. Then he bought 7 more. How many did he buy altogether?



$$\square + \square = \square$$

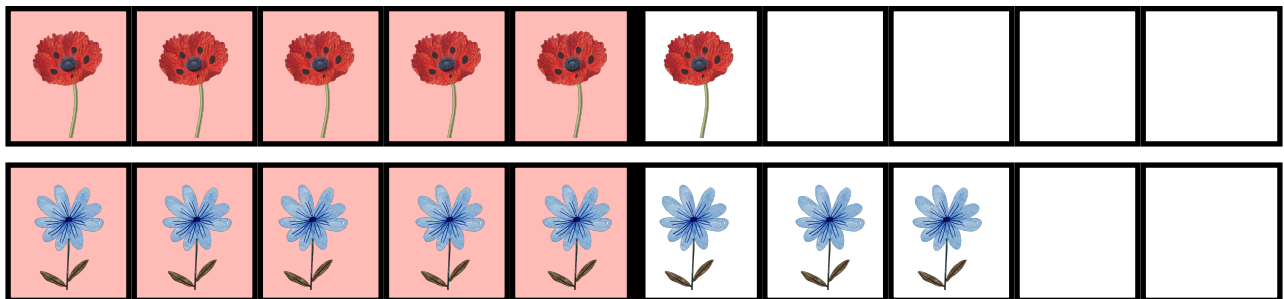
# Step 8 Math in Real Life

1. Sam found 7 ladybugs. Then he found 6 beetles. How many bugs did he find altogether?



$$\square + \square = \square$$

2. Mary picked 6 red flowers. Then she picked 8 blue flowers. How many flowers did she pick altogether?



$$\square + \square = \square$$

## Review: Adding into the Teen Numbers



Slide the beads.  
Which is more?  
Count on.

$7 + 4 = \underline{\quad}$

$4 + 7 = \underline{\quad}$

$8 + 3 = \underline{\quad}$

$3 + 8 = \underline{\quad}$

$9 + 2 = \underline{\quad}$

$2 + 9 = \underline{\quad}$

$8 + 4 = \underline{\quad}$

$4 + 9 = \underline{\quad}$

$9 + 3 = \underline{\quad}$

$3 + 9 = \underline{\quad}$