

Problem Solving Notebook

3

JOIN

START **CHANGE** **RESULT**

There are **13** pencils in the box. $+$ Jia puts **5** more pencils in the box. $=$ Now there are **18** pencils in the box.

Actions in Join problems related to the **change**

- Got more
- Earn
- Buy more
- Given
- Deposit

Words related to the **Result** in Join problems

Altogether
In all

Model

Start	Change
13	5
18	
Result	

Number Line

Change $+5$

Start **13** Result **18**

0

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Name: _____

6

Join Word problems

Level 2A

Problem Solving Skill: Single step join problems with the unknown in various positions
Procedural Skill: Addition and Subtraction within 20

- 3 Izzy had \$4. She earns some money doing chores. Now she has \$10. How much did Izzy earn?

Start	Change	Result
4	?	= 10



$$10 - 4 = 6$$

Start	Change
4	? = 6
10	
Result	

Izzy earned **\$6** doing chores.

- 4 There were 5 cats in the yard. More cats come into the yard. There are 9 cats in the yard now. How many cats came in the yard?

Start	Change	Result
5	?	= 9



4 more cats came to

Start	Change
5	? = 4
9	
Result	

2nd
GRADE

Includes 197 Word Problems

Designed to be used in the beginning of 2nd Grade. All numbers are within 20.

25

SEPARATE

START > CHANGE > RESULT

There are
12 pencils
in the box.



Sam takes
out **8**
pencils.



Now there are
____ pencils
in the box.

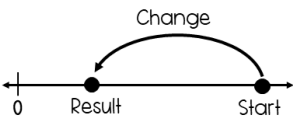
Actions in Separate problems related to the **change**

Words related to the **Result** in Separate problems

Model

Result	Change
Start	

Number Line



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Name: _____

How are they different? _____

JOIN

Abby had 12 pieces of candy. Her best friend gave her 7 more pieces. How many pieces of candy does Abby have now?

Start > Change > Result

=

SEPARATE

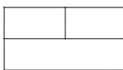
Abby had 12 pieces of candy. Her best friend gave her best friend 7 pieces of candy. How many pieces of candy does Abby have now?

Start > Change > Result

=

Models

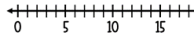
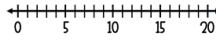
Write start, change, and result to label each model. Fill in the correct numbers for each problem.





Number Lines

Model each problem on a number line. Draw a dot on the start, an arrow to show the change and a dot on the result.



Discovery

Color the start box in each model and the start dots on the number lines **green**.
Color the change box in each model and the change arrows on the number lines **yellow**.
Color the result box in each model and the result dots on the number lines **red**.

What do you notice?

Strip Diagrams with Each Problem

Name: _____

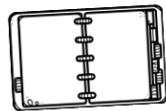
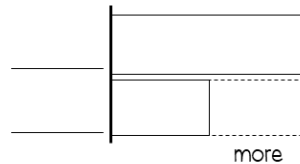
84

Compare Word problems

Level 2A

Problem Solving Skill: Single step compare problems with the unknown in any position
Procedural Skill: Addition and Subtraction within 20

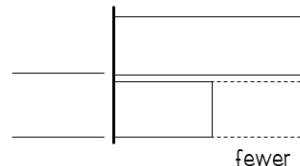
- 15** Mrs. Evans has 11 red notebooks. She has 4 more red notebooks than green notebooks. How many green notebooks does she have?



Mrs. Evan has _____ green notebooks.

_____ ○ _____ = _____

- 16** Amaya has 15 gummy bears. She has 6 fewer gummy worms than bears. How many gummy worms does she have?



Amaya has _____ gummy worms.

_____ ○ _____ = _____

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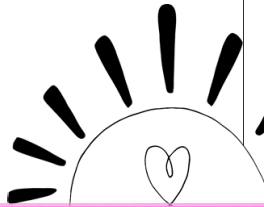
No Cutting or Gluing Required

- Bind as a Workbook
- Use as Individual Worksheets
- Staple into a Packet

Word Problem

NoteBook

LEVEL 2A



Name: _____

How are they different? _____

Level 2A

26

JOIN

Abby had 12 pieces of candy. Her best friend gave her 7 more pieces. How many pieces of candy does Abby have now?

Start > Change > Result

		=
--	--	---

SEPARATE

Abby had 12 pieces of candy. She gave her best friend 7 pieces of candy. How many pieces of candy does Abby have now?

Start > Change > Result

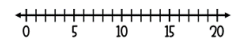
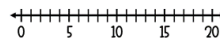
		=
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Models

Write start, change, and result to label each model. Fill in the correct numbers for each problem.

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Discovery

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What do you notice?

Easy-to-Use Student Pages

Name: _____

51

Mixed Unknowns in P-P-W Problems

Level 2A

Problem Solving Skill: Single step part-part-whole problems with the part or whole unknown
Procedural Skill: Addition and Subtraction within 20

Tim has 9 apples and 6 bananas. How many pieces of fruit does Tim have?

Circle the unknown:
Part Whole

_____	_____
_____	_____

Part	Part	Whole
_____	_____	_____
	○	=

Tim has _____ pieces of fruit.



Sarah has 4 markers and some gel pens.
She has 8 markers and gel pens in all.
How many gel pens does she have?

Circle the unknown:
Part Whole

_____	_____
_____	_____

Part	Part	Whole
_____	_____	_____
	○	=

Whole	Part	Part
_____	_____	_____
	○	=

Sarah has _____ gel pens.



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Name: _____

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Mixed Unknowns in P-P-W Problems

Level 2A

Problem Solving Skill: Single step part-part-whole problems with the part or whole unknown
Procedural Skill: Addition and Subtraction within 20

The class has 3 snakes, 15 fish, and 1 bird. How many pets does the class have altogether?

Circle the unknown:
Part Whole

_____	_____	_____
_____	_____	_____

The class has _____ pets.

Part	Part	Part	Whole
_____	_____	_____	_____
	○	○	=



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Organized into 5 Sections



Join Problems



Separate Problems



Part - Part - Whole Problems



Compare Problems



Mixed Problems



About the Author

This resource was created by Melissa Johnson, who has 16 years of k-10 teaching experience and a masters degree in Mathematics Education. Her resources build conceptual understanding, make connections between math topics and engage students in the mathematics they are learning.



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