



Makes Maths Fun

Level 2

SUBTRACTION

Bloomsmath is a comprehensive mathematics program which provides a fun way for every student to be learning to the best of their ability.

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## Subtraction

Level 2 is designed for students in their second year at school which is most often referred to as Year 1. The Subtraction strand allows students to use a range of strategies for subtraction involving 1 and 2 digit numbers.

**Knowledge:** Students complete reciprocal equations using both addition and subtraction to reinforce the relationship between the two operations they then match subtraction equations with equivalent answers.



Students who demonstrate proficiency in this activity move on to Comprehension.



Students stop here as they require additional teacher support to master this activity.

**Comprehension:** Students complete a table of equations which all contain the same root number. They then complete equations to find a root number and identify a root number from its equations.



Students who demonstrate proficiency in this activity move on to Application.



Students stop here if time has run out or they require additional support with this activity.

**Application:** Students use the skills mastered in the Comprehension section to answer subtraction questions which have been multiplied by 10 such as finding the root of  $90 - 50$ ;  $80 - 40$ ;  $100 - 60$ ;  $70 - 30$  and  $50 - 10$ .



Students who demonstrate proficiency in this activity move on to Analysis.



Students stop here if time has run out or they require additional support with this activity.

**Analysis:** Students play "Zero" where each player has 50 points and the total of the sum of 2 rolled dice is removed each turn. The first player to reach zero wins.



Students who demonstrate proficiency in this activity move on to Synthesis.



Students stop here if time has run out or they require additional support with this activity.

**Synthesis:** Students play "Advanced Zero" where each person now has 100 points and the total of the sum of the 2 dice is removed each turn. Again the first to zero wins but the equations are slightly harder.

**Evaluation:** Suggested questions provide a starting point for discussions related to Whole Number.



Students may complete more or fewer activities for each learning outcome depending on the time allocated and their strength in the area being covered.



All students should participate in the Evaluation discussion to encourage the use of mathematical language, logical reasoning and reflection on that which they have completed.

Name: \_\_\_\_\_

# Reciprocal Numbers

Solve these reciprocal number fact houses. An example has been given to help you.

EASY	EASY	EASY	EASY
$4 + 3 = 7$	$8 + 5 = \underline{\quad}$	$7 + 2 = \underline{\quad}$	$12 + 6 = \underline{\quad}$
$3 + 4 = 7$	$5 + 8 = \underline{\quad}$	$2 + 7 = \underline{\quad}$	$6 + 12 = \underline{\quad}$
$7 - 4 = 3$	$\underline{\quad} - 5 = 8$	$\underline{\quad} - 2 = 7$	$\underline{\quad} - 12 = 6$
$7 - 3 = 4$	$\underline{\quad} - 8 = 5$	$\underline{\quad} - 7 = 2$	$\underline{\quad} - 6 = 12$

  

HARD	HARD	HARD	HARD
$10 + 4 = \underline{\quad}$	$16 + 3 = \underline{\quad}$	$9 + 6 = \underline{\quad}$	$11 + \underline{\quad} = 14$
$4 + 10 = \underline{\quad}$	$3 + \underline{\quad} = 19$	$\underline{\quad} + 9 = 15$	$3 + \underline{\quad} = 14$
$\underline{\quad} - 4 = 10$	$19 - \underline{\quad} = 16$	$\underline{\quad} - 6 = 9$	$\underline{\quad} - 3 = 11$
$\underline{\quad} - 10 = 4$	$19 - 16 = \underline{\quad}$	$15 - 9 = \underline{\quad}$	$14 - \underline{\quad} = 3$

Colour the pairs of equal balloons the same colour.

$10 - 3$	$20 - 11$	$4 - 1$	$17 - 6$
$9 - 5$	$15 - 8$	$19 - 8$	$12 - 9$
$6 - 2$	$16 - 8$	$14 - 5$	$13 - 5$



Let's Try This Again



Progress To Comprehension

Name: \_\_\_\_\_

# Common Answers

There are many ways to achieve the same answer. See if you can find the common answer for these subtractions. The first one has been done for you.

$17 - 2 = \underline{\quad}$	$20 - 5 = \underline{\quad}$	$19 - 4 = \underline{\quad}$	$18 - 3 = \underline{\quad}$	Common Answer = 15
$10 - 6 = \underline{\quad}$	$15 - 11 = \underline{\quad}$	$14 - 10 = \underline{\quad}$	$7 - 3 = \underline{\quad}$	Common Answer = $\underline{\quad}$
$5 - 3 = \underline{\quad}$	$20 - 18 = \underline{\quad}$	$12 - 10 = \underline{\quad}$	$8 - 6 = \underline{\quad}$	Common Answer = $\underline{\quad}$
$14 - 0 = \underline{\quad}$	$19 - 5 = \underline{\quad}$	$20 - 6 = \underline{\quad}$	$17 - 3 = \underline{\quad}$	Common Answer = $\underline{\quad}$
$20 - 9 = \underline{\quad}$	$14 - 3 = \underline{\quad}$	$16 - 5 = \underline{\quad}$	$19 - 8 = \underline{\quad}$	Common Answer = $\underline{\quad}$
$18 - 12 = \underline{\quad}$	$12 - 6 = \underline{\quad}$	$14 - 8 = \underline{\quad}$	$11 - 5 = \underline{\quad}$	Common Answer = $\underline{\quad}$

Fill in the missing numbers for each common answer set.

$11 - 10 = \underline{\quad}$	$9 - \underline{\quad} = 1$	$\underline{\quad} - 2 = 1$	$18 - 17 = \underline{\quad}$	$\underline{\quad} - 4 = 1$
$\underline{\quad} - 2 = 8$	$12 - 4 = \underline{\quad}$	$16 - \underline{\quad} = 8$	$\underline{\quad} - 5 = 8$	$20 - 12 = \underline{\quad}$
$13 - \underline{\quad} = 13$	$18 - 5 = \underline{\quad}$	$14 - \underline{\quad} = 13$	$\underline{\quad} - 3 = 13$	$17 - \underline{\quad} = 13$
$20 - 10 = \underline{\quad}$	$17 - \underline{\quad} = 10$	$\underline{\quad} - 6 = 10$	$14 - 4 = \underline{\quad}$	$\underline{\quad} - 8 = 10$
$9 - \underline{\quad} = 7$	$14 - 7 = \underline{\quad}$	$\underline{\quad} - 5 = 7$	$13 - 6 = \underline{\quad}$	$18 - 11 = \underline{\quad}$
$5 - 2 = \underline{\quad}$	$13 - 10 = \underline{\quad}$	$\underline{\quad} - 14 = 3$	$20 - \underline{\quad} = 3$	$\underline{\quad} - 6 = 3$

Create 4 subtraction sums of your own for each common answer.

$\underline{\quad} - \underline{\quad} = 2$	$\underline{\quad} - \underline{\quad} = 2$	$\underline{\quad} - \underline{\quad} = 2$	$\underline{\quad} - \underline{\quad} = 2$
$\underline{\quad} - \underline{\quad} = 9$	$\underline{\quad} - \underline{\quad} = 9$	$\underline{\quad} - \underline{\quad} = 9$	$\underline{\quad} - \underline{\quad} = 9$
$\underline{\quad} - \underline{\quad} = 16$	$\underline{\quad} - \underline{\quad} = 16$	$\underline{\quad} - \underline{\quad} = 16$	$\underline{\quad} - \underline{\quad} = 16$



Let's Try This Again



Progress To Application

Name: \_\_\_\_\_

# Ten Times As Common

Colour each equation to match its correct common answer.

40 - 10	46 - 26	27 - 17	100 - 40	65 - 15	50 - 10
80 - 20	75 - 35	90 - 40	40 - 20	80 - 40	70 - 50
55 - 45	60 - 30	48 - 8	66 - 6	100 - 50	30 - 0
38 - 18	45 - 15	14 - 4	98 - 88	70 - 20	72 - 12
10	20	30	40	50	60

Create some more equations to make each subtraction correct for its colour.




Let's Try This Again



Progress To Analysis

Name: \_\_\_\_\_

# Zero - The Game

## You will need:

One score grid per four players.

Two regular dice per group.

## How to play:

1. Take it in turns to roll the two dice. The numbers rolled are added together and are subtracted from 50.

2. The first player to reach zero wins. (An exact final roll is not required to win.)

	Player 1	Player 2	Player 3	Player 4
Roll 1	50 - ____ = ____	50 - ____ = ____	50 - ____ = ____	50 - ____ = ____
Roll 2	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 3	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 4	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 5	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 6	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 7	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 8	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 9	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 10	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 11	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 12	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 13	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 14	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 15	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Winner				

Subtraction - Level 2 - Students will use a range of strategies to subtract 1 & 2 digit numbers.

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation



Let's Try This Again



Progress To Synthesis

Name: \_\_\_\_\_

# Advanced Zero

## You will need:

One score grid per four players.

Two regular dice per group.

## How to play:

1. Take it in turns to roll the two dice. The numbers rolled are added together and this time they are subtracted from 100.

2. The first player to reach zero wins. (An exact final roll is not required to win.)

	Player 1	Player 2	Player 3	Player 4
Roll 1	100 - ____ = ____	100 - ____ = ____	100 - ____ = ____	100 - ____ = ____
Roll 2	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 3	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 4	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 5	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 6	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 7	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 8	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 9	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 10	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 11	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 12	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 13	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 14	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 15	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 16	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 17	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 18	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 19	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Roll 20	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____	____ - ____ = ____
Winner				

Subtraction - Level 2 - Students will use a range of strategies to subtract 1 & 2 digit numbers.

Knowledge

Comprehension

Application

Analysis

Synthesis

Evaluation



Let's Try This Again



Progress To Evaluation

# Subtraction Discussion

The following questions and activities are provide as a starting point for fun discussions related to Subtraction. During these conversations students will have an opportunity to use appropriate mathematical language in its correct context, to engage in reflection on the Subtraction activities they have completed and to use logical reasoning to tie their in-class mathematics to its everyday context.



Introduce students to algebra from a very early age by using the reciprocal number work from Knowledge to substitute algebraic terms for the numbers ie.  $n + 3 = 7$  so  $n = 4$ .



Choose a number, such as 15, and list all the common number equations and show students the pattern that is formed ie  $20 - 5$ ,  $19 - 4$ ,  $18 - 3$ ,  $17 - 2$  and  $16 - 1$  all equal 15.



Have students complete 10 common number equations for a much larger number such as 164. Discuss how they created their equations and why particular numbers were chosen.



Use the results from Zero to discuss which totals occurred most often and the link between these numbers and the fact that they have multiple equations equalling this total ie, 1 and 5; 2 and 4; 3 and 3; 4 and 2 and 5 and 1 all equal 6.



Using the score grid for Zero and Advanced Zero discuss why only 15 or 20 answer lines are needed for each game and maybe not even this many.



Discuss whether it is easier to add the dice or subtract their total and why students may find this to be the case for them.

