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Kindengarten Mathematics Cesson Guide Printout

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## KINDERGARTEN MATHEMATICS LESSON GUIDE

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## Lesson 1 Guide: Groups of Physical Objects Up to 2

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 2 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 2 books and ask children, 'How many books am


I holding?'

- Practice this skill until children rapidly and easily call out the correct numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 2 objects.
- Ask children to show you 0,1 , or 2 of the objects.
- For example, give 'Callie' 2 pennies. Say 'Callie, show me 2 pennies', and direct Callie to push 2 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and

STEP 2 easily show the objects as directed, without counting.

## STEP 3

- Combine and separate object groups.
- Form two groups of 1. Have children call out the number of objects in each group.
- Combine the groups into a large group of 2. Have children call out the number of objects in the large group.
- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.



## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 2 objects into two groups of 1 .
- Direct children to recombine the smaller groups into one big group of 2.
- Practice this skill with a variety of objects until children rapidly and



## Lesson 2 Guide: Groups of Physical Objects Up to 3

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 3 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 3 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 3 objects.
- Ask children to show you $0,1,2$, or 3 of the objects.
- For example, give 'Everett' 3 pennies. Say 'Everett, show me 3 pennies', and direct Everett to push 3 pennies into the center of the STEP 2 table.
- Practice this skill with a variety of objects until children rapidly and easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form three groups of 1. Have children call out the number of objects in each group.
- Combine the groups into a large group of 3. Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (3 and 0 ) and ( 2 and 1 ).
- Practice this skill with a variety of objects until children rapidly and
 easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 3 objects into three groups of 1 .
- Direct children to recombine the smaller groups into one big group of 3.
- Repeat the process for the following groups: (3 and 0 ) and ( 2 and 1 ).
- Practice this skill with a variety of objects until children rapidly and
 easily separate and combine the objects as directed, without counting.


## Lesson 3 Guide: Groups of Physical Objects Up to 4

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 4 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 4 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 4 objects.
- Ask children to show you $0,1,2,3$, or 4 of the objects.
- For example, give 'Peyton' 4 pennies. Say 'Peyton, show me 4 pennies', and direct Peyton to push 4 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and

STEP 2


Parent asks child to show \#\# of objects. easily show the objects as directed, without counting.

## STEP 3

- Combine and separate object groups.
- Form four groups of 1. Have children call out the number of objects in each group.
- Combine the groups into a large group of 4 . Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (4 and 0), (3 and 1 ), and (2 and 2).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 4 objects into four groups of 1 .
- Direct children to recombine the smaller groups into one big group of 4.
- Repeat the process for the following groups: (4 and 0$),(3$ and 1$)$, and (2 and 2).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 4 Guide: Groups of Physical Objects Up to 5

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 5 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 5 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 5 objects.
- Ask children to show you $0,1,2,3,4$, or 5 of the objects.
- For example, give 'Chris' 5 pennies. Say 'Chris, show me 5 pennies', and direct Chris to push 5 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and

STEP 2


Parent asks child to show \# of objects. easily show the objects as directed, without counting.

## STEP 3

- Combine and separate object groups.
- Form five groups of 1 . Have children call out the number of objects in each group.
- Combine the groups into a large group of 5. Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (5 and 0), (4 and 1 ), and (2 and 3).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 5 objects into five groups of 1 .
- Direct children to recombine the smaller groups into one big group of 5.
- Repeat the process for the following groups: (5 and 0$),(4$ and 1$)$, and (2 and 3).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 5 Guide: Groups of Physical Objects Up to 6

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 6 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 6 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 6 objects.
- Ask children to show you $0,1,2,3,4,5$, or 6 of the objects.
- For example, give 'Cassidy' 6 pennies. Say 'Cassidy, show me 6 pennies', and direct Cassidy to push 6 pennies into the center of the STEP 2 table.
- Practice this skill with a variety of objects until children rapidly and easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form six groups of 1 . Have children call out the number of objects in each group.
- Combine the groups into a large group of 6 . Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (6 and 0), (5 and 1), (2 and 4), and (3 and 3).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 6 objects into six groups of 1 .
- Direct children to recombine the smaller groups into one big group of 6.
- Repeat the process for the following groups: (6 and 0), (5 and 1$),(2$ and 4), and (3 and 3).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 6 Guide: Groups of Physical Objects Up to 7

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 7 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 7 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 7 objects.
- Ask children to show you $0,1,2,3,4,5,6$, or 7 of the objects.
- For example, give 'Tracy' 7 pennies. Say 'Tracy, show me 7 pennies', and direct Tracy to push 7 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form seven groups of 1 . Have children call out the number of objects in each group.
- Combine the groups into a large group of 7. Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (7 and 0), (6 and 1), (5 and 2), and (4 and 3).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 7 objects into seven groups of 1 .
- Direct children to recombine the smaller groups into one big group of 7.
- Repeat the process for the following groups: (7 and 0), (6 and 1), (5 and 2), and (4 and 3).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 7 Guide: Groups of Physical Objects Up to 8

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 8 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 8 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 8 objects.
- Ask children to show you $0,1,2,3,4,5,6,7$, or 8 of the objects.
- For example, give 'Tracy' 8 pennies. Say 'Tracy, show me 8 pennies', and direct Tracy to push 8 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form eight groups of 1. Have children call out the number of objects in each group.
- Combine the groups into a large group of 8 . Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (8 and 0), (7 and 1), (6 and 2), (5 and 3), and (4 and 4).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 8 objects into eight groups of 1 .
- Direct children to recombine the smaller groups into one big group of 8.
- Repeat the process for the following groups: (8 and 0), (7 and 1 ), (6 and 2), (5 and 3), and (4 and 4).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 8 Guide: Groups of Physical Objects Up to 9

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 9 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 9 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 9 objects.
- Ask children to show you $0,1,2,3,4,5,6,7,8$, or 9 of the objects.
- For example, give 'Diane' 9 pennies. Say 'Diane, show me 9 pennies', and direct Diane to push 9 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form nine groups of 1. Have children call out the number of objects in each group.
- Combine the groups into a large group of 9. Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (9 and 0), (8 and 1), (7 and 2), (6 and 3), and (5 and 4).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 9 objects into nine groups of 1 .
- Direct children to recombine the smaller groups into one big group of 9.
- Repeat the process for the following groups: (9 and 0 ), (8 and 1 ), (7 and 2), (6 and 3), and (5 and 4).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 9 Guide: Groups of Physical Objects Up to 10

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Show children between 0 to 10 objects, and have them call out the corresponding number without counting.
- Use a variety of objects that interest children such as coins, books, dinosaurs, action figures, cars, and stuffed animals.
- For example, hold up 10 books and ask children, 'How many books am I holding?'
- Practice this skill until children rapidly and easily call out the correct
 numbers, without counting.


## STEP 2

- Have children show you a specified number of objects without counting.
- Give each child 10 objects.
- Ask children to show you $0,1,2,3,4,5,6,7,8,9$, or 10 of the objects.
- For example, give 'Kim' 10 pennies. Say 'Kim, show me 10 pennies', and direct Kim to push 10 pennies into the center of the table.
- Practice this skill with a variety of objects until children rapidly and
 easily show the objects as directed, without counting.


## STEP 3

- Combine and separate object groups.
- Form ten groups of 1 . Have children call out the number of objects in each group.
- Combine the groups into a large group of 10 . Have children call out the number of objects in the large group.
- Repeat the process for the following groups: (10 and 0$),(9$ and 1$),(8$ and 2 ), ( 7 and 3 ), ( 6 and 4), and (5 and 5).

- Practice this skill with a variety of objects until children rapidly and easily call out the correct numbers, without counting.


## KINDERGARTEN MATHEMATICS LESSON GUIDE

## STEP 4

- Have children combine and separate object groups themselves.
- Direct children to separate a group of 10 objects into ten groups of 1 .
- Direct children to recombine the smaller groups into one big group of 10.
- Repeat the process for the following groups: (10 and 0$),(9$ and 1$),(8$ and 2), (7 and 3), (6 and 4), and (5 and 5).

- Practice this skill with a variety of objects until children rapidly and easily separate and combine the objects as directed, without counting.


## Lesson 10 Guide: Groups of Imaginary Objects Up to 2

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 2 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 duck and 1 duck? How many are 2 ducks less 1 duck?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 10 - PRACTICE TABLE
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 11 Guide: Groups of Imaginary Objects Up to 3

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 3 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 dinosaur and 2 dinosaurs? How many are 3 dinosaurs less 1 dinosaur?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 11 - PRACTICE TABLE
How many are $0 \_$and $3 \ldots$
How many are $3 \ldots$
How many are $2 \ldots$
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 12 Guide: Groups of Imaginary Objects Up to 4

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 4 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 cheetah and 3 cheetahs? How many are 4 cheetahs less 1 cheetah?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 12 - PRACTICE TABLE
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 13 Guide: Groups of Imaginary Objects Up to 5

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 5 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 rocket ship and 4 rocket ships? How many are 5 rocket ships less 1 rocket ship?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 13-PRACTICE TABLE
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 14 Guide: Groups of Imaginary Objects Up to 6

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 6 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 ballerina and 5 ballerinas? How many are 6 ballerinas less 1 ballerina?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 14-PRACTICE TABLE
How many are 0
How many are 6
How many are 5
How many are 1 and 6
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 15 Guide: Groups of Imaginary Objects Up to 7

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 7 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 car and 6 cars? How many are 7 cars less 1 car?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON $15-$ PRACTICE TABLE
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 16 Guide: Groups of Imaginary Objects Up to 8

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 8 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 plane and 7 planes? How many are 8 planes less 1 plane?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 16 - PRACTICE TABLE
How many are 0
How many are 8
How many are 7
How many are 1 and 8 and 0 and 1 and 7 and ? ?
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.


## Lesson 17 Guide: Groups of Imaginary Objects Up to 9

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 9 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 bunny and 8 bunnies? How many are 9 bunnies less 1 bunny?'
- Master the operations in the table below (vary the objects and the order of questions):

| LESSON 17 - PRACTICE TABLE |
| :---: |
| How many are 0 ___ and 9 ___ |
| How many are 9 ___ and 0 ___ ? |
| How many are 8 ___ and 1 ___ |
| How many are 1 ___ and 8 ___ |
| How many are 7 ___ and 2 ___ |
| How many are 2 ___ and 7 _ ${ }^{\text {? }}$ |
| How many are 6 ___ and 3 ___ ? |
| How many are 3 ___ and 6 ___ ? |
| How many are 5 ___ and 4 ___ |
| How many are 4 ___ and 5 ___ ? |
| How many are 9 ___ less 0 ___ ? |
| How many are 9 ___ less 1 ___ ? |
| How many are 9 ___ less 2 ___ ? |
| How many are 9 ___ less 3 ___ ? |
| How many are 9 ___ less 4 ____? |
| How many are 9 ___ less 5 ___ ? |
| How many are 9 ___ less 6 ___ ? |
| How many are 9 ___ less 7 ___ ? |
| How many are 9 ___ less 8 ___ ? |
| How many are 9 ___ less 9 ___ |

- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.
Lesson 18 Guide: Groups of Imaginary Objects Up to 10


## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate groups of up to 10 objects they cannot currently see or touch, but can easily imagine.

- Ask children to call out the answer to questions such as, 'How many are 1 dragon and 9 dragons? How many are 10 dragons less 1 dragon?'
- Master the operations in the table below (vary the objects and the order of questions):
LESSON 18 -PRACTICE TABLE
- Give numerous exercises on each number, with constant reviews, until children can perform each operation with great accuracy and rapidity.
Lesson 19 Guide: Mentally Add and Subtract Numbers Up to 2
Directions
- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 2 .

- Ask children to call out the answer to questions such as, 'How many are 1 and 1 ? How many are 2 less 1 ?'
- Master the operations in the table below (vary the order of questions):


## LESSON 19 - PRACTICE TABLE

How many are 0 and 2?
How many are 2 and 0 ?
How many are 1 and 1 ?
How many are 2 less 0 ?
How many are 2 less 1 ?
How many are 2 less 2?

## Lesson 20 Guide: Mentally Add and Subtract Numbers Up to 3

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 3 .

- Ask children to call out the answer to questions such as, 'How many are 2 and 1? How many are 3 less 1 ?'
- Master the operations in the table below (vary the order of questions):

LESSON 20 - PRACTICE TABLE
How many are 0 and 3 ?
How many are 3 and 0 ?
How many are 2 and 1 ?
How many are 1 and 2 ?

How many are 3 less 0 ?
How many are 3 less 1 ?
How many are 3 less 2 ?
How many are 3 less 3 ?

## Lesson 21 Guide: Mentally Add and Subtract Numbers Up to 4

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 4 .

- Ask children to call out the answer to questions such as, 'How many are 3 and 1? How many are 4 less 1?'
- Master the operations in the table below (vary the order of questions):


## LESSON 21 - PRACTICE TABLE

How many are 0 and 4 ?
How many are 4 and 0 ?
How many are 3 and 1 ?
How many are 1 and 3 ?
How many are 2 and 2 ?
How many are 4 less 0 ?
How many are 4 less 1 ?
How many are 4 less 2 ?
How many are 4 less 3 ?
How many are 4 less 4 ?

## Lesson 22 Guide: Mentally Add and Subtract Numbers Up to 5

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 5 .

- Ask children to call out the answer to questions such as, 'How many are 4 and 1? How many are 5 less 1 ?'
- Master the operations in the table below (vary the order of questions):


## LESSON 22 - PRACTICE TABLE

How many are 0 and 5 ?
How many are 5 and 0 ?
How many are 4 and 1 ?
How many are 1 and 4 ?
How many are 3 and 2?
How many are 2 and 3 ?
How many are 5 less 0 ?
How many are 5 less 1 ?
How many are 5 less 2?
How many are 5 less 3 ?
How many are 5 less 4?
How many are 5 less 5?

## Lesson 23 Guide: Mentally Add and Subtract Numbers Up to 6

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 6 .

- Ask children to call out the answer to questions such as, 'How many are 5 and 1 ? How many are 6 less 1 ?'
- Master the operations in the table below (vary the order of questions):

LESSON 23 - PRACTICE TABLE
How many are 0 and 6 ?
How many are 6 and 0 ?
How many are 5 and 1 ?
How many are 1 and 5 ?
How many are 4 and 2?
How many are 2 and 4 ?
How many are 3 and 3 ?
How many are 6 less 0 ?
How many are 6 less 1?
How many are 6 less 2?
How many are 6 less 3 ?
How many are 6 less 4 ?
How many are 6 less 5?
How many are 6 less 6 ?

## Lesson 24 Guide: Mentally Add and Subtract Numbers Up to 7

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 7 .

- Ask children to call out the answer to questions such as, 'How many are 6 and 1 ? How many are 7 less 1 ?'
- Master the operations in the table below (vary the order of questions):


## LESSON 24 - PRACTICE TABLE

How many are 0 and 7 ?
How many are 7 and 0 ?
How many are 6 and 1 ?
How many are 1 and 6 ?
How many are 5 and 2 ?
How many are 2 and 5 ?
How many are 4 and 3 ?
How many are 3 and 4 ?
How many are 7 less 0 ?
How many are 7 less 1 ?
How many are 7 less 2?
How many are 7 less 3 ?
How many are 7 less 4 ?
How many are 7 less 5 ?
How many are 7 less 6?
How many are 7 less 7 ?

## Lesson 25 Guide: Mentally Add and Subtract Numbers Up to 8

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 8 .

- Ask children to call out the answer to questions such as, 'How many are 7 and 1 ? How many are 8 less 1 ?'
- Master the operations in the table below (vary the order of questions):

LESSON 25 - PRACTICE TABLE
How many are 0 and 8 ?
How many are 8 and 0 ?
How many are 7 and 1 ?
How many are 1 and 7 ?
How many are 6 and 2 ?
How many are 2 and 6 ?
How many are 5 and 3 ?
How many are 3 and 5?
How many are 4 and 4 ?
How many are 8 less 0 ?
How many are 8 less 1 ?
How many are 8 less 2 ?
How many are 8 less 3 ?
How many are 8 less 4 ?
How many are 8 less 5 ?
How many are 8 less 6 ?
How many are 8 less 7 ?
How many are 8 less 8 ?

## Lesson 26 Guide: Mentally Add and Subtract Numbers Up to 9

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 9 .

- Ask children to call out the answer to questions such as, 'How many are 8 and 1 ? How many are 9 less 1 ?'
- Master the operations in the table below (vary the order of questions):

$$
\text { LESSON } 26 \text { - PRACTICE TABLE }
$$

How many are 0 and 9 ?
How many are 9 and 0 ?
How many are 8 and 1 ?
How many are 1 and 8 ?
How many are 7 and 2?
How many are 2 and 7 ?
How many are 6 and 3 ?
How many are 3 and 6 ?
How many are 5 and 4 ?
How many are 4 and 5?
How many are 9 less 0 ?
How many are 9 less 1 ?
How many are 9 less 2 ?
How many are 9 less 3 ?
How many are 9 less 4?
How many are 9 less 5?
How many are 9 less 6?
How many are 9 less 7?
How many are 9 less 8 ?
How many are 9 less 9?

## Lesson 27 Guide: Mentally Add and Subtract Numbers Up to 10

## Directions

- In this phase, do not mention objects. Lessons must be entirely oral.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

Teach children to mentally combine and separate numbers up to 10 .

- Ask children to call out the answer to questions such as, 'How many are 9 and 1? How many are 10 less 1 ?'
- Master the operations in the table below (vary the order of questions):

LESSON 27 - PRACTICE TABLE
How many are 0 and 10?
How many are 10 and 0 ?
How many are 9 and 1?
How many are 1 and 9 ?
How many are 8 and 2?
How many are 2 and 8 ?
How many are 7 and 3 ?
How many are 3 and 7 ?
How many are 6 and 4 ?
How many are 4 and 6 ?
How many are 5 and 5 ?
How many are 10 less 0 ?
How many are 10 less 1 ?
How many are 10 less 2?
How many are 10 less 3?
How many are 10 less 4?
How many are 10 less 5?
How many are 10 less 6?
How many are 10 less 7?
How many are 10 less 8?
How many are 10 less 9?
How many are 10 less 10?
Lesson 28 Guide: Recite and Write Figures and Words for 0-10

## Directions

- Teach children the symbols and words for 0-10.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

STEP 1

- Display to children the figures and corresponding words for 0-10 as follows:

| LESSON 28 |  |
| :--- | :--- |
| 0 | Zero |
| 1 | One |
| 2 | Two |
| 3 | Three |
| 4 | Four |
| 5 | Five |
| 6 | Six |
| 7 | Seven |
| 8 | Eight |
| 9 | Nine |
| 10 | Ten |

## STEP 2

- Point to each value in the table and have children recite each number and word.


## STEP 3

- Have children copy each number and word on paper.
- Repeat this lesson every day until children can easily recite and write the mathematical figures and words.


## Lesson 29 Guide: Write Figures and Words for Equation Signs

## Directions

- Teach children the symbols and words for the plus (+) sign, the minus (-) sign, and the equality (=) symbol.
- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Display to children the symbols and corresponding words as follows:

| LESSON 29 |  |
| :--- | :--- |
| ++ | Plus |
| - | Minus |
| $=$ | Equals |

## STEP 2

- Point to each value in the table and have children recite each symbol and word.


## STEP 3

- Have children copy each symbol and word on paper.
- Repeat this lesson every day until children can easily recite and write the mathematical symbols and words.


## Lesson 30 Guide: Write Addition Problems of Up to 2

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Explain that ' + ' is to be read as 'plus' and that ' $2+0=2$ ' is to be read as 'two plus zero equals two.'
- Repeat this lesson every day until children can easily recite and write the equations.

2 and 0 are 2
2 plus 0 is 2 $2+0=2$

0 and 2 are 2
0 plus 2 is 2
$0+2=2$
1 and 1 are 2
1 plus 1 is 2

$$
1+1=2
$$

## Lesson 31 Guide: Write Addition Problems of Up to 3

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

> 3 and 0 are 3
> 3 plus 0 is 3
> $3+0=3$

0 and 3 are 3
0 plus 3 is 3 $0+3=3$

2 and 1 are 3
2 plus 1 is 3
$2+1=3$
1 and 2 are 3
1 plus 2 is 3
$1+2=3$

## Lesson 32 Guide: Write Addition Problems of Up to 4

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

> 4 and 0 are 4
> 4 plus 0 is 4
> $4+0=4$

0 and 4 are 4
0 plus 4 is 4
$0+4=4$
3 and 1 are 4
3 plus 1 is 4
$3+1=4$
1 and 3 are 4
1 plus 3 is 4
$1+3=4$
2 and 2 are 4
2 plus 2 is 4
$2+2=4$

## Lesson 33 Guide: Write Addition Problems of Up to 5

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

$$
\begin{gathered}
5 \text { and } 0 \text { are } 5 \\
5 \text { plus } 0 \text { is } 5 \\
5+0=5 \\
0 \text { and } 5 \text { are } 5 \\
0 \text { plus } 5 \text { is } 5 \\
0+5=5 \\
\\
4 \text { and } 1 \text { are } 5 \\
4 \text { plus } 1 \text { is } 5 \\
4+1=5 \\
\\
1 \text { and } 4 \text { are } 5 \\
1 \text { plus } 4 \text { is } 5 \\
1+4=5 \\
\\
2 \text { and } 3 \text { are } 5 \\
2 \text { plus } 3 \text { is } 5 \\
2+3=5
\end{gathered}
$$

3 and 2 are 5
3 plus 2 is 5
$3+2=5$

## Lesson 34 Guide: Write Addition Problems of Up to 6

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

| 6 and 0 are 6 | 4 and 2 are 6 |
| :---: | :---: |
| 6 plus 0 is 6 | 4 plus 2 is 6 |
| $6+0=6$ | $4+2=6$ |

0 and 6 are 6
0 plus 6 is 6
$0+6=6$
5 and 1 are 6
5 plus 1 is 6
$5+1=6$
1 and 5 are 6
1 plus 5 is 6 $1+5=6$

2 and 4 are 6
2 plus 4 is 6 $2+4=6$

3 and 3 are 6
3 plus 3 is 6 $3+3=6$

## Lesson 35 Guide: Write Addition Problems of Up to 7

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.
7 and 0 are 7
5 and 2 are 7
7 plus 0 is 7
$7+0=7$
5 plus 2 is 7
$5+2=7$

0 and 7 are 7
0 plus 7 is 7
$0+7=7$
6 and 1 are 7
6 plus 1 is 7 $6+1=7$

1 and 6 are 7
1 plus 6 is 7 $1+6=7$

2 and 5 are 7
2 plus 5 is 7 $2+5=7$

$$
\begin{gathered}
4 \text { and } 3 \text { are } 7 \\
4 \text { plus } 3 \text { is } 7 \\
4+3=7
\end{gathered}
$$

3 and 4 are 7
3 plus 4 is 7
$3+4=7$

## Lesson 36 Guide: Write Addition Problems of Up to 8

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.
8 and 0 are 8
2 and 6 are 8
8 plus 0 is 8

$$
8+0=8
$$

2 plus 6 is 8 $2+6=8$

> 0 and 8 are 8
> 0 plus 8 is 8
> $0+8=8$

5 and 3 are 8
5 plus 3 is 8

$$
5+3=8
$$

> 7 and 1 are 8
> 7 plus 1 is 8 $7+1=8$

1 and 7 are 8
1 plus 7 is 8 $1+7=8$

> 3 and 5 are 8
> 3 plus 5 is 8 $3+5=8$

> 4 and 4 are 8
> 4 plus 4 is 8 $4+4=8$

> 6 and 2 are 8
> 6 plus 2 is 8
> $6+2=8$

## Lesson 37 Guide: Write Addition Problems of Up to 9

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

| 9 and 0 are 9 | 2 and 7 are 9 |
| :---: | :---: |
| 9 plus 0 is 9 | 2 plus 7 is 9 |
| $9+0=9$ | $2+7=9$ |


| 0 and 9 are 9 | 6 and 3 are 9 |
| :---: | :---: |
| 0 plus 9 is 9 | 6 plus 3 is 9 |
| $0+9=9$ | $6+3=9$ |


| 8 and 1 are 9 | 3 and 6 are 9 |
| :---: | :---: |
| 8 plus 1 is 9 | 3 plus 6 is 9 |
| $8+1=9$ | $3+6=9$ |

1 and 8 are 9
1 plus 8 is 9
$1+8=9$
7 and 2 are 9
7 plus 2 is 9
$7+2=9$

5 and 4 are 9
5 plus 4 is 9 $5+4=9$

4 and 5 are 9
4 plus 5 is 9 $4+5=9$

## Lesson 38 Guide: Write Addition Problems of Up to 10

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

| 10 and 0 are 10 | 7 and 3 are 10 |
| :---: | :---: |
| 10 plus 0 is 10 |  |
| $10+0=10$ | 7 plus 3 is 10 |
| $7+3=10$ |  |
| 0 and 10 are 10 |  |
| 0 plus 10 is 10 |  |
| $0+10=10$ | 3 and 7 are 10 |
|  | 3 plus 7 is 10 |
| 9 and 1 are 10 | $3+7=10$ |
| 9 plus 1 is 10 |  |
| $9+1=10$ | 6 and 4 are 10 |
|  | 6 plus 4 is 10 |
| 1 and 9 are 10 | $6+4=10$ |
| 1 plus 9 is 10 |  |
| $1+9=10$ | 4 and 6 are 10 |
|  | 4 plus 6 is 10 |
| 8 and 2 are 9 | $4+6=10$ |
| 8 plus 2 is 9 |  |
| $8+2=9$ | 5 and 5 are 10 |
|  | 5 plus 5 is 10 |
| $5+5=10$ |  |

2 and 8 are 10
2 plus 8 is 10 $2+8=10$

## Lesson 39 Guide: Write Subtraction Problems of Up to 2

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Explain that '-' is to be read as minus and that ' $2-1=1$ ' is to be read as 'two minus one equals one.'
- Repeat this lesson every day until children can easily recite and write the equations.

$$
\begin{gathered}
2 \text { less } 0 \text { is } 2 \\
2 \text { minus } 0 \text { equals } 2 \\
2-0=2 \\
2 \text { less } 1 \text { is } 1 \\
2 \text { minus } 1 \text { equals } 1 \\
2-1=1 \\
2 \text { less } 2 \text { is } 0 \\
2 \text { minus } 2 \text { equals } 0 \\
2-2=0
\end{gathered}
$$

## Lesson 40 Guide: Write Subtraction Problems of Up to 3

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

> 3 less 0 is 3
> 3 minus 0 equals 3
> $3-0=3$
> 3 less 1 is 2
> 3 minus 1 equals 2
> $3-1=2$
> 3 less 3 is 0
> 3 minus 3 equals 0
> $3-3=0$

## Lesson 41 Guide: Write Subtraction Problems of Up to 4

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

> 4 less 0 is 4
> 4 minus 0 equals 4
> $4-0=4$
> 4 less 1 is 3
> 4 minus 1 equals 3
> $4-1=3$
> 4 less 2 is 2
> 4 minus 2 equals 2
> $4-2=2$
> 4 less 3 is 1
> 4 minus 3 equals 1
> $4-3=1$
> 4 less 4 is 0
> 4 minus 4 equals 0
> $4-4=0$

## Lesson 42 Guide: Write Subtraction Problems of Up to 5

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

5 less 0 is 5
5 minus 0 equals 5
$5-0=5$
5 less 1 is 4
5 minus 1 equals 4
$5-1=4$
5 less 2 is 3
5 minus 2 equals 3

$$
5-2=3
$$

5 less 3 is 2
5 minus 3 equals 2
5-3=2
5 less 4 is 1
5 minus 4 equals 1
$5-4=1$

5 less 5 is 0
5 minus 5 equals 0
5-5 = 0

## Lesson 43 Guide: Write Subtraction Problems of Up to 6

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

6 less 0 is 6
6 minus 0 equals 6 $6-0=6$

6 less 1 is 5
6 minus 1 equals 5

$$
6-1=5
$$

6 less 2 is 4
6 minus 2 equals 4 6-2 = 4

6 less 3 is 3
6 minus 3 equals 3
$6-3=3$

6 less 4 is 2
6 minus 4 equals 2
$6-4=2$
6 less 5 is 1
6 minus 5 equals 1
6-5 = 1
6 less 6 is 0
6 minus 6 equals 0 $6-6=0$

## Lesson 44 Guide: Write Subtraction Problems of Up to 7

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

7 less 0 is $7 \quad 7-4=3$
7 minus 0 equals 7
$7-0=7$
7 less 1 is 6
7 minus 1 equals 6
$7-1=6$
7 less 2 is 5
7 minus 2 equals 5

$$
7-2=5
$$

7 less 3 is 4
7 minus 3 equals 4
$7-3=4$
7 less 4 is 3
7 minus 4 equals 3

## Lesson 45 Guide: Write Subtraction Problems of Up to 8

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

8 less 0 is 8
8 minus 0 equals 8 $8-0=8$

8 less 1 is 7
8 minus 1 equals 7
8-1 = 7
8 less 2 is 6
8 minus 2 equals 6

$$
8-2=6
$$

8 less 3 is 5
8 minus 3 equals 5
$8-3=5$
8 less 4 is 4
8 minus 4 equals 4 $8-4=4$

8 less 5 is 3
8 minus 5 equals 3 8-5 = 3

8 less 6 is 2
8 minus 6 equals 2
$8-6=2$
8 less 7 is 1
8 minus 7 equals 1

$$
8-7=1
$$

8 less 8 is 0
8 minus 8 equals 0
$8-8=0$

## Lesson 46 Guide: Write Subtraction Problems of Up to 9

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

9 less 0 is 9
9 minus 0 equals 9
$9-0=9$
9 less 1 is 8
9 minus 1 equals 8

$$
9-1=8
$$

9 less 2 is 7
9 minus 2 equals 7
$9-2=7$
9 less 3 is 6
9 minus 3 equals 6
$9-3=6$
9 less 4 is 5
9 minus 4 equals 5
$9-4=5$

9 less 5 is 4
9 minus 5 equals 4 $9-5=4$

9 less 6 is 3
9 minus 6 equals 3

$$
9-6=3
$$

9 less 7 is 2
9 minus 7 equals 2

$$
9-7=2
$$

9 less 8 is 1
9 minus 8 equals 1

$$
9-8=1
$$

9 less 9 is 0
9 minus 9 equals 0
$9-9=0$

## Lesson 47 Guide: Write Subtraction Problems of Up to 10

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite each equation listed below.


## STEP 2

- Have children copy on paper each equation listed below.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations.

10 less 0 is 10
10 minus 0 equals 10

$$
10-0=10
$$

10 less 1 is 9
10 minus 1 equals 9

$$
10-1=9
$$

10 less 2 is 8
10 minus 2 equals 8

$$
10-2=8
$$

10 less 3 is 7
10 minus 3 equals 7
$10-3=7$
10 less 4 is 6
10 minus 4 equals 6
$10-4=6$
10 less 5 is 5
10 minus 5 equals 5
$10-5=5$

10 less 6 is 4
10 minus 6 equals 4

$$
10-6=4
$$

10 less 7 is 3
10 minus 7 equals 3

$$
10-7=3
$$

10 less 8 is 2
10 minus 8 equals 2

$$
10-8=2
$$

10 less 9 is 1
10 minus 9 equals 1 $10-9=1$

10 less 10 is 0
10 minus 10 equals 0
$10-10=0$

## Lesson 48 Guide: Solve Equations Involving Numbers Up to 2

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
1+1=\text {; therefore } 2-1=
$$

## Lesson 49 Guide: Solve Equations Involving Numbers Up to 3

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
2+1 \text { or } 1+2=; \text { therefore } 3-1=; 3-2=
$$

## Lesson 50 Guide: Solve Equations Involving Numbers Up to 4

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
\begin{aligned}
3+1 \text { or } 1+3= & ; \text { therefore } 4-1=; 4-3= \\
2+2= & ; \text { therefore } 4-2=
\end{aligned}
$$

## Lesson 51 Guide: Solve Equations Involving Numbers Up to 5

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.
$4+1$ or $1+4=;$ therefore $5-1=; 5-4=$
$3+2$ or $2+3=;$ therefore $5-2=; 5-3=$


## Lesson 52 Guide: Solve Equations Involving Numbers Up to 6

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
\begin{aligned}
5+1 \text { or } 1+5 & =; \text { therefore } 6-1=; 6-5= \\
4+2 \text { or } 2+4 & =; \text { therefore } 6-2=; 6-4= \\
3+3 & =; \text { therefore } 6-3=
\end{aligned}
$$

## Lesson 53 Guide: Solve Equations Involving Numbers Up to 7

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.
$6+1$ or $1+6=;$ therefore $7-1=; 7-6=$
$5+2$ or $2+5=;$ therefore $7-2=; 7-5=$
$4+3$ or $3+4=;$ therefore $7-3=; 7-4=$


## Lesson 54 Guide: Solve Equations Involving Numbers Up to 8

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
\begin{aligned}
7+1 \text { or } 1+7 & =; \text { therefore } 8-1=; 8-7= \\
6+2 \text { or } 2+6= & ; \text { therefore } 8-2=; 8-6= \\
5+3 \text { or } 3+5 & =; \text { therefore } 8-3=; 8-5= \\
4+4 & =; \text { therefore } 8-4=
\end{aligned}
$$

## Lesson 55 Guide: Solve Equations Involving Numbers Up to 9

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.
$8+1$ or $1+8=;$ therefore $9-1=; 9-8=$
$7+2$ or $2+7=;$ therefore $9-2=; 9-7=$
$6+3$ or $3+6=;$ therefore $9-3=; 9-6=$
$5+4$ or $4+5=;$ therefore $9-4=; 9-5=$


## Lesson 56 Guide: Solve Equations Involving Numbers Up to 10

## Directions

- Follow the step-by-step instructions below to teach the lesson.
- Progress to the next lesson when children master the current lesson.
- Value mastery over speed of progression.


## Steps

## STEP 1

- Have children recite and solve each equation listed below.


## STEP 2

- Have children copy on paper the equations listed below and their solutions.


## EQUATIONS

- Repeat this lesson every day until children can easily recite and write the equations and their solutions.

$$
\begin{aligned}
9+1 \text { or } 1+9 & =; \text { therefore } 10-1=; 10-9= \\
8+2 \text { or } 2+8 & =; \text { therefore } 10-2=; 10-8= \\
7+3 \text { or } 3+7 & =; \text { therefore } 10-3=; 10-7= \\
6+4 \text { or } 4+6 & =; \text { therefore } 10-4=; 10-6= \\
5+5= & ; \text { therefore } 10-5=
\end{aligned}
$$

