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MISSISSIPPI
EXEMPLAR
Units & Lessons
MATHEMATICS

Grade 2

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W.K. KELLOGG FOUNDATION

Lesson 7: Mission Addition… Mission Expanded

Focus Standard(s): 2.NBT.7 2.NBT.9

Additional Standard(s): 2.NBT.1, 2.NBT.2, 2.NBT.3, 2.NBT.4, 2.NBT.5, 2.OA.1

Standards for Mathematical Practice: SMP.2, SMP.6, SMP.7

Estimated Time: 50 minutes

Resources and Materials:

- Chart paper
- Markers
- Handout 7.1: Mission Expanded
- Handout 7.2: Mission Expanded II

Lesson Target(s):

- Students will use expanded notation to add two 3-digit numbers without regrouping.
- Students will recognize the structure of addition- adding hundreds with hundreds, tens with tens, and ones with ones.

Guiding Question(s):

- In what kinds of situations might we add 3-digit numbers?
- How can place value help me add large numbers?

Vocabulary

Academic Vocabulary:	**Instructional Strategies for Academic Vocabulary:**
● Addend ● Addition ● Mental Math ● Sum	☐ Introduce words with student-friendly definition and pictures ☐ Model how to use the words in discussion ☐ Read and discuss the meanings of words in a mathematical context

Symbol	Type of Text and Interpretation of Symbol
	Instructional support and/or extension suggestions for students who are EL, have disabilities, or perform well below the grade level and/or for students who perform well above grade level
✓	Assessment (Pre-assessment, Formative, Self, or Summative)

Instructional Plan

Understanding Lesson Purpose and Student Outcomes:
Students will be able to add and subtract three-digit numbers by using an algorithm that is connected to a model or other strategy. Likewise, students will use algorithms to add and subtract using place value and explain the process of composing and decomposing numbers with and without regrouping.

Anticipatory Set/Introduction to the Lesson: Gathering of the Super Minds
Display Magnificent Math in students' view. Remind students that their mission today is to achieve today's learning goals in order to free Magnificent Math from captivity.

Distribute 3 sticky notes to each student. Tell each student to list something they have learned about place value on each of the 3 sticky notes. Each of their notes will have a different listing. Students will report their learning to the whole class and post their sticky notes on a graffiti wall in the hallway.

Activity 1: Expand the Search – Anchor Chart
Gather students in a Math Talk setting and elicit the students help in creating an anchor chart detailing the steps in 3-digit addition using expanded notation (SMP.7).

For students who are EL, have disabilities, or perform well below grade-level:

- Provide students with a memory aid that details exactly how to solve 3-digit addition problems using expanded notation.

Activity 2: Mission Expanded
Divide students into groups of four. Distribute **Handout 7.1: Mission Expanded**, and discuss each step with the students.

Note: Be sure to be animated as you explain "Poof", "Bam", and "Tada".

- Poof- Expanding to Individual Place Values
- Bam- Adding Each Place Value
- Tada- Compressing the Number Back Together

Work the first problem as the students listen (SMP.7).

Students work the next problem and discuss with the teacher which steps to follow.

Distribute **Handout 7.2: Mission Expanded II**.

Students work in Kagan Structure- Numbered Heads Together to work addition problems using the **Handout 7.2: Mission Expanded II**. Students number off and form groups according to their number. Give students pre-selected teacher-made addition problems and give students the appropriate amount of "think time". Students write their own answers independently.

Allow students to stand up, put their heads together [huddle up], show answers, discuss, and coach if necessary.

- ✓ Tell students to sit down when everyone knows the answer or has something they can share. Call a number; that numbered student from each group stands and simultaneously answers the teacher's question.

Encourage teammates to praise and cheer for their groupmates whenever they respond correctly (SMP.6).

For students who are EL, have disabilities, or perform well below grade-level:

- Allow students to use base ten blocks and place value charts as they solve the problems.

Extensions for students with high interest or working above grade level:

- Encourage students to create their own additional problems to solve.
- List any new information learned in a math journal.

Activity 3: Superhero Math Talk

- ✓ Have a class discussion about the students' essential understandings from today's lesson and how students can build upon this learning.

Prompting Questions:

- What did you discover today?

- How did you use expanded notation to add place value?
- What can you relate today's learning gains to?
- What prerequisite skill(s) did you build upon to help you in today's lesson?
- How can you build upon what you learned today?
- What did you learn today that surprised you?

Reflection and Closing:

✓ Students explain the 5 most important new learning gains they made during today's lesson. When students finish explaining the 5 learning gains, all at once they will raise their hands in the air and lead them into shouting, "High five for learning!"

Note: If today's learning goals were successfully met, release the Magnificent Math. The MVP of today's learning goals is given Magnificent Math to protect. Magnificent Math may sit on his/her desk, He/She may take the superhero to recess, lunch, specials, etc. He/She may also take the superhero home for the night. Be sure to discuss the rules of receiving Magnificent Math. The stuffed animal may not become a distraction to others, and it must be returned the following day.

Homework

Instruct students to create and solve 5 problems like today's lesson using the same steps taught in class. Encourage students to use **Handout 7.1: Mission Expanded** as a guide.

Handout 7.1: Mission Expanded

Name: _____ **Date:** _____

524 + 313 = _____

500 + 300 = 800

20 + 10= 30

4 + 4= 8

838

MISSION:

Step 1: Expand each number.

hundreds
tens
ones

Step 2: Add each place value.

Step 3: Add the place values together to shrink it back to one number.

316 + 173 = _____

300 + 100 = _____

10 + 70= _____

6 + 3= _____

_____

_____ + _____ = _____

_____ + _____ = _____

_____ + _____ = _____

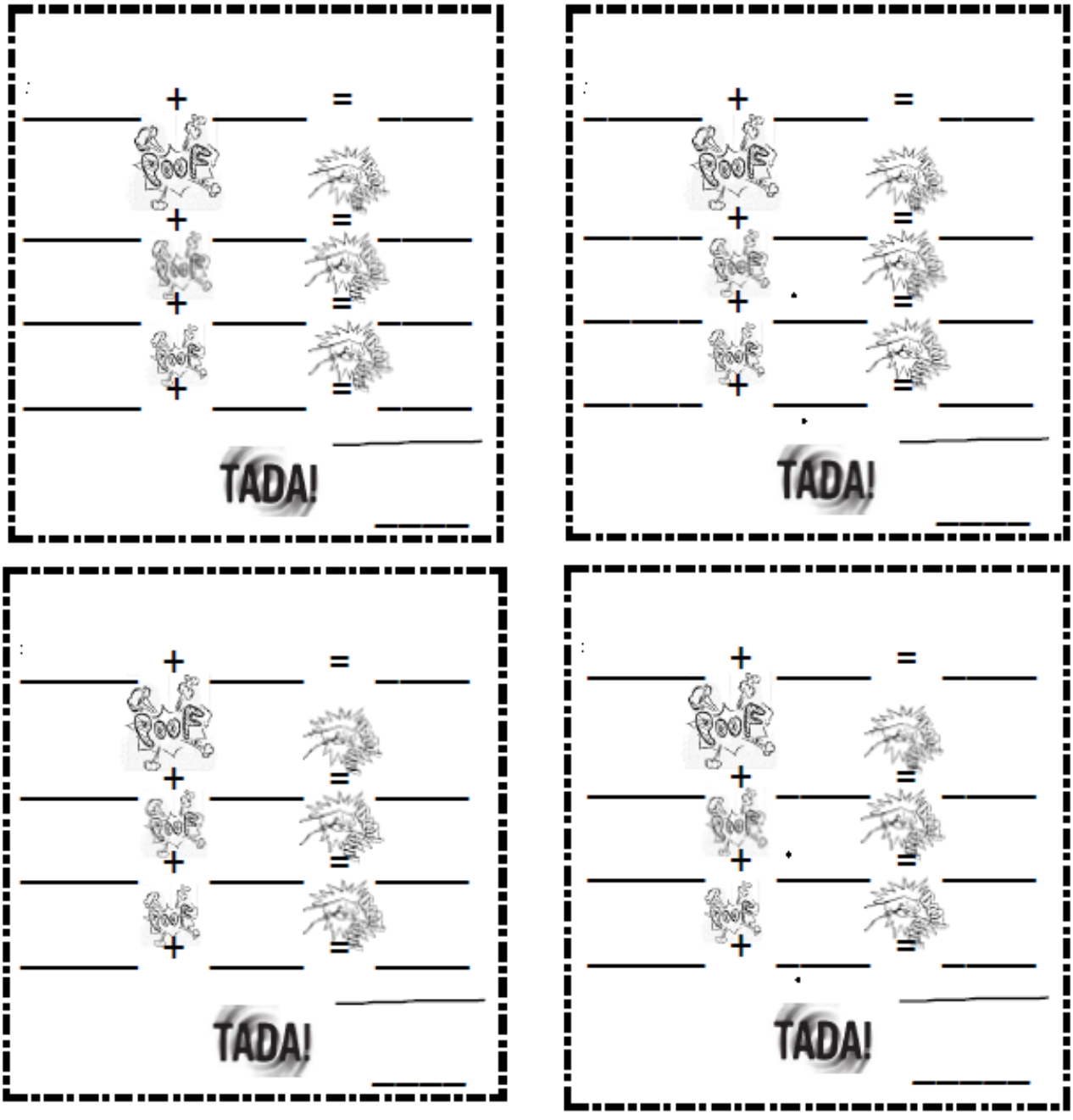
_____ + _____ = _____

_____

Handout 7.2: Mission Expanded II

Name: _____ **Date:** _____

Your mission: Solve 3-digit addition with expanded notation.



For training or questions regarding this unit, please contact:

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