Instructional Learning Series
Grade 4—Numbers & Operations in Base Ten Playlist

The Digital Library Instructional Learning Series links Smarter Balanced Digital Library resources with content from Interim Assessment Blocks. The Digital Library resources on this list are intended to supplement a teacher's core curriculum and may not address every standard assessed by the Grade 4—Numbers & Operations in Base Ten Interim Assessment Block. For each resource on this list, a brief description is provided along with the Common Core State Standards (CCSS) of focus and estimated instructional time. Many of the formative assessment practices featured in these resources can be used across grades and content areas.

Learning Goals

Students understand how to:

- generalize place value for multi-digit whole numbers.
- use place value and properties of operations to perform multi-digit arithmetic.

Success Criteria

Students can:

- compare two multi-digit whole numbers in the same form using >, <, and = symbols.
- round multi-digit whole numbers to any place value.
- identify multi-digit whole numbers that, when rounded to a given place value, will be closest to a given number.
- explain the difference between the values of a numeral in the tens and the ones place, the hundreds place and the tens place, or the thousands place and the hundreds place in mathematical situations.
- add or subtract multi-digit whole numbers in non-contextual mathematics problems.
- multiply whole numbers (up to four digits by one digit or two digits by two digits) using strategies based on place value and the properties of operations.

Resource Title	Resource Overview
[Place Value Creation and Comparison](#) ⬈ CCSS of focus: 4.NBT.A.1, 4.NBT.A.2, 4.NBT.A.3, MP 6, 7 Estimated instructional time: 10 min.	This template can be used by students to write two different numbers (up to seven digits). Students use the two numbers to practice writing numbers in various forms, round to various place values, and compare the value of a numeral common to both numbers, but in different places.

[Illustrative Mathematics Fluency Module](#) ↗ CCSS of focus: 4.NBT.B.4, MP 1, 7 Estimated instructional time: 1 Week	This resource consists of ten instructional units spanning kindergarten through grade five. For the purposes of this 4th grade instructional learning series please use the unit titled Add/Subtract within 1,000,000, which includes a unit overview, three lessons on addition, and two lessons on subtraction.
[Grade 4 Mistake Detectives: Addition Concept and Algorithmic Relationships](#) ↗ CCSS of focus: 4.NBT.A.2, 4.NBT.A.3, 4.NBT.B.4, MP 1, 2, 3, 5, 6 Estimated instructional time: 180 min.	These presentation slides and supplementary teacher guide provide students with opportunities to analyze addition errors, establish patterns, and recommend solutions. Students are provided a variety of strategies to model addition problems including drawings, writing in expanded form, and using estimation strategies.
[Grade 4 Mistake Detectives: Subtraction with Place Value and Algorithm](#) ↗ CCSS of focus: 4.NBT.A.2, 4.NBT.A.3, 4.NBT.B.4, MP 1, 2, 3, 5, 6 Estimated instructional time: 180 min.	These presentation slides and supplementary teacher guide provide students with opportunities to analyze subtraction errors, establish patterns, and recommend solutions. Students are provided a variety of strategies to model subtraction problems including drawings, writing in expanded form, and using estimation strategies.
[Using Written Responses to Assess Student Understanding of Multiplication](#) ↗ CCSS of focus: 4.NBT.B.5, MP 1, 4, 6, 7 Estimated instructional time: 60 min.	This resource includes a pre-assessment activity, student practice activity and a performance task. This lesson provides students the opportunity to compare area model multiplication with expanded form multiplication. This lesson should precede lessons using the standard algorithm.
[Multi-Digit Multiplication Strategies Lesson](#)↗ CCSS of focus: 4.NBT.B.5, MP 2, 7, 8 Estimated instructional time: 90 min.	This resource includes a pre-assessment task, a collaborative task, and a lesson plan. The lesson is intended to assess student ability to use a variety of strategies to multiply. In particular, students use non-traditional multiplication strategies like the area model, partial products and the distributive property to develop conceptual understanding of multiplication and the use of the traditional multiplication algorithm.