



Holyoke Public Schools Mathematics Curriculum Map Grade 4

Landmarks and Large Numbers

Table of Contents

Curriculum Map Outline.....	4
Mathematic Evidence of Learning Artifacts.....	5
Probing Questions for Accountable Talk.....	6
Additional Probing Questions.....	7
Goals, Content Standards, & Performance Standards.....	8
End-of-Unit Project Preview.....	9
Investigations 1-4	10
End-of-Unit Project.....	14

On-Demand Assessments.....21

HPS Mathematics Scoring Rubric.....29

Curriculum Maps

GOALS:

1. To ensure that students are exposed to a rigorous curriculum in every school and every grade.
2. To have consistent instruction and assessment district wide.
3. To prepare students for the MCAS test.
4. To explain what is expected to be covered in each CMP or Investigations Unit.

EXPECTATIONS:

The district's expectation is for students to successfully meet the Massachusetts Mathematics Standards. In order to help facilitate this, teachers are required to follow the curriculum maps. The successful implementation of these maps requires teachers to thoroughly read each lesson in the TE and work through the project and problems in the map and the text prior to planning their lessons. Work should be kept in the binder with the curriculum map. Working through the math is an essential part of lesson planning, as it helps the teacher to better understand the concept being taught and the students' possible misunderstandings.

FEEDBACK TO STUDENTS:

Feedback needs to happen daily in the classroom. There are many ways to give feedback. Conferencing, observations, questions asked during your opening, work time and closing are all forms of feedback.

MAP COMPONENTS:

1. GENERAL PROBING QUESTIONS
2. UNIT SPECIFIC PROBING QUESTIONS
3. GOALS OF UNIT, CONTENT STANDARDS, & PERFORMANCE STANDARDS
4. PROJECT- to be done at end of unit and kept in the portfolio.
 - o STUDENT MASTER – for project
5. INVESTIGATIONS:
 - o NOTEBOOK - includes: 3 Ring Binder, Bound Notebook, Portfolio
 - o ACCOUNTABLE TALK – using probing questions
5. ON-DEMAND ASSESSMENTS - to be done during teaching of unit.
 - o STUDENT MASTERS- for on-demand assessments.

Mathematics

Evidence of Learning Artifacts

Artifact	K - 1	2 - 5	6 - 8
<i>3 Ring Binder (3R)*</i>	<ul style="list-style-type: none"> ○ Student Work¹ 	<ul style="list-style-type: none"> ○ Vocabulary ○ Student sheets¹ <p style="text-align: center;"><u>All work should be dated and listed by investigation</u></p>	<ul style="list-style-type: none"> ○ Math books ○ Vocabulary ○ Core Problems¹ ○ Lab sheets <p style="text-align: center;"><u>All work should be dated and listed by investigation</u></p>
<i>Marble Notebook (MNB)</i>	<ul style="list-style-type: none"> ○ Journal entries² 	<ul style="list-style-type: none"> ○ Table of Contents ○ Problem of the day ○ Journal entries ○ Class work <p style="text-align: center;"><u>All work should be dated and listed by investigation in the Table of Contents</u></p>	<ul style="list-style-type: none"> ○ Table of Contents ○ Work time ○ Journal entries <p style="text-align: center;"><u>All work should be dated and listed by investigation in the Table of Contents</u></p>
<i>Portfolio³ (P)</i>	<ul style="list-style-type: none"> ○ On-demand tasks ○ Projects ○ Teacher anecdotal notes 	<ul style="list-style-type: none"> ○ On-demand tasks ○ Reflections ○ Projects <p style="text-align: center;"><u>All work should be dated and listed by investigation</u></p>	<ul style="list-style-type: none"> ○ On-demand tasks ○ Reflections ○ Projects <p style="text-align: center;"><u>All work should be dated and listed by investigation</u></p>

* Folders may be used in place of binders for these grade levels

¹ Send home at the end of each unit

² Use grade level math journals

³ All documents should be kept for the entire year

Landmarks and Large Numbers Probing Questions for Accountable Talk

As students progress through this unit, they should be asked the following questions to assess their knowledge about ideas that will lay a foundation for algebra.

- What are landmark numbers? How can they help you to add and subtract?
- What strategies can you use for addition and subtraction?
- What happens when you add a positive and a negative number?
- What does place value look like in the base-10 number system?
- How can you use multiples of 10 and 100 to add and subtract?
- What strategies do you have for finding numbers in the 1,000 book and the 10,000 chart?
- How can you break apart numbers to help you add and subtract?
- How are addition and subtraction related?
- How can the number line help you with addition and subtraction?
- How can starter problems help you solve larger addition and subtraction?
- What patterns do you see throughout the 100 charts, 1,000 books, and the 10,000 charts?
- How does place value change when you add multiples of 10 or 100?

Ten Minute Math

Ten Minute Math: Session 1.3 Practicing Place Value
Session 1.5 Today's Number

Ten Minute Math activities offer practice and review of key concepts at each grade level. After their initial introduction, these short activities, designed to take no longer than 10 minutes, support and balance the in-depth work of each curriculum unit.

Implementing Investigations in Grade 5: Please review pages 23, 26 -34, for 2 Ten Minute Math activities in this unit and pg. 40-42 for Classroom Routines: “What’s the Temperature”.

Additional Probing Questions for Accountable Talk

The teacher's role in probing for understanding is to ask questions that will:

- Clarify student understanding
- Get at the objective of the lesson
- Go deeper into the mathematics
- Uncover misconceptions and misunderstandings
- Compare and contrast

The students' role is to be an active participant by:

- Explaining their strategies
- Asking clarifying questions to teacher and other students
- Being active listeners
- Using the language of mathematics

When probing for understanding the teacher and students can use one or more of these suggested questions:

- Why are you using $< >$?
- What are the ways you could $< >$?
- What else do you know?
- How do you know that?
- Can you show that?
- What convention did you use here?
- What can you do if you do not know?
- What standard does this work apply to?
- Is this always true?
- How does this connect to other mathematics we have learned?
- What is the same and what are the differences between $< >$?
- Can you back that up?
- Where is the math in your sketch?
- What does the answer mean?
- Does the answer make sense?
- Could you have used another operation to solve this task?
- Can you give examples?
- Can you say it another way?
- What's the math?
- Tell me about the task in your own words?
- What are you trying to find?
- How did you make your estimate?
- Will your answer be an over-estimate or an under-estimate? Why?
- I noticed that you used $< \dots >$ to help you understand the task. Can you show us what you did and tell us how it helped you?
- Where do you see $< >$ in your $<$ model, diagram, number line, chart, etc. $>$?
- How can we see $< >$ in your $<$ model, diagram, number line, chart, etc. $>$?
- You have used a representation that is different from others that I've seen. Can you show us your $<$ model, diagram, number line, chart, etc. $>$, and tell us how it helped you?
- How did you decide to solve the task? Why did you choose that method?
- Did you try any method that didn't work?
 - Tell us what you tried.
 - Why didn't it work?
 - Would it ever work?

Goals, Content Standards, & Performance Standards

Unit Goals:

- Read, write, and sequence numbers up to 10,000
- Add and subtract multiples of 10 (including multiples of 100 and 1,000) fluently.
- Solve addition problems efficiently, choosing from a variety of strategies.
- Solve subtraction problems with 3-digit numbers by using at least one strategy efficiently.

Math Content Standards:

- (4.N.1) Exhibit an understanding of the base ten number system by reading, modeling, writing, and interpreting whole numbers to at least 100,000; demonstrating an understanding of the values of digits; and comparing and ordering the numbers.
- (4.N.2) Represent, order, and compare large numbers (to at least 100,000) using various forms, including expanded notation
- (4.N.9) Select, use, and explain the commutative, associative, and identity properties of operations on whole numbers in problem situations.
- (4.N.10) Select and use appropriate operations (addition, subtraction, multiplication, and division) to solve problems, including those involving money.
- (4.N.12) Add and subtract (up to five-digit numbers) and multiply (up to three digits by two digits) accurately and efficiently
- (4.N.14) Demonstrate in the classroom an understanding of and the ability to use the conventional algorithms for addition and subtraction (up to five-digit numbers), and multiplication (up to three digits by two digits).
- (4.M.4) Estimate and find area and perimeter of a rectangle, triangle, or irregular shape using diagrams, models, and grids or by measuring.
- (4.M.5) Identify and use appropriate metric and English units and tools to estimate, measure, and solve problems involving length, area, volume, weight, time, angle size, and temperature.

Performance Standards:

- (M1a) Adds, subtracts, multiplies, and divides whole numbers
- (M1b) Demonstrate an understanding of the base ten place value system and uses this knowledge to solve arithmetic tasks
- (M1c) Estimates, approximates, rounds off, uses landmark numbers, or uses exact numbers, as appropriate in calculations
- (M1f) Describes and compares quantities by using whole numbers up to 10,000.

UNIT: Landmarks and Large Numbers

End-of-Unit Project

GRADE: 4

End-of-Unit Project (P)

Student work should be placed in **portfolio (P)**.

The project is the culminating assessment which will allow students to apply what they learned in the unit. It is written in MCAS form to give students the experience of answering an open-response question.

The picture below shows the playing board for the new game show Guess What. In each game, players win points by answering questions about five different categories. Each category has 5 questions to be answered. The number of points that a question is worth is shown on the playing board. (For example, the first question in each category is worth 25 points.)

GUESS WHAT				
States	People	Dates	Rivers	Books
25	25	25	25	25
50	50	50	50	50
100	100	100	100	100
200	200	200	200	200
400	400	400	400	400

- How many points will a player earn if he or she answers all the questions in the "States" category correctly? Show your work or explain how you got your answer.
- What is the fewest number of questions a player could answer correctly and earn exactly 375 points? Show your work or explain how you got your answer.
- Mr. Anderson earned exactly 1250 points. He answered more than 5 questions correctly. Show one way that Mr. Anderson could have answered more than 5 questions correctly to earn exactly 1250 points. Explain how you got your answer.

UNIT: Landmarks and Large Numbers
Investigation 1 (1.1 – 1.6) DAYS: 6

GRADE: 4

<p>Evidence of Learning Artifacts</p> <p>Journal and Reflection questions should be posted and referred to at the beginning of the appropriate <i>Investigation</i>.</p> <p>Journal and Reflection entries need to be done in class as part of the closure and assessment.</p>	<p>(3R) – 3 ring binder; (MNB) – marble notebook; (P) – portfolio</p> <p><i>Vocabulary</i> – place value, landmark numbers, number line (3R)</p> <p><i>Work Time</i> – Student Activity Book pgs. 1 – 15 (3R)</p> <p><i>Journal Entries</i> – (MNB) *Maximum 5 minutes</p> <p>Inv. 1.1 What strategies did you use to locate numbers in your 1,000 book?</p> <p>Inv. 1.2 How did landmark numbers help you locate numbers in your 1,000 book?</p> <p>Inv. 1.3 What strategies did you use to add and subtract multiples of 10 and 100?</p> <p>Inv. 1.4 Using a number line, show how many more miles you have to go to 1,000 if you start at 685.</p> <p>Inv. 1.5 None, due to assessment</p> <p>Inv. 1.6 How can a number line help you to subtract 435 from 1000?</p> <p><i>Reflection</i> – Explain how using landmark numbers and a number line would help you solve addition and subtraction problems with numbers with three or more digits.(P)</p>
<p>Accountable Talk</p> <p>To promote learning, explore solutions, and justify reasoning, conversations between students and students or students and teacher must be accountable – accountable to the learning community, to the mathematics discipline, and to rigorous thinking.</p>	<p><i>As a result of this Investigation, students should be able to talk and manipulate the vocabulary of the Investigation in response to this type of question:</i></p> <p>How did you know that? How can you use ...? Can you show another way? What convention did you use?</p> <p><i>These are some recommended questions that you might use. Others can be found at the beginning of the map and on the probing question sheet in the district mathematics guide.</i></p>

UNIT: Landmarks and Large Numbers
Investigation 2 (2.1 – 2.6) DAYS: 6

GRADE: 4

<p>Evidence of Learning Artifacts</p> <p>Journal and Reflection questions should be posted and referred to at the beginning of the appropriate <i>Investigation</i>.</p> <p>Journal and Reflection entries need to be done in class as part of the closure and assessment.</p>	<p>(3R) – 3 ring binder; (MNB) –marble notebook; (P) – portfolio</p> <p><i>Vocabulary</i> – addition strategies, algorithm (3R)</p> <p><i>Work Time</i> – Student Activity Book pgs. 16 - 35 (3R)</p> <p><i>Journal Entries</i> – (MNB) *Maximum 5 minutes</p> <p>Inv. 2.1 How can you break apart numbers to make them easier to add? Explain and give an example.</p> <p>Inv. 2.2 What determines which addition strategy you would use for a given problem?</p> <p>Inv. 2.3 How do starter problems help you to solve more difficult problems?</p> <p>Inv. 2.4 Compare the strategies of breaking apart numbers and using the U.S. Algorithm?</p> <p>Inv. 2.5 What strategies did you use to get close to 1,000?</p> <p>Inv. 2.6 None, due to assessment</p> <p><i>Reflection</i> – Solve $1534 + 628$ using two different strategies. Show your work and explain your thinking for each strategy. (P)</p>
<p>Accountable Talk</p> <p>To promote learning, explore solutions, and justify reasoning, conversations between students and students or students and teacher must be accountable – accountable to the learning community, to the mathematics discipline, and to rigorous thinking.</p>	<p><i>As a result of this Investigation, students should be able to talk and manipulate the vocabulary of the Investigation in response to this type of question:</i></p> <p>How did you know...?</p> <p>Can you solve the problem in a different way?</p> <p>Does your answer make sense?</p> <p>What was your strategy?</p> <p><i>These are some recommended questions that you might use. Others can be found be found at the beginning of the map and on the probing question sheet in the district mathematics guide.</i></p>

UNIT: Landmarks and Large Numbers
Investigation 3 (3.1 – 3.5) DAYS: 5

GRADE: 4

<p>Evidence of Learning Artifacts</p> <p>Journal and Reflection questions should be posted and referred to at the beginning of the appropriate <i>Investigation</i>.</p> <p>Journal and Reflection entries need to be done in class as part of the closure and assessment.</p>	<p>(3R) – 3 ring binder; (MNB) –marble notebook; (P) – portfolio</p> <p><i>Vocabulary</i> – equivalent, sequencing, multiples (3R)</p> <p><i>Work Time</i> – Student Activity Book pgs. 36-50 (3R)</p> <p><i>Journal Entries</i> – (MNB) *Maximum 5 minutes</p> <p>Inv. 3.1 What patterns do you notice in the various 100 Charts?</p> <p>Inv. 3.2 If you know that there are 1,000 tens in 10,000, how many tens are in 100,000? How do you know?</p> <p>Inv. 3.3 Which digits of your starting number will change if you add a multiple of 100?</p> <p>Inv. 3.4 Which addition strategy did you use for adding up your miles?</p> <p>Inv. 3.5 What number combinations are easy to compute when using mental math?</p> <p><i>Reflection</i> – Explain the patterns that are the same on a 100 Chart, a 1,000 book, and a 10,000 Chart.(P)</p>
<p>Accountable Talk</p> <p>To promote learning, explore solutions, and justify reasoning, conversations between students and students or students and teacher must be accountable – accountable to the learning community, to the mathematics discipline, and to rigorous thinking.</p>	<p><i>As a result of this Investigation, students should be able to talk and manipulate the vocabulary of the Investigation in response to this type of question:</i></p> <p style="padding-left: 40px;">How did you know...?</p> <p style="padding-left: 40px;">Can you solve the problem in a different way?</p> <p style="padding-left: 40px;">Does your answer make sense?</p> <p style="padding-left: 40px;">What was your strategy?</p> <p><i>These are some recommended questions that you might use. Others can be found at the beginning of the map and on the probing question sheet in the district mathematics guide.</i></p>

UNIT: Landmarks and Large Numbers
Investigation 4 (4.1 – 4.7) DAYS: 7

GRADE: 4

<p>Evidence of Learning Artifacts</p> <p>Journal and Reflection questions should be posted and referred to at the beginning of the appropriate <i>Investigation</i>.</p> <p>Journal and Reflection entries need to be done in class as part of the closure and assessment.</p>	<p>(3R) – 3 ring binder; (MNB) –marble notebook; (P) – portfolio</p> <p><i>Vocabulary</i> – subtraction strategies, positive numbers, negative numbers(3R)</p> <p><i>Work Time</i> – Student Activity Book pgs. 51-74(3R)</p> <p><i>Journal Entries</i> – (MNB) *Maximum 5 minutes</p> <p>Inv. 4.1 What strategies did you use for solving the subtraction story problems?</p> <p>Inv. 4.2 How can landmark numbers help you solve subtraction problems?</p> <p>Inv. 4.3 None, due to assessment</p> <p>Inv. 4.4 How did you choose the starter problem you used to solve the final problem?</p> <p>Inv. 4.5 If your total for your first round of Close to 1,000 is 1,009, that is a score of + 9. What scores do you need to get in the next round or two to get closest to 0?</p> <p>Inv. 4.6 None, due to individual assessment</p> <p>Inv. 4.7 None, due to assessment</p> <p><i>Reflection</i> – Compare the relationship between addition and subtraction on a number line. (P)</p>
<p>Accountable Talk</p> <p>To promote learning, explore solutions, and justify reasoning, conversations between students and students or students and teacher must be accountable – accountable to the learning community, to the mathematics discipline, and to rigorous thinking.</p>	<p><i>As a result of this Investigation, students should be able to talk and manipulate the vocabulary of the Investigation in response to this type of question:</i></p> <p>How did you know...?</p> <p>Can you solve the problem in a different way?</p> <p>Does your answer make sense?</p> <p>What was your strategy?</p> <p><i>These are some recommended questions that you might use. Others can be found at the beginning of the map and on the probing question sheet in the district mathematics guide.</i></p>

End-of-Unit Project

Student work should be placed in **portfolio (P)**.

The project is the culminating assessment which will allow students to apply what they learned about addition, subtraction, and place value. It is written in MCAS form to give students the experience of answering an open-response question.

NAME: _____

DATE: _____

End-of-Unit Project

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF EACH QUESTION.**
- **Show all work (diagrams, tables, and computations) on your answer sheet.**
- **If you do the work in your head, explain in writing how you did the work.**

The picture below shows the playing board for the new game show *Guess What*. In each game, players win points by answering questions about five different categories. Each category has 5 questions to be answered. The number of points that a question is worth is shown on the playing board. (For example, the first question in each category is worth 25 points.)

GUESS WHAT				
States	People	Dates	Rivers	Books
25	25	25	25	25
50	50	50	50	50
100	100	100	100	100
200	200	200	200	200
400	400	400	400	400

- a. How many points will a player earn if he or she answers all the questions in the "States" category correctly? Show your work or explain how you got your answer.
- b. What is the fewest number of questions a player could answer correctly and earn exactly 375 points? Show your work or explain how you got your answer.
- c. Mr. Anderson earned exactly 1250 points. He answered more than 5 questions correctly. Show one way that Mr. Anderson could have answered more than 5 questions correctly to earn exactly 1250 points. Explain how you got your answer.

Scoring Guide and Sample Student Work

Score	Description
<u>4</u>	The student response demonstrates an exemplary understanding of the Number Sense and Operations concepts involved in selecting and using appropriate operations to solve problems.
<u>3</u>	The student response demonstrates a good understanding of the Number Sense and Operations concepts involved in selecting and using appropriate operations to solve problems. Although there is significant evidence that the student is able to recognize and apply the concepts involved, some aspect of the response is flawed. As a result, the response merits 3 points.
<u>2</u>	The student response demonstrates a fair understanding of the Number Sense and Operations concepts involved in selecting and using appropriate operations to solve problems. While some aspects of the task are completed correctly, others are not. The mixed evidence provided by the student merits 2 points.
<u>1</u>	The student response demonstrates only a minimal understanding of the Number Sense and Operations concepts involved in selecting and using appropriate operations to solve problems.
<u>0</u>	The student response contains insufficient evidence of an understanding of the Number Sense and Operations concepts involved in selecting and using appropriate operations to solve problems to merit any points.

2005 MCAS
Grade 4 Mathematics
Question 17 - Score Point 4

a.
$$\begin{array}{r} 25 \\ 50 \\ 100 \\ 200 \\ + 400 \\ \hline 775 \end{array}$$
 She could earn 775 points.

b.
$$\begin{array}{r} 200 \\ 100 \\ 50 \\ + 25 \\ \hline 375 \end{array}$$
 The least number of questions is 4 questions.

c.
$$\begin{array}{r} 400 \text{ (1)} \\ + 400 \text{ (2)} \\ \hline 800 \\ + 200 \text{ (3)} \\ \hline 1000 \\ + 100 \text{ (4)} \\ \hline 1100 \\ + 100 \text{ (5)} \\ \hline 1200 \\ + 25 \text{ (6)} \\ \hline 1225 \\ + 25 \text{ (7)} \\ \hline 1250 \end{array}$$

2005 MCAS
 Grade 4 Mathematics
 Question 17 - Score Point 3

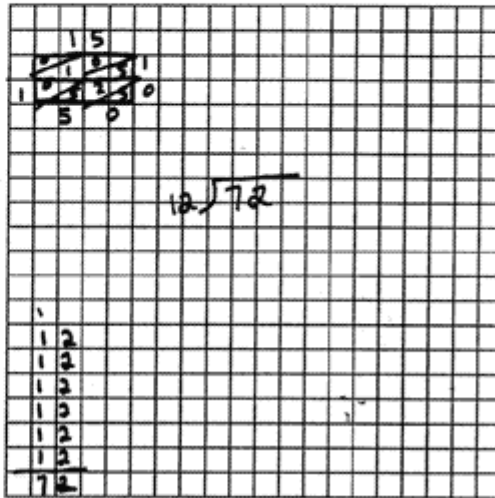
a)
$$\begin{array}{r} 85 \\ 50 \\ 700 \\ 200 \\ 400 \\ \hline 1450 \end{array}$$
 The player will get 1450 points if he or she answers all the questions in the "States category" right.

b)
$$\begin{array}{r} 300 \\ 100 \\ 50 \\ \hline 125 \end{array}$$
 The least number of questions a player could answer correctly and earn exactly 375 is 4 questions.

c)
$$\begin{array}{r} 400 \\ 400 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ 100 \\ \hline 1250 \end{array}$$
 I got my answer by by choosing different combinations that equalled 1250 but they all were 5 questions. Then I came up with 7 questions. So I added $400 + 400 + 100 + 100 + 100 + 100 + 50$ and got 1250. That's how I got my answer.

2005 MCAS
 Grade 4 Mathematics
 Question 17 - Score Point 2

- a. \$775 add $400 + 200 + 100 + 50 + 25$ and your answer will be \$775.
- b $100 + 100 + 100 + 50 + 25$ and your answer is 375.
- c $400 + 400 + 400 + 50$ and your answer is 1,250



2005 MCAS

Grade 4 Mathematics

Question 17 - Score Point 1

a $25 + 50 + 100 + 200 + 400 = 775$

b The least could be used.

c The three all and four to one two.

On-Demand Assessments

(To be filed in portfolio)

Landmarks and Large Numbers Investigations

In class individualized On-Demand tasks assess knowledge of mathematical facts, operations, concepts, and skills, and their efficient application to problem solving. The results of these different forms of assessment provide rich profiles of students' achievements in mathematics and serve as the basis for identifying curricula and instructional approaches to best develop their talents.

UNIT: Landmarks and Large Numbers

On-Demand Assessments

GRADE: 4

On-Demand Assessments (P)

Landmarks and Large Numbers Investigations

In class individualized On-Demand tasks assess knowledge of mathematical facts, operations, concepts, and skills, and their efficient application to problem solving. The results of these different forms of assessment provide rich profiles of students' achievements in mathematics and serve as the basis for identifying curricula and instructional approaches to best develop their talents.

Inv. 1: Resource Binder: Session 1.5, M19-20**

Inv. 2: Resource Binder: Session 2.6, M23**

Inv. 4: Resource Binder: Session 4.3, 4.5, 4.6 M27**- 28*
Session 4.7 M29**

*Assessment Checklists should be kept with tracking sheets.

***Please refer to the section in the Teacher's Unit Guide entitled, "Professional Development" for examples of student work for each assessment.**

Name _____

Date _____



Landmarks and Large Numbers

Assessment: Numbers to 1,000

Solve the following problems.

1. Listen to the 3-digit number and write it down. _____

What is 1 more than the number? _____

What is 1 less than the number? _____

What is 10 more than the number? _____

What is 10 less than the number? _____

What is 40 more than the number? _____

What is 40 less than the number? _____

What is 200 more than the number? _____

What is 200 less than the number? _____

2. Put these numbers in order from least to greatest.

108

80

784

39

487



Assessment Checklist: Numbers to 1,000

M20

Unit 5

Student	Reads numbers to 1,000	Writes numbers to 1,000	Sequences 2-digit and 3-digit numbers accurately	Adds 10 and multiples of 10 to 3-digit numbers

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Session 1.5

Second Way:

© Pearson Education 4

Session 2.6

Unit 5

M23

Name _____

Date _____



Landmarks and Large Numbers

Assessment: Numbers to 10,000

Solve the following problems.

1. Listen to the 4-digit number and write it down. _____

What is 10 more than the number? _____

What is 10 less than the number? _____

What is 400 more than the number? _____

What is 400 less than the number? _____

What is 3,000 more than the number? _____

What is 3,000 less than the number? _____

2. Put these numbers in order from least to greatest.

5,406

839

8,003

3,457

338

Assessment Checklist: Numbers to 10,000



M28 Unit 5

Sessions 4.3, 4.5, 4.6

Student	Reads numbers to 10,000	Writes numbers to 10,000	Sequences 3-digit and 4-digit numbers accurately	Adds multiples of 10, 100 and 1,000 to 4-digit numbers

Name _____

Date _____



Landmarks and Large Numbers

End-of-Unit Assessment

Solve the following problems. Show your solution with clear and concise notation.

1.
$$\begin{array}{r} 1,405 \\ - 619 \\ \hline \end{array}$$

2. Yuki is saving to buy a new bicycle. He is keeping track of how much money he saves each month on a chart. This is how much he has saved so far.

January	\$28.85
February	\$52.00
March	\$36.54

- a. How much has Yuki saved altogether?

Show your solution below with clear and concise notation.

- b. A new bicycle costs \$149.95. How much more does Yuki need to buy the bicycle? Show your solution below with clear and concise notation.



Holyoke Public Schools

2007 - 2008

Mathematics

Scoring Rubric

Score point 4:

The response shows a *comprehensive* understanding of the mathematical concept(s) and/or procedures embodied in the task(s). It indicates that the student has *completed the task(s) correctly*, using mathematically sound procedures. It contains *clear, complete explanations* and/or *adequate work required*.

Score point 3:

The response shows a *general* understanding of the mathematical concept(s) and/or procedures embodied in the task(s). It indicates that the student has *completed the task(s)*, using mathematically sound procedures. It contains *complete explanations* and/or *adequate work required*.

Score point 2:

The response shows a *basic* understanding of the mathematical concept(s) and/or procedures embodied in the task(s). It addresses *most aspects of the task(s)*, using mathematically sound procedures. It may contain a correct solution but provides *incomplete procedures, reasoning and/or explanations*. It may reflect *some misunderstandings* of the underlying mathematical concepts and/or procedures.

Score point 1:

The response shows a *minimal* understanding of the mathematical concepts and/or procedures embodied in the task(s). It addresses *some elements of the task(s) correctly* but reaches an *inadequate solution and/or provides reasoning that is faulty or incomplete*. It exhibits *multiple flaws related to a misunderstanding of important aspects* of the task(s), *misuse* of mathematical procedures, or faulty mathematical reasoning. It reflects a *lack of essential understanding* of the underlying mathematical concepts. It may contain a correct numerical answer but the *required work is not provided*.

Score point 0:

The response is *completely incorrect, irrelevant, or incoherent*, or contains a correct response arrived at using an *obviously incorrect procedure*.

NOTES