Math6.org Activities for Whole Numbers

Vocabulary Studies

___1) On-Line Word Search
___2) 3 Column Notes
___3) Flash Cards
___4) Crossword Puzzle
___5) Matching Practice
___6) Vocabulary Millionaire!

Tests and Games

___52) Mid Chapter Quiz
___53) Quiz Bowl
___54) Practice Test
___55) Order of Operations Millionaire
___56) Multiplication Properties Millionaire
___57) Whole Numbers Millionaire

Activities by Lesson

1.1 Comparing and Ordering

___1) Identify Place Values Lesson
___2) Place Values (GP)
___3) Place Value Machine
___4) Place Values Quiz
___5) Reading Numbers Lesson
___6) Writing Numbers Lesson
___7) Writing Numbers (GP)
___8) Writing Numbers Quiz
___9) Ordering Numbers (GP)
___10) Reteaching Worksheet
___11) Lesson Quiz
___12) **Comparing and Ordering Tables

1.2 Estimation

___13) Rounding Lesson
___14) Rounding (GP)
___15) Rounding Machine Activity
___16) Rounding Quiz
___17) Estimation (GP)
___18) Reteaching Worksheet
___19) Estimate to Divide Lesson
___20) Estimate to Divide (GP)
___21) Lesson Quiz
___22) **Estimation - Using Tables

1.3 Exponents

___23) Reteaching Worksheet
___24) Exponents Lesson
___25) Exponents (GP)
___26) Lesson Quiz
___27) **Exponents and Excel

1.4 Order of Operations

___28) Reteaching Worksheet
___29) Order of Operations Lesson
___30) Order of Operations (GP)
___31) Lesson Quiz
___32) **Order of Operations Algebra
___33) **Millionaire!

1.5 Mental Math

___34) Use the Properties Worksheet
___35) Mental Math Methods Worksheet
___36) Multiplication Properties Matching
___37) Compensation Lesson
___38) Compensation (GP)
___39) Compensation Quiz
___40) Distributive Property Lesson
___41) Distributive Property (GP)
___42) Distributive Property Quiz
___43) Lesson Quiz
___44) **Multiplication Properties Millionaire

1.6 Choose a Method

___45) Choose a Method Worksheet
___46) Lesson Quiz
___47) **Psychic Math Magic
      ___"View" the Trick
      ___Learn the Trick
      ___ Psychic Math (GP)

1.7 Find a Pattern

___48) Finding Patterns Worksheet
___49) Finding Patterns (GP)
___50) Lesson Quiz
___51) **Use Excel to Find a Pattern

Word List – 3 Column Notes

Word	Definition	Example
Addend	Numbers that are to be added to find a sum.	**5** + **6** = 11
Associative		
Base		
Commutative		
Compatible		
Compensation		
Cubed		
Difference		
Digit		
Distributive		
Dividend		
Divisor		
Estimation		
Exponent		
Exponential		
Expression		
Factor		
Minuend		
Product		
Sequence		
Squared		
Subtrahend		
Sum		

Math Journal - Chapter 1 - The Whole Number Toolbox

1.01 Make a double bubble map to compare and contrast the process for rounding and the process for comparing whole numbers. Write a comparison/contrast paragraph about these processes.

1.02 To estimate with division, you should look at the divisor first. Create a proper journal entry (restate, explain, give examples) to explain why you should work on the divisor first.

1.03 5th graders often get confused about exponents. Many times they think that it is a fancy way to write a multiplication problem. Create a poster or brochure to help fifth graders understand that exponents are repeated multiplication.

1.04 Use the order of operations and add parenthesis to the expression; 4 + 6 * 3 ÷ 2 - 1 so that you get at least 4 different correct answers. Show your solution steps for each evaluation.

1.05 Create a poster to define and model each of the multiplication properties. Then, choose the property that you think is the most valuable for day to day mathematics and write a persuasive paragraph to help others understand why they too should believe as you do.

1.06 Create a double bubble map to help compare and contrast mental math with compatible numbers and compensation. Write a 5 sentence compare and contrast paragraph to detail your conclusions.

1.07 Create a rule for a sequence, then present the first six entries for your sequence. (Make a couple of extra copies to test your pattern out on a few of your classmates.) **or** complete the Math6.org extension - Use Excel to find patterns.

General Scoring Rubric:
  0   No Response
  1   Wrong response
  2   Weak response
  3   Showed understanding
  4   Showed understanding and cited an example
  5   Showed understanding, cited examples and communicated effectively enough to enable others to understand.

Math Objectives

1.03

Compare and order rational numbers.

Essential Question

What plan could you follow to compare and order whole numbers?

(action plan)

Wayne County Schools 21st Century Instructional Lesson Plan
Comparing and Ordering Whole Numbers

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.03 Compare and order rational numbers.

Essential Question(s) (In student-friendly terms)

Devise a plan you could follow to compare and order whole numbers? (action plan)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Common Errors for Comparing and ordering rational numbers involve a lack of understanding of place values. A quick quiz to assess student skills regarding reading and writing whole numbers will provide data to determine the direction and extensions of this lesson.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition		Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will learn to compare and order whole numbers using place value. We will begin with a review of place values and the place value system. We will use the spinner game to practice.

Instructional Practices Used in this Lesson

Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices					
Think-Pair-Share		Instructional Games	✓	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators		Movement	
Technology Integration		Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating		Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
_✓_small group   ___student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)
- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Make a double bubble map to compare and contrast the process for rounding and the process for comparing whole numbers. Write a comparison/contrast paragraph about these processes.

Describe, Analyze, Reflect:
- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____   Time Frame: **160 minutes**

Comparing and Ordering Whole Numbers

Essential Question: What plan could you follow to compare and order whole numbers? (action plan)

Objective (s) Numbers: **1.03**
Outcomes: Compare and order rational numbers.

Materials: Textbook pages 12-16; overhead spinner, student spinners
Anticipatory Set: Today we will learn to compare and order whole numbers using place value.

During the Lesson

Presentation of Information:
  Integration of Other Subjects: Writing (compare/contrast)
                                      Reading (vocabulary, problem solving, analyzing expectation)
  Integration of Reading: Reading for information and interpretation.
  Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss place value charts. Use the overhead spinner to make 6 digit numbers. Discuss the process of comparing numbers; 1. Line up the digits. 2. Add zeros to make a box. 3. Compare from left to right.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Have the students turn their paper landscape. Below the "red line", start at the right, write one, ten, 100, skip a space - repeat 3 times. Use colored pencils to highlight each period in a different color. Insert the commas. Name the periods. Use this chart to compare the following number sets. {3,567 ; 3,561} {18,443 ; 1,844} Use the place value chart to order the following sets from least to greatest. {58 ; 166; 85} {115; 151; 111}

After the Lesson

Independent Practice   Text page 6-7 {1 - 2, 6 - 8, 15 - 20, 32 - 42}
                               AIG: {1 - 2, 6 - 8, 15 - 18, 29, 30, 32 - 42}
                               Assign workbook page 1.1

Closure / Assessment: Make a double bubble map to compare and contrast the process for rounding and the process for comparing whole numbers. Write a comparison/contrast paragraph about these processes.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **13** activities connected with this lesson
Identify Place Values Lesson   Writing Numbers Lesson
Place Values Guided Practice   Writing Numbers Guided Practice
Place Value Machine   Writing Numbers Quiz
Place Values Quiz   Ordering Numbers Guided Practice
Reading Numbers Lesson   **Comparing and Ordering Tables

Overhead Spinner

1 9 3 6 7 2 0 8 5 4
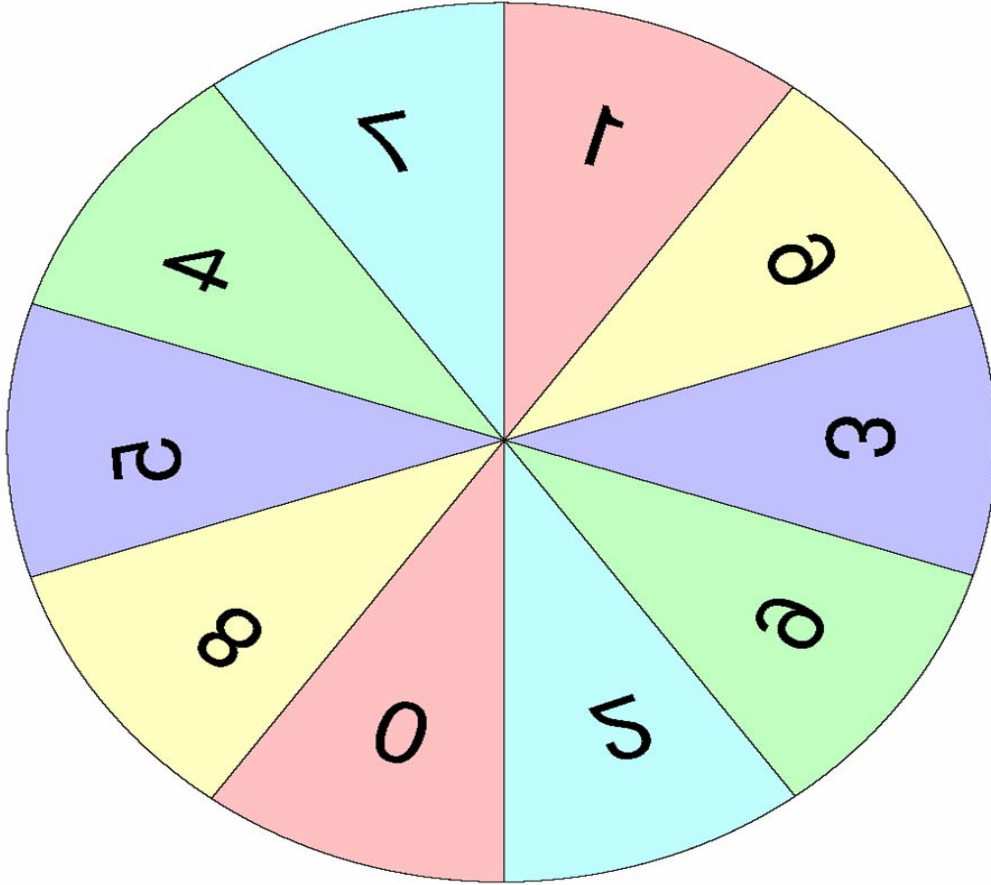
	Billions			Millions			Thousands			Ones	
H	T	O	H	T	O	H	T	O	H	T	O

Place Value Game
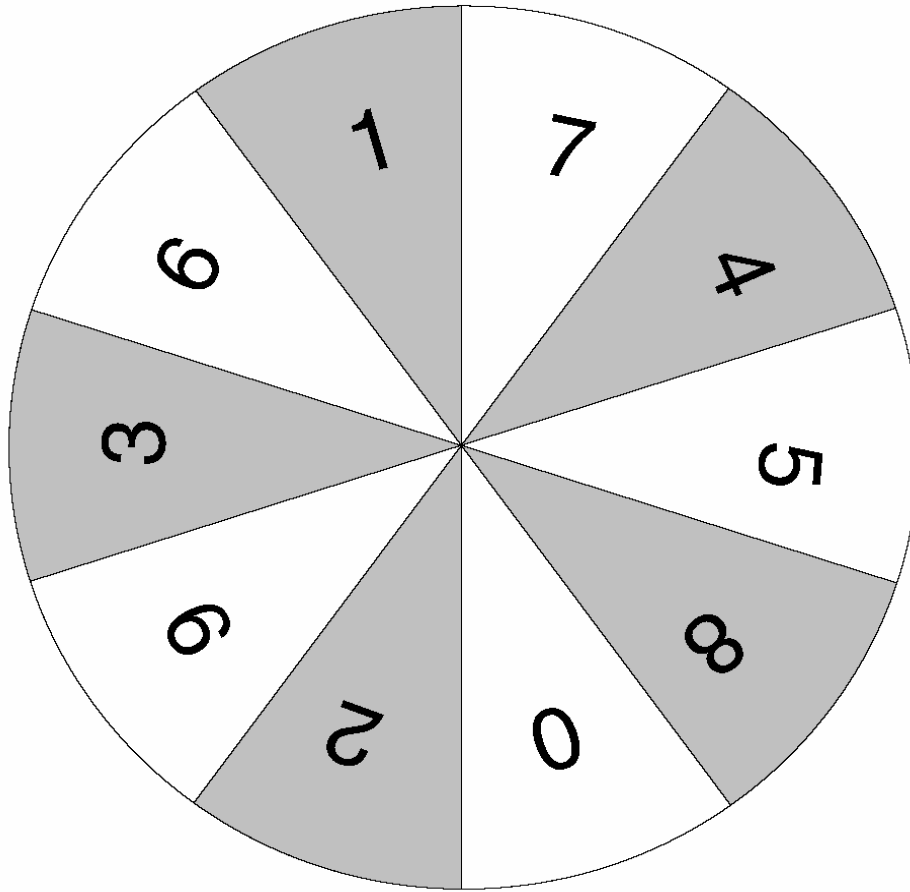
Billions			Millions			Thousands			Ones		
H	T	O	H	T	O	H	T	O	H	T	O

Math Objectives

1.01c, 1.04c, 1.07

Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil

Essential Question

Discuss an activity when estimation is appropriately used. Defend your decision.

(decision making)

Estimating with Whole Numbers

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.01c, 1.04c, 1.07
Make estimates in appropriate situations; Estimate the results of computations;
Develop flexibility in solving problems by selecting strategies and using mental
computation, estimation, calculators or computers, and paper and pencil.

Essential Question(s) (In student-friendly terms)

Discuss an activity when estimation is appropriately used. Defend your decision.
(decision making)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student readiness and mastery of Whole Number Place Values

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences		Reinforcing effort and providing recognition	✓	Nonlinguistic representation	✓	Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	✓
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired
learning groups, and concrete representations will help to guide all students to reach
expected outcomes. Differentiated assignments and practice will focus on remediation
and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we are going to learn about estimating with whole numbers. Make a 2 column
T-table on a paper and label the columns, **I can estimate when** and **I need the
precise answer when**. You and your partner have 3 minutes to put 5 life situations
in each column.

Instructional Practices Used in this Lesson

Coaching		Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences	✓	Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing	✓	Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share		✓	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps		✓	Student Facilitators		Movement	
Technology Integration		✓	Storytelling		Humor	
Use of visuals		✓	Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy			Reciprocal Teaching		Mnemonics	
Peer/Self Assessment		✓	Drawing or illustrating	✓	Other:	
Writing/Reflecting/Journals		✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

Make a double bubble map to compare and contrast the process for rounding and the process for comparing whole numbers. Write a comparison/contrast paragraph about these processes.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Estimating with Whole Numbers

Essential Question: Discuss an activity when estimation is appropriately used. Defend your decision. (decision making)

Objective (s) Numbers: **1.01c, 1.04c, 1.07**
Outcomes: Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil

Materials: Textbook pages 8-11
Anticipatory Set: Today we are going to learn about estimating with whole numbers. Make a 2 column T-table on a paper and label the columns, I can estimate when and I need the precise answer when. You and your partner have 3 minutes to put 5 life situations in each column.

During the Lesson

Presentation of Information:
  Integration of Other Subjects: Writing (to instruct/inform, opinion)
                                    Reading (vocabulary, problem solving, analyzing expectation)
  Integration of Reading: Reading for information and interpretation.
  Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: We often don't need an exact answer to solve mathematics problems. Estimates are easy and usually close enough to the exact answer for your needs. Make a double list table. In the left column, list instances when an estimate is acceptable. In the right column, list instances when an exact figure is required.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use a 4x4 to model rounding addends, minuends, subtrahends, factors, dividends and divisors. {987 + 642} {84,238 - 7937} {426 x 63} {738 ÷ 86} Students will probably need additional problems for estimation with division. (use Math6.org Division Estimation Lesson and Guided Practice - 15 minutes)

After the Lesson

Independent Practice   Text page 10-11 {1–2, 5–8, 11–16, 20, 21, 26–36}
                           AIG: {11–18, 20–36}
                           Assign workbook page 1.2 and Problem Solving 1.2

Closure / Assessment: To estimate with division, you should look at the divisor first. Create a proper journal entry (restate, explain, give examples) to explain why you should work on the divisor first.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **12** activities connected with this lesson
Rounding Lesson   Estimation Guided Practice
Rounding Guided Practice   Reteaching Worksheet
Rounding Machine Activity   Estimate to Divide Lesson
Rounding Quiz   Estimate to Divide Guided Practice
                                 **Estimation - Using Tables

Math Objectives

1.05, 1.06

Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers.

Essential Question

Can you imagine a time when it is easier not to use exponential form? Explain.

(decision making)

Wayne County Schools 21st Century Instructional Lesson Plan
Exponents

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.05, 1.06
Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers.

Essential Question(s) (In student-friendly terms)

Can you imagine a time when it is easier not to use exponential form? Explain. (decision making)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student readiness and mastery of Multiplication Facts and Multiplication Skills.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will learn about exponents and exponential form and figure out some ways to help the 5th graders remember and understand that Exponents represent repeated Multiplication – not repeated Addition.

Instructional Practices Used in this Lesson

Coaching		Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences		Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share	✓	Instructional Games	✓	Music/Rhyme/Rhythm/Rap	✓
Thinking Maps	✓	Student Facilitators		Movement	✓
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	✓
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
_✓_small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

5th graders often get confused about exponents. Many times they think that it is a fancy way to write a multiplication problem. Create a poster, brochure or 30 second television commercial to help fifth graders understand that exponents are repeated multiplication.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Exponents

Essential Question: Can you imagine a time when it is easier not to use exponential form? Explain. (decision making)

Objective (s) Numbers: **1.05, 1.06**
Outcomes: Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers.

Materials: Textbook pages 12-16
Anticipatory Set: Today we will learn about exponents and exponential form.

During the Lesson

Presentation of Information:
   Integration of Other Subjects: Writing (inform / persuade / advertisement)
                                            Reading (vocabulary, problem solving, analyzing expectation)
   Integration of Reading: Reading for information and interpretation.
   Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Exponents are an efficient way to show repeated multiplication. Discuss Base, Exponent, Exponential Form, Squared and Cubed. Special Note: Today's Math6.org extension will teach you how to use a spreadsheet (Excel) to compute exponent problems.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use a 4x4 to model exponential form. Practice with 6 cubed; 2 to the sixth ; 5 to the fourth and 10 to the fifth.; Model ten as a base. Have students examine the pattern and results.

After the Lesson

Independent Practice   Text page 14-15 {1–24, 41–51, 54–64}
                              AIG: {20–23, 25–47, 54–64}
                              Complete the Exponents Quiz @ Math6.org and Assign workbook page 1.3

Closure / Assessment: 5th graders often get confused about exponents. Many times they think that it is a fancy way to write a multiplication problem. Create a poster or brochure or 30 second television commercial to help fifth graders understand that exponents are repeated multiplication.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson
Exponents Lesson
Exponents Guided Practice
**Exponents and Excel

Name _____ Date _____ Class _____

Choose the best answer.

1. Which number is greatest?

   A 31,432,284   **C** 31,437,806

   B 31,342,284   **D** 31,432,806

2. Which set of numbers is written in order from least to greatest?

   A 3,436; 3,528; 3,241

   B 2,841; 2,532; 2,028

   C 5,189; 5,306; 5,200

   D 12,238; 12,406; 12,513

3. Which estimate shows 34,309 + 28,452 rounded to the nearest ten thousands?

   A 34,000 + 28,000 = 62,000

   B 30,000 + 30,000 = 60,000

   C 35,000 + 28,000 = 63,000

   D 30,000 + 20,000 = 50,000

4. Mrs. Steven's car travels 25 miles on a gallon of gasoline. The gas tank holds 18 gallons. Which problem will result in an over-estimate of the miles she can travel on a tank of gas?

   A 20 × 18   **C** 30 × 20

   B 25 × 18   **D** 20 × 20

5. Which expression is equal to 7^5?

   A 7 × 5

   B 5 × 5 × 5 × 5 × 5 × 5 × 5

   C 7 × 7 × 7 × 7 × 7

   D 7 × 5 × 7 × 5

6. Which expression is the same as 4 × 4 × 4 × 4?

   A 3 × 4   **C** 4 × 4

   B 3^4 **D** 4^4

Name _____ Date _____ Class _____

Choose the best answer.

1. Which number is greatest?

    A 31,432,284   **C** 31,437,806

    B 31,342,284   **D** 31,432,806

2. Which set of numbers is written in order from least to greatest?

    A 3,436; 3,528; 3,241

    B 2,841; 2,532; 2,028

    C 5,189; 5,306; 5,200

    D 12,238; 12,406; 12,513

3. Which estimate shows 34,309 + 28,452 rounded to the nearest ten thousands?

    A 34,000 + 28,000 = 62,000

    B 30,000 + 30,000 = 60,000

    C 35,000 + 28,000 = 63,000

    D 30,000 + 20,000 = 50,000

4. Mrs. Steven's car travels 25 miles on a gallon of gasoline. The gas tank holds 18 gallons. Which problem will result in an over-estimate of the miles she can travel on a tank of gas?

    A 20 × 18   **C** 30 × 20

    B 25 × 18   **D** 20 × 20

5. Which expression is equal to 7^5?

    A 7 × 5

    B 5 × 5 × 5 × 5 × 5 × 5 × 5

    C 7 × 7 × 7 × 7 × 7

    D 7 × 5 × 7 × 5

6. Which expression is the same as 4 × 4 × 4 × 4?

    A 3 × 4   **C** 4 × 4

    B 3^4 **D** 4^4

Holt Middle School Math   Course 1

Math Objectives

5.01

Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Essential Question

What solution strategies would you use to solve a problem where the order of operations might affect the outcome?

(action plan)

Wayne County Schools 21st Century Instructional Lesson Plan
Order of Operations

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

5.01
Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Essential Question(s) (In student-friendly terms)

What solution strategies would you use to solve a problem where the order of operations might affect the outcome? (action plan)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student readiness and mastery of basic computation skills and organized approach to problem solving.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	✓
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Is the value of 2 added to four groups of four 32 or 18? Today we will be learning about the order of operations and beginning to understand the importance and value of the operational rules.

Instructional Practices Used in this Lesson

Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences		Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share	✓	Instructional Games	✓	Music/Rhyme/Rhythm/Rap	✓
Thinking Maps	✓	Student Facilitators		Movement	✓
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	✓
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
_✓_small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

In your small group, use the order of operations and add parenthesis to the expression; 4 + 6 * 3 ÷ 2 - 1 so that you get at least 4 different correct answers. Show your solution steps for each evaluation.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Order of Operations

Essential Question:	What solution strategies would you use to solve a problem where the order of operations might affect the outcome? (action plan)
Objective (s) Numbers:	**5.01**
Outcomes:	Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.
Materials:	Textbook pages 20-23
Anticipatory Set:	Is the value of 2 added to four groups of four 32 or 18? Today we will be learning about the order of operations and beginning to understand the importance and value of the operational rules.

During the Lesson

Presentation of Information:	
Integration of Other Subjects:	Writing (sequencing)
	Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	When you read a sentence, you always read from left to right. However, in mathematics, you must use the order of operations to evaluate expressions. Learning to work the order of operations correctly will help you to solve algebra problems and guide you into higher math.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Create a flow map to show the order of operations. Model using the flow map to solve: - {28 - 7 * 3 + 6} {10 - (15 - 2 * 5)} {13 – 4 * 2 + 5 * 6}

After the Lesson

Independent Practice	Text page 22-23 {14-19, 20-33, 35, 39-49}
	AIG: {17-49}
	Assign workbook page 1.4; Order of Operations Millionaire
Closure / Assessment:	In your small group, use the order of operations and add parenthesis to the expression; 4 + 6 * 3 ÷ 2 - 1 so that you get at least 4 different correct answers. Show your solution steps for each evaluation.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **8** activities connected with this lesson
Order of Operations Lesson
Guided Practice
**Order of Operations Algebra
**Millionaire!

Math Objectives

1.04a, 1.07

Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

Which multiplication property do you think is the most helpful when using mental math? Explain.

(decision making)

Wayne County Schools 21ˢᵗ Century Instructional Lesson Plan
Mental Math

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.04a, 1.07
Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question(s) (In student-friendly terms)

Which multiplication property do you think is the most helpful when using mental math? Explain. (decision making)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student readiness and mastery of basic computation skills.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	✓
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will work with Mental Math and Multiplication Properties. Review times when Estimation vs. Precise activity. Mental math is not estimation – it's an easy way to find the exact answer. After we complete today's learning, we will learn some great tricks to make mental math even easier!

Instructional Practices Used in this Lesson

Coaching		Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences		Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share	✓	Instructional Games	✓	Music/Rhyme/Rhythm/Rap	
Thinking Maps		Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	✓
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

Create a poster to define and model each of the multiplication properties. Then, choose the property that you think is the most valuable for day to day mathematics and write a persuasive paragraph to help others understand why they too should believe as you do.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Mental Math

Essential Question:	Which multiplication property do you think is the most helpful when using mental math? Explain. (decision making)
Objective (s) Numbers:	**1.04a, 1.07**
Outcomes:	Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.
Materials:	Textbook pages 24-27
Anticipatory Set:	Today we will work with Mental Math and Multiplication Properties. Review times when Estimation vs. Precise activity. Mental math is not estimation – it's an easy way to find the exact answer. After we complete today's learning, we will learn some great tricks to make mental math even easier!

During the Lesson

Presentation of Information:
Integration of Other Subjects:	Writing (persuasion)
	Reading (vocabulary, problem solving, analyzing expectation)
Integration of Reading:	Reading for information and interpretation.
Integration of Technology:	Computer, Projector, PowerPoint, Internet
Modeling:	Mental Math is a computation method that will help you to understand and analyze computational strategies. Discuss the terms; Commutative, Associative, Distributive, Compatible Numbers and Compensation.
Differentiation:	504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.
Guided Practice:	Use a 4x4. In box 1 - model the process of compatible numbers. {7 + 15 + 3 + 5} Identify the property that allowed the solution; In box 2 - model the process of compatible numbers. {2 *(7 * 5)} Identify the property that allowed the solution; In box 3 - model compensation {17 + 28}; In box 4 - model compensation {83 - 47}.

After the Lesson

Independent Practice	Text page 26-27 {1–24, 37–49 odd, 53–59}
	AIG: {17–59}
	Assign workbook page 1.5
Closure / Assessment:	Create a poster to define and model each of the multiplication properties. Then, choose the property that you think is the most valuable for day to day mathematics and write a persuasive paragraph to help others understand why they too should believe as you do.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **13** activities connected with this lesson
Use the Properties Worksheet
Mental Math Methods Worksheet   Distributive Property Lesson
Multiplication Properties Matching   Distributive Property Guided Practice
Compensation Lesson   Distributive Property Quiz
Compensation Guided Practice   **Multiplication Properties Millionaire
Compensation Quiz

Math Objectives

1.04a, 1.07

Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

How could you effectively test mental math skills using a multiple choice test?

(action plan)

Wayne County Schools 21st Century Instructional Lesson Plan
Choose a Method of Computation

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)
1.04a, 1.07 Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question(s) (In student-friendly terms)
How could you effectively test mental math skills using a multiple choice test? (action plan)

Assess (Look at student data to plan. Use formative and/or summative assessments.)
Examine student readiness and mastery of basic computation skills. Quick Quiz 1.6

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	✓
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will work with choosing a method of computation and justifying our choice. Share the **Psychic Math Trick** as described @ http://www.math6.org/whole_numbers/mental_math_magic_lesson_launch.htm.

Instructional Practices Used in this Lesson

Coaching		Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences		Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps		Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	✓
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other: Magic	✓
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

Create a double bubble map to help compare and contrast mental math with compatible numbers and compensation.   Write a 5 sentence compare and contrast paragraph to detail your conclusions

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Choose a Method of Computation

Essential Question: How could you effectively test mental math skills using a multiple choice test? (action plan)

Objective (s) Numbers: **1.04a, 1.07**
Outcomes: Analyze computational strategies; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 28-30; Quick Quiz 1.6
Anticipatory Set: Today we will work with choosing a method of computation and justifying our choice.

During the Lesson

Presentation of Information:
   Integration of Other Subjects: Writing (compare/contrast)
                                    Reading (vocabulary, problem solving, analyzing expectation)
   Integration of Reading: Reading for information and interpretation.
   Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Review Mental Math with Quick Quiz 1.6. Share the Psychic Math Trick as described @ http://www.math6.org/whole_numbers/mental_math_magic_lesson_launch.htm.

                             Have the students create a triple list table to show each method, discuss the decision making process and the reason to choose a method. Have the students add an additional row to show a numerical model for each. (see http://www.math6.org/whole_numbers/1.6.htm for a model of this table)

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Use the following problems to walk the students through the decision process and reasoning for choosing a method. {17 + 5 + 3 + 15} , {4 * 13 * 5} , {9,288 ÷ 24}

After the Lesson

Independent Practice   Text page 29-30 {1–17, 21–27}
                             AIG: {1–6, 7–17 odd, 18–27}
                             Assign workbook page 1.6

Closure / Assessment: Create a double bubble map to help compare and contrast mental math with compatible numbers and compensation. Write a 5 sentence compare and contrast paragraph to detail your conclusions.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **7** activities connected with this lesson
**Psychic Math Magic Trick

Psychic Math Trick

➤ If you have never seen this trick, you should review the "sample" trick as shown @
  http://www.math6.org/whole_numbers/mental_math_magic_lesson_launch.htm.

➤ The idea is that you will complete an addition problem – **before** it is made up.

   o A student gives you any number.

   o You write down the answer to an addition problem and put it in a place where you are sure
     no child will accuse you of changing the answer later.

   o More numbers are given and the sum is the answer you wrote down.

   o Here's how it is done.

First Child	48,361	248,359
Second Child	37,658	
	62,341	
Third Child	97,600	
	2,399	
Sum	248,359	

   ▪ Your numbers are bold.

   ▪ Notice that your digits bring the total place
     value to 9 in each case.

   ▪ You are adding 99,999 (twice)

      • For a total of 199,998 (or 200,000 added to the front and -2 from the back)

Your students will be amazed and this is a great introduction to compensation **and** compatible
numbers. For more assistance and practice with this trick go to the extension activities for lesson 1.6
where you will find a lesson, guided practice and "quiz".

Math Objectives

1.07

Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question

Is there a method that will make finding, recognizing, describing, and extending patterns in sequences easier to see?

(action plan)

Wayne County Schools 21st Century Instructional Lesson Plan
Find a Pattern

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.07
Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil.

Essential Question(s) (In student-friendly terms)

Is there a method that will make finding, recognizing, describing, and extending patterns in sequences easier to see? (action plan)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student readiness and mastery of basic computation skills. Determine which students will have the most difficulty applying an organized approach and consider their needs for Student Facilitators.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences	✓	Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers	✓	Summarizing and note taking	✓	Cooperative learning	✓	Generating and testing hypotheses	✓
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes. Differentiated assignments and practice will focus on remediation and enrichment of lower and higher ability groups.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Have think share pairs discuss and present 3 patterns from nature/history or science. Today we will work with finding, recognizing, describing, and extending patterns in sequences.

Instructional Practices Used in this Lesson

Coaching	✓	Providing Directions/ Instructions	✓	Learning Centers	
Discussion	✓	Providing opportunities for practice	✓	Teacher-directed Questions and Answers	✓
Hands-on experiences		Direct Instruction	✓	Modeling	✓
Presentation	✓	Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share		Instructional Games	✓	Music/Rhyme/Rhythm/Rap	
Thinking Maps	✓	Student Facilitators	✓	Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals	✓	Field Trips(Virtual)		Project/Problem- Based Learning	✓
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating	✓	Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   _✓_student pairs   _✓_whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

Create a rule (hide it) for a sequence, then present the first six entries for your sequence. (Make a couple of extra copies to test your pattern out on a few of your classmates.) or complete the Math6.org extension - Use Excel to find patterns.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**
Find a Pattern

Essential Question: Is there a method that will make finding, recognizing, describing, and extending
                             patterns in sequences easier to see? (action plan)

Objective (s) Numbers: **1.07**
Outcomes: Develop flexibility in solving problems by selecting strategies and using mental computation,
                             estimation, calculators or computers, and paper and pencil.

Materials: Textbook pages 31-33
Anticipatory Set: Have think share pairs discuss and present 3 patterns from nature/history or science.
                             Today we will work with finding, recognizing, describing, and extending patterns in
                             sequences.

During the Lesson

Presentation of Information:
  Integration of Other Subjects: Writing (instructions/how to)
                                   Reading (vocabulary, problem solving, analyzing expectation)
  Integration of Reading: Reading for information and interpretation.
  Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Tables organize data clearly and in a small space. They are excellent for quickly
                             finding information. Spreadsheets and tables go together well and allow you organize
                             table data easily in many ways. When you enter a pattern into a table, you will easily
                             see how to analyze the data, find the pattern and continue the pattern.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to
                             guide all students to reach expected outcomes.

Guided Practice: Use a 4x4 to build tables, analyze and continue the patterns for the following
                             sequences. { 8, 12, 16, 20 ...} , {5, 8, 6, 9, 7...} , {1, 1, 2, 3, 5, 8, 13...}

After the Lesson

Independent Practice   Text page 32-33 {5-9, 11-16, 20, 21 26-36}
                             AIG: {11- 36}
                             Assign workbook page 1.7

Closure / Assessment: Create a rule (hide it) for a sequence, then present the first six entries for your
                             sequence. (Make a couple of extra copies to test your pattern out on a few of your
                             classmates.) or complete the Math6.org extension - Use Excel to find patterns.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **6** activities connected with this lesson
Finding Patterns Guided Practice
**Use Excel to Find a Pattern

Math Objectives

1.01c, 1.03, 1.04a, 1.04c, 1.05, 1.06, 1.07, 5.01

Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Compare and order rational numbers; Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers; Analyze computational strategies; Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Essential Question

What plan could you follow to compare and order whole numbers?

(action plan)

Whole Numbers Concepts Review

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.01c, 1.03, 1.04a, 1.04c, 1.05, 1.06, 1.07, 5.01
Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Compare and order rational numbers; Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers; Analyze computational strategies; Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Essential Question(s) (In student-friendly terms)

What steps do you think should be taken to ensure that a person is prepared for examination on a set of skills? (action plan)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student performance on various skill assessments, journals and projects.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences		Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers		Summarizing and note taking		Cooperative learning	✓	Generating and testing hypotheses	
Homework and practice	✓						

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA. Additional student and teacher modeling, paired learning groups, and concrete representations will help to guide all students to reach expected outcomes.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.

Instructional Practices Used in this Lesson

Coaching		✓	Providing Directions/ Instructions	✓	Learning Centers	
Discussion			Providing opportunities for practice	✓	Teacher-directed Questions and Answers	
Hands-on experiences			Direct Instruction		Modeling	
Presentation			Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share	✓	Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps		Student Facilitators	✓	Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals		Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment	✓	Drawing or illustrating		Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   _✓_student pairs   ___whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- Transitions should be used every 5-15 minutes to keep the students' brains engaged.
- Involve students in an analysis of their explorations.
- Use reflective activities to clarify and modify student understanding.
- Give students time to think, plan, investigate and organize collected information.
- Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.

See next page for instructional detail.

Evaluate (Feedback/Closure)
- Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?
- Present students with a scoring guide (such as a rubric) at the beginning to self-assess.
- What assessment(s) will be used to be sure the students are successful?

Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Describe, Analyze, Reflect:
- How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.
- What caused the lesson to go well? What challenges did you encounter?
- What did you do to contribute to the lesson's effectiveness?
- What learning did you take from this lesson to apply to future lessons? What would you do differently next time?

Date: _____   Time Frame: **80 minutes**

Whole Numbers Concepts Review

Essential Question: What steps do you think should be taken to ensure that a person is prepared for examination on a set of skills? (action plan)

Objective (s) Numbers: **1.01c, 1.03, 1.04a, 1.04c, 1.05, 1.06, 1.07, 5.01**
Outcomes: Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Compare and order rational numbers; Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers; Analyze computational strategies; Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Materials: Textbook pages 40-42; Test Form B
Anticipatory Set: Today we will review the skills that we have been studying during this unit. We will practice test taking skills and remediate those skills about which we don't feel as comfortable as others.

During the Lesson

Presentation of Information:
  Integration of Other Subjects: Writing (presentation)
                                   Reading (vocabulary, problem solving, analyzing expectation)
  Integration of Reading: Reading for information and interpretation.
  Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Discuss the value of careful review, the process that should occur when errors are made and the importance of reviewing material that students are less comfortable with.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss Instructions for the review on pages 40-42. Have the students review the Headings and address and questions or requests for immediate remediation.

After the Lesson

Independent Practice   Text page 40 - 42 {1 - 56}
                           AIG: {1-56}
                           Assign Test Form B

Closure / Assessment: Have co-operative learning groups review and discuss their answers before turning their papers in for correction by the teacher.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson
Vocabulary Matching Practice
Practice Test
Whole Numbers Quiz Bowl
Whole Numbers Millionaire

Name _____ Date _____ Class _____

Write $<$ or $>$.

1. 37,589 ☐ 37,409

2. 436,532 ☐ 438,503

3. Write in order from least to greatest:
3,290; 3,966; 3,078.

_____

4. Write in order from greatest to least:
8,254; 8,549; 8,375.

_____

Round to the largest place value to estimate.

5. 3,620 + 4,485

_____

6. 13,248 + 17,509

_____

7. 2,626 − 1,693

_____

8. 6,558 − 3,249

_____

Round to the place value indicated to estimate the sum or difference.

9. 6,658 − 5,250; thousands

_____

10. 51,728 + 23,250; thousands

_____

Write in exponential form.

11. $4 \times 4 \times 4 \times 4 \times 4 \times 4$

_____

12. $6 \times 6 \times 6 \times 6$

_____

Write as repeated multiplication.

13. 3^3

_____

14. 5^4

_____

Find each value.

15. 4^5

_____

16. 7^1

_____

17. 3^6

_____

Compare using, $<$, $>$, or =.

18. 2^3 ☐ 1^4

19. 10,000 ☐ 10^5

20. 2^4 ☐ 4^2

Holt Middle School Math   Course 1

CHAPTER
1
Chapter Test
Form B, continued

Simplify each expression.

21. $25 - 15 \div 3$

_____

22. $17 + 36 \div 6 \times 3 - 4$

_____

23. $57 - 3^3 + 18$

_____

24. $13 + 2^4 - (15 + 8)$

_____

25. $15 + 30 \div (25 - 19) - 17$

_____

26. $4^2 + 72 \div 9 - 18$

_____

Use mental math to solve.

27. $28 + 9 + 32 + 7$

_____

28. $7 + 29 + 11 + 23$

_____

29. $2 \times 8 \times 7 \times 5$

_____

30. 7×35

_____

31. 42×6

_____

Identify a pattern. Replace ? with missing terms.

32. 111, 93, 75, ?, 39, ?

_____

33. 5, 8, 14, 23, 35, ?, ?, ?

_____

34. 47, 50, 45, 48, 43, 46, ?, ?

_____

Solve.

35. In 1966, 103,224 acres of land in Florida were used to grow grapefruit. Thirty years later, 144,416 acres were used. What was the increase in acreage?

_____

36. A lion sleeps about 15 hours each day. How many hours does a lion sleep in one year?

_____

37. The first people to climb Mount Everest started from their base camp at 5,486 meters and climbed to the summit at 8,848 meters. How far did they climb?

_____

38. The school theater has 36 rows with 25 seats in each row. How many people can sit in the theater?

_____

Holt Middle School Math   Course 1

Essential Question

If you could press restart, what would you do differently to prepare for today's exam?

(decision making)

Wayne County Schools 21st Century Instructional Lesson Plan
Whole Numbers Assessment

NAME:	Subject: Math
Date:	Grade Level (s): 6

Standards/Objectives Addressed (NCSCOS)

1.01c, 1.03, 1.04a, 1.04c, 1.05, 1.06, 1.07, 5.01
Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Compare and order rational numbers; Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers; Analyze computational strategies; Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Essential Question(s) (In student-friendly terms)

If you could press restart, what would you do differently to prepare for today's exam? (decision making)

Assess (Look at student data to plan. Use formative and/or summative assessments.)

Examine student performance on concepts review.

High Yield Instructional Strategies (check all that apply to the lesson)

Identifying similarities and differences		Reinforcing effort and providing recognition	✓	Nonlinguistic representation		Setting objectives and providing feedback	✓
Questions, cues, and advance organizers		Summarizing and note taking		Cooperative learning		Generating and testing hypotheses	
Homework and practice							

Learner Diversity
- **How will you differentiate to meet the needs of all learners in your class?**

504 modifications ET and RA.

Engage (Anticipatory Set)
- **Capture the students' attention, stimulate their thinking and help them access prior knowledge. Consider novelty, meaning and emotion.**

Today we will assess our mastery of Whole Numbers.

Instructional Practices Used in this Lesson

Coaching		Providing Directions/ Instructions	✓	Learning Centers	
Discussion		Providing opportunities for practice		Teacher-directed Questions and Answers	
Hands-on experiences		Direct Instruction		Modeling	
Presentation		Testing		Other: Math6.org	✓

Suggested brained-based learning activities promoting the above Instructional Practices

Think-Pair-Share		Instructional Games		Music/Rhyme/Rhythm/Rap	
Thinking Maps		Student Facilitators		Movement	
Technology Integration	✓	Storytelling		Humor	
Use of visuals		Field Trips(Virtual)		Project/Problem- Based Learning	
Metaphor/Simile/Analogy		Reciprocal Teaching		Mnemonics	
Peer/Self Assessment		Drawing or illustrating		Other:	
Writing/Reflecting/Journals	✓	Simulations/Role Play		Other:	

Type(s) of Grouping Used:
___small group   ___student pairs   ___whole group   _✓_individual

Explain, Explore, Elaborate
Content Chunks: How will you divide and teach the content?
- **Transitions should be used every 5-15 minutes to keep the students' brains engaged.**
- **Involve students in an analysis of their explorations.**
- **Use reflective activities to clarify and modify student understanding.**
- **Give students time to think, plan, investigate and organize collected information.**
- **Give students the opportunity to expand and solidify their understanding of the concept and/or apply it to a real-world situation.**

See next page for instructional detail.

Evaluate (Feedback/Closure)
- **Evaluate throughout the lesson. Are students able to answer the Essential Question(s)?**
- **Present students with a scoring guide (such as a rubric) at the beginning to self-assess.**
- **What assessment(s) will be used to be sure the students are successful?**

Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?
Choose a Journal entry to share with your class.

Describe, Analyze, Reflect:
- **How effective was the lesson? How did the strategies help the students deepen their understanding? Cite evidence of student work, performance, behaviors, and/or remarks to support your view.**
- **What caused the lesson to go well? What challenges did you encounter?**
- **What did you do to contribute to the lesson's effectiveness?**
- **What learning did you take from this lesson to apply to future lessons? What would you do differently next time?**

Date: _____   Time Frame: **80 minutes**

Whole Numbers Assessment

Essential Question: If you could press restart, what would you do differently to prepare for today's exam? (decision making)

Objective (s) Numbers: **1.01c, 1.03, 1.04a, 1.04c, 1.05, 1.06, 1.07, 5.01**
Outcomes: Make estimates in appropriate situations; Estimate the results of computations; Develop flexibility in solving problems by selecting strategies and using mental computation, estimation, calculators or computers, and paper and pencil; Compare and order rational numbers; Develop fluency in the use of factors, multiples, exponential notation, and prime factorization; Use exponential, scientific, and calculator notation to write very large and very small numbers; Analyze computational strategies; Simplify algebraic expressions and justify the results using the basic properties of rational numbers. a. Identity; b. Commutative; c. Associative; d. Distributive; e. Order of operations.

Materials: Cumulative Assessment (Form B)
Anticipatory Set: Today we will assess our mastery of Whole Numbers.

During the Lesson

Presentation of Information:
  Integration of Other Subjects: Writing (evaluation)
                                   Reading (vocabulary, problem solving, analyzing expectation)
  Integration of Reading: Reading for information and interpretation.
  Integration of Technology: Computer, Projector, PowerPoint, Internet

Modeling: Review the Practice Test, answer questions and model answers.

Differentiation: 504 modifications ET and RA. Additional student and teacher modeling will help to guide all students to reach expected outcomes.

Guided Practice: Discuss the Instructions.

After the Lesson

Independent Practice   Assign Cumulative Review Test Form B

Closure / Assessment: Write a paragraph evaluation of your expected performance on this test. What did you do well on? What did you have trouble with? How did you prepare for this test and what would you like to do differently for the next exam?

                             Choose a Journal entry to share with your class.

Integration with School-wide Focus: Improve mathematics computation and problem solving.

Related Math6.org Activities: There are **many** activities connected with this lesson
Vocabulary Matching Practice
Practice Test
Whole Numbers Quiz Bowl
Whole Numbers Millionaire

Name _____ Date _____ Class _____

Cumulative Test
Form B

1. Which number is greatest?

   A 5,702,542 **C** 5,783,409

   B 5,714,254 **D** 5,725,295

2. Which set of numbers is written in order from greatest to least?

   F 4,389; 4,208; 4,417

   G 5,412; 5,224; 5,017

   H 3,098; 3,019; 3,109

   J 6,508; 6,485; 6,754

3. Which number has a 5 in the thousands place?

   A 345,206 **C** 612,563

   B 506,416 **D** 254,268

4. Which number is the standard form for $200,000 + 70,000 + 60 + 8$?

   F 207,608 **H** 217,680

   G 270,068 **J** 270,680

5. Estimate $52,048 + 28,612$; thousands

   A $50,000 + 20,000 = 70,000$

   B $52,000 + 28,000 = 80,000$

   C $52,000 + 29,000 = 81,000$

   D $53,000 + 29,000 = 82,000$

6. What is $7 \times 7 \times 7 \times 7$ written in exponential form?

   F 2,401 **H** 4^7

   G $2,000 + 40 + 1$ **J** 7^4

7. What is 5^3 written as repeated multiplication?

   A 5×3

   B $5 \times 5 \times 5$

   C $3 \times 3 \times 3 \times 3 \times 3$

   D $5 \times 3 \times 5 \times 3 \times 5 \times 3$

8. What is the value of $4 \times 5 - 16 \div 4$?

   F 5 **H** 24

   G 12 **J** 16

9. $3 \times (10 + 9) = (3 \times 10) + (3 \times 9)$ is an example of which property?

   A Commutative **C** Associative

   B Distributive **D** Exponential

10. Use mental math to find the product of $4 \times 9 \times 5$.

    F 90 **H** 180

    G 160 **J** 140

The chart lists the taco orders sold in one evening at Taco Hut.

Chicken	123 orders
Beef	57 orders
Cheese	141 orders

11. How many more orders of cheese tacos than beef tacos were sold?

    A 198 **C** 84

    B 96 **D** 93

12. How many taco orders were sold on this evening?

    F 211 orders **H** 321 orders

    G 264 orders **J** 198 orders

13. Emily walks 28 miles each week. She averages 15 minutes per mile. How much time does she spend walking each week?

    A 420 minutes **C** 450 minutes

    B 600 minutes **D** 300 minutes

Holt Middle School Math Course 1

CHAPTER
1
Cumulative Test
Form B, continued

14. Identify the pattern in this sequence:
8, 10, 9, 11, 10, 12.

F + 1, − 2   **H** − 2, + 1

G + 2, − 1   **J** − 2, − 1

15. Identify the pattern. Replace ? with missing terms:
580, 290, 300, ?, 160, 80, ?, 45.

A 250 and 65   **C** 150 and 90

B 200 and 40   **D** 160 and 100

16. What is the decimal, five and twelve thousandths, in standard form?

F 5.12   **H** 5.0012

G 5.012   **J** 0.5012

17. Caleb bought a t-shirt at the Aquarium for $7.99. He gave the clerk $10. How much change did he receive?

A $2.01   **C** $12.01

B $3.99   **D** $3.01

18. What is the value of x for
$x − 6 = 9 + 11$?

F 26   **H** 14

G 20   **J** 11

19. Cassandra recorded the weights of her five cats at 10, 11, 8, 15 and 11 pounds. What is the average weight of her cats?

A 8 pounds   **C** 11 pounds

B 10 pounds   **D** 15 pounds

20. Which graph or table is most appropriate to display the ticket price data?

1990	$10.95
1995	$15.25
2000	$17.25
2004	$24.95

F bar graph   **H** line graph

G frequency table   **J** circle graph

21. If d represents how many dozens of eggs were ordered, which expression represents the number of eggs that were ordered?

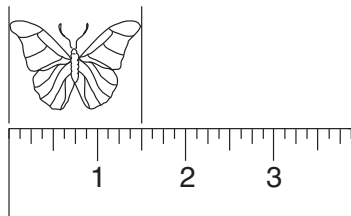**A** 12d **C** 12 ÷ d

B 12 + d **D** d ÷ 12

22. What is the value of
$2 × (4 + 8) + 30$?

F 46   **H** 50

G 36   **J** 54

23.   8,234
        −2,736

A 5,498   **C** 6,412

B 5,628   **D** 11,060

24. What is the length of the figure?

F 1 inch   **H** $1\frac{1}{2}$ inches

G $1\frac{1}{4}$ inches   **J** $1\frac{3}{4}$ inches

CHAPTER **Cumulative Test**
1 *Form B, continued*

25.

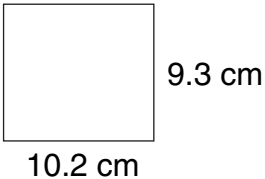| Menu	
Chicken	$15.99
Spaghetti	$12.99
Salad	$7.25
Fish	$19.99

Which costs more than the spaghetti but less than the fish?

A chicken   **C** salad

B spaghetti   **D** fish
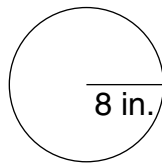
26. A hexagon has how many sides?

F 5   **H** 7

G 6   **J** 8

27. Find the perimeter of the figure shown.

A 94.86 cm

B 39 cm

C 21.5 cm

D 19.5 cm

9.3 cm

10.2 cm

28. Find the circumference of the circle. Use 3.14 for π.

F 12.56 in.

G 25.12 in.

H 50.24 in.

J 200.96 in.
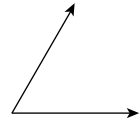
8 in.

29. If the community swimming pool is open from 1:15 P.M. to 8:30 P.M. how many hours is the pool open?

A 6 hr   **C** 7 hr 15 min
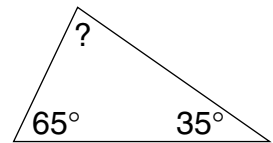
B 6 hr 15 min   **D** 8 hr 15 min

30. Estimate the measure of the angle.

F 30 degrees

G 60 degrees

H 90 degrees

J 110 degrees

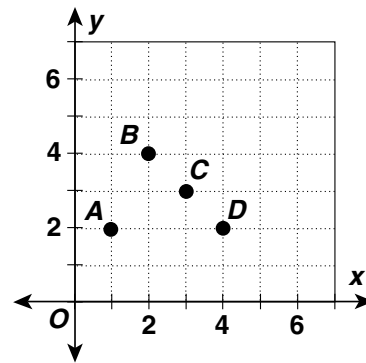**31.** What is the measure of the missing angle?

A 90 degrees

B 80 degrees

C 100 degrees

D 65 degrees

? 65° 35°

32. $\frac{4}{5} = \frac{?}{10}$

F 2   **H** 8

G 4   **J** 10

33. What are the coordinates of point *B*?

A (1, 2)   **C** (2, 4)

B (3, 3)   **D** (4, 2)

34. What is $\frac{7}{21}$ in simplest form?

F $\frac{1}{3}$ **H** $\frac{1}{2}$

G $\frac{7}{21}$ **D** 3

CHAPTER
1

Cumulative Test
Form B, continued

35. What is $2\frac{3}{4}$ as an improper fraction?

A $\frac{11}{4}$ 　　　**C** $\frac{4}{23}$

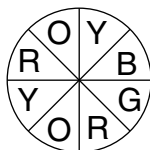**B** $\frac{23}{4}$ 　　　**D** $\frac{8}{4}$

36. Which set of fractions is in order from least to greatest?

F $\frac{3}{10}, \frac{2}{5}, \frac{1}{2}$ 　　**H** $\frac{1}{2}, \frac{2}{5}, \frac{3}{10}$

G $\frac{2}{5}, \frac{3}{10}, \frac{1}{2}$ 　　**J** $\frac{3}{10}, \frac{1}{2}, \frac{2}{5}$

37. Samantha bought 4 colored ribbons for $12.00. What did each ribbon cost?

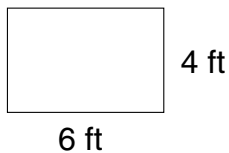**A** $2.00 　　　**C** $4.50

B $3.00 　　　**D** $48.00

38. Use the spinner to find the probability of spinning R.

F $\frac{1}{8}$ 　　　**H** $\frac{2}{3}$

G $\frac{1}{4}$ 　　　**J** $\frac{1}{2}$

39. What is the area of the figure shown?
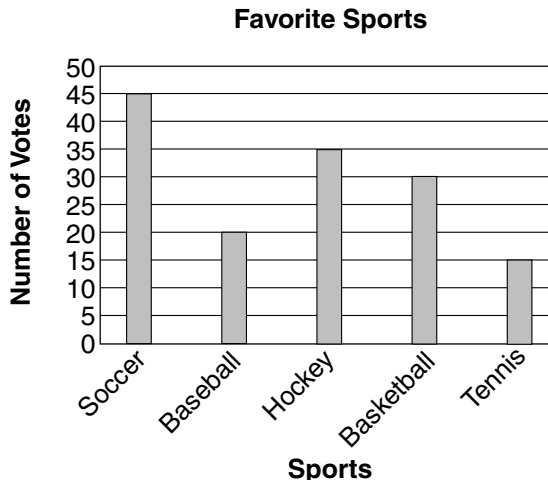
A 10 ft^2

B 20 ft^2

C 24 ft^2

D 48 ft^2

4 ft

6 ft

40. The track team bought 35 new warm-ups for training. The cost of each is $38. They have $1,500 to spend. How much money will they have left?

F $170 　　　**H** $1,538

G $360 　　　**J** $1,330

The bar graph shows a sixth-grade class's votes for their favorite sport.

Favorite Sports

41. How many sixth-graders voted?

A 120 　　　**C** 130

B 145 　　　**D** 110

42. Which sport had 15 more votes than basketball?

F Soccer 　　　**H** Baseball

G Hockey 　　　**J** Tennis

43. A shoe store wants to sell 500 pairs of running shoes during their week-long sale. They sold 58 pairs Monday, 42 pairs Tuesday, 75 pairs Wednesday, and 59 pairs Thursday. How many more pairs must they sell this week to meet their goal?

A 234 pairs 　　　**C** 325 pairs

B 266 pairs 　　　**D** 200 pairs

44. David's exercise program includes 455 push-ups each week. How many push-ups does he average each day?

F 90 push-ups 　　**H** 91 push-ups

G 65 push-ups 　　**J** 60 push-ups

Holt Middle School Math **Course 1**

Name _____
The Number Tool Box Assessment

1	A	B	C	D
2	F	G	H	J
3	A	B	C	D
4	F	G	H	J
5	A	B	C	D
6	F	G	H	J
7	A	B	C	D
8	F	G	H	J
9	A	B	C	D
10	F	G	H	J
11	A	B	C	D
12	F	G	H	J
13	A	B	C	D
14	F	G	H	J
15	A	B	C	D
16	F	G	H	J
17	A	B	C	D
18	F	G	H	J
19	A	B	C	D
20	F	G	H	J
21	A	B	C	D
22	F	G	H	J
23	A	B	C	D
24	F	G	H	J

25	A	B	C	D
26	F	G	H	J
27	A	B	C	D
28	F	G	H	J
29	A	B	C	D
30	F	G	H	J
31	A	B	C	D
32	F	G	H	J
33	A	B	C	D
34	F	G	H	J
35	A	B	C	D
36	F	G	H	J
37	A	B	C	D
38	F	G	H	J
39	A	B	C	D
40	F	G	H	J
41	A	B	C	D
42	F	G	H	J
43	A	B	C	D
44	F	G	H	J

The Number Tool Box Assessment

Name _____

#	1	2	3	4
1	A	B	■	D
2	F	■	H	J
3	■	B	C	D
4	F	■	H	J
5	A	B	■	D
6	F	G	H	■
7	A	■	C	D
8	F	G	H	■
9	A	■	C	D
10	F	G	■	J
11	A	B	■	D
12	F	G	■	J
13	■	B	C	D
14	F	■	H	J
15	A	B	■	D
16	F	■	H	J
17	■	B	C	D
18	■	G	H	J
19	A	B	■	D
20	F	G	■	J
21	■	B	C	D
22	F	G	H	■
23	■	B	C	D
24	F	G	■	J

#	1	2	3	4
25	■	B	C	D
26	F	■	H	J
27	A	■	C	D
28	F	G	■	J
29	A	B	■	D
30	F	■	H	J
31	A	■	C	D
32	F	G	■	J
33	A	B	■	D
34	■	G	H	J
35	■	B	C	D
36	■	G	H	J
37	A	■	C	D
38	F	■	H	J
39	A	B	■	D
40	■	G	H	J
41	A	■	C	D
42	■	G	H	J
43	A	■	C	D
44	F	■	H	J

Chapter 1 Assessment

17	100%
16	94%
15	88%
14	82%
13	76%
12	71%
11	65%
10	59%
9	53%
8	47%
7	41%
6	35%
5	29%