

Sep. 30 - Oct. 4, 2024

MON. SEP. 30TH	TUE. OCT. 1ST	WED. OCT. 2ND	THU. OCT. 3RD	FRI. OCT. 4TH
<p>5th Grade Math 5A & 5B</p> <p>Unit 1. Lesson 7: Cubic Units of Measure</p> <p>8:10am - 10:10am</p> <hr/> <p>Objective:</p> <p>The purpose of this lesson is for students to find the volume of rectangular prisms in cubic centimeters, cubic inches, and cubic feet.</p> <hr/> <p>Standards</p> <p>- 5.MD.C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>- MP1 Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution.</p> <p>- MP3 Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate them to others, and respond to the arguments of others. They reason inductively about</p>	<p>5th Grade Math 5A & 5B</p> <p>Unit 1. Lesson 8: Figures Made of Prisms</p> <p>8:10am - 10:10am</p> <hr/> <p>Objective:</p> <p>The purpose of this lesson is for students to recognize the structure of a solid figure made up of two non-overlapping right rectangular prisms and understand that its volume is the sum of the volumes of the two rectangular prisms.</p> <hr/> <p>Standards</p> <p>- 5.MD.C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>- MP6 Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other.</p> <p>- MP7 Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have.</p>	<p>5th Grade Math 5A & 5B</p> <p>Unit 1. Lesson 9: Measure Figures Made From Prisms</p> <p>8:10am - 10:10am</p> <hr/> <p>Objective:</p> <p>The purpose of this lesson is for students to find the volume of figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts.</p> <hr/> <p>Standards</p> <p>- 5.MD.C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>- 5.OA.A.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</p> <p>- MP2 Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to <i>decontextualize</i> to — abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to <i>contextualize</i>, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.</p>	<p>5th Grade Math 5A & 5B</p> <p>Unit 1. Lesson 10: Represent Volume with Expressions</p> <p>8:10am - 10:10am</p> <hr/> <p>Objective:</p> <p>The purpose of this lesson is for students to write, interpret, and evaluate numerical expressions that represent the volume of solid figures composed of two right rectangular prisms.</p> <hr/> <p>Standards</p> <p>- 5.MD.C.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>- 5.MD.C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>- 5.OA.A.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.</p> <p>- 5.OA.A.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation “add 8 and 7, then multiply by 2” as $2 \times (8 + 7)$. Recognize that $3 \times (18932 + 921)$ is three times as large as $18932 + 921$, without having to calculate the indicated sum or product.</p> <p>- MP1 Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships,</p>	<p>5th Grade Math 5A & 5B</p> <p>Unit 1. Lesson 11: All Kinds of Prisms</p> <p>8:10am - 10:10am</p> <hr/> <p>Objective</p> <p>The mathematical purpose of this lesson is for students to apply what they have learned about finding the volumes of right rectangular prisms and figures composed of right rectangular prisms to solve real-world problems.</p> <hr/> <p>Standards</p> <p>- 5.MD.C. Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.</p> <p>- 5.MD.C.5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.</p> <p>- MP1 Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution.</p> <p>- MP6 Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They</p>

data, making plausible arguments that take into account the context from which the data arose.

- MP6

Mathematically proficient students try to communicate precisely to others. They try to use clear definitions in discussion with others and in their own reasoning. They state the meaning of the symbols they choose, including using the equal sign consistently and appropriately. They are careful about specifying units of measure, and labeling axes to clarify the correspondence with quantities in a problem. They calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other.

Materials

- Paper
- Pencils
- Computers
- Rulers (centimeters)
- Rulers (inches)
- Yardsticks

Agenda / Lesson Overview

- **Warm-up:** Notice and Wonder: Two Prisms (10 minutes)
- **7.1 Activity:** What are the Units? (10 minutes)
- **7.2 Activity:** Info Gap: Sizing Up Cubic Units (25 minutes)
 - Includes access for Students with Disabilities (Representation)
- **Lesson Synthesis**
- **Cool-down:** Find the Volume (5 minutes)

Learning Goals

- Find the volume of rectangular prisms with standard units of measure by multiplying the base times the height or multiplying the length times the width times the height.

- MP8

Mathematically proficient students notice if calculations are repeated, and look both for general methods and for shortcuts. As they work to solve a problem, mathematically proficient students maintain oversight of the process, while attending to the details. They continually evaluate the reasonableness of their intermediate results.

Materials

- Paper
- Pencils
- Computers
- Connecting cubes

Agenda / Lesson Overview

- **Warm-up:** Which One Doesn't Belong: Different Figures (10 minutes)
- **8.1 Activity:** Put It Together (20 minutes)
 - Includes access for Students with Disabilities (Engagement)
- **8.2 Activity:** I See Two Prisms (15 minutes)
 - Includes access for English Learners (MLR7 Compare and Connect)
- **Lesson Synthesis**
- **Cool-down:** Volume of a Figure Made of Prisms (5 minutes)

Learning Goals

- Explain that the volume of a figure composed of rectangular prisms is the sum of the volumes of the prisms.
- Find the volume of a figure composed of rectangular prisms in which unit cubes are visible.

5th Grade Science 5A & 5B
Patterns Of Earth And Sky/ Lesson 1.5
10:10am - 10:55am

Objective

- MP7

Mathematically proficient students look closely to discern a pattern or structure. Young students, for example, might notice that three and seven more is the same amount as seven and three more, or they may sort a collection of shapes according to how many sides the shapes have.

Materials

- Paper
- Pencils
- Computers
- Dots Papers

Agenda / Lesson Overview

- **Warm-up:** Number Talk: Times Ten (10 minutes)
- **9.1 Activity:** Find the Volume of Figures (20 minutes)
 - Includes access for Students with Disabilities (Representation)
- **9.2 Activity:** Expressions for the Volume of Figures (15 minutes)
 - Includes access for English Learners (MLR7 Compare and Connect)
- **Lesson Synthesis**
- **Cool-down:** Find the Volume of a Figure (5 minutes)

Learning Goals

- Find the volume of a figure composed of rectangular prisms in which unit cubes are not shown.

and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution.

- MP2

Mathematically proficient students make sense of quantities and their relationships in problem situations. They bring two complementary abilities to bear on problems involving quantitative relationships: the ability to *decontextualize* to — abstract a given situation and represent it symbolically and manipulate the representing symbols as if they have a life of their own, without necessarily attending to their referents—and the ability to *contextualize*, to pause as needed during the manipulation process in order to probe into the referents for the symbols involved.

- MP3

Mathematically proficient students understand and use stated assumptions, definitions, and previously established results in constructing arguments. They make conjectures and build a logical progression of statements to explore the truth of their conjectures. They are able to analyze situations by breaking them into cases, and can recognize and use counterexamples. They justify their conclusions, communicate their conclusions, and respond to the arguments of others. They reason inductively about data, making plausible arguments that take into account the context from which the data arose.

Materials

- Paper
- Pencils
- Computers

Agenda / Lesson Overview

- **Warm-up:** Notice and Wonder: Prism Pieces (10 minutes)

calculate accurately and efficiently, express numerical answers with a degree of precision appropriate for the problem context. In the elementary grades, students give carefully formulated explanations to each other.

Materials

- Paper
- Pencils
- Computers

Agenda / Lesson Overview

- **Warm-up:** Which One Doesn't Belong: Many Prisms (10 minutes)
- **11.1 Activity:** Prism Palooza (20 minutes)
 - Includes access for English Learners (MLR6 Three Reads)
- **11.2 Activity:** Problem Solving with Figures (15 minutes)
 - Includes access for Students with Disabilities (Action and Expression)
- **Lesson Synthesis**
- **Cool-down:** The Volume of a Sandbox (5 minutes)

Learning Goals

- Solve real-world and mathematical problems involving volume.

5th Grade Science 5A & 5B
Patterns Of Earth And Sky/ Lesson 1.7
10:10am - 10:55am

Objective

The purpose of this lesson is to introduce students to writing scientific explanations and to provide them with the opportunity to demonstrate their learning thus far.

Standards

- **CCSS.MATH.PRACTICE.MP 1:** Make sense of problems and persevere in solving them.
- **CCSS.MATH.PRACTICE.MP 2:** Reason abstractly and quantitatively.
- **CCSS.MATH.PRACTICE.MP 4:** Model with

5th Grade Science 5A & 5B

Patterns Of Earth And Sky/ Lesson 1.4

10:10am - 10:55am

Objective

Students engage in their first investigation with the *Patterns of Earth and Sky* Simulation and use the data they collect to create a physical model that helps them understand where stars are located in space. Students investigate the distance from Earth to the sun and to other stars using the *Patterns of Earth and Sky* Simulation. Then, the class uses data that students have gathered to make a scale model of Earth, the sun, and four other stars.

Standards

- **CCSS.MATH.PRACTICE.MP1:** Make sense of problems and persevere in solving them.
- **CCSS.MATH.PRACTICE.MP2:** Reason abstractly and quantitatively.
- **CCSS.MATH.PRACTICE.MP4:** Model with mathematics.
- **CCSS.MATH.PRACTICE.MP5:** Use appropriate tools strategically.

CCSS-Math Content

- **CCSS.MATH.CONTENT.5.NBT.1:** Understand the place value system. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
- **CCSS.MATH.CONTENT.5.NBT.2:** Understand the place value system. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.

The purpose of this lesson is for students to begin investigating why we can't always see the stars all around us and discover that the sun appears larger than other stars because it is the closest star to Earth.

Standards

- **CCSS.MATH.PRACTICE.MP1:** Make sense of problems and persevere in solving them.
- **CCSS.MATH.PRACTICE.MP2:** Reason abstractly and quantitatively.
- **CCSS.MATH.PRACTICE.MP4:** Model with mathematics.
- **CCSS.MATH.PRACTICE.MP5:** Use appropriate tools strategically.

CCSS-Math Content

- **CCSS.MATH.CONTENT.5.NBT.1:** Understand the place value system. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
- **CCSS.MATH.CONTENT.5.NBT.2:** Understand the place value system. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.
- **CCSS.MATH.CONTENT.5.NBT.3:** Understand the place value system. Read, write, and compare decimals to thousandths.
- **CCSS.MATH.CONTENT.5.NBT.3a:** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.
- **CCSS.MATH.CONTENT.5.NBT.5:** Perform operations with multi-digit whole numbers and with decimals to hundredths. Fluently multiply multi-digit

- **10.1 Activity:** Compare Expressions (10 minutes)
 - Includes access for English Learners (MLR8 Discussion Supports)
- **10.2 Activity:** Find the Volume in Different Ways (25 minutes)
 - PLC Activity
 - Includes access for Students with Disabilities (Action and Expression)
- **Lesson Synthesis**
- **Cool-down:** Expressions as Volume (5 minutes)

Learning Goals

- Write and interpret numerical expressions to represent the volume of a figure decomposed in different ways.

5th Grade Science 5A & 5B

Patterns Of Earth And Sky/ Lesson 1.6

10:10am - 10:55am

Objective

The purpose of this lesson is for students to construct an understanding of the impact of the sun's brightness on our ability to see stars during the daytime.

Standards

- **CCSS.MATH.PRACTICE.MP1:** Make sense of problems and persevere in solving them.
- **CCSS.MATH.PRACTICE.MP2:** Reason abstractly and quantitatively.
- **CCSS.MATH.PRACTICE.MP4:** Model with mathematics.
- **CCSS.MATH.PRACTICE.MP5:** Use appropriate tools strategically.

CCSS-Math Content

- **CCSS.MATH.CONTENT.5.NBT.1:** Understand the place value system. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

mathematics.

- **CCSS.MATH.PRACTICE.MP5:** Use appropriate tools strategically.

CCSS-Math Content

- **CCSS.MATH.CONTENT.5.NBT.1:** Understand the place value system. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.
- **CCSS.MATH.CONTENT.5.NBT.2:** Understand the place value system. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.
- **CCSS.MATH.CONTENT.5.NBT.3:** Understand the place value system. Read, write, and compare decimals to thousandths.
- **CCSS.MATH.CONTENT.5.NBT.3a:** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.
- **CCSS.MATH.CONTENT.5.NBT.5:** Perform operations with multi-digit whole numbers and with decimals to hundredths. Fluently multiply multi-digit whole numbers using the standard algorithm.
- **CCSS.MATH.CONTENT.5.MD.1:** Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

Materials

For the Classroom Wall

- vocabulary: *explanation*

For the Class

- Scientific Explanation: Stars in the Daytime (Version B) copymaster

For Each Student

- *Patterns of Earth and Sky* Investigation Notebook (pages 18–19, optional; pages 17 and 20)

- **CCSS.MATH.CONTENT.5.NBT.3:** Understand the place value system. Read, write, and compare decimals to thousandths.
- **CCSS.MATH.CONTENT.5.NBT.3a:** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.
- **CCSS.MATH.CONTENT.5.NBT.5:** Perform operations with multi-digit whole numbers and with decimals to hundredths. Fluently multiply multi-digit whole numbers using the standard algorithm.
- **CCSS.MATH.CONTENT.5.MD.1:** Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

whole numbers using the standard algorithm.

- **CCSS.MATH.CONTENT.5.MD.1:** Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

Materials

For the Class

- 1 copy of *How Big Is Big? How Far Is Far?*
- 1 ball, 15 cm diameter
- 1 very small round object, 1.3 mm diameter* (mustard seed, piece of millet, or coarse grain of sand)
- masking tape*

For Each Pair of Students

- 1 digital device*

For Each Student

- *Patterns of Earth and Sky* Investigation Notebook (page 13, optional: page 12)

Materials

For the Classroom Wall

- key concept: *Stars are very far away from Earth in every direction.*
- key concept: *The sun is the only star in our solar system. Other stars are far outside our solar system.*
- vocabulary: *investigation, data*

For the Class

- 5 small spheres (table tennis balls)
- meterstick*
- 3 sentence strips*
- marker, wide tip*
- masking tape*
- scissors*

For Each Pair of Students

- 1 digital device*

For Each Student

- *Patterns of Earth and Sky* Investigation Notebook (page 11, optional: page 10)

Agenda / Lesson Overview

Lesson at a Glance

1: Preparing to Measure Distances (10 min.)

Agenda / Lesson Overview

1: Observing Artifacts (10 min.)

Interpreting the symbols on the Museum of Archaeology's artifact and the Nebra Sky Disc prompts a new Investigation Question.

2: Investigating Stars in Daytime and Nighttime (20 min.)

Students use the *Patterns of Earth and Sky* Simulation to make observations of stars in the daytime and the nighttime, which leads to investigating why most stars aren't visible during the daytime.

3: Size and Distance Investigation (30 min.)

Students create a physical model of Earth, the sun, and Sirius to discover how the distance between Earth and stars in space affects how large or small they appear from Earth. They consider whether we don't see most stars during the daytime because they are farther from

- **CCSS.MATH.CONTENT.5.NBT.2:** Understand the place value system. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole number exponents to denote powers of 10.
- **CCSS.MATH.CONTENT.5.NBT.3:** Understand the place value system. Read, write, and compare decimals to thousandths.
- **CCSS.MATH.CONTENT.5.NBT.3a:** Read and write decimals to thousandths using base-ten numerals, number names, and expanded form.
- **CCSS.MATH.CONTENT.5.NBT.5:** Perform operations with multi-digit whole numbers and with decimals to hundredths. Fluently multiply multi-digit whole numbers using the standard algorithm.
- **CCSS.MATH.CONTENT.5.MD.1:** Convert like measurement units within a given measurement system. Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m), and use these

Materials

For the Classroom Wall

- key concept: *The sun looks bigger and brighter because it is much closer to Earth than other stars.*
- key concept: *The sun is the only star we can see in the daytime because the sun looks so bright.*
- vocabulary: *evidence*
- Partner Reading Guidelines chart (from Lesson 1.3)

For the Class

- paper clips*
- masking tape*

For Each Group of Four Students

- 1 set of 1.6 Word Relationships cards: (7

Agenda / Lesson Overview

1: Discussing Ideas (10 min.)

Students discuss the Chapter 1 Question in pairs. This provides students with an opportunity to review key ideas and to practice using scientific language before they begin to write.

2: Introducing Scientific Explanations (15 min.)

Students are introduced to the basic components of a scientific explanation. Examining an explanation about a familiar topic prepares students to write their own explanations.

3: Writing Scientific Explanations (25 min.)

Students write their own answers to the Chapter Question. The teacher uses this Critical Juncture Assessment as an opportunity to review students' understanding of the positions of the stars in space and the implications of the sun's and other stars' positions relative to Earth.

4: Reflecting on the Artifact (10 min.)

Students briefly return to the artifact and think about what they know and could apply to understanding what is shown in terms of the sun and stars.

Learning Goals

- Making explanations is an important practice in science.
- Science explanations describe the way natural events happen.
- Scientific explanations describe things that are not easy to observe.
- Scientists support their explanations with ideas from investigations and text.

A brief orientation to additional features of the *Patterns of Earth and Sky* Simulation and introduction to the purpose of this lesson's Sim activity prepares students for their first Sim investigation.

2: Investigating Distances to Stars (20 min.)

Students use the *Patterns of Earth and Sky* Simulation to gather data about the distance from Earth to the sun and other stars.

3: Modeling the Sun and Other Stars (20 min.)

A model helps students use their data to visualize the arrangement of stars in three dimensions. This activity also allows students to apply the sense-making strategy of visualizing to a physical model.

4: Reflecting on Where Stars Are (10 min.)

This activity allows students to reflect on their investigations and share responses to the Investigation Question.

Learning Goals

- Stars are very far away from Earth in every direction.
- The sun is the only star in our solar system. Other stars are far outside our solar system.
- Visualizing can be a helpful strategy for scientists to understand what they are investigating.

Earth than the sun and therefore appear much smaller.

Learning Goals

- Objects look smaller when they are farther away, which is why the stars appear so small from Earth.
- Stars are present in the sky in all directions during the daytime, even though they are not visible from Earth.

cards/set), clipped together

For Each Pair of Students

- 1 copy of *Handbook of Stars and Constellations*

For Each Student

- *Patterns of Earth and Sky* Investigation Notebook (pages 15–16, optional: page 14)

Agenda / Lesson Overview

1: Discussing Distance and Size (15 min.)

Students use the Think-Write-Pair-Share routine to discuss how the distance of the sun and other stars from Earth affects their apparent size and brightness. This section includes an On-the-Fly Assessment to assess students' understanding of the size and location of the sun and other stars relative to Earth.

2: Returning to the Reference Book (15 min.)

Students refer to a brief passage in *Handbook of Stars and Constellations* as they seek information that will help them figure out why the sun is the only star that is visible in the daytime.

(Teacher Only) Reflecting on Brightness (15 min.)

Students watch a video that serves as evidence that the light of stars can be overwhelmed by light that is closer to Earth. Students then have the opportunity to reflect on and share the evidence that they gathered for answering the Investigation Question.

3: Word Relationships (15 min.)

Students practice using science vocabulary as they create and share sentences about concepts they have been learning.

Learning Goals

- The sun looks bigger and brighter because it is much closer to Earth than other stars.
- The sun is the only star we can see in the

daytime because the sun looks so bright.

- Evidence is information that supports an answer to a question.