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AREA



This chapter leads the students through an exploratory exercise for area, concrete development of area formulas, and structures that will reinforce the concepts taught. As a prerequisite to this unit, dimensional analysis is included. The level of student taught will determine if this review is necessary. An honors class may want to go directly to the exploration for area. For a class with average students, the dimensional analysis will be a great review. For a class of struggling students it is a must. The conversions are presented using dimensional analysis because it plays such a key role in science, reinforces ratios, and is easily transferable to conversions with units new to the student.

LESSON

1

DIMENSIONAL ANALYSIS

- ACTIVITY 1:** Listing Funny Forms of One
ACTIVITY 2: Processing Funny Forms of One
ACTIVITY 3: One-Step Converting with Funny Forms of One
ACTIVITY 4: Multi-step Converting with Funny Forms of One

LESSON

2

EXPLORATION OF AREA

- ACTIVITY 1:** Exploring Area

LESSON

3

AREA OF RECTANGLES AND SQUARES

- ACTIVITY 1:** Processing Area of Rectangles and Squares

LESSON

4

AREA OF PARALLELOGRAMS

- ACTIVITY 1:** Exploring Area of Parallelograms
ACTIVITY 2: Identifying Base and Height of Parallelograms
ACTIVITY 3: Computing Area of Parallelograms
ACTIVITY 4: Review: Area of Rectangles, Squares, and Parallelograms

LESSON

5

AREA OF TRIANGLES

- ACTIVITY 1:** Exploring Triangular Area
ACTIVITY 2: Identifying Base and Height of Triangles
ACTIVITY 3: Compute My Area
ACTIVITY 4: Processing Area of Triangles Part 1
ACTIVITY 5: Processing Area of Triangles Part 2

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LESSON

6

AREA OF TRAPEZOIDS

- ACTIVITY 1:** Exploring Trapezoidal Area
ACTIVITY 2: Journal Reflection
ACTIVITY 3: Processing Area of Trapezoids

LESSON

7

CIRCUMFERENCE OF A CIRCLE

- ACTIVITY 1:** Exploring the Meaning of π
ACTIVITY 2: Computing Circumference

LESSON

8

AREA OF CIRCLES

- ACTIVITY 1:** Exploring Circular Area
ACTIVITY 2: Processing Circular Area
ACTIVITY 3: Circumference to Area
ACTIVITY 4: Area to Circumference
ACTIVITY 5: Matching Circumference to Area

LESSON

9

SURFACE AREA

- ACTIVITY 1:** Processing Surface Area

LESSON

10

APPLICATIONS OF PERIMETER AND AREA

- ACTIVITY 1:** What If? Effects of a Change in One Variable on Area
ACTIVITY 2: Generating Applications of Perimeter
ACTIVITY 3: Generating Applications of Area
ACTIVITY 4: Applications of Area and Perimeter

GIVE AN EXAMPLE



Structure: Mix-Music-Meet

O is the center of the circle.

