Physical Science

Seton Home Study School

Course Manual
SCI301_21A

Seton
Home Study School

PHYSICAL SCIENCE (APOLOGIA)
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JMJ
Pray for us!

Revised November 2021
Outer Cover: *Saint Gregory the Great,* by Champaigne
Inner Cover: *Saint Albert the Great,* by Donati

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**PHYSICAL SCIENCE (APOLOGIA)
LESSON PLAN**

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Day 5

Read pp. 24-27. Start at "Converting Units," and stop at "Think about This." Answer the "On Your Own" questions. Keep these answers in a notebook.

WEEK THREE

Day 1

Read pp. 27-30. Start at "Think about This," and stop at "Line Graphs."

Day 2

Read pp. 30-32. Start at "Line Graphs," and stop at "Experiment 1.2."

Day 3

Read pp. 32-35. Start at "Experiment 1.2," and stop at the end of p. 35.

Day 4

Check your answers to the "On Your Own" questions with the book's answers on pp. 36-37.

Day 5

Complete the "Study Guide for Module 1" on pp. 38-39. Study for the Test on Module 1.

Optional Parent Grade: Parents may count the following questions from the Module 1 Study Guide as the **Quiz on Module 1**: Questions 1, 2, 3, 4, 6, 8, 9, 10, and 11. Answering these questions gives a total of 20 answers, and parents should count each answer as 5 points. (For example, Question 1 has six parts [a. through f.], so each part of this question counts as one answer, for a total of $6 \times 5 = 30$ points.) As noted in the Introduction of this course manual under "Parent-Graded Quizzes," there is an answer key for these quiz questions later in the course manual. If you would like to submit this grade to Seton, please record it in Section A of the appropriate Quarter Report Form and send it to Seton at the end of the quarter, or submit this grade online from your MySeton page.

WEEK FOUR

Day 1

Do the Module 1 Study Problems and the Module 1 Practice Problems in the lesson plan. Study for the Test on Module 1.

Module 1 Study Problems

1. What is the volume of 4 cm³ in mL?

    Conversion factor: $\dfrac{1\,\text{mL}}{1\,\text{cm}^3}$

    $4 \text{ cm}^3 = 4 \text{ cm}^3 \times \dfrac{1\,\text{mL}}{1\,\text{cm}^3} = \textbf{4 mL}$

2. How many centimeters is 2 inches?

Conversion factor: $\dfrac{2.54 \text{ cm}}{1 \text{ in}}$

2 in = 2 in $\times \dfrac{2.54 \text{ cm}}{1 \text{ in}}$ = **5.08 cm**

3. Convert 12.5 millimeters to meters.

Conversion factor: $\dfrac{1 \text{ m}}{1000 \text{ mm}}$

12.5 mm = 12.5 mm $\times \dfrac{1 \text{ m}}{1000 \text{ mm}}$ = **0.0125 m**

4. Convert 16.3 meters to centimeters.

Conversion factor: $\dfrac{100 \text{ cm}}{1 \text{ m}}$

16.3 m = 16.3 m $\times \dfrac{100 \text{ cm}}{1 \text{ m}}$ = **1630 cm**

5. A birthday cake has a mass of 1372 grams. What is the mass in kilograms? (Given: 1 kg = 1000 g)

Conversion factor: $\dfrac{1 \text{ kg}}{1000 \text{ g}}$

1372 g = 1372 g $\times \dfrac{1 \text{ kg}}{1000 \text{ g}}$ = **1.372 kg**

6. An ounce of silver has a mass of 28.35 grams. What is the mass in kilograms of 2 pounds of silver?

Conversion factors: $\dfrac{16 \text{ oz}}{1 \text{ lb}}$, $\dfrac{28.35 \text{ g}}{1 \text{ oz}}$, $\dfrac{1 \text{ kg}}{1000 \text{ g}}$

2 lb = 2 lb $\times \dfrac{16 \text{ oz}}{1 \text{ lb}} \times \dfrac{28.35 \text{ g}}{1 \text{ oz}} \times \dfrac{1 \text{ kg}}{1000 \text{ g}}$ = **0.9072 kg**

7. A cup contains 206.32 mL of orange juice. How many gallons is this?
(Given: 1 mL = 0.001 L; 1 gal = 3.78 L)

Conversion factors: $\dfrac{0.001 \text{ L}}{1 \text{ mL}}$, $\dfrac{1 \text{ gal}}{3.78 \text{ L}}$

206.32 mL = 206.32 mL $\times \dfrac{0.001 \text{ L}}{1 \text{ mL}} \times \dfrac{1 \text{ gal}}{3.78 \text{ L}} \approx$ **0.054582 gal**

Updated 11/16/2021