

Lesson 60: Color Science & Mixing — Secondary Colors**PLL PART TWO****Color Science • Chromatic Blending**

"Place blue and yellow tissue paper together; hold them up so the light will shine through them. What color is made? What colors made it? What are purple, green, and orange called?"

Scientific Rule: A secondary color is made by blending two primary colors together in equal parts.

1 THE THREE SECONDARY COLOR EQUATIONS

Study how overlapping primary colors blend in sunlight to form new secondary hues:

BLUE (Primary)**blends into GREEN****YELLOW (Primary)****RED (Primary)****blends into PURPLE****BLUE (Primary)****YELLOW (Primary)****blends into ORANGE****RED (Primary)**

1. **Blue + Yellow:** What color is made? _____ ; What colors made it? _____
2. **Yellow + Red:** What color is made? _____ ; What colors made it? _____
3. **Red + Blue:** What color is made? _____ ; What colors made it? _____

2 COLOR MIXING STATEMENTS IN FULL SENTENCES

Write full, beautiful declarative sentences showing how colors combine:

Formula 1: When blue and yellow mix, they make _____

Formula 2: When yellow and red mix, _____

Formula 3: When red and blue mix, _____

3 CLASSIFICATION & ARTIST APPLICATION

Answer the grand summary question from the textbook:

Classification: What are purple, green, and orange called? They are called _____

Artist Challenge: If you want to paint an orange pumpkin, which two primary colors will you mix?

To make orange paint, I will mix _____

Lesson 60 Teacher Key: Secondary Colors & Chromatic Logic

ANSWER KEY & RUBRIC

Pedagogical Framework • Cause-and-Effect Grammar

Syntactic Mastery: Teaching cause-and-effect sentence patterns ("When X and Y mix, they produce Z"), distinguishing primary pigments from secondary mixtures, and developing scientific observation through hands-on optical blending.

1 SECTION 1: OPTICAL BLENDING SOLUTIONS

1. **Blue + Yellow:** Color made: **green**. Colors that made it: **blue and yellow**.
2. **Yellow + Red:** Color made: **orange**. Colors that made it: **yellow and red**.
3. **Red + Blue:** Color made: **purple** (or violet). Colors that made it: **red and blue**.

2 SECTION 2: COMPLETE SENTENCE FORMULA SOLUTIONS

Exemplary Complete Sentences:

- **Formula 1:** "When blue and yellow mix, they make green."
- **Formula 2:** "When yellow and red mix, they make orange."
- **Formula 3:** "When red and blue mix, they make purple (or violet)."

Teacher Note: Check for subject-verb agreement ("they make" or "they produce") and correct period punctuation at sentence ends.

3 SECTION 3: CLASSIFICATION & APPLICATION SOLUTIONS

Classification Term: They are called **secondary colors**.

Artist Application: To make orange paint, I will mix **red and yellow**.

Definition Rule: A secondary color is formed by mixing two primary colors together in equal measure.

4 DIAGNOSTIC SCORING RUBRIC (4 PERFORMANCE LEVELS)

Evaluation Domain	4 • Exemplary	3 • Proficient	2 • Developing / Emerging
Chromatic Mixing Formulas	Demonstrates complete mastery of all three secondary color pairings without hesitation.	Accurately identifies color mixtures with minor spelling slip (e.g. *purpel).	Confuses primary pairings (e.g. says red + yellow = green).
Cause-and-Effect Syntax	Writes flawless conditional/cause-effect sentences with precise conjunctions and punctuation.	Writes complete sentences with minor punctuation or capitalization omission.	Writes sentence fragments or incomplete statements.
Classification & Vocabulary	Accurately classifies secondary colors and applies formula to practical art problem.	Classifies secondary colors correctly with basic explanation.	Unable to define secondary colors or distinguish them from primary.
Handwriting & Presentation	Impeccable penmanship aligned cleanly on ruled baselines with neat spacing.	Legible handwriting with standard spacing and clean erasures.	Handwriting uneven, cramped, or baseline omitted.