



NAME _____

DATE _____

CLASS _____

HISPANIC HERITAGE MONTH

Guillermo González Camarena

The Young Mexican Inventor Who Added Color to TV

From Spare Parts to Color Television

Guillermo González Camarena was born in Guadalajara, Mexico, in 1917. As a boy, he loved electricity. He collected old parts and used them to build his own radios.

In the 1930s, television pictures were only black, white, and gray. Guillermo wanted color. He learned that almost every color you can see can be made by mixing three colors of light: red, green, and blue. These are called the **primary colors of light**.

His invention showed a red picture, then a green picture, then a blue picture, one after another. It switched between them so fast that your eyes blended the three pictures into one color picture. Because the colors came one after another, it was called a **sequential** color system. In 1940, when he was only 23 years old, Guillermo applied for a **patent** on his invention.

Guillermo went on to make some of the first color TV shows in Mexico. He also used TV to send school lessons to students who lived in faraway villages.

WORDS TO KNOW

- **primary colors of light:** Red, green, and blue — three colors of light that can be mixed to make almost every other color.
- **sequential:** Happening one after another, in order.
- **patent:** An official paper that says you invented something new, so others cannot copy it without asking.

Part 1 • Reading Comprehension

1. Where and when was Guillermo González Camarena born?

2. What did TV pictures look like before Guillermo's invention?

3. What are the three primary colors of light?

4. How old was Guillermo when he applied for his patent?

Part 2 • Color Investigation: Three Into Many

Light does not mix the same way paint does. Here are two facts about mixing light: Red light + green light = yellow light. Red light + green light + blue light = white light. Use these facts and the reading to answer.

1 Which two colors of light mix together to make yellow light?

2 What color do you see when red, green, and blue light all shine together?

3 Guillermo's TV showed a red picture, then a green one, then a blue one. Why did people see one color picture instead of three flashing colors?

Part 3 • Think About It

Guillermo used TV to send school lessons to students in faraway villages. Name one thing that would be easy to learn from a TV lesson and one thing that would be hard. Explain why.
