LESSON 4
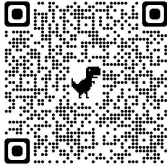## Resistor Color Code

Watch video Lesson 4

The amount of resistance, of any **resistor**, is its value measured in Ohms.

A 5% resistor has 4 color bands painted on it to indicate the amount of Ohms. A 1% resistor has 5 color bands.

The 2nd to last color band tells you how many zeros to add to the first numbers.

On a 5% tolerance resistor, the first and second color bands each represent a number but the **third color band** tells how many zeros to add to the first two numbers.

Practice Quiz

How to read the Color Code

These are the numbers for the color code bands on a resistor.
A (+/- 5%) resistor has 4 color bands.
A (+/- 1%) resistor has 5 color bands.

> **0** = Black
> **1** = Brown
> **2** = Red
> **3** = Orange
> **4** = Yellow
> **5** = Green
> **6** = Blue
> **7** = Violet
> **8** = Gray
> **9** = White

If the last color band is:
Gold = a tolerance of +/- 5%
Brown = a tolerance of +/- 1%

If the 2nd to last color band is:
Gold = move decimal back one place
Silver = move decimal back two places

For example:
(1) What would be the color code of a
+/-5%   **4.7 ohm resistor ?**
(Answer: Yellow, Violet, Gold, Gold)

(2) What would be the color code of a
+/-1%   **4.7 ohm resistor ?**
(Answer: Yellow, Violet, Black, Silver, Brown)

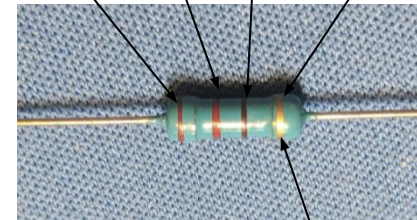## Reading the value of a Resistor

How to read the Resistor Color Bands

The 5% resistor below has **four** color bands.
> The first one is **brown**,
> the second one is **red**,
> the third one is **brown**, and
> the fourth one is **gold**.

Using the **Resistor Color Code Chart** on the left, the value of this resistor is 120 Ohms. (1 and 2 plus one zero)

$$\boxed{120 \text{ ohms } +/- 5\%}$$

1	2	1 zero	+/- 5%
Brown	**Red**	**Brown**	**Gold**

Tolerance band is always the **last** band.

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| **The Resistor Color Code** | **Activity Page Lab 1201** | 4b |

Color Code Practice:
Write the number that corresponds to each color of the <u>Resistor Color Code</u>.

____ = Black	____ = Gray	____ = White
____ = Brown	____ = Orange	____ = Red
____ = Red	____ = Blue	____ = Orange
____ = Orange	____ = Violet	____ = Green
____ = Yellow	____ = Green	____ = Blue
____ = Green	____ = Black	____ = Black
____ = Blue	____ = White	____ = Violet
____ = Violet	____ = Yellow	____ = Brown
____ = Gray	____ = Brown	____ = Gray
____ = White	____ = Red	____ = Yellow

Ans: col 1= 0,1,2,3,4,5,6,7,8,9 col 2 = 8,3,6,7,5,0,9,4,1,2 col 3 = 9,2,3,5,6,0,7,1,8,4