



## Mini Lesson

### Materials:

- Colored pencils or crayons: White, Orange, Red, Yellow, Green, Blue, Black
- Handouts

### Procedure:

1. Use the COLOR KEY provided or complete the blank table to create your own COLOR KEY.
2. If you create your own, select each color to represent numbers in the ranges with no color identified. ?
3. Use the DATA table provided to color the cells on your GRID with the colors in your COLOR KEY.

<b>COLOR KEY</b>	
<b>Number Range</b>	<b>Color</b>
<b>0-5</b>	<b>Black</b>
<b>6-10</b>	<b>Blue</b>
<b>11-15</b>	<b>Green</b>
<b>16-20</b>	<b>Yellow</b>
<b>21-25</b>	<b>Red</b>
<b>26-30</b>	<b>Orange</b>
<b>31-35</b>	<b>White</b>

## **COLOR KEY**

<b>Number Range</b>	<b>Color</b>
<b>0-5</b>	<b>Black</b>
<b>6-10</b>	
<b>11-15</b>	
<b>16-20</b>	
<b>21-25</b>	
<b>26-30</b>	
<b>31-35</b>	<b>White</b>

## DATA

7	8	11	11	12	16	20	18	15	14
6	8	15	17	18	18	19	20	15	14
3	8	15	17	18	18	19	20	16	14
4	8	14	20	28	25	25	25	20	15
7	8	13	17	24	31	30	24	19	14
7	8	13	18	25	29	31	24	19	14
8	9	12	14	18	25	28	23	18	13
9	11	12	14	15	18	22	18	15	12
10	11	11	13	14	15	16	13	14	10
10	10	11	12	13	13	15	15	13	10

The image you created is called a **false-color image** because the image is made from colors assigned to numbers and not a photograph. The numbers are data that could come from many different sources. The concept of creating an image from data is the same regardless of where the data come from.

Answer the questions.

1. Answer the following questions if the data are **wind speed** in km per hour.
  - What color is the fastest? Slowest?
  - Where is the wind between 21-25 km per hour?
2. Answer the following questions if the data are **elevation** in meters above sea level.
  - What color is the lowest? Highest?
  - Where is the elevation between 31 and 35 meters above sea level?
3. Do you notice any pattern in the image?

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4. How does the size of the grids in the grid paper affect the image that you created?
  5. Which do you think would be more realistic, larger grid sizes or smaller? Why?

Sources:

1. Space Math - <https://spacemath.gsfc.nasa.gov/>

Scientific data are often represented by assigning ranges of numbers to specific colors. The colors are then used to make false color images which allow us to see patterns more easily. Students will make a false-color image using a set of numbers.