Materials:

- Graph Paper
- Colored pencils (2-3)

ACTIVITY

1. Find 20 values (points) that will make the following inequality a true statement. Example: (3, 1) or (-8, -12)

$$y < x + 5$$

Be sure to vary your points. Don't make all of your values a certain amount bigger each time. It will make your graph harder to interpret.

2. Plot each of the points on a graph, use one of your colored pencils.
3. In 1-2 sentences describe what the graph looks like.
   - Is it like the graph of a linear equation?
   - Where are all of the solutions located? Are they in a line or spread out? Are they in a certain area of your coordinate plane? Is there a place on your plane that they do not seem to go?
4. Graph the line for $y = x + 5$ using your colored pencil.
5. Are there points **on** that line that satisfy the inequality?
6. What kind of statement do you get when you use one of the points from the line?
7. Why do you think that happens? Think about what an inequality means.
8. What do you notice about the points from the inequality you graphed and the line you graphed? How are they related?