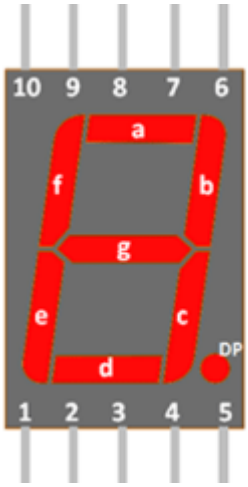
Using the Base 10 Decoder and Seven Segment Display

Name:_____ Date: _____

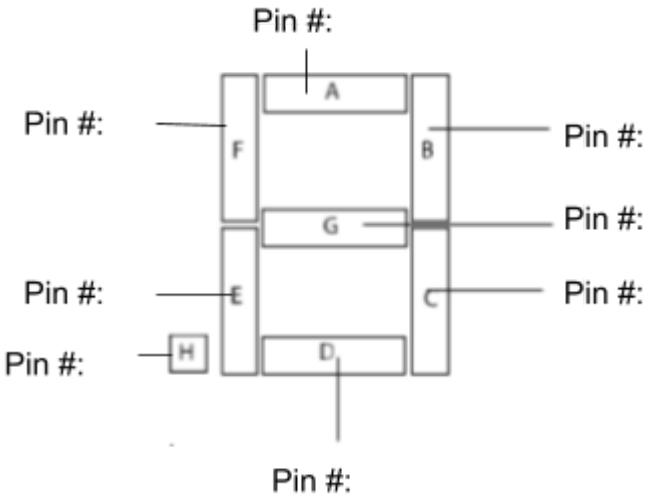
1. Diagram of a common cathode 7 segment display:



2. Setup the seven segment display so that you can test it.

- Connect pins 3 and 8 to Ground using a 220 Ohm resistor. Remember that ground is the negative end of the battery.
- All other pins will connect to power (+5 volts) directly to light up each segment.
- Use other wires to light up other segments but remember to activate them you need to connect them to power (+5 volts).
- Complete the diagram below

3. Show the pin number that lights each segment of the display. Double-click on the drawing below to add in the pin numbers using the text tool.



3. Which pins need to be activated to display the letter A on the screen and the numbers 9 and 6? Fill in the table below.

Display	Pin #s Needed to be activated
A	a b c e f g
9	a b c f g
6	a c d e f g

4. Now that you understand how to wire the new component and light up all of the segments, you will now wire each segment to one specific DIP switch. Use the DIP switch to activate each segment individually. You may use two 4 x DIP switches side by side. 7 segments means you need exactly 7 switches.

Wire the circuit in Tinkercad and paste your completed circuit in the box below: