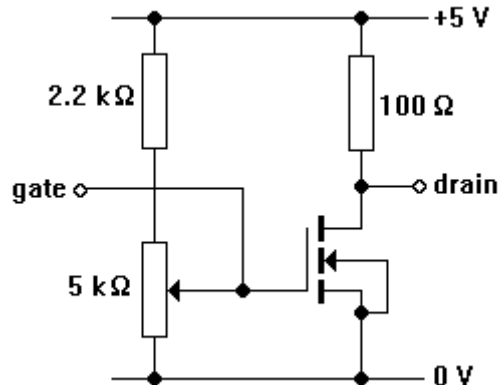


Exploring the MOSFET characteristic

- 1 Assemble the circuit shown below. Use a 2N7000 MOSFET.



- 2 Use a double-beam oscilloscope to monitor the voltages at the gate and drain of the MOSFET. If all is well, the voltage at the drain V_d should fall as the voltage at the gate V_g rises.
- 3 Measure the voltage at the drain for the gate voltages shown in the table.

V_g / V	V_d / V	I_d / mA
0.0	5.0	0.0
1.0		
2.0		
2.2		
2.4		
2.6		
2.8		
3.0		

- 4 By considering the voltage drop across the 100 Ω resistor, calculate a value for the drain current I_d for each value of the drain voltage V_d .
- 5 Use your results to plot a graph to show how the drain current depends on the gate voltage. Use it to obtain values for the threshold voltage V_{th} and transconductance g_m of your MOSFET.

