




7.4 Dark detectors

Basic information and collecting ideas 	<p>Experiment 7.4 builds upon the learning of experiment 7.3, properties and function of a transistor. A dark detector is a good first example of an electronic circuit, where the input signal of the LDR operates an output (LED).</p> <p>Additional information</p> <p>Depending on the LDR, the circuit functions slightly differently, i.e. you need to cover more or less of the LDR to switch on the transistor (LED). Also note that changing the 10 kΩ resistor to a different value will change the function of the circuit.</p>
Observing and documenting 	<p>When the LDR is covered, the LED will emit light.</p> <p>The more you cover the LDR, the more the LED will emit light.</p>
Analysing and reflecting 	<p>Remember:</p> <p>The resistance of an LDR depends on the intensity or brightness of light on it. When the intensity of light on the LDR decreases, the resistance of the LDR increases. The voltage at the transistor base increases when the brightness of light decreases. Once the voltage exceeds the minimum threshold voltage required at the transistor base, it switches the transistor on and allows the flow of current through the collector-emitter section of the transistor; the LED will emit light.</p> <p>The dark detector is an electronic circuit which can automatically switch on a light (or a buzzer, or an electric motor, etc.).</p>

Space for notes
