C2

Basic Electronic Components

CHAPTER ASSIGNMENT

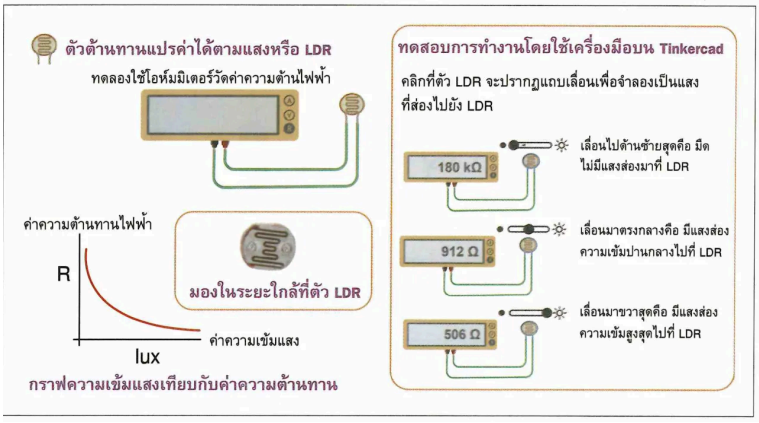
Name _____ Class _____ No. _____ Date _____

Answer every question in the space given. Show your working. You may use the chapter page to help you.

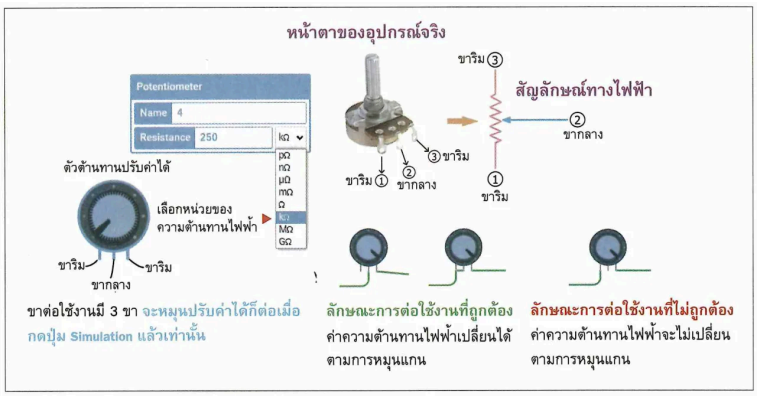
Questions from the Guru Jazzy chapter page, for classroom use.

Activity: Test the parts in Tinkercad

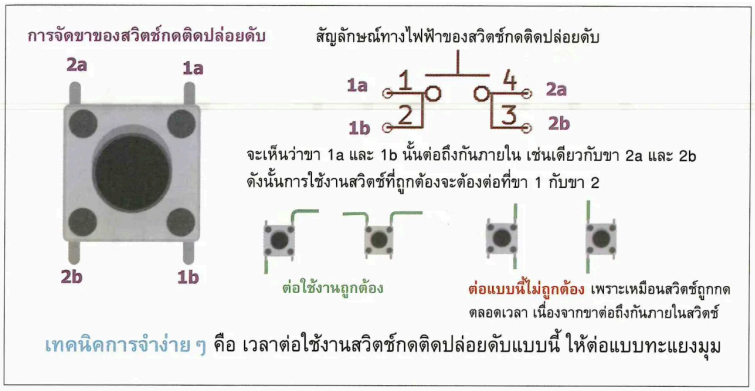
1 **LDR (Fig 2-6):** connect an LDR to a multimeter set to resistance. Start the simulation, click the LDR and move the light slider. Record the reading at far left, middle and far right.



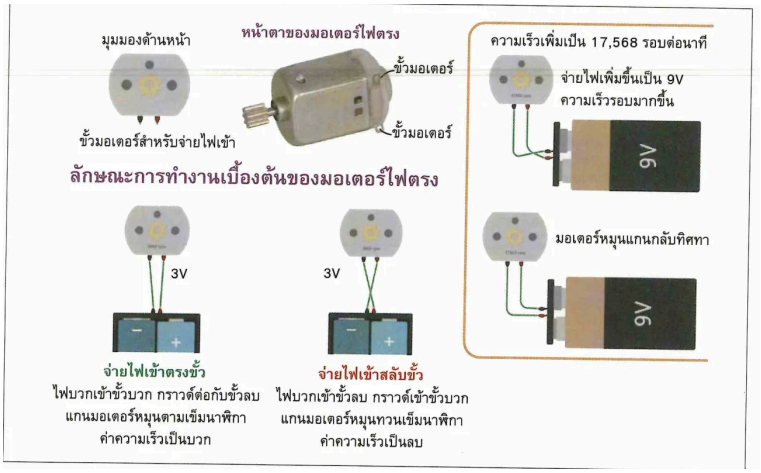
2 **Potentiometer (Fig 2-2):** measure across the middle leg and one outer leg while you turn the knob, then across the two outer legs. Which reading changes?



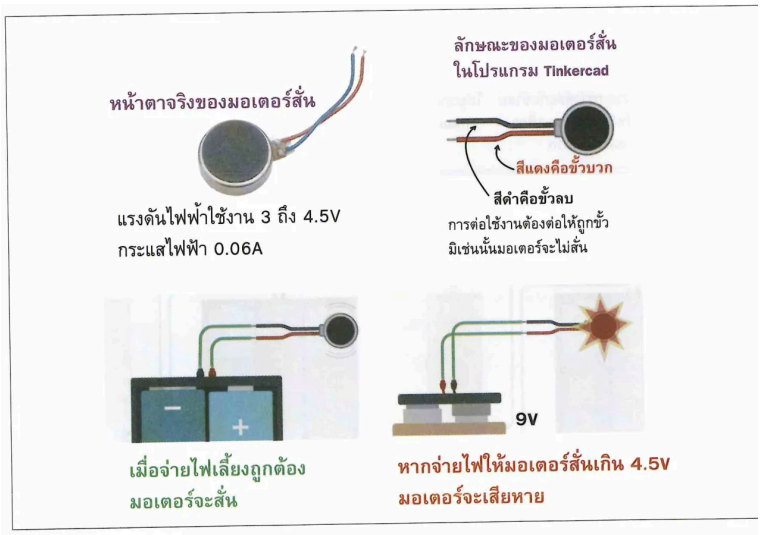
3 **Pushbutton (Fig 2-9):** build battery → pushbutton → resistor → LED. Wire the button diagonally, then try the same side. What happens each time?



4 **DC motor (Fig 2-16):** connect a DC motor to 2 AA cells and note the rpm, then swap the wires, then try a 9 V battery.



5 **Vibration motor (Fig 2-19):** run it from 3 AA cells, then from a 9 V battery. Explain what you see.



Chapter quiz

1 What is the job of a resistor?

A	B	C	D
To store electric charge	To limit how much current flows	To turn light into electricity	To make sound

2 Does it matter which way round you put a resistor or a non-polarized capacitor?

A. Yes, both have + and – legs B. Only the resistor C. Only the capacitor D. No, both can go either way

3 You wire a potentiometer using only its two outer legs. What happens when you turn the knob?

A	B	C	D
The resistance goes up	The resistance goes down	The resistance does not change	The potentiometer is damaged

4 An LDR is in a bright room. Its resistance is...

A. High, around 2 MΩ B. Low, a few hundred ohms C. Exactly 0 Ω D. The same as in the dark

5 What are the three legs of a transistor called?

A. Anode, cathode, gate B. Base, collector, emitter C. Positive, negative, signal D. Input, output, ground

6 A pushbutton has legs 1a, 1b, 2a and 2b. Which legs are always joined inside the switch?

A. 1a and 2a B. 1a and 1b C. 1b and 2a D. None of them

7 How many volts do three AA cells in a holder give?

A. 1.5 V B. 3 V C. 4.5 V D. 9 V

8 Why can a CR2032 coin cell seem stronger in Tinkercad than in real life?

A	B	C	D
Tinkercad gives it 9 V	In the simulation it can supply unlimited current, but a real one gives only a small current	Tinkercad does not have coin cells	Real coin cells are 12 V

9 You swap the two wires on a DC motor. What happens?

A. It stops B. It turns the other way C. It turns faster D. It burns out

10 Which servo type can turn all the way round, again and again?

A. Positional B. Continuous C. Standard 90° D. Vibration

End of assignment · Check your answers against the chapter at gurujazzy.com/subjects/tinkercad/chapter-2-basic-components/