



**Topic/Title An introduction to the basics of microcontrollers.**

***Suggested background reading:***

**BBC Bitesize** - KS3 video

<https://www.bbc.co.uk/bitesize/articles/zrcxhbk>

**BBC Bitesize** - KS4 information about microcontrollers

<https://www.bbc.co.uk/bitesize/guides/zh8ck2p/revision/1>

<https://www.bbc.co.uk/bitesize/guides/zh8ck2p/revision/4>

Picaxe **Cyber Pet PDF booklet** – this booklet helps to fully explain what a microcontroller is and how components are connected then programmed.

<https://picaxe.com/docs/axe101.pdf>

***Relevant films/videos to watch:***

Click on the excellent **www.technologystudent.com** website links below which will help learn about electronic systems:

Systems approach to designing electronic gadgets

<https://technologystudent.com/designpro/system1.htm>

Control Systems

<https://technologystudent.com/elec1/consys1.htm>

The Picaxe microcontroller

<https://technologystudent.com/pics/picax1.htm>

Input, process and output

<https://technologystudent.com/pics/picax3.htm>

What is a microcontroller

<https://technologystudent.com/pics/picgen1.html>

Use the **BBC Bitesize website** below to view two videos that will help put Electronic Systems and microcontroller into context.

BBC Bitesize

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***Activity to undertake:***

Answer the questions below

1. What is a microcontroller?
2. What is the difference between inputs, processes and outputs?
3. Name two inputs and two outputs that can be connected to a microcontroller.
4. What is a sensor and why are they used on electronic gadgets?
5. Find out what an LDR is?
6. Describe the five things you have learnt about **microcontrollers** and input, process and output devices.
7. Click on the link below to see how to create a flowchart.

Complete activity 1. – Create a flowchart.

[https://bam.files.bbc.co.uk/bam/live/content/zb26v4/pdf#sa-link\\_location=blocks&intlink\\_from\\_url=https%3A%2F%2Fwww.bbc.co.uk%2Fbitesize%2Farticles%2Fzrcxhbk&intlink\\_ts=1594642660997-sa](https://bam.files.bbc.co.uk/bam/live/content/zb26v4/pdf#sa-link_location=blocks&intlink_from_url=https%3A%2F%2Fwww.bbc.co.uk%2Fbitesize%2Farticles%2Fzrcxhbk&intlink_ts=1594642660997-sa)

**Students to hand in by August 31<sup>st</sup>**



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## Preparation work for September

The topic you will be studying when you return in **September** in **Year 8** is:

**Electronic Systems - Microcontrollers  
Inputs Processes and Outputs**

The following information will help prepare you for the work ahead and get you ready to answer the recall test in September.

# Mechanisms

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In September when we return to school you will design and make your own mechanical device, that must demonstrate at least two different types of movement.

# Mechanisms

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# Mechanisms

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**Remember to photograph your work and upload it into this assignment.**