Computing

Lesson 1: Get in Gear

Computer Systems

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[1] *Materials from the Teach Computing Curriculum created by the National Centre for Computing Education*

Task 1 - Antikythera mechanism

Would you call the Antikythera mechanism a computer?

How is the mechanism similar or different to modern computers?

Similarities	**Differences**

To help you answer these questions, you can also ask yourself the following questions:

- Why would such a mechanism be created? What sort of problem does it solve?
- Why were computers created? What sort of problems do they solve?

Task 2 - Your software? - part 1

Can you give an example of a program that you use to **write documents**?

Note: You can name a specific program or the **category** that such a program would belong to.

Can you give an example of a program that you use to **visit websites**?

Note: You can name a specific program or the **category** that such a program would belong to.

Can you give an example of a program that you use to **get creative** (e.g. manipulate videos, images, or sounds)?

Note: You can name a specific program or the **category** that such a program would belong to.

Task 2 - Your programs - part 2

Name at least **three** additional programs that you are familiar with.

Note: You are **not** allowed to include any of the programs from the previous task and you are only allowed to name **one** game.

Tip: Apps (which is short for ‘applications’) are programs too, so you can name apps here as well.

1.
2.
3.

Can you give an example of a program that you use to **get creative** (e.g. manipulate videos, images, or sounds)?

Note: You can name a specific program or the **category** that such a program would belong to.

Task - Are you sure it’s a program? - part 3

Sometimes, it’s not so straightforward to tell if something is a program or not. It may help if you ask yourself: does it perform a task? Does it process data?

Are the videos, images, and sounds on your computer programs?

Note: Please justify your answer in brief.

You have probably heard of Android, Linux, macOS, iOS, or Windows. These all belong to the same category: they are all **operating systems**. Are they programs?

Note: Please justify your answer in brief.

Task 3 - The intelligent piece of paper

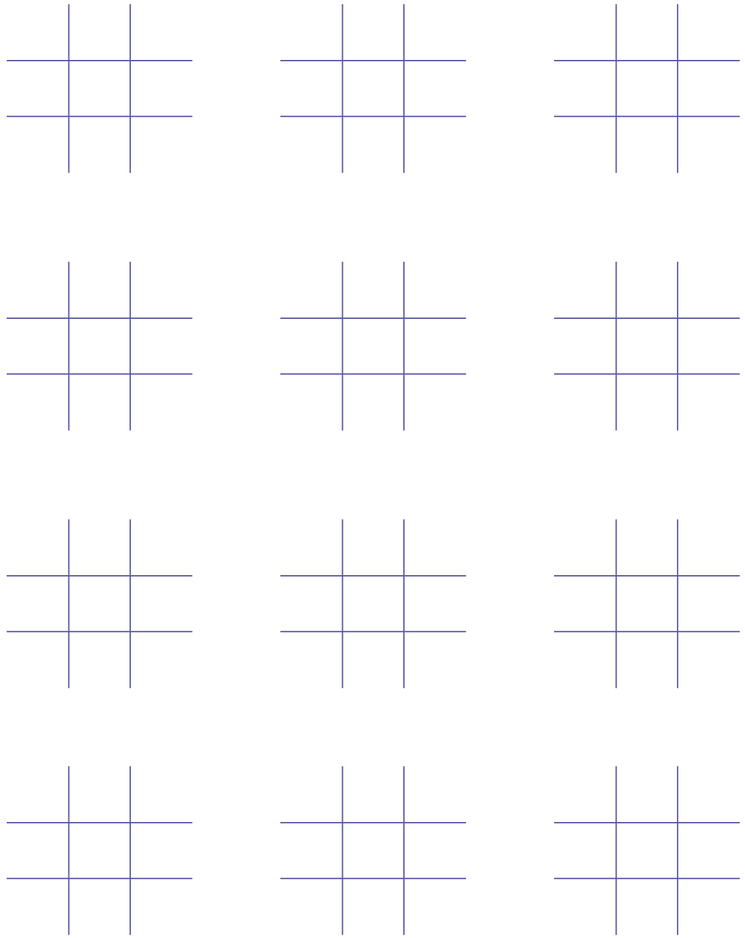
Move 0 . draw the noughts and crosses 3x3 grid

Move 1 . write X in top left-hand corner

wait for the other player to write O in a square

Move 2 . IF the bottom right-hand square is empty THEN
write X in the bottom right-hand square
ELSE
write X in the bottom left-hand square

wait for the other player to write O in a square



Task 3 (continued) - The intelligent piece of

Moves 3–4

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REPEAT 2 TIMES
    IF there is a line with two Xs and an empty square THEN
        write X in that empty square (win)
        TERMINATE
    ELSE IF there is a line with two Os and an empty square THEN
        write X in that empty square (block opponent)
    ELSE
        write X in any available corner
    wait for the other player to write O in a square
```

Move 5

write X in the remaining available square