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Program Support Notes

Middle – Senior Secondary

30mins

The History of Computers

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For Teachers:

Introduction

The program traces the development of the electronic computer, from the first valve-based devices of the mid 20th century, to the invention of silicon-based technology leading to the manufacture of the first PCs. The constant phenomenal growth in computing power and speed, with reduction in costs, are central themes. The program finishes by examining what the future might hold in relation to computing technologies.

DVD Timeline

00:00:00   Introduction
00:00:54   Current technologies
00:02:42   Summary
00:03:19   Early computing devices
00:06:58   Summary
00:07:39   Electronic devices
00:13:37   Summary
00:14:27   Personal computers
00:20:40   Summary
00:21:30   Future technologies
00:26:53   Summary
00:27:37   Conclusion
00:28:26   Credits
00:28:56   Program end

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Student Worksheet:

While Viewing the Program

Current Technologies

1. What do computers currently help us to do?

    _____

    _____

    _____

    _____

2. What do people use computers for?

    _____

    _____

    _____

    _____

3. Give a definition for a computer:

    _____

    _____

    _____

4. Summarise the current uses of computers.

    _____

    _____

    _____

    _____

Early Computing Devices

5. What was the general function of the early computing devices?

    _____

    _____

6. Abacus:

    a) What is an Abacus?

    _____

    _____

    b) When was it invented?

    _____

    c) What is it used for?

    _____

    _____

7. Napier Rods:

    a) Who invented Napier Rods?

    _____

    b) When where they invented?

    _____

    c) What is the function of Napier Rods?

    _____

    _____

8. What is the function of the Slide Rule?

    _____

    _____

    _____

9. Mechanical Calculators:

    a) Who invented the early Mechanical Calculators?

    _____

    b) What functions could they perform?

    _____

    _____

    _____

10. Punch Card Loom:

   a) When was Punch Card Loom invented?

   _____

   b) What important feature of this device was used in later computers?

   _____

   _____

   _____

11. Charles Babbage:

   a) What devices (that were never built) did Charles Babbage design and what was their function?

   _____

   _____

   _____

   _____

   b) What important features in these designs are used in modern computers?

   _____

   _____

   _____

12. Tabulating Machine:

   a) What was Tabulating Machine used for?

   _____

   _____

   _____

   b) What technology was used by this machine?

   _____

   _____

   _____

The History of Computers

Electronic Devices

"I think there is a world market for maybe five computers"
(Thomas Watson Sr., Chairman of IBM, 1943)

13. First Generation Computers:

    a)   When were the First Generation computers developed?

         _____

    b)   What were the features of these computers?

         _____

         _____

         _____

14. Second Generation Computers:

    a)   When were the Second Generation computers developed?

         _____

    b)   What were the features of these computers?

         _____

         _____

         _____

15. Third Generation Computers:

    a)   When were the Third Generation computers developed?

         _____

    b)   What were the features of these computers?

         _____

         _____

         _____

Personal Computers

16. Complete the table below.

Machine	Year Released	RAM	Features
MITS Altair			
IBM 50 100			
Apple II			
IBM PC			
Your current school computers			

17. What application turned personal computers into a business machine?

_____

_____

18. List some of the developments in computing since the 1980s.

_____

_____

_____

_____

_____

Future Technologies

19. What is meant by the term digital convergence?

_____

_____

_____

20. List some examples of future technologies.

_____

_____

_____

_____

21. What may be the negative effects of future technologies on society?

_____

_____

_____

_____

_____

_____

_____

_____

_____

After Viewing the Program

1. Research personal computer development since the 80s and complete the below table.

Machine	*Year*	*Clock Speed*	*RAM*	*Hard Drive*	*Features*

2. Describe how you have used computers at school, at home and for entertainment during the last week.

3. Imagine that you are a teenager in 2035 (approximately when your own children may be teenagers). Describe how they will use computers at school, at home and for entertainment during a typical week. Illustrate your description with examples of computers and a teenager using them.