



CONTENTS



1. Introduction to Computers	5	Formative Assessment 4	92
An exciting journey to the beginnings of the computer		Summative Assessment 2	93
2. Introduction to Computer Systems	13	Projects and Lab Activities	95
Input devices and output devices, Processing devices, Software that go into making a computer		Problem Solving Assessment	96
Formative Assessment 1	22	National Cyber Olympiad (Practice Questions)	97
3. Introduction to Windows 7	23	International Informatics Olympiad (Practice Questions)	98
Operating systems and types of operating systems, The Desktop – Icons and taskbars, Start button and programs, Parts of a Window		Types of Mobile Computing Devices	100
4. Advanced Keyboard	32		
Learn more about the keyboard, Different types of keys, How to use the keyboard			
Formative Assessment 2	42		
Summative Assessment 1	43		
5. Introduction to MS Word	45		
Components of MS Word 2007, Creating a new document, Typing a new document, Saving and closing a document, Opening a closed document			
6. Exploring Paint	54		
Selecting an Image, Cropping an Image, Deleting a Picture, Resizing/Skewing, Rotating/Flipping, Copying and Cutting			
Formative Assessment 3	69		
7. Exploring Tux Paint	70		
Stamp Tool, Magic Tool, Creating a Poster			
8. Introduction to LOGO	82		
What is Logo? Starting Logo, Basic Commands, Exiting Logo			





In this chapter

An exciting journey to the beginnings of the computer.



Rewind



Let us start by playing a memory game and recall what we did last year. Are you ready??

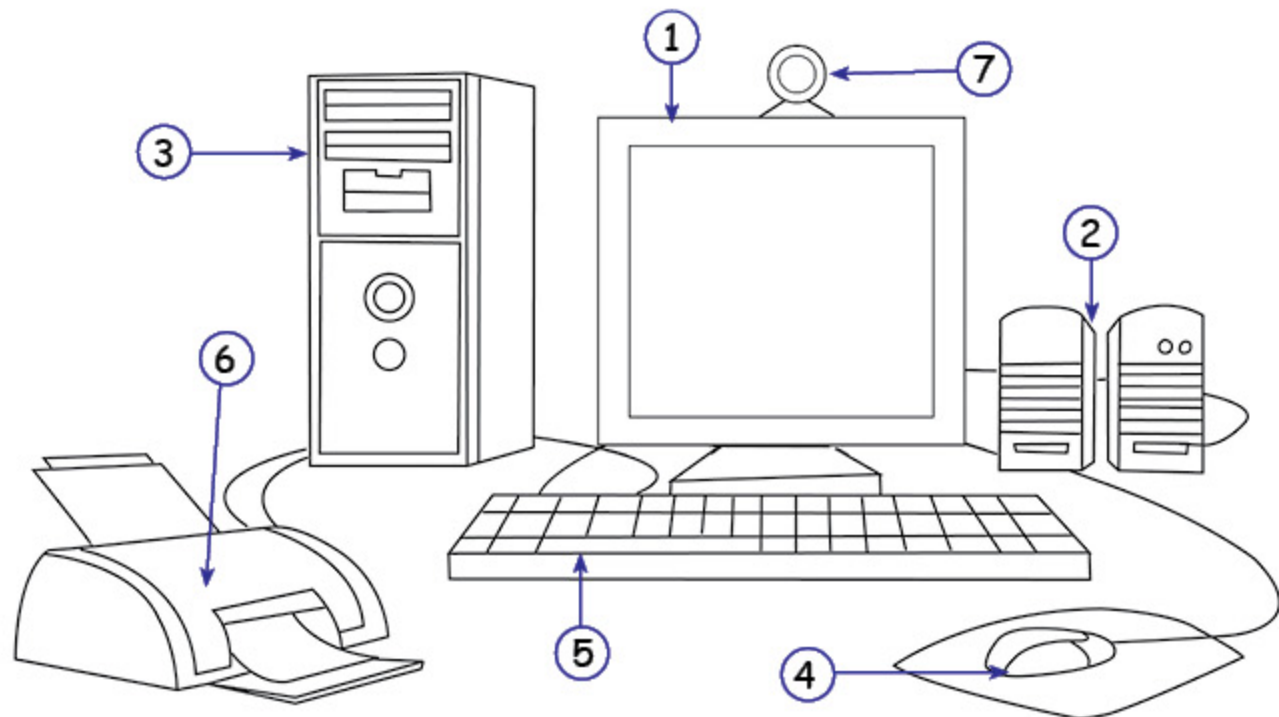
Quickly write down any words that you can think of when you hear the word Computer!! Some words are already given to help you get started.

Idea Board	
Machine	<input type="text"/>
CPU	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Very good!! Now let's put it all together shall we...

A computer is a special machine that allows us to perform many tasks. It is an electrical machine, which performs these tasks by receiving our input through different input devices (keyboard, mouse, etc). Using its CPU the computer processes these inputs. It then gives us the output through different output devices (monitor, speakers, printer, etc.) which are attached to it.

Color the picture below and name the parts of the computer from the words given below.



- ① _____ ② _____ ③ _____ ④ _____
 ⑥ _____ ⑤ _____ ⑦ _____

Monitor Keyboard Web Cam CPU Printer Speaker Mouse

Well done!! Now look at the words below and color those that list the uses of a computer:

- 1. Cooking
- 2. Typing
- 3. Eating
- 4. Banking
- 5. Printing
- 6. Thinking
- 7. Watching movies
- 8. Washing clothes
- 9. Storing records
- 10. Talking to friends.

I must say we have a very smart class this year. Let's give ourselves a pat on the back.

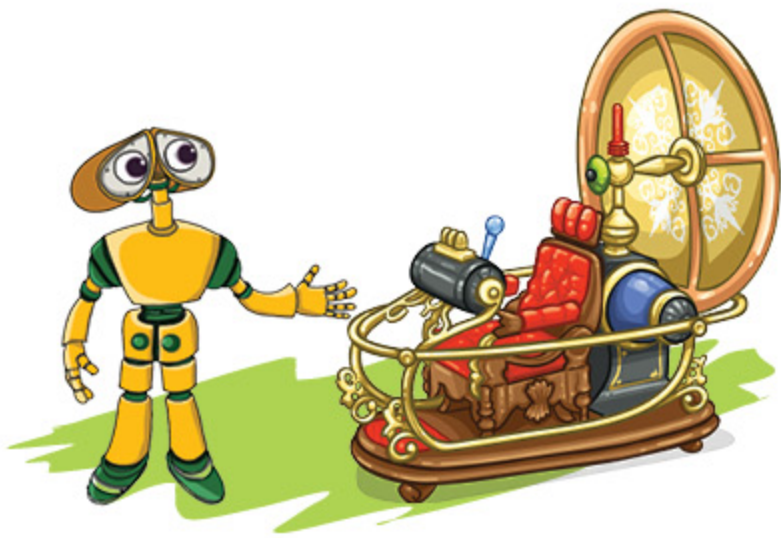
Geek Rule Always appreciate a job well done.

Can you list the names of the programs we learnt about in the last class? Their names are listed below with some missing letter to make this fun. See if you can guess the names:

1. W_r d p_d
2. P_in_
3. T_x P_i_t

A Time Traveller's Tale

Does anyone know what a time machine is? Well, a while ago, 2C2L, a humanoid from another planet came to Earth on an amazing Time Machine. 2C2L was



very interested in computers and wanted to know more about their history.

So he travelled back in time to learn more about them. When his journey ended, he found that he had gone back more than a hundred years from today, and before him stood a woman who introduced herself as _____.

2C2L was excited as Ada Lovelace, was a famous mathematician who worked with Charles Babbage, the Father of Computers. Ada wrote the first computer program 150 years ago. He had read about her even on his planet.

Together Ada and 2C2L went on an exciting adventure to the very beginnings of the computer. For the beginnings of the computer were much older than even Charles Babbage himself.

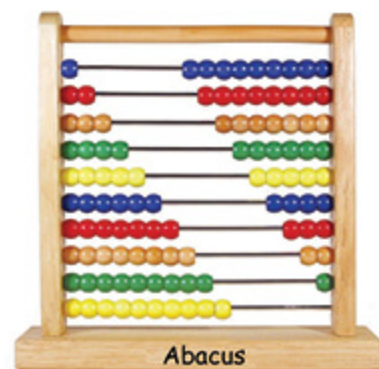


Ada Lovelace

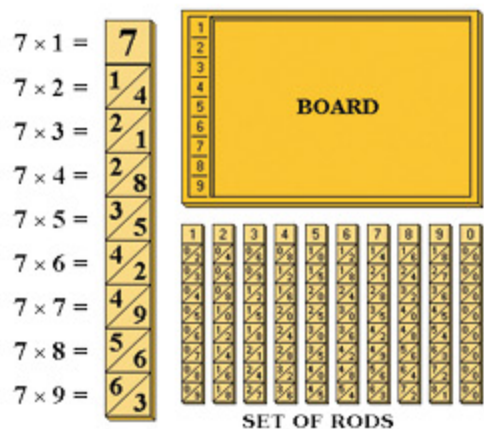


The next part is a story on the History of Computers that can be read out to the students or enacted as a play.

First they went to ancient Babylon more than 2000 years ago where people used the Abacus to do addition, subtraction, multiplication and division. Have you heard of the Abacus??



Abacus



Napier's Bones

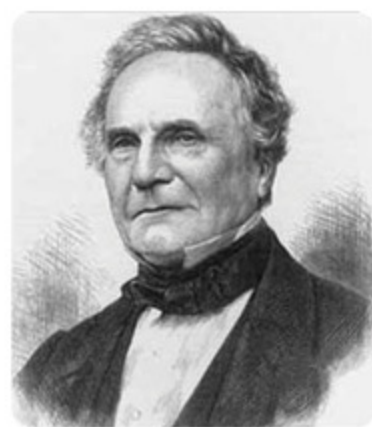
They then went to meet John Napier, the mathematician who invented Napier's Bones in 1617. These 'bones' made of ivory were used for multiplication and division.

The time machine now took Ada and 2C2L to the year 1642 when Blaise Pascal invented the Pascaline. It could do addition and subtraction if the user turned the dials to enter the numbers to be added. However, it was not an automatic machine.



Pascaline

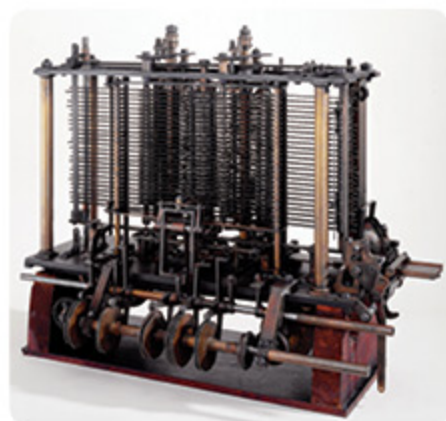
Then Ada took her new friend to meet Charles Babbage himself. More than a hundred years ago Charles Babbage had designed computers that worked much like our



Charles Babbage

modern computers. The design looked different from our computers as it did not have any wires or plugs. This made 2C2L wonder until Ada told him that these machines were made when there was no electricity. Therefore, the machine was completely mechanical, much like our bicycles or scissors.

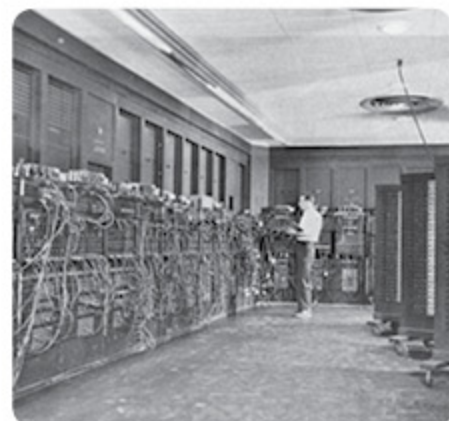
Therefore, the machine was completely mechanical, much like our bicycles or scissors.



Analytical Engine



Harvard Mark I



ENIAC

Match the following:

- | | |
|-----------------------|-----------------------------|
| 1. Napier's Bones | (a) Stapler |
| 2. Abacus | (b) Blaise Pascal |
| 3. Pascaline | (c) Software |
| 4. Ada Lovelace | (d) Calculating rods (1617) |
| 5. Mechanical Machine | (e) Babylon |

Color the Progress bar with the number of correct answers.

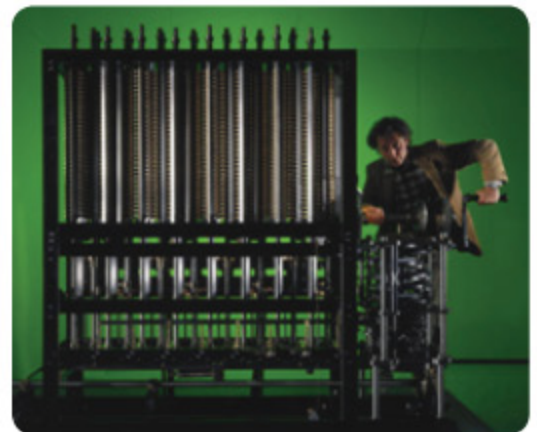


Ada went on to tell 2C2L about how Charles Babbage designed 2 machines. The Difference Engine in 1822 and the Analytical Engine in 1847. These were physically made a few years ago and they were able to do complex calculations perfectly.

The time machine now zoomed ahead to 1944 when an electrical computer called the Harvard Mark I was designed. 2C2L was amazed at the size of it.

They then went ahead two years, when in 1946, the ENIAC (Electronic Numerical Integrator and Computer) was made. It was a huge machine completely run on electricity. 2C2L was again amazed at its size, because in his land computers were very small indeed.

But now Ada had to leave as she had to go back and work on more software and mathematical calculations. 2C2L was sad to see his friend go, but he was happy that he was able to make this amazing journey through the history of Computers.



Difference Engine



The Difference Engine designed by Charles Babbage was actually built 120 years after he designed it at the London Science Museum. It was completed in the year 2000. Babbage had designed the machine to be able to print out its results. The machine works perfectly and can still be seen at the museum.

As 2C2L travelled back, he knew that he had been on a great adventure and he was excited to go and share what he had seen and learnt with his friends back home.

Geek Rule Believe in yourself. You can do anything if you just believe.

Megabytes

- ❖ 2000 years ago the people of Babylon used the Abacus which was the first calculating machine.
- ❖ In 1617, John Napier invented the Napier's Bones. Made from ivory they were used for multiplication and division.
- ❖ In 1642, Blaise Pascal invented the Pascaline. It was a calculating machine that could do addition and subtraction.
- ❖ Charles Babbage is the Father of Computers who designed the Difference Engine in 1822 and the Analytical Engine in 1847.
- ❖ The Harvard Mark I was the first fully automated computer that used electricity for some of its tasks.
- ❖ ENIAC was the first computer to run completely on electricity.

Vocabulary: Abacus, Pascaline, Napier's Bones, ENIAC, Analytical Engine, Difference Engine, Harvard Mark I, Electricity.

Exercise

I. Fill in the Blanks:

1. The Father of Computers is
2. Charles Babbage designed and
3. is a calculating machine that uses beads.
4. was the fully automated machine that used electricity for some of its tasks (1944).
5. wrote the first computer software 150 years ago.

II. Answer the following:

1. What is the full form of ENIAC?

.....

2. The Abacus was first used by the people of which place?

.....

3. What was the use of the Pascaline?

.....

4. Who invented the Napier's Bones and what were its uses?

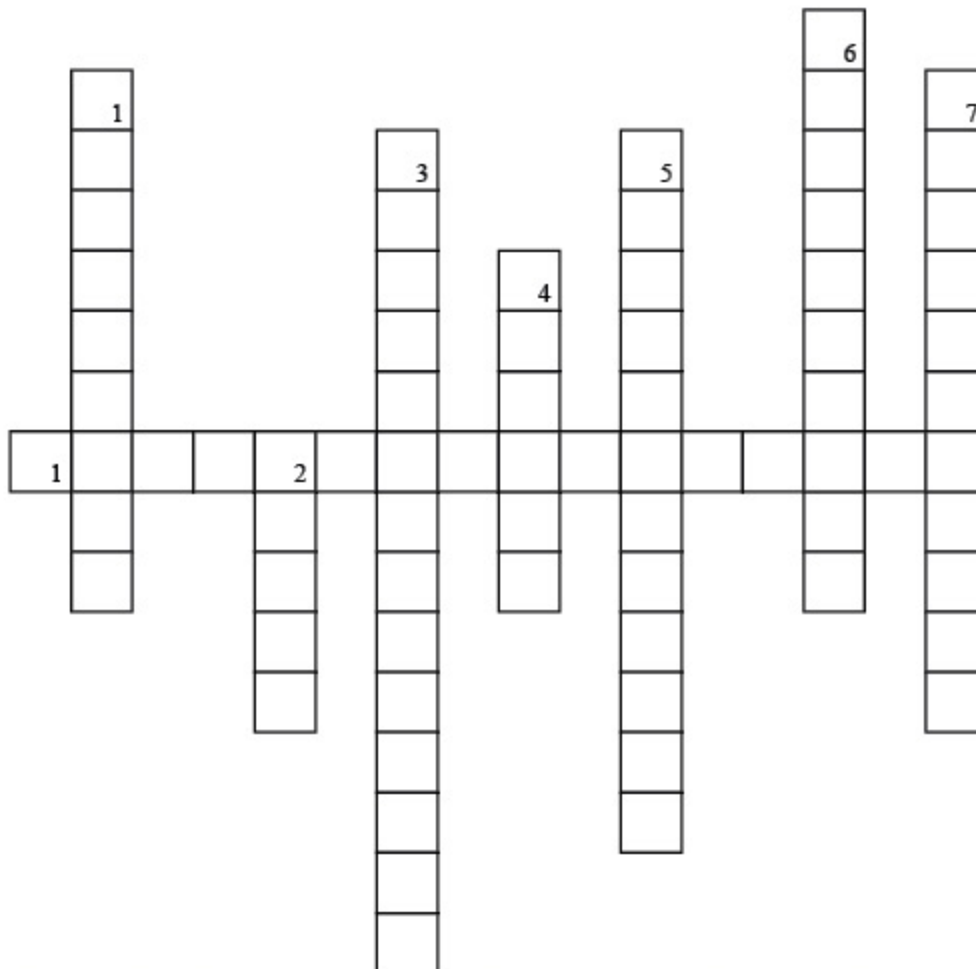
.....

5. Mention one significance of each of the following:

a. Harvard Mark I

b. ENIAC

III. Crossword Puzzle



Across

1. Invented in 1822

Down

1. Invented in 1642

2. Fully Electrical computer

3. Father of Computers

4. 2000 years ago

5. Invented Pascaline

6. Invented Napier's Bones

7. Female Mathematician

IV. Number according to sequence:

Difference Engines

Pascaline

Analytical Engines

ENIAC

Harvard Mark I

Abacus

Napier's Bones

Param Yuva



Project Work

Write 5 lines each about Charles Babbage and Ada Lovelace. You can stick pictures of them and their work.



Geek Rule Always ask a teacher or your parents to help you while cutting pictures and taking help from the internet.