

# Lesson 1:

# Across time and space

Year 8 – Data Representations – Representations: from clay to silicon

## Discuss

Why do you think people invented writing?



## In this lesson, we will...

Uncover the problems we solve through writing.

Discover how Computing is also about solving these problems.

# Museum visit

Examine the **exhibits**.

There are different types of **representations**.

There are different **types of information**.



# Think, write, pair, share

## Why do you think people needed to write that information down?

- Accounts and inventories
- History, poetry, and literature
- Magic spells
- Laws and contracts
- Astronomical observations
- Mathematics
- Music



# Think, write, pair, share

**Why do you think people needed to write that information down?**

Accounts and inventories

History, poetry, and literature

Magic spells

Laws and contracts

Astronomical observations

Mathematics

Music

Share your answers with the rest of the class.

# Reflection — link to Computing

Why do you think people needed to write that information down?

To **store** it (across time)

To **communicate** (across distance)

To **process** it

Sequences of symbols can represent any piece of information.

Computers need to **store, process,** and **communicate** information.

Computers use sequences of symbols to represent information.

# Choosing representations

Here are a few additional examples of sequences of symbols, which represent information.

Who decides on what these sequences of symbols mean?

In which situation would each representation be used?

Write your answers on your **worksheet**.





# Choosing representations — link to Computing

**Who decides on what these sequences of symbols mean?**

We (humans) agree on meaning.

**In which situation would each representation be used?**

Different representations may be suitable for different situations.

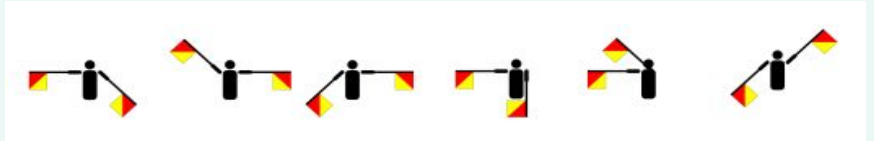
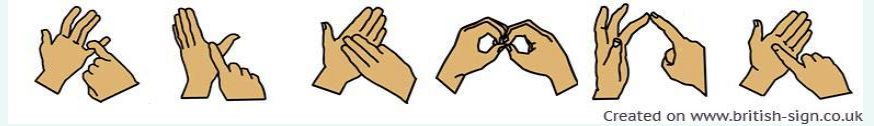
Share your answers with the rest of the class.

Information in computers must be represented in a form convenient for processing.

# Meanings

Different sequences of symbols can represent the same thing.

Example:  
**symbol**



# Meanings

The same sequence of symbols can represent different things.

Example:

**dab**

a kind of fish

a sudden blow or thrust

a gentle touch or stroke

a small amount

a skillful person

a dance move

the musical notes D, A and B

the number 3499

Digital Audio Broadcasting

# Lesson takeaways

Write your lesson takeaways on a sticky note.

# Lesson takeaways

We invented writing to store information.

Computers use symbols to represent information too.

We use symbols to communicate.

Patterns of symbols can mean anything that we agree they can.

Some representations are more convenient than others.

# Next lesson

## In this lesson, we...

Examined how symbols can be used to store, communicate, and process information.

## Next lesson, we will...

Use paper, lights, and drums to send and receive messages.