

Activity 1. This picture has been taken from a Maya book. What can you tell me about the picture? Think back to your previous learning. Write down what you know.

From this picture I can see the .....



What do you think the lines and dots means ?

I think the lines and he dots mean.....



## LI: I am able to use and explain the Maya number system

### Success Criteria

I use read and use the Maya numbers

I can identify similarities and differences to the number system used today.

I can explain why the system may have been invented.



The lines and the dots were numbers. The Maya were advanced mathematicians. They were one of the only ancient civilisations to use a zero. Which is something we use today. However their number system has some differences to the one we use today. Let's find out the differences.

The Maya only used three symbols to represent all numbers. A dot to represent 1, a line (or bar) to represent 5 and a shell to represent 0. These are thought to represent items that the Maya people might have first used to count with, such as: pebbles, sticks and shells.

# Number System

The numbers 1-19 are formed in a similar way to Roman Numerals.



= 0



= 1

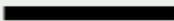
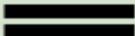


= 5

Different numbers are made by stacking the lines and lining up the circles on top.

5 circles = a new line.

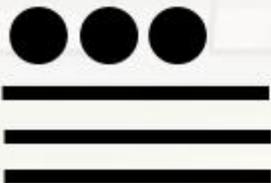
# Numbers 1-19

|    |   |    |   |
|----|---|----|---|
| 1  |    | 11 |    |
| 2  |    | 12 |    |
| 3  |    | 13 |    |
| 4  |    | 14 |    |
| 5  |    | 15 |    |
| 6  |    | 16 |    |
| 7  |    | 17 |   |
| 8  |  | 18 |  |
| 9  |  | 19 |  |
| 10 |  |    |   |

# Test Your Knowledge

● = 1

— = 5



# How did you do?

$$\bullet = 1$$

$$\text{—} = 5$$

$$\begin{array}{c} \bullet \bullet \\ \text{—} \end{array} = 7$$

$$\begin{array}{c} \bullet \bullet \\ \text{—} \\ \text{—} \end{array} = 12$$

$$\begin{array}{c} \bullet \\ \text{—} \\ \text{—} \end{array} = 11$$

$$\begin{array}{c} \bullet \\ \text{—} \\ \text{—} \\ \text{—} \end{array} = 16$$

$$\begin{array}{c} \bullet \bullet \bullet \\ \text{—} \\ \text{—} \\ \text{—} \end{array} = 18$$

$$\begin{array}{c} \bullet \bullet \bullet \\ \text{—} \end{array} = 8$$

# Activity 2 Print off this sheet or copy and workout the number.

|  |
|--|
|  0 |
| ● 1  |
| — 5  |

|                                       |  |                                       |                                      |   |
|---------------------------------------|--|---------------------------------------|--------------------------------------|---|
| ●<br>—<br><input type="text"/>        | ●●●●<br>—<br><input type="text"/>      | ●●<br>—<br>—<br><input type="text"/>  | ●●●<br><input type="text"/>          | —<br>—<br><input type="text"/>  |
| ●●●<br>—<br><input type="text"/>      | ●●<br>—<br><input type="text"/>        | ●<br>—<br>—<br><input type="text"/>   | ●<br><input type="text"/>            | ●●●●<br>—<br>—<br><input type="text"/>  |
| ●●●<br>—<br>—<br><input type="text"/> | ●●<br><input type="text"/>             | ●●●<br>—<br>—<br><input type="text"/> | ●●<br>—<br>—<br><input type="text"/> | <br><input type="text"/> |
| ●<br>—<br>—<br><input type="text"/>   | ●●●●<br>—<br>—<br><input type="text"/> | ●●●●<br><input type="text"/>          | —<br><input type="text"/>            | —<br>—<br>—<br><input type="text"/>   |

# How did you do? Check your answers

|   |
|---|
|  0 |
| ● 1   |
| _____ 5   |

|                       |                        |                       |                      |   |
|-----------------------|------------------------|-----------------------|----------------------|---|
| ●<br>_____            | ●●●●<br>_____          | ●●<br>_____<br>_____  | ●●●<br>_____         | ====<br>_____   |
| 6                     | 9                      | 17                    | 3                    | 10  |
| ●●●<br>_____          | ●●<br>_____            | ●<br>_____<br>_____   | ●<br>_____           | ●●●●<br>_____<br>_____  |
| 8                     | 7                      | 11                    | 1                    | 14  |
| ●●●<br>_____<br>_____ | ●●<br>_____            | ●●●<br>_____<br>_____ | ●●<br>_____<br>_____ |  |
| 13                    | 2                      | 18                    | 12                   | 0   |
| ●<br>_____<br>_____   | ●●●●<br>_____<br>_____ | ●●●●<br>_____         | _____                | ====<br>_____   |
| 16                    | 19                     | 4                     | 5                    | 15  |

Quiz Time: Answer these questions in your book. Use the sentence stems to help you.

- 1) What did the three Maya number symbols represent? The three symbols are....
- 2) Why do historians think the Maya choose these symbols? They thought these symbols represented objects that.....
- 3) What are the similarities to the number system we use today? Like us the Maya use .....
- 4) What are the differences to the number system we use today? Unlike us the Maya use .....
- 5) Why do you think the Maya chose five and twenty as the bases of their numerical system? I think maybe the Maya chose this system because....

## Quiz Time: Check Your Answers

1) What did the three Maya number symbols represent?

The three symbols are a dot, a line and a shell to represent numbers.

2) Why do historians think the Maya choose these symbols?

They thought these symbols represented objects that the Maya people might have first used to count with, such as: pebbles, sticks and shells.

3) What are the similarities to the number system we use today? Like us the Maya use a zero in their number system.

4) What are the differences to the number system we use today? Unlike us the Maya only have three symbols whereas we have 10.

5) Why do you think the Maya chose five and twenty as the bases of their numerical system?

Maybe the Maya chose five and twenty as the two bases of their system as there are five fingers on one hand, and twenty fingers and toes on one person.

What do you think object is? Are there any clues? We will find out next lesson.

Write a prediction in your book.

I think the artefact might be..... because

I can see..... and .....

This makes me think the artefact might be

