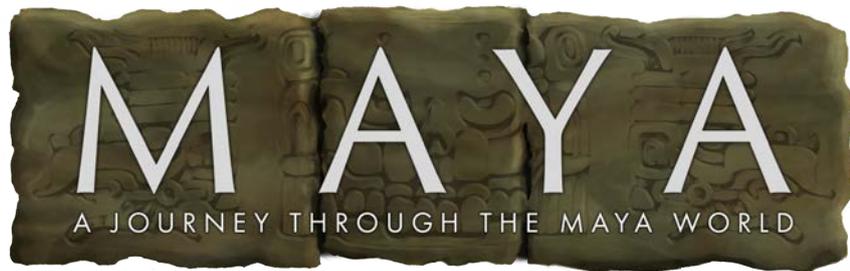




A JOURNEY  
THROUGH  
THE **MAYA** WORLD  
with Dr Diane Davies

KS2

LONDON  
GRID FOR LEARNING



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Computeam develops Inspyro ActiveWorksheet Packs for KS1, 2 & 3 and cross-curricular projects for primary schools.

Dr Diane Davies is an archaeologist who specialises on the Maya. Aside from giving sessions and creating resources on the Maya, she also visits schools giving talks and workshops to the children about the Maya and archaeology in general. For more information: [www.mayaarchaeologist.co.uk](http://www.mayaarchaeologist.co.uk)

Together, Computeam and Dr Davies have produced the Maya **Active**Worksheet Pack, combining the traditional worksheet with the latest mobile device and augmented reality technology.

We really hope you enjoy using our Active Worksheets and we would love to hear about your experiences using them. You can contact us at:

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# Introduction

## Meet Dr Diane Davies

Dr Diane Davies is a Mesoamerican archaeologist and anthropologist specialising on the Maya. With the Maya now a subject of study in the primary history curriculum this has presented an opportunity to spread the word about this fascinating culture.



There is little accurate information on the Maya in the UK, online or in books, so Diane has been holding teacher workshops and creating resources that can be used in the classroom that bring the Maya to life and give an insight into the exciting life of an archaeologist!

Diane carried out her research at the ancient Maya site of San Bartolo, Guatemala, famous for its murals.

You can find out more about Dr Diane and her work with the Maya at:

[www.mayaarchaeologist.co.uk](http://www.mayaarchaeologist.co.uk)

## What is an ActiveWorksheet?

At Computeam we believe in blending technology seamlessly into the learning experience. We want to make sure that when technology is used in the classroom, it enhances pupils' learning whilst still providing the engagement and wow factor we have come to expect from today's hi-tech devices. With this in mind we created the *ActiveWorksheet*, a blend of the traditional worksheet and cutting edge augmented reality technology.

Using the free prehistory ActiveLens augmented reality app for iOS and Android, we can bring the worksheet to life with videos, audio, 3D models and animations. Words can't describe how powerful the ActiveWorksheet is, so follow the directions below to get the Inspyro ActiveLens app on your device and see them in action yourself.



## How To:

The LGfL Maya ActiveLens app is free for both iOS and Android devices, including smartphones and tablets. Follow the instructions below to get the ActiveLens app onto your device:

1. Open the App Store if you're using an iOS device or the Google Play Store if you're using an Android device.
2. Search for "LGfL Maya ActiveLens"
3. When you have found the app, download it to your device.

## INTRODUCTION

- When the app has finished downloading, open it.
- When the app is open and running, focus the camera onto an ARtefact image. ARtefact images are tagged with the symbol below.



*Please note that you must point the camera at the image, not the icon above!*

- The ARtefact image will trigger an augmented reality 3D model, video, audio track or animation.
- If you ever need reminding of how to use the app simply tap the "Instructions" button on the app. This will play a short video explaining how to use the app.

### LGfL ActiveLens Cloud App



Alternatively you can use the LGfL Cloud app on your iOS device, where all ActiveLens content can be accessed online on your device, including Maya.

After downloading and opening the app, choose the content you want to use for your session.

### Using this **Active**Worksheet Pack

Active Worksheet Packs come with a set of Active Worksheets and an accompanying Teacher Guide. The Teacher Guide contains instructions

for activities the class can complete using the **AR**tefacts in the Active Worksheets.

**AR**tefact = Augmented Reality Artefact

Alternatively you can use the Active Worksheets as a starting point and develop your own lessons around them.

### What you will need:

- iOS or Android Device with rear-facing camera.
- The free LGfL Maya ActiveLens app.

### Why use **Active**Worksheets?

Active Worksheets allow you to unify different pedagogical approaches and strategies and accommodate pupils' preferred learning styles in a single resource.

### Individual or Group Work

**Active**Worksheets can be given out to each pupil in your class or to a group of pupils. Our worksheets and activities are flexible and allow for both individual and group work exercises. This also gives flexibility in the number of devices you have available in your classroom.

### Learning Styles

As our worksheets can deliver video, audio and 3D models & animations, you can tap into each individual's preferred learning style using a single resource. This also helps EAL and/or SEN pupils who may struggle reading or listening to a resource.

### Seamless ICT integration

Using **Active**Worksheets the ICT becomes an almost invisible tool to enhance the learning experience. Pupils are no longer focusing on the device itself, but through it into the worksheet and its varied resources.

# List and Description of Active Resources

ARtefact = Augmented Reality Artefact

## Worksheet 1 - Archaeology

- ARtefact 1 - An audio clip demonstrating the correct way to pronounce "Maya".
- ARtefact 2 - A 3D model of a Maya bowl in pieces. Tap the pieces to watch them form the original bowl.

## Worksheet 2 - Mapping the Maya

- ARtefact 3 - An audio clip with animation of a howler monkey.

## Worksheet 3 - Maya Cities

- ARtefact 4 - 3D model of Chichen Itza.
- ARtefact 5 - Audio clip demonstrating the correct way to pronounce "Tikal" and "Chichen Itza".

## Worksheet 4 - Maya Maths

- ARtefact 6 - Translate the Maya numbers into normal numerals.

## Worksheet 5 - Precious Materials

- ARtefact 7 - 3D model of a cacao vase depicting a ruler with a frothy drink.
- ARtefact 8 - An audio clip demonstrating the correct way to pronounce "cacao".
- ARtefact 9 - A 3D model of a Maya clay flute, which plays an audio clip of what Maya music might have sounded like.

## Worksheet 6 - Calendars

- ARtefact 10 - A 3D model of a Maya calendar. Tapping each of the wheels will rotate the wheel to the next slot, changing the date.
- ARtefact 11 - An audio clip demonstrating the correct way to pronounce "Tzolk'in".

## Worksheet 7 - Glyphs

- ARtefact 12 - A 3D model of a stela from Tikal.
- ARtefact 13 - A 3D model of the Dresden codex, which when tapped unfolds.
- ARtefact 14 - An audio clip demonstrating the correct way to pronounce "Copan".

## Worksheet 7b - Glyph Translator

- ARtefact 15 - A series of Maya glyphs which can be translated into English by pointing the device at them.

## Worksheet 8 - Pok-ta-Pok

- ARtefact 16 - An audio clip demonstrating the correct way to pronounce "Pok-ta-Pok".
- ARtefact 17 - An animation showing a player striking the ball with their hip.
- ARtefact 18 - An audio clip demonstrating the correct way to pronounce "Popul Vuh".
- ARtefact 19 - A 3D model of the ball court from Copan.

## Worksheet 9 - Maya Art

- ARtefact 20 - A 3D model of Pakal's sarcophagus lid, which when tapped shows an annotated diagram.
- ARtefact 21 - A 3D model of the Temple of Inscriptions at Palenque. You can view the temple as it looks now or how it looked when first built. Tapping the current temple will open it up showing the pathway to Pakal's tomb.
- ARtefact 22 - An audio clip demonstrating the correct way to pronounce "Palenque".

## Worksheet 10 - Modern Maya

- ARtefact 23 - An interactive artefact which allows you to choose a variety of blouses for a Maya woman to wear.
- ARtefact 24 - An audio clip demonstrating the correct way to pronounce "Huipil".

# Curriculum Map



Archaeology

## Activity: Importance of context

- History
- English

## Activity: City Glyph

- History
- Art & Design



Mapping the Maya



Maya Cities

## Activity: Your Stela

- History
- Art & Design

## Activity: How to Count

- History
- Maths



Maya Maths



Precious Materials

## Activity: Chocolate Pot

- History
- Art & Design

## Activity: Calendar Wheel

- History
- Art & Design



Calendars



Glyphs

## Activity: Class Codex

- History
- English

## Activity: The Maya Ball Game

- History
- P.E.



Pok-ta-Pok



Maya Art

## Activity: Be an Iconographer

- History
- English

## Activity: Maya Snacks

- History



Modern Maya

# Teacher Guide

**AR**tefact = Augmented Reality Artefact

Each activity below references a piece of active media found in our Active Worksheets. All **AR**tefacts are labelled and easy to find.

## ActiveWorksheet 1 | Archaeology

### ACTIVITY - THE IMPORTANCE OF CONTEXT

While it was wonderful for me to find a beautiful painted bowl, what was even more important was the context in which it was discovered. That is where it was found exactly and what it was found with. Digging up objects that have not been disturbed can tell us much about the past culture, unlike an object that has been removed from its original location. This is why looting is such a tragedy.

### WHAT YOU WILL NEED

- Activity Resource Sheets 1-3

### INVESTIGATE

1. Look at the stone tool on **Activity Resource Sheet 1**. If you only knew it came from Guatemala, what could you say about the culture it came from, its age, and how it was used?
2. Now look at the picture on **Activity Resource Sheet 2**. If you found the stone tool in this context, what could you say about it now?
3. Now look at Activity Resource Sheet 3. What can you say about the tools in context, and how does this change when the tools are part of a burial?

## CURRICULUM | ENGLISH

### Writing at KS2

Pupils should:

- write legibly, fluently and with increasing speed
- plan their writing by:
  - identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own
  - noting and developing initial ideas, drawing on reading and research where necessary
- draft and write by:
  - selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning
  - using a wide range of devices to build cohesion within and across paragraphs
  - using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining]
- evaluate and edit by:
  - proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning
  - ensuring the consistent and correct use of tense throughout a piece of writing
  - ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register
- proof-read for spelling and punctuation errors

### Vocabulary, grammar and punctuation

Pupils should demonstrate their understanding of vocabular, grammar and punctuation by:

- recognising vocabulary and structures that

are appropriate for formal speech and writing, including subjunctive forms

- using passive verbs to affect the presentation of information in a sentence
- using the perfect form of verbs to mark relationships of time and cause
- using expanded noun phrases to convey complicated information concisely
- using modal verbs or adverbs to indicate degrees of possibility
- using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun
- using commas to clarify meaning or avoid ambiguity in writing
- using hyphens to avoid ambiguity
- using brackets, dashes or commas to indicate parenthesis
- using semi-colons, colons or dashes to mark boundaries between independent clauses

## ActiveWorksheet 2 | Mapping the Maya

### ACTIVITY - CITY GLYPH

The Maya had emblem glyphs for their cities, much as sport teams have badges. They also represented the titles of the rulers of these cities. Emblem glyphs consist of a central sign that represents the city and then two other signs on the top and the left that are read as "divine/holy lord". So together the emblem glyph reads "the divine/holy lord of" and then the city that is mentioned.

Using Activity Resource Sheets 4-5, pupils can design and make their own emblem glyph for their city or town.

### WHAT YOU WILL NEED

- Mapping the Maya ActiveWorksheet
- Activity Resource Sheets 4-5
- Air drying clay
- Ink or paint (used for creating stamp)

### DESIGN & MAKE

1. Explain what each part of the Maya emblem glyphs mean, using examples from Activity Resource Sheet 5.
2. Using the Activity Resource Sheet 6, task pupils with designing their own emblem glyphs for their home town or city.
3. Using the air drying clay, task pupils with turning their emblem glyphs design into a clay stamp.
4. After the stamps have dried, try them out using ink or paint.

### CURRICULUM | ART & DESIGN

#### Key Stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (e.g. pencil, charcoal, paint, clay)

## ActiveWorksheet 3 | Maya Cities

### ACTIVITY - YOUR STELA

Stelae, carved standing stones, depicted rulers and also contained written inscriptions that recorded events in their lives, such as birth, marriage, death and conquests.

Using the template on Activity Resource Sheet 6, pupils design their own stela depicting themselves as a Maya king or queen.

## WHAT YOU WILL NEED

- Activity Resource Sheet 6 (preferably printed on card)
- Glyph Translator Sheet
- Plain paper
- Pencils/Coloured pencils/felt tips
- PVA glue
- (OPTIONAL) The clay stamp created as part of the activity for Mapping the Maya ActiveWorksheet.

## SET IN STONE

1. Pupils should first sketch some ideas for their stela. What will they look like? What do they want written on their stela? What colour will it be? Pupils can refer to other ActiveWorksheets for source material.
2. When the pupils are happy with their designs, they should transfer them to the template included on Activity Resource Sheet 6.
3. Pupils can then colour in and decorate their stela before cutting it out.
4. Assemble the stelae using PVA glue.

## CURRICULUM | ART &amp; DESIGN

## Key Stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

- to create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (e.g. pencil, charcoal, paint, clay)

## ActiveWorksheet 4 | Maya Maths

## ACTIVITY | HOW TO COUNT

The Maya counted using a vigesimal system, or base 20. This can be a bit tricky to understand at first as we are so familiar with our base 10 system. For this reason the suggested maths activities do not include numbers above 19 due to the complexity of the Maya number system and how numbers larger than 19 are presented. You can refer to the number grid on Activity Resource 8 for a representation of Maya numbers up to 100.

For this activity, you will be using a large grid, some pebbles and some sticks to represent the Maya number system. Pupils can practice making different Maya numbers with the stones and sticks.

## WHAT YOU WILL NEED

- Maya Maths ActiveWorksheet
- Activity Resource Sheets 7-8.
- A3 printouts of Activity Resource Sheet 8.
- Sticks (lollipop sticks or small twigs)
- Stones/pebbles (or counters)
- Small shells (or use the shell cutouts included with Activity Resource Sheet 8).

## GET COUNTING

1. Using the Maya Maths ActiveWorksheet and Activity Resource Sheet 8, explain how the Maya number system is different to the one we use today.
2. Divide the class into groups and supply each group with an A3 print of Activity Resource Sheet 9, an A4 print of Activity Resource Sheet 8, and some sticks, stones and shells.
3. First task the groups with recreating some Maya numbers from Activity Resource Sheet 8 using their grid and sticks and stones.
4. Task each group with some simple maths problems, with each group giving the answer with Maya numbers.

- To extend the task for higher ability groups, remove Activity Resource Sheet 8 so the group are required to construct the Maya numbers without copying the grid.

## CURRICULUM | MATHS

### Upper KS2 - Year 5

Pupils should:

- identify the place value in large whole numbers
- use number in context
- practise mental calculations with increasingly large numbers to aid fluency

## ActiveWorksheet 5 | Precious Materials

## ACTIVITY | CHOCOLATE POT

The Maya liked to label the things they owned or made. We have a lovely example of a chocolate pot found in a Classic Maya tomb found in Rio Azul, Petén, Guatemala. The ruler had been interred with pottery vessels, some of which had rings around their interiors showing they once contained some dark liquid. The writing on one pot actually states that it is 'a drinking vessel for cacao' and mentions the person's name.

In this activity, pupils can design their own chocolate pot, inscribed with the glyph for cacao and their names.

## WHAT YOU WILL NEED

- Activity Resource Sheet 9
- Paper and pencils
- Air drying clay (alternatively you can use plasticine for a less permanent pot)
- Paints and paintbrushes
- Sculpting tools (lollipop sticks would be sufficient)

## TURNING THE POT

- After explaining the importance of cacao and chocolate to the class, explain they will now be making their own chocolate pot, to be inscribed with their name and the Maya glyph for cacao.
- Pupils should first create a draft of their design for the pot in pencil on paper.
- When the draft designs are created, pupils can begin creating their clay pots.
- Begin by creating a flat circle to form the base of the pot.
- Now form a rectangle of clay which needs to be wrapped around the base of the circle, to create the walls of the pot.
- When both are firmly joined, pupils should begin incising their design onto the sides of the pot.
- When the design is completed, let the pots completely dry.
- When the pots have finished drying, the pupils can then paint them to complete their pot.

## CURRICULUM | ART & DESIGN

### Key Stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

- to create sketch books to record their observations and use them to review and revisit ideas
- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (e.g. pencil, charcoal, paint, clay)

## ACTIVITY - CALENDAR WHEEL

The Maya calendar consisted of two cycles. The Tzolk'in was a sacred year made up of 20 months with 13 days each. The Haab is a solar year of 365 days, made up of 18 months with 20 days each, with an extra 5 days at the end.

Alongside these calendars was the Maya Long Count, a cycle which repeated every 5,125 years.

In this activity, students can create a simplified Maya calendar.

## WHAT YOU WILL NEED

- Activity Resource Sheets 10-12
- Scissors
- Pin fasteners/split pins

## SPIN THE WHEEL

1. Give each pupil a copy of Activity Resource Sheets 10-12.
2. Task each pupil with cutting the three calendar rings out on the Activity Resource Sheets.
3. If you wish, the pupils can colour in and decorate the calendar wheels.
4. To fasten the wheels together, order them by size on top of each other, with the largest wheel at the bottom and the smallest at the top.
5. Push a fastener pin/split pin through the center of the three wheels together to secure them together.
6. Pupils should now be able to spin each wheel independently of each other.
7. Working with a partner, try and work out what day was yesterday, or what day it is tomorrow.

## Key Stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

- to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials (e.g. pencil, charcoal, paint, clay)

## ACTIVITY - CLASS CODEX

For the Maya, writing and painting were virtually identical and within the glyphs themselves there is a strong link between text and picture. This is well illustrated in their codices. One of them, the Codex Dresden, can be seen in the Glyphs ActiveWorksheet.

In this activity, the class creates a codex. This can either be done as whole class, or broken up into smaller groups. The pupils can record what they have learned about the Maya in the codex, including facts, stories, pictures and glyphs.

## WHAT YOU WILL NEED

- Strips of paper (depending on how you want to complete the activity, each child can have a single piece of paper, or a group can have a strip of paper divided equally between the pupils. If using separate pages they will need to be joined together using glue, sticky tape, fasteners etc).
- Pens
- Pencils
- Coloured pencils/felt tips
- Glue

- Sticky tape
- Fasteners

## CODEX CREATION

1. The aim of this activity is for the pupils to record some of what they have learned about the Maya. This can include how they counted, what their cities looked like, or what they held precious in life.
  2. The pupils should first draft a short paragraph describing their fact or story about the Maya. This can include an illustration or picture.
  3. If your class have completed the Cities activity and created their own city name glyph, they can incorporate this into their page.
  4. Next, decide if you want the pupils to complete the task as a class, smaller group, or individually.
  5. Depending on how you want to complete the task, assign resources to the children appropriately (single sheet of paper, folded strips of paper etc).
  6. When the pupils have the materials, they can begin to design their page with description.
  7. When all the pages are complete, they can be collected into a single large codex, or split into smaller codices.
- meaning
  - using a wide range of devices to build cohesion within and across paragraphs
  - using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining]
  - evaluate and edit by:
    - proposing changes to vocabulary, grammar and punctuation to enhance effects and clarify meaning
    - ensuring the consistent and correct use of tense throughout a piece of writing
    - ensuring correct subject and verb agreement when using singular and plural, distinguishing between the language of speech and writing and choosing the appropriate register
  - proof-read for spelling and punctuation errors

### Vocabulary, grammar and punctuation

Pupils should demonstrate their understanding of vocabulary, grammar and punctuation by:

- recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms
- using passive verbs to affect the presentation of information in a sentence
- using the perfect form of verbs to mark relationships of time and cause
- using expanded noun phrases to convey complicated information concisely
- using modal verbs or adverbs to indicate degrees of possibility
- using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun
- using commas to clarify meaning or avoid ambiguity in writing
- using hyphens to avoid ambiguity
- using brackets, dashes or commas to indicate parenthesis
- using semi-colons, colons or dashes to mark boundaries between independent clauses

## CURRICULUM | ENGLISH

### Writing at KS2

Pupils should:

- write legibly, fluently and with increasing speed
- plan their writing by:
  - identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own
  - noting and developing initial ideas, drawing on reading and research where necessary
- draft and write by:
  - selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance

## ActiveWorksheet 8 | Pok-ta-Pok

## ACTIVITY | THE MAYA BALL GAME

Pok-ta-pok was the ball game played by the Maya. In fact, a form of this ball game was played all across Mesoamerica.

When playing pok-ta-pok, the players can only touch the ball with their elbows, hips and knees. It is illegal to pick the ball up or strike it with your hands or feet.

## WHAT YOU WILL NEED

- Small ball
- Space to play the game (preferably indoors using the walls of the hall/gym)

## PLAY BALL!

1. Divide your playing space in half (preferably along the short axis of the playing area)
2. There should be two teams of five players each to play the game.
3. Decide on a point scoring system to use. This might involve a team scoring a point when they get the ball into the opposing teams "end-zone" or alternatively getting the ball through a hoop (this will be difficult without using hands or feet!)
4. Penalties should also be decided. These might include letting the ball dribble so it has to be picked up, or hitting the ball with the hands or feet.
5. To determine the winner, you can either time each game, or decide on a number of points to win.

## CURRICULUM | PHYSICAL EDUCATION

Pupils should be taught to:

- play competitive games, modified where appropriate [for example, badminton, basketball, cricket, football, hockey, netball, rounders and tennis], and apply basic principles suitable for attacking and defending

- develop flexibility, strength, technique, control and balance [for example, through athletics and gymnastics]
- compare their performances with previous ones and demonstrate improvement to achieve their personal best.

## ActiveWorksheet 9 | Maya Art

## ACTIVITY - BE AN ICONOGRAPHER

King Pakal's sarcophagus lid is a beautiful work of art and iconography. What do I mean by iconography? What does an iconographer do?

Iconographers study images and symbols and make interpretations or create stories from them. We have seen this in the interpretation given of King Pakal's carved sarcophagus lid described in the art worksheet.

This activity can be a fantastic way to introduce the Maya topic to your class.

## WHAT YOU WILL NEED

- Maya Art ActiveWorksheet
- Activity Resource Sheet 13

## DO YOU SEE WHAT I SEE?

1. Working either in groups or individually, ensure each pupil has access to a copy of Activity Resource Sheet 13.
2. Ask the pupils what do they see in the image? What do they think the image represents? Where do they think the image came from?
3. Ask the pupils to try and identify specific parts of the image, such as the person at the centre (Pakal)
4. What story do they think the image is trying to tell? What is happening in the image?
5. Task the pupils with colouring in the different elements of the image. This can include the person, the bird, the tree, the jaws.
6. Before revealing a more established

interpretation of the image, ask the pupils to write a short story describing what they think the image represents.

7. Ask the pupils to share their stories. Stress the importance of how different the stories are. This is part of iconography, with many different interpretations of the same image.
8. At this point, the pupils can use the augmented reality description of Pakal's sarcophagus, which highlights and describes the different elements of the image. How does it differ to the pupils' interpretation?

## CURRICULUM | ENGLISH

### Writing at KS2

Pupils should:

- write legibly, fluently and with increasing speed
- plan their writing by:
  - identifying the audience for and purpose of the writing, selecting the appropriate form and using other similar writing as models for their own
  - noting and developing initial ideas, drawing on reading and research where necessary
- draft and write by:
  - selecting appropriate grammar and vocabulary, understanding how such choices can change and enhance meaning
  - using a wide range of devices to build cohesion within and across paragraphs
  - using further organisational and presentational devices to structure text and to guide the reader [for example, headings, bullet points, underlining]
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- proof-read for spelling and punctuation errors

### Vocabulary, grammar and punctuation

Pupils should demonstrate their understanding of vocabular, grammar and punctuation by:

- recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms
- using passive verbs to affect the presentation of information in a sentence
- using the perfect form of verbs to mark relationships of time and cause
- using expanded noun phrases to convey complicated information concisely
- using modal verbs or adverbs to indicate degrees of possibility
- using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun
- using commas to clarify meaning or avoid ambiguity in writing
- using hyphens to avoid ambiguity
- using brackets, dashes or commas to indicate parenthesis
- using semi-colons, colons or dashes to mark boundaries between independent clauses

Pupils should:

- understand the methods of historical enquiry, including how evidence is used rigorously to make historical claims, and discern how and why contrasting arguments and interpretations of the past have been constructed

## ActiveWorksheet 10 | Modern Maya

### CURRICULUM | MAYA SNACKS

Modern Maya families enjoy eating corn tortillas filled with a variety of different, tasty ingredients! Maize, or corn, was incredibly important to the ancient Maya, and is still important to the modern Maya living today. In this activity, you can make your own tortilla using different ingredients.

**Please follow your school guidelines on food health and safety**

### WHAT YOU WILL NEED

- Corn tortillas (or flour tortillas if you can't find corn tortillas)
- Peppers
- Sweetcorn
- Coriander
- Tomatoes
- Cheese
- Soured cream (or creme fraiche)
- Salsa
- Prepared & cooked beans
- Bowls to separate ingredients
- Mixing bowls
- Spoons
- Paper plates
- Plastic cutlery

### GET ROLLING

1. Prepare the ingredients beforehand into separate bowls and plates.
2. Give each pupil one or more tortillas.
3. Task the pupils with mixing together the ingredients to make their own tortilla.
4. When the pupils have finished making their tortilla, they should then chop up the tortilla into smaller slices.
5. Ask the pupils to share their tortilla and to try other pupils' tortillas. Which do they like best? Why?

## How do we know about the Maya?

What we do today, the way we act, our traditions, our beliefs, our entire civilization, are all the result of what happened in the past—a very long and complicated chain of human events,

achievements and even failures that happened over millions of years. By trying to understand our past, we can sometimes understand more about what we are like today.



My name is Dr Diane Davies, and this is what I do as an archaeologist. I try to reconstruct how people lived a long time ago. It is a lot like being a detective, I use clues that the ancient people have left behind to piece together their lives and I leave no stone unturned - even going through their rubbish!

I bet you are thinking that archaeology sounds fascinating and yes, it is! To many people archaeology conjures up exotic lands, adventures and unraveling mysteries. There is lots of this but there is also dedicated study, living in harsh conditions and at times very, very slow work. One thing an archaeologist should have lots of is patience!

## Mythbuster

Archaeologists study ancient human bones, and even sometimes animal bones. But we don't study dinosaurs! People who study dinosaurs are called *palaeontologists*.



## It's "Maya" not "Mayan"!

We only say "Mayan" when we talk about their languages. The rest of the time we say "Maya"!



To hear how to say **Maya** point your device here!

Archaeologists use a variety of techniques to find ancient ruins and then when found they make a map of all the structures and excavation starts. Unlike what you might have seen in movies, when an archaeologist excavates, they dig very slowly using careful measurements and take lots of notes, drawings and pictures.



A Maya bowl - tap the object to see the bits and pieces form the original shape of the bowl.



## Did you know?

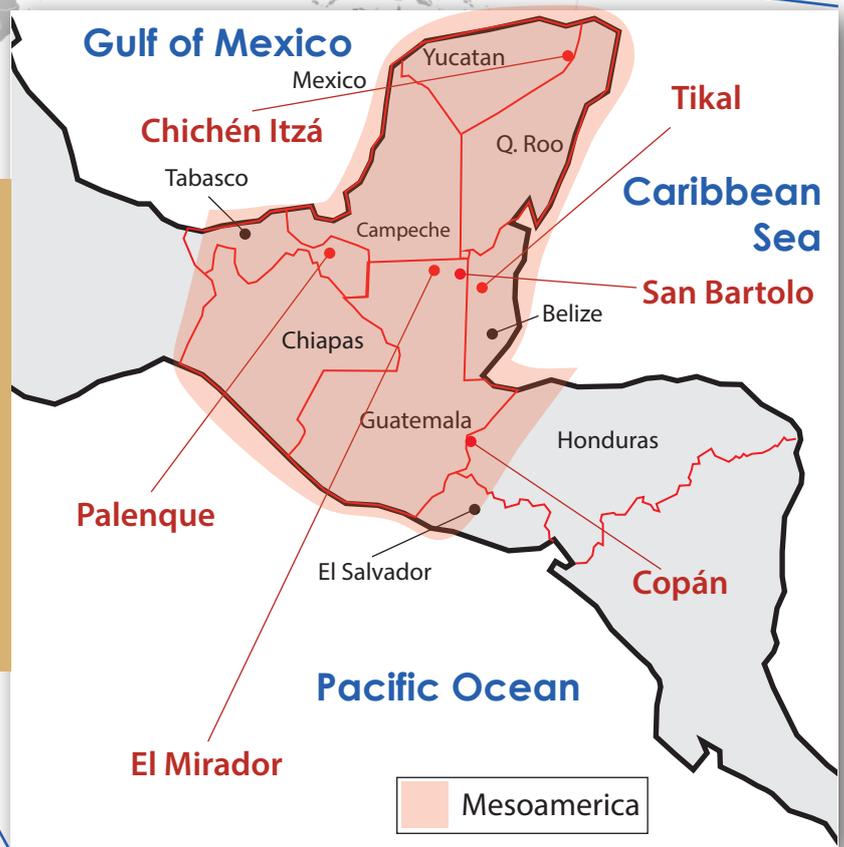
The *Preclassic* (2000BC - 250AD) period was generally seen by archaeologists as a time when the Maya were developing and there were villages and towns, but not cities or civilization. Writing and cities came later during the so-called *Classic* (250AD - 900AD) period. However, in the past 20 years or so we are finding evidence for writing, kings and pyramids much earlier, going back to at least 300 BC!

"1945.5 Blank World Map" by Alvin Lee.  
Licensed under CC BY-SA 3.0 via Wikimedia Commons

## Mesoamerica

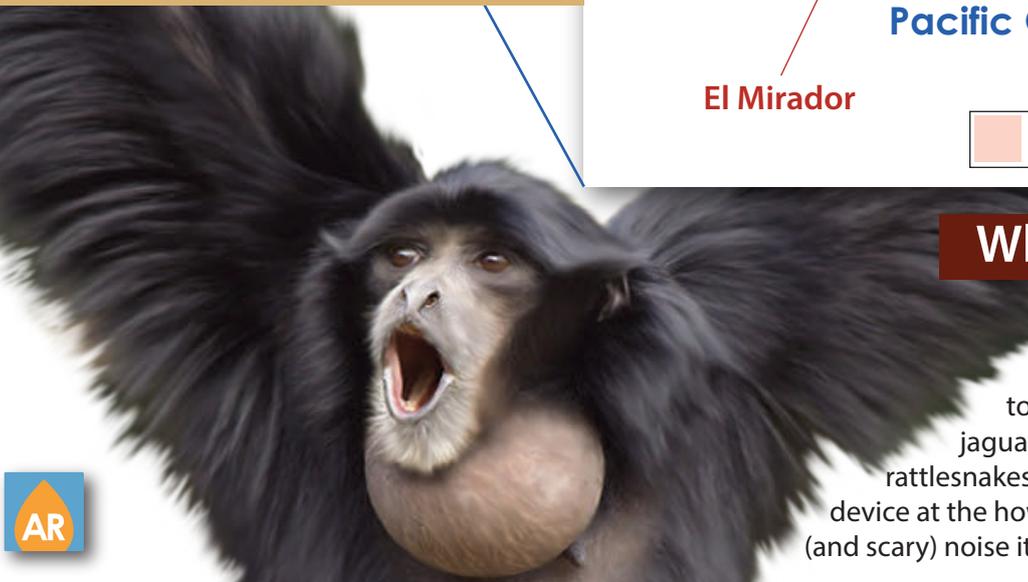
The Maya lived in an area called **Mesoamerica**. This is an area that is defined by culture (food, sports and writing), not borders.

The ancient Maya lived in a region that today includes parts of Guatemala, Belize, Mexico, Honduras and El Salvador. The land was varied and included coastal plains, volcanic highlands and rainforests.



## What's that noise?

The rainforest is full of creatures, some strange, some beautiful and some scary. If you travelled to the rainforest today you might see jaguars, bats, toucans, parrots, rattlesnakes, spiders and scorpions. Point your device at the howler monkey to hear the incredible (and scary) noise it makes!



## Maya Mythbuster - The Maya were a primitive people

The Maya created and sustained an incredible civilization in a harsh environment and built spectacular temples, pyramids and palaces without the use of metal tools, the wheel, or domesticated animals (donkey, ox or elephant). They developed a full writing system and produced very accurate calendars and astronomical charts. And if you like chocolate, thank the Maya!

The Maya built amazing buildings as good as any in the ancient world, but would you believe they did them without any metal tools, the wheel or using animals to carry anything?!

## TIKAL

Tikal is an important site near El Mirador in Guatemala that became a large city of over 60,000 people by the Late Classic Period (AD 600–900). Maya pyramids were built in stages and were often added to during important times in a ruler's life or when a new ruler came to power. The pyramids usually had a staircase in the middle for public performances and a single room on top.

Scan the Tikal Pyramid to see another great Maya pyramid, Chichen Itza



## Temple of the Great Jaguar

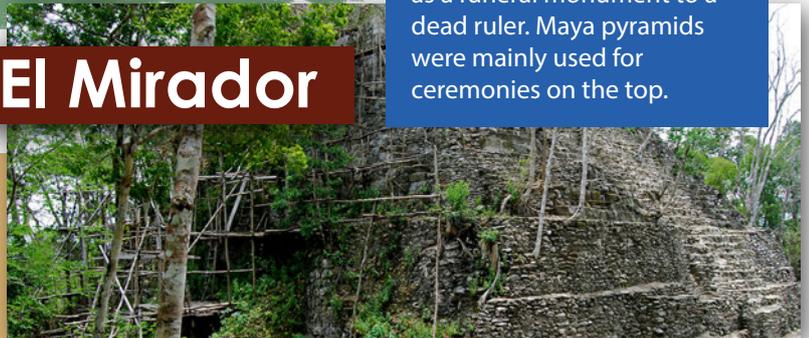
Tikal had several large pyramids and this one is over 45 metres high! Tikal is in Guatemala and is a very popular destination for tourists. It was designated a World Heritage site in 1979.

## Maya Mythbuster

*The Egyptian pyramids are very similar. Did they help the Maya build their pyramids?*

**No!** The Egyptians built their pyramids 2,000 years earlier. As well as this they have a very different style and function. Egyptian pyramids were built as a funeral monument to a dead ruler. Maya pyramids were mainly used for ceremonies on the top.

## El Mirador



Pyramid at El Mirador Photo by Geoff Galice

El Mirador, in the Petén, Guatemala is one of the oldest Maya cities. In 300 BC huge pyramids were discovered rising out of the jungle. El Tigre (Tiger) pyramid was over 50 m high and Danta was over 70 m high! The site includes several hundred buildings over 6 square miles.



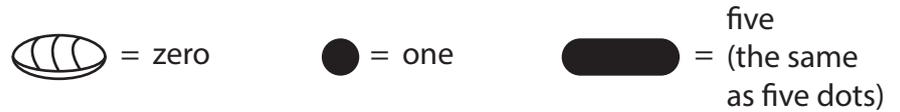
## Downtown Maya

Maya cities could be quite different in layout, but they usually contained a ceremonial centre where great pyramids, temples, palaces and ball courts were built. Many had a 'main road' (called 'sacbe' – meaning white road in Yucatec Mayan) and also stelae which were standing stones that contained portraits of Maya rulers and information about them. The information carved on stelae recorded events in the lives of rulers, such as birth, marriage, death and conquests.



# Maya Maths

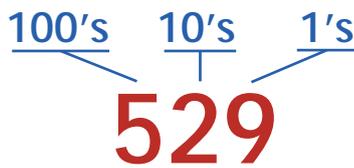
The Maya used a very different number system compared to the one we use today. Instead of 10 digits, the Maya only used three, represented by a dot, a bar and a shell.



## Did you know?

*The Maya were one of only two cultures who came up with the concept of zero.*

The Maya used these three digits to make all their numbers. They used the vigesimal system, which meant they counted in 20's. We are more used to counting in 10's.



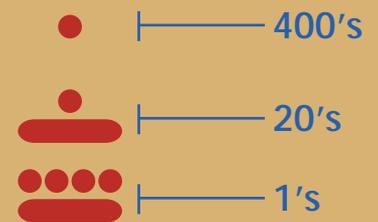
## How did they count?

With our modern number system we read numbers from right to left. We start with the ones, then the tens, then the hundreds, and so on.

The Maya read numbers from the bottom up, starting with the ones, then the twenties, then four hundreds, and so on!

A dot represents one of that unit, a bar represents 5 of that unit, and a shell represents zero of that unit.

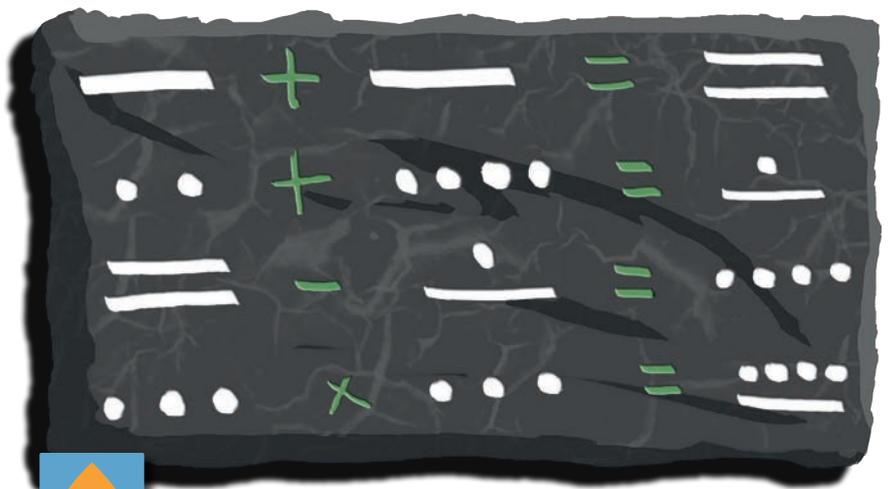
**To make the final number, add together the different units. In the example above you need to add together 1 lot of 400, 6 lots of 20, and 9 lots of 1!**



*Can you work out what number this is?*

Using this system the Maya were able to calculate extremely large numbers. This is because they had the concept of zero and place-values.

Their numerical system allowed the Maya to make precise astronomical predictions. This meant they could predict the movement of the stars and even predict when a solar eclipse would happen.



*Point your device at this image to see the Maya numbers converted into normal numbers.*

## Precious Materials

In all societies and cultures, certain items have importance and value over others. For the Maya, items like the cacao bean, jade, obsidian, maize, feathers and shells were very important and precious to them.



A Maya vase showing a ruler with a frothy chocolate drink

### Cacao



Cacao comes from the Maya area and was grown mainly in Guatemala. Cacao beans were used to make the chocolate drinks loved by the Maya, and today we make chocolate bars with the same beans! The Maya made their chocolate drinks with spices like chilli, so it would be very different to the hot chocolate you are used to drinking. Cacao beans can be roasted and stored easily, which meant the Maya used them like we use money today!

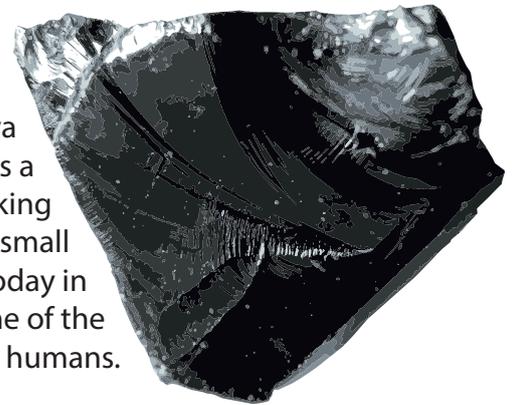
### Did you know?

Many cultures held gold as their most precious material. For the Maya, jade was their most precious material. The stone is very hard to shape but the Maya mastered this skill.



### Obsidian

Instead of metal tools, the Maya used obsidian. Obsidian is a volcanic glass used for making things like arrowheads and small blades. We even use obsidian today in medical surgeries as it is one of the sharpest materials known to humans.



### Jaguar

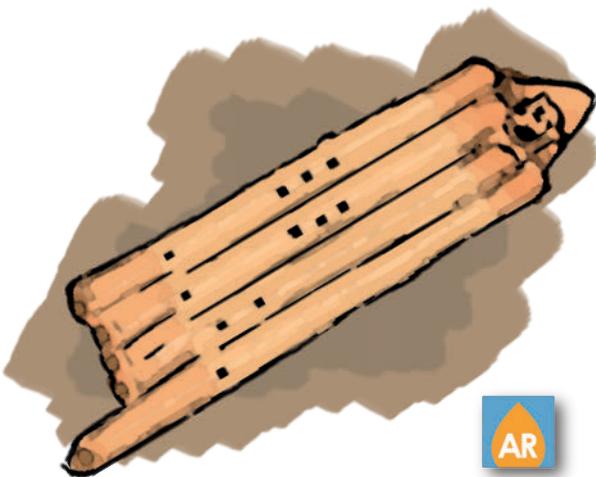
The jaguar was very important to the Maya, and its pelt was often used in the clothing of rulers, as well as covering thrones.



To hear how to say cacao point your device here!

### Quetzal

Quetzal feathers were used in headdresses, capes and other personal effects by the nobles and was seen as an item of prestige. The Quetzal is the modern currency of Guatemala.



Tap the Maya flute to hear what Maya music may have sounded like. The Maya made flutes out of clay, but also made drums, rattles and trumpets.

## Maya Time and Date

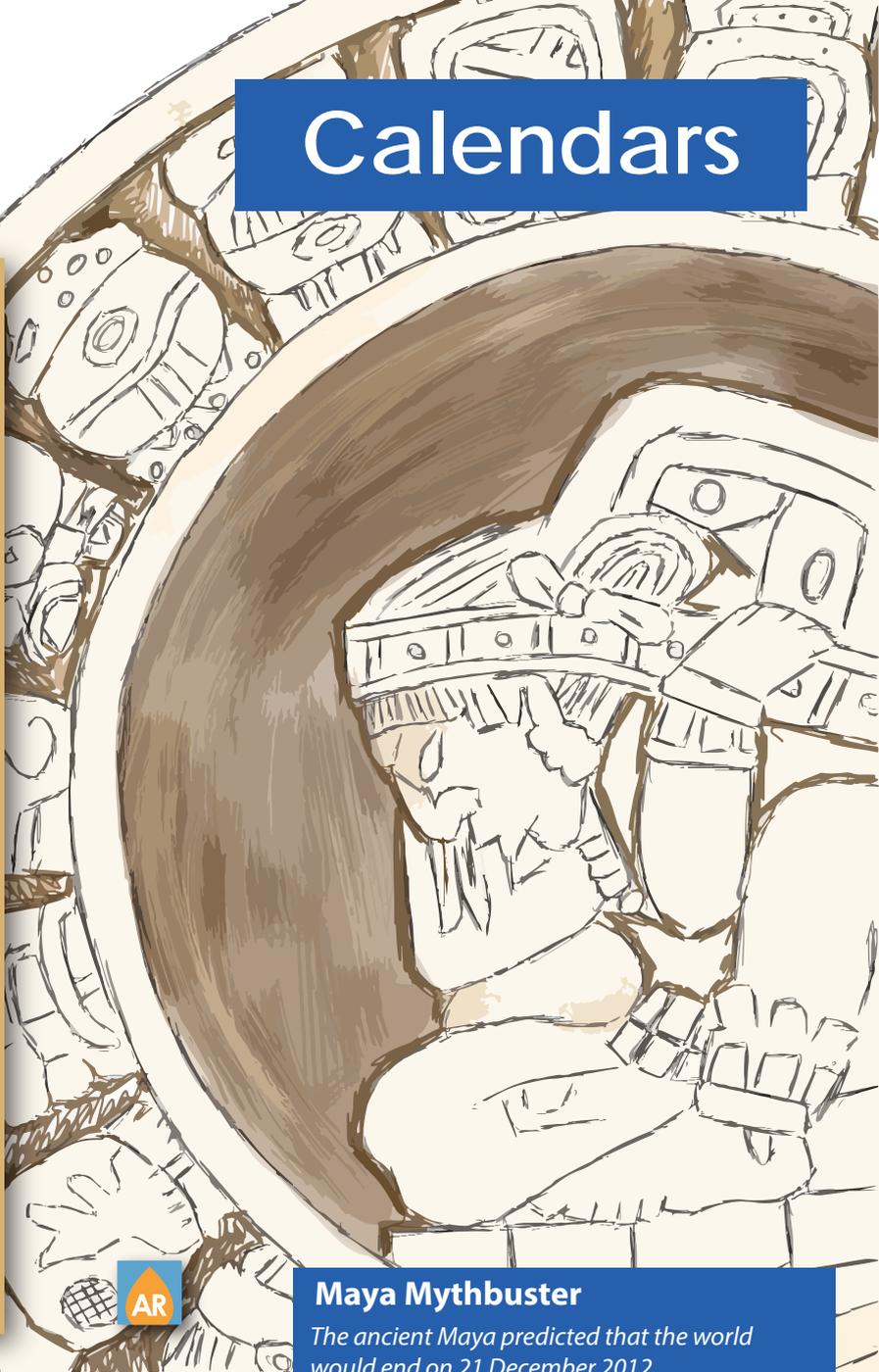
Knowing the date was as important to the Maya as it is to us now! Every inscription began with the date. Their calendars were very precise and helped them to record the movements and positions of stars and planets in the night sky (astronomy).

The Maya calendar consisted of two cycles:

**Tzolk'in**,  The sacred year made up of 20 months of 13 days each.

**Haab**, The solar year of 365 days made up of 18 months of 20 days each with 5 days added to the end.

Alongside these calendars there was the **Mayan Long Count**, a cycle that lasted 5,125 years. At the end of the cycle it was repeated.



## Maya Mythbuster

The ancient Maya predicted that the world would end on 21 December 2012.

**No they didn't!** A great cycle of the Maya Long Count ended on 21 December 2012, but the next day the Maya believed that a new cycle would begin. There was to be no end of the world!

There are 20 'day names' in the Tzolk'in. Their names are shown here in modern Mayan. How many can you say?

- |  |   |  |  |
|--|---|--|--|
|  1. Imix     |  6. Kimi   |  11. Chuwen |  16. K'ib'    |
|  2. Ik'      |  7. Manik' |  12. Eb'    |  17. Kab'an   |
|  3. Ak'b'al  |  8. Lamat  |  13. B'en   |  18. Etz'nab' |
|  4. K'an     |  9. Muluk  |  14. Ix     |  19. Kawak    |
|  5. Chikchan |  10. Ok    |  15. Men    |  20. Ajaw     |



To hear how to say **Tzolk'in** point your device at this glyph!



Glyphs Licensed under CC BY 2.5 via Wikimedia Commons



A stela from Tikal, inscribed with glyphs

The Maya were the only civilization in the Americas to develop a complete writing system, and only one of five in the world to develop writing with proper sentences and grammar. Their hieroglyphic script (800 glyphs, half of them deciphered) can be seen on carved stone stelae, door lintels and on painted murals and ceramics.



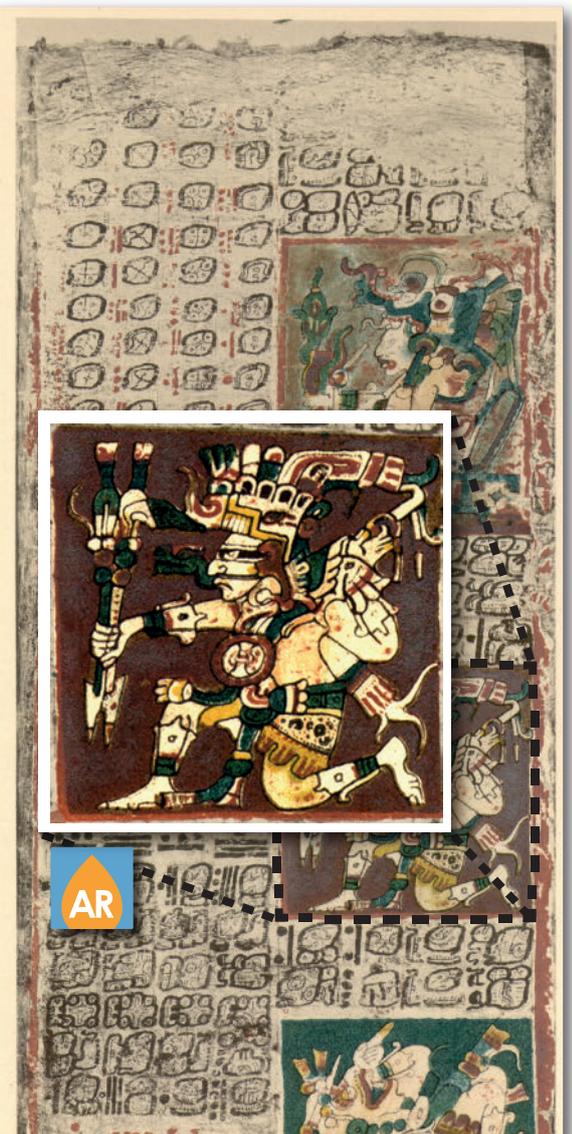
An extract from the Dresden codex. Tap the object to see the codex open up.

## Maya Writing

Writing concerned the calendar and life histories of rulers, such as their birth, death, marriage, warfare and conquest. The Maya writing system is *logosyllabic*, which means that some signs show meaning and some signs represent sounds. Glyphs were usually read from left to right and top to bottom in paired columns.

## Codex

Writing was often written in a codex or codices; folding books of bark paper, bound with jaguar skin. The Spanish invaders burned almost all of them; only four are known to have survived and these are from the Postclassic period. The surviving books are mostly "almanacs" or calendars.



## Copán



At the Maya site of Copán is a stairway of 62 steps, each 10 m wide, which contain over 2,200 individual glyphs. This is the longest of all Maya hieroglyphic texts, and describes the major rulers of the Copán dynasty.



To hear how to say Copán point your device here!

The Maya ballgame, called Pok-ta-Pok was only one type of several ball games played throughout Mesoamerica, from the Preclassic period to the Spanish conquest. The game was not only a sport, but also had ritual and political importance.

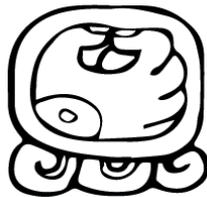
## Popul Vuh

The Popul Vuh, a 16th century text from Santa Cruz Quiché in highland Guatemala, is seen as the great literary work of the Quiché Maya. It is the story of a people, a collection of myths, legends, and history, including the Myth of the Hero Twins.

The Myth of the Hero Twins, Hunahpu and Xbalanque, includes a ballgame played in the underworld. These twins became great ballplayers and were summoned to a ballgame by the Uucabts. They survived many trials and were able to defeat the Uucabts with their skill play.



To hear how to say **Popul Vuh** point your device here!

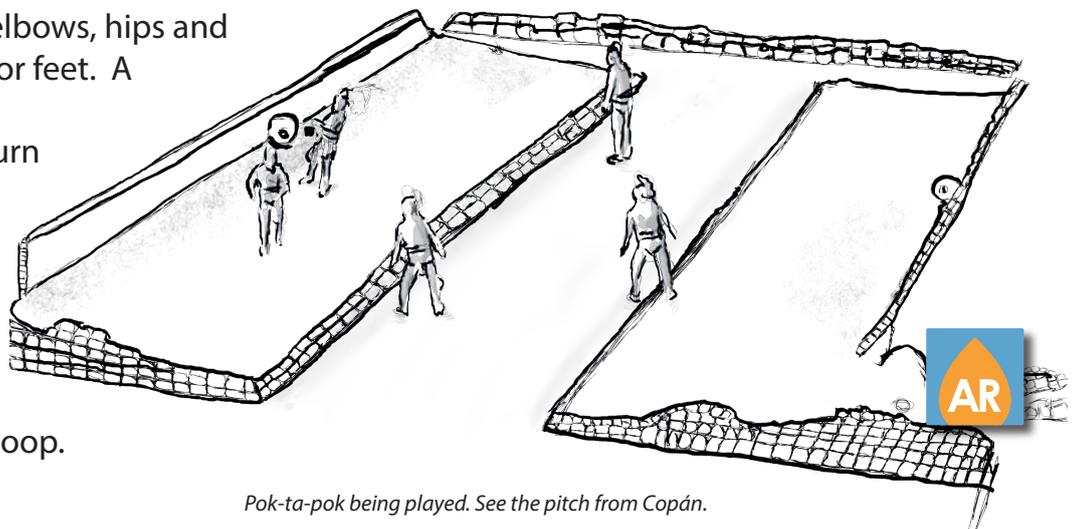


To hear how to say **Pok-ta-Pok** point your device here!



## The Game

The court was divided into two halves, and the players wore heavy body padding and belts. The ball; a rubber sphere which is shown in various sizes, could be hit with the elbows, hips and knees, but never the hands or feet. A point was scored when the opposing team failed to return the ball before it bounced a second time, or when the ball reached the other teams end zone. In later versions of the game a point could be scored by passing it through a stone hoop.



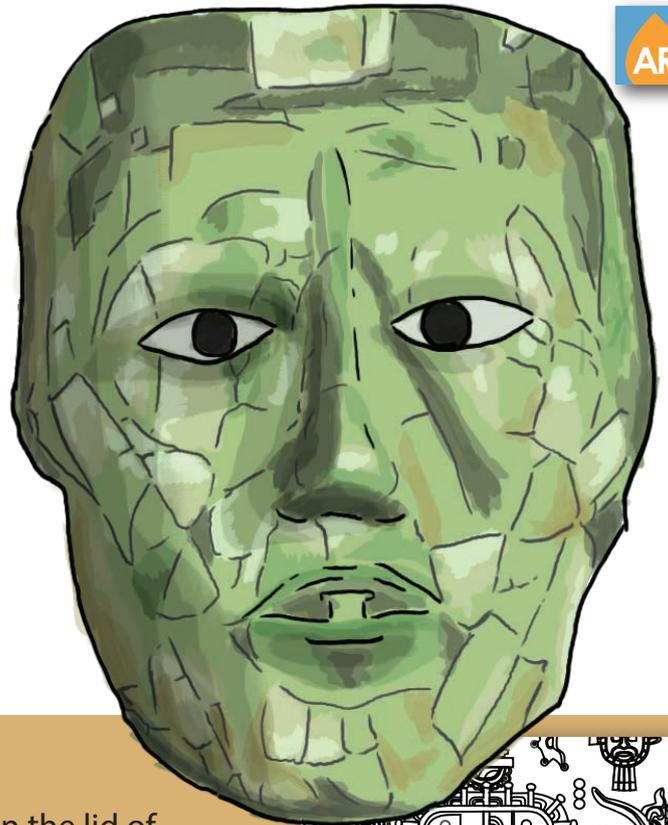
*Pok-ta-pok being played. See the pitch from Copán.*

## Mythbuster

The Maya were often said to be "blood thirsty", but this isn't true. Their warfare was often less bloody than ours, preferring to capture than kill their opponents. The ball game was even played instead of warfare sometimes!

# Maya Art

The Maya were great artists and would paint on lots of different surfaces including stone, shell, and jade, an ornamental stone that was rare and highly valued by the Maya. They created beautiful and delicate artwork on murals, vases or books (codices). Their sculptors carved amazing objects like Pakal's sarcophagus (tomb) found in the Temple of Inscriptions at Palenque 🗣️. You can see the temple below as it would have looked when it was first built.



## Did you know?

The Maya also painted spectacular murals such as the one discovered at San Bartolo, that are really early in date – around 100 BC! These murals are well preserved and show parts of the Maya creation myth and Maya kingship.

Dr Diane Davies says:

“San Bartolo is where I carried out the majority of my work uncovering the amazing story and culture of the Maya”



Dr Diane Davies at work at San Bartolo

## Pakal

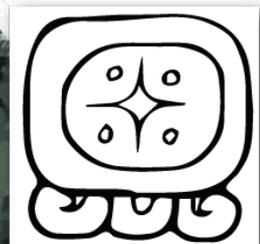
The beautiful carving on the lid of Pakal's tomb (sarcophagus) shows the king's death and his fall into the underworld. This is followed by his rebirth as a god. To see the sarcophagus lid and what it means, point your device at Pakal's jade death mask, above.



CC BY-SA 2.0 via Wikimedia Commons



To hear how to say Palenque point your device at this glyph



## Modern Maya

There are nearly 6 million descendants of the ancient Maya living today! Around 4.5 million modern Maya live in Guatemala and represent half of the country's population.



## Did the Maya really collapse?

There is a popular myth that the Maya civilisation collapsed very quickly and the Maya disappeared. The Maya did not disappear, but they did abandon cities in the central Petén area of Guatemala over a period of at least 150 years (roughly between AD 760-910). The people who abandoned these sites moved north into the Yucatán Peninsula, Mexico, where we see cities such as Mayapan, which was occupied up until the 15th century.

## Did you know?

There are around 30 different Maya languages!



## Rigoberta Menchú

The Maya have been discriminated against by the Guatemalan government and have struggled to gain their rights. One such Maya woman, Rigoberta Menchú, wrote about their troubles in her book '*I, Rigoberta Menchú: An Indian Woman in Guatemala*'. She won the Nobel Peace Prize in 1992 for her work in bringing the struggle of the Maya people to international attention.

## Huipil



Maya women traditionally wear a blouse called a huipil made of cotton with beautiful designs that are distinct to the community they are from and which act as a form of identity. Huipiles were also worn by ancient Maya women. Women also wear a cotton skirt (corte) and often a coloured cotton ribbon in their hair (cinta). The tradition with men is white trousers with white or blue shirts and sandals, but these generally are worn now only by the elders. Spinning and weaving are important parts of daily life for Maya women and each community has its own customs.

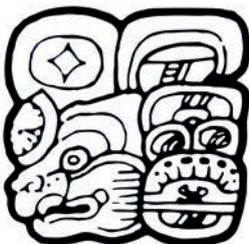
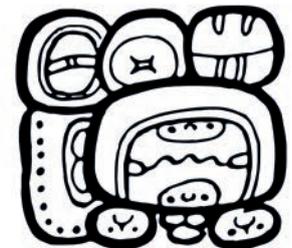
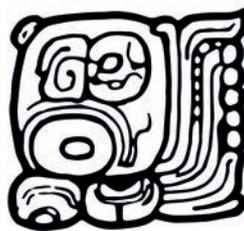
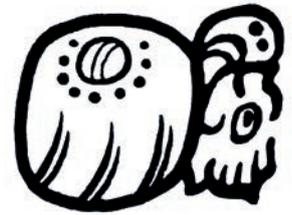
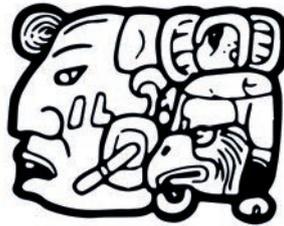
Both the ancient and modern Maya ate lots of maize, beans and squash. Maize (corn) is the most common crop grown in the Maya area. The ancient and modern Maya made several dishes from maize (corn) such as tortillas (flat pancakes used similar to how we use bread) and tamales (vegetables and meat wrapped up in a corn husk) and also beverages, such as a nutritious gruel.

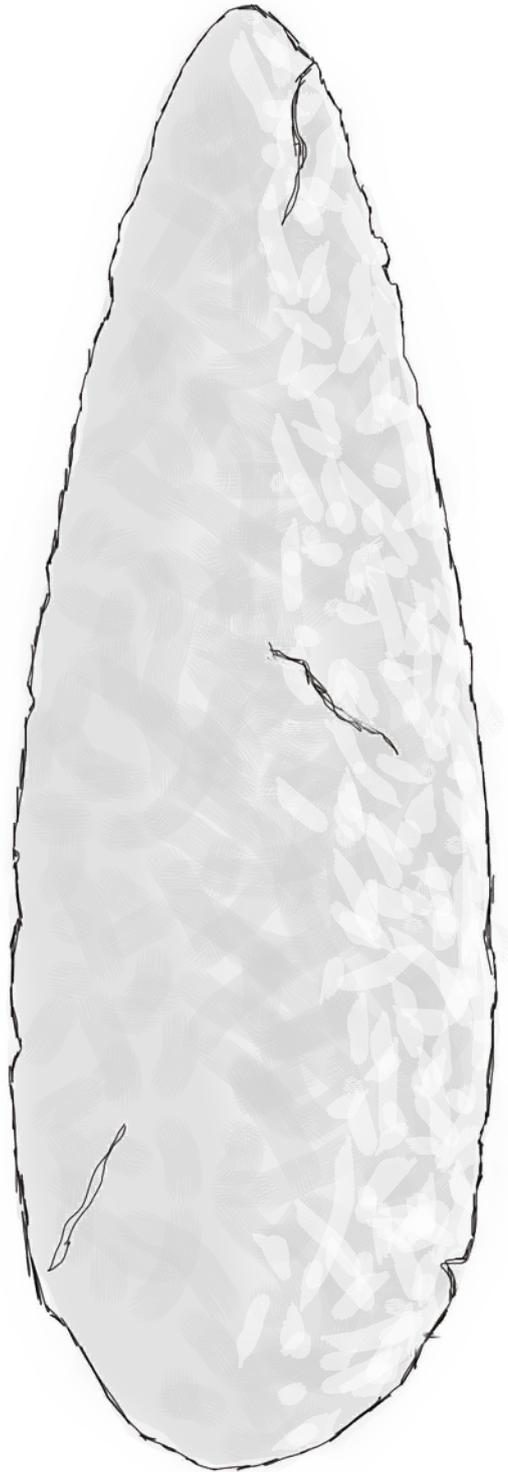


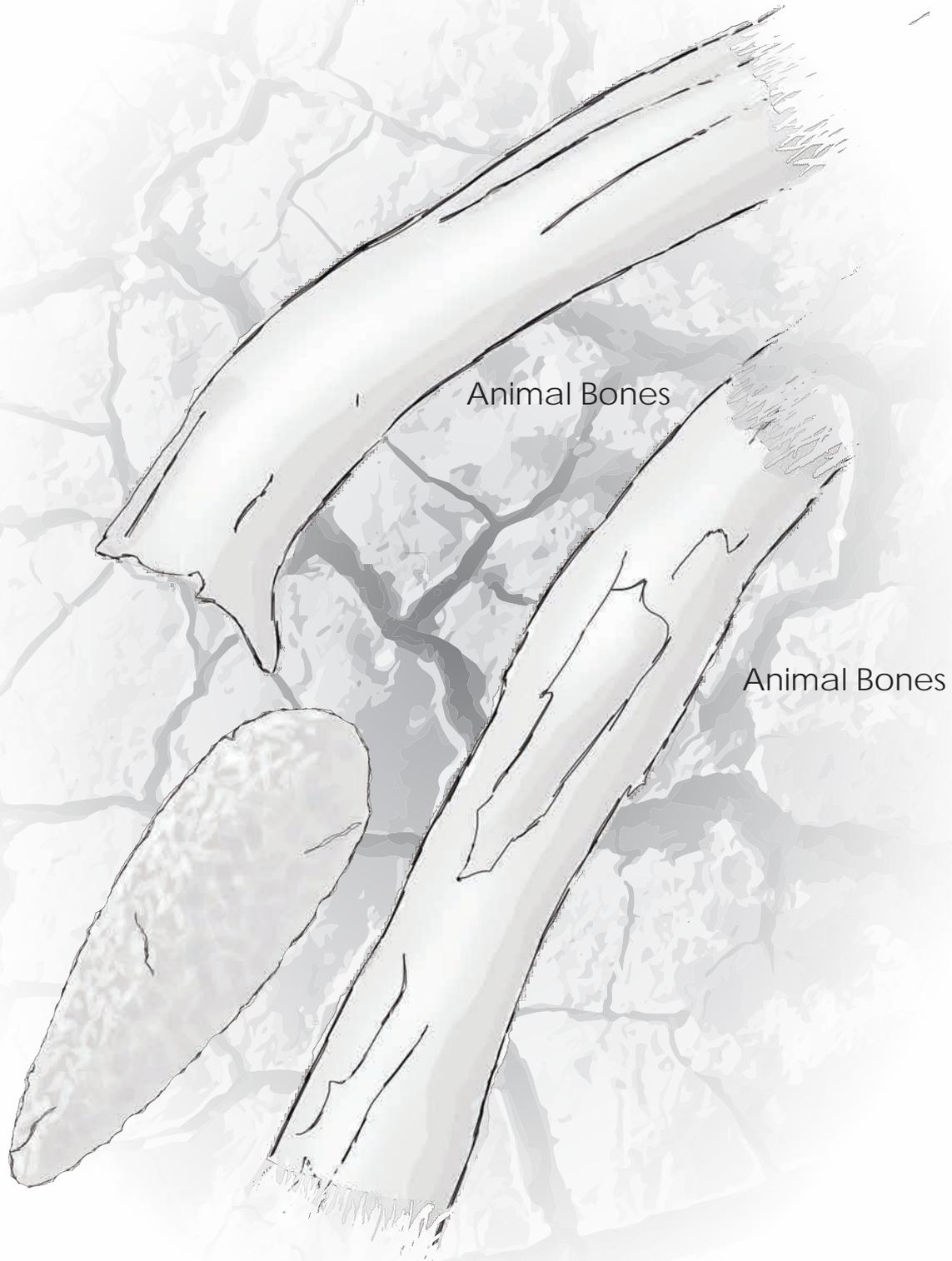
To hear how to say **huipil** point your device here!

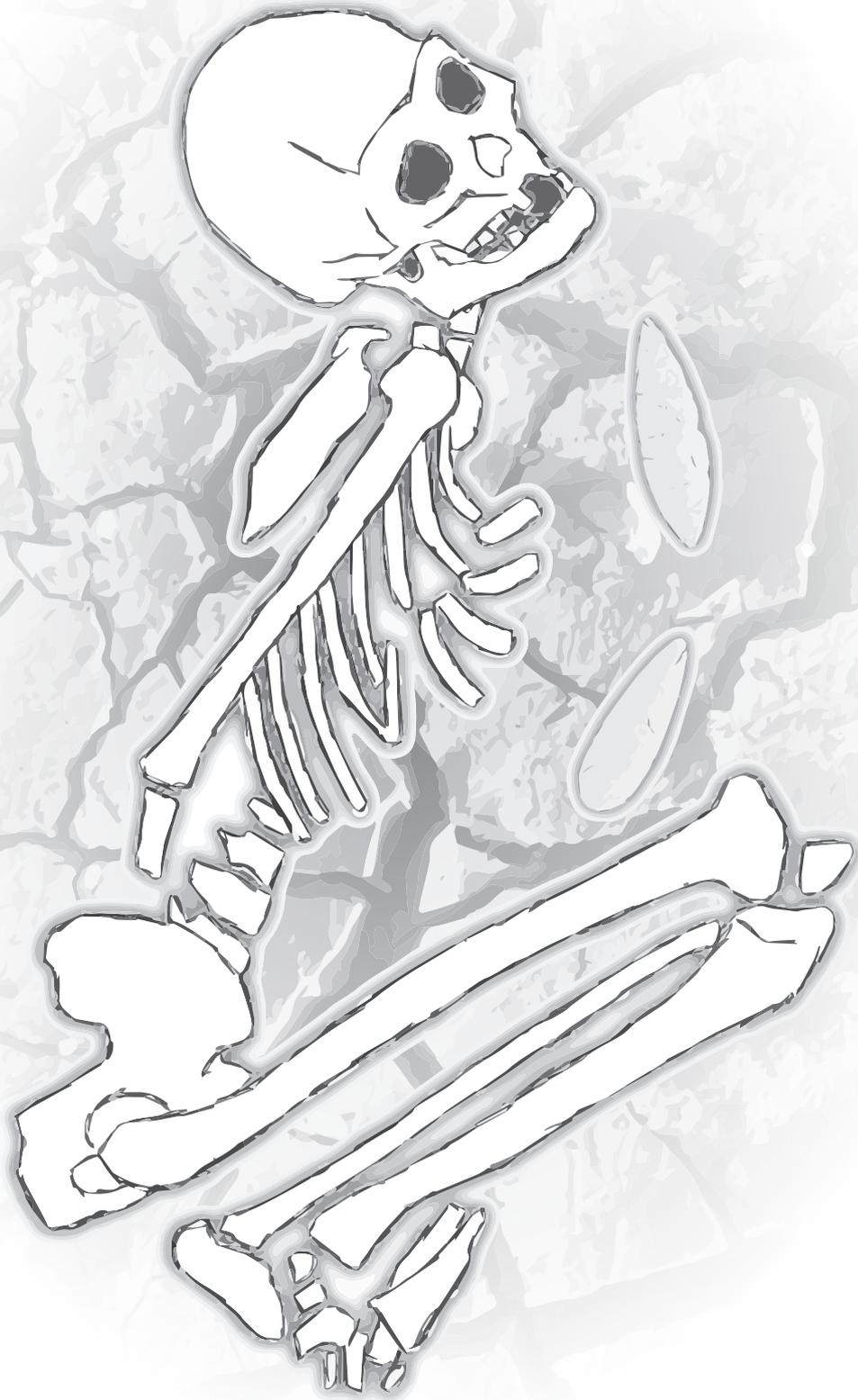
# Glyph Translator

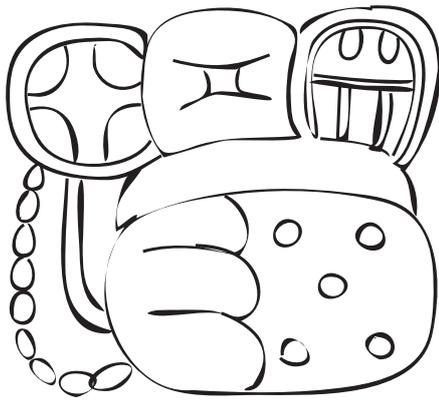
Point your device at the glyphs below to translate them into English



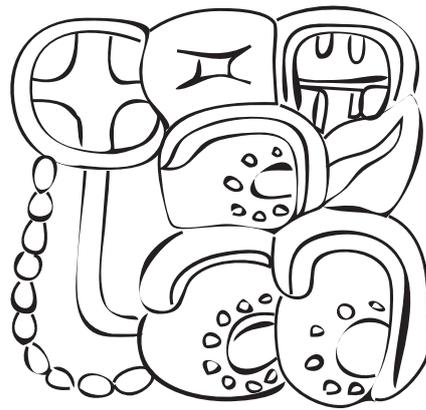




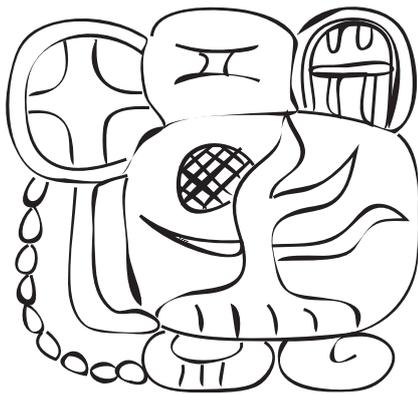




Piedras Negras



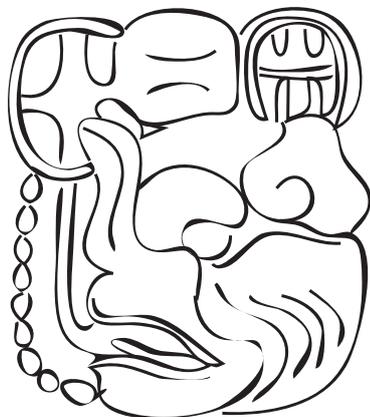
Seibal



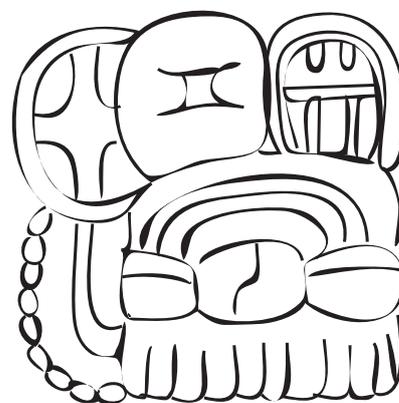
Quirigua



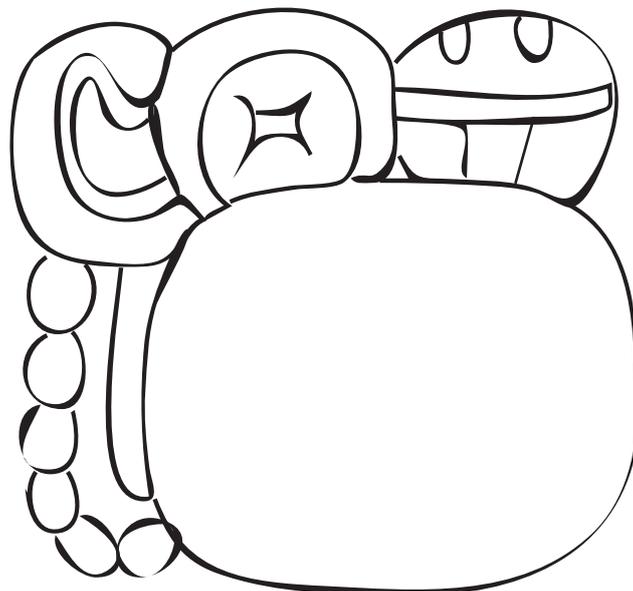
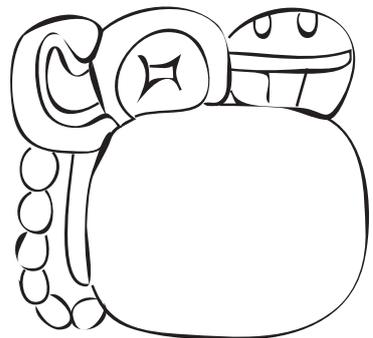
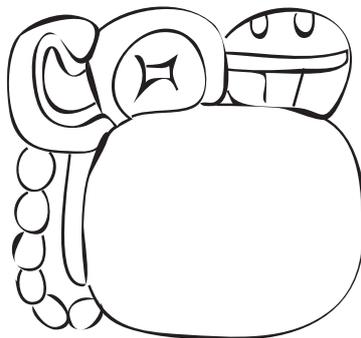
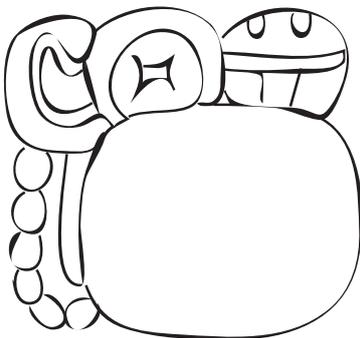
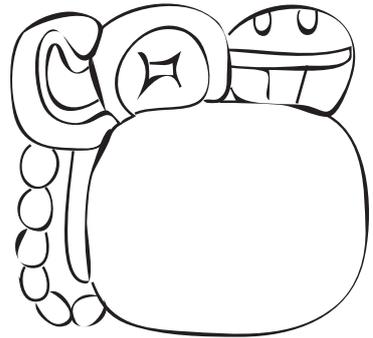
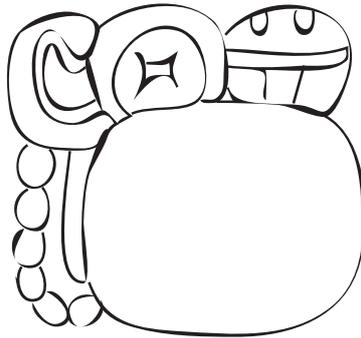
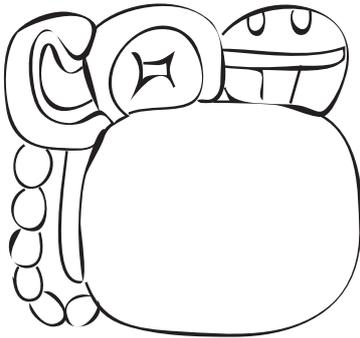
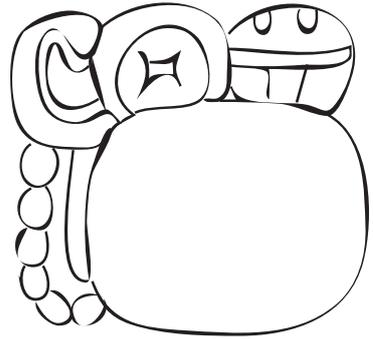
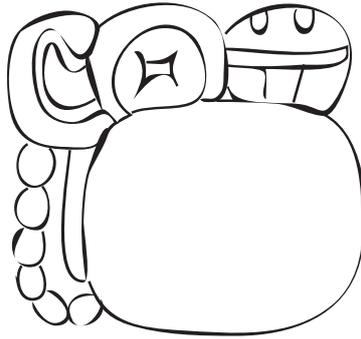
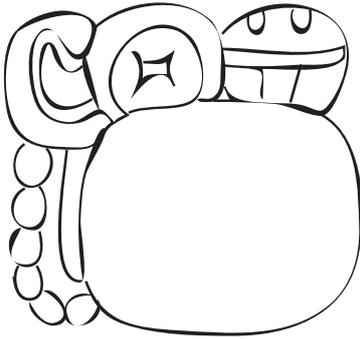
Yaxchilan

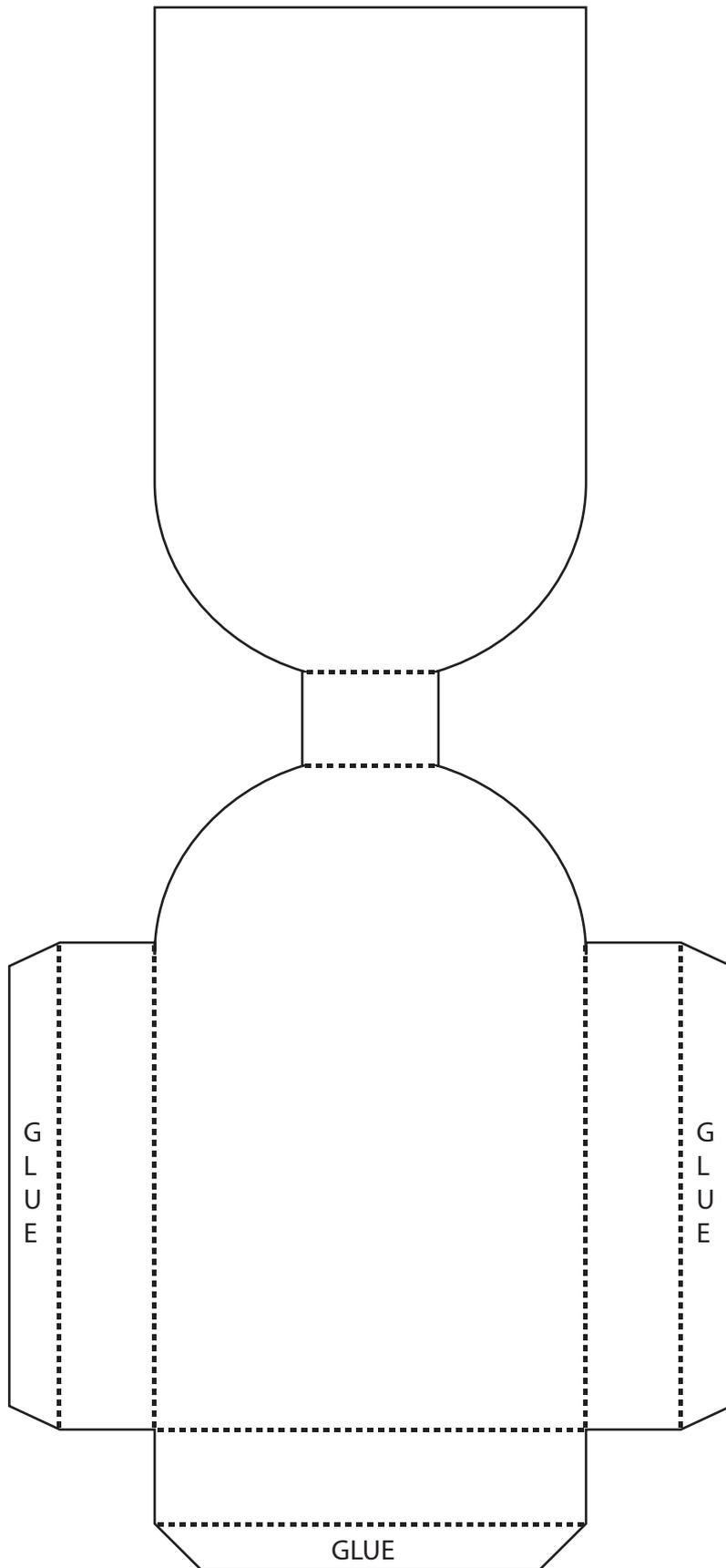


Copan

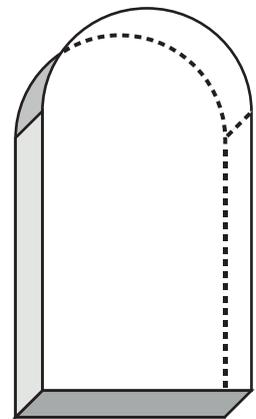


Tikal





BACK



FRONT

----- FOLD

Maya Number Grid

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••
20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••
40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••	••
	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••
60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79
•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••	•••
	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••	—	•	••	•••	••••
80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••	••••
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100																			
—																			

Examples of larger numbers

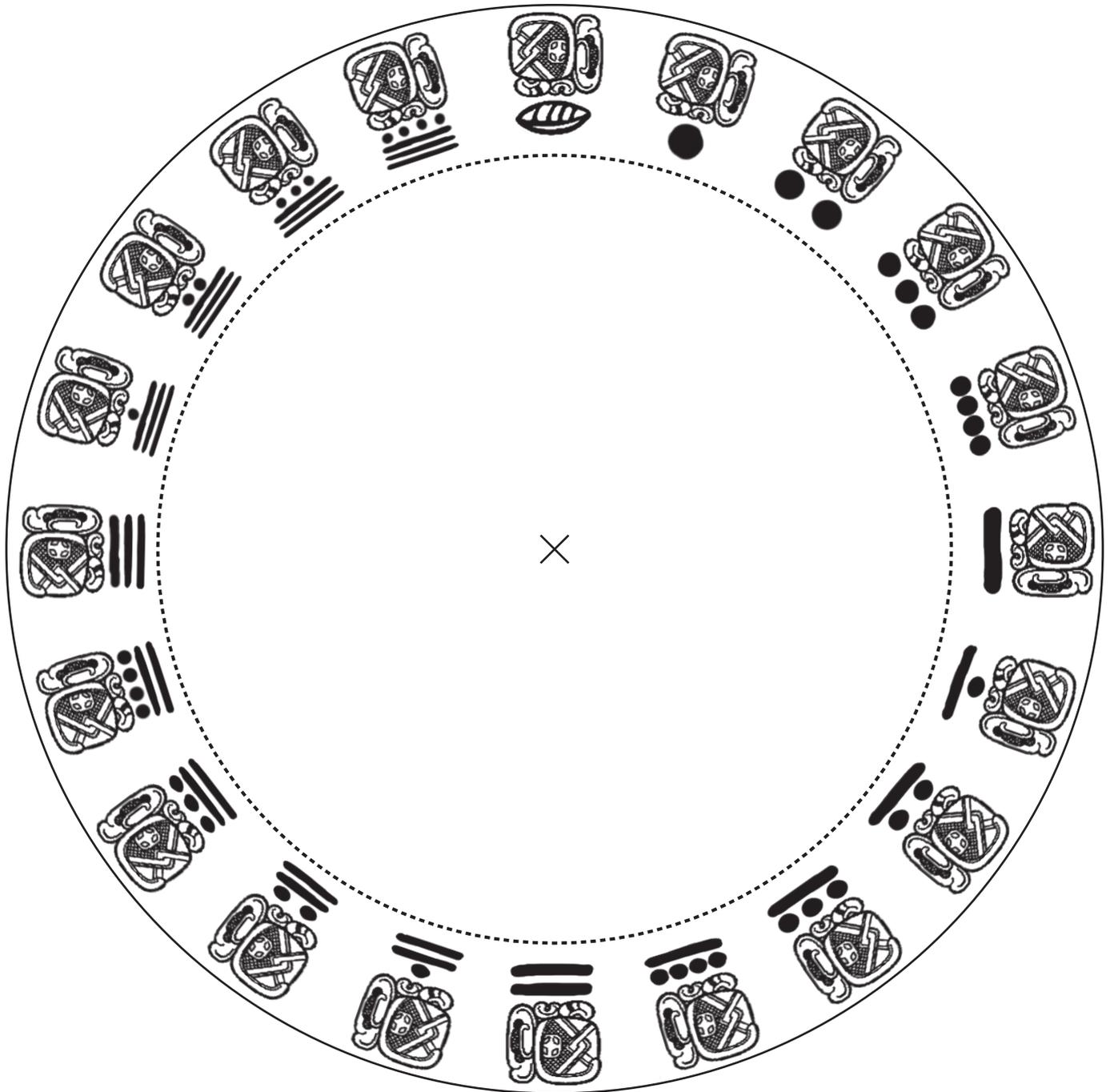
400	422	268	851
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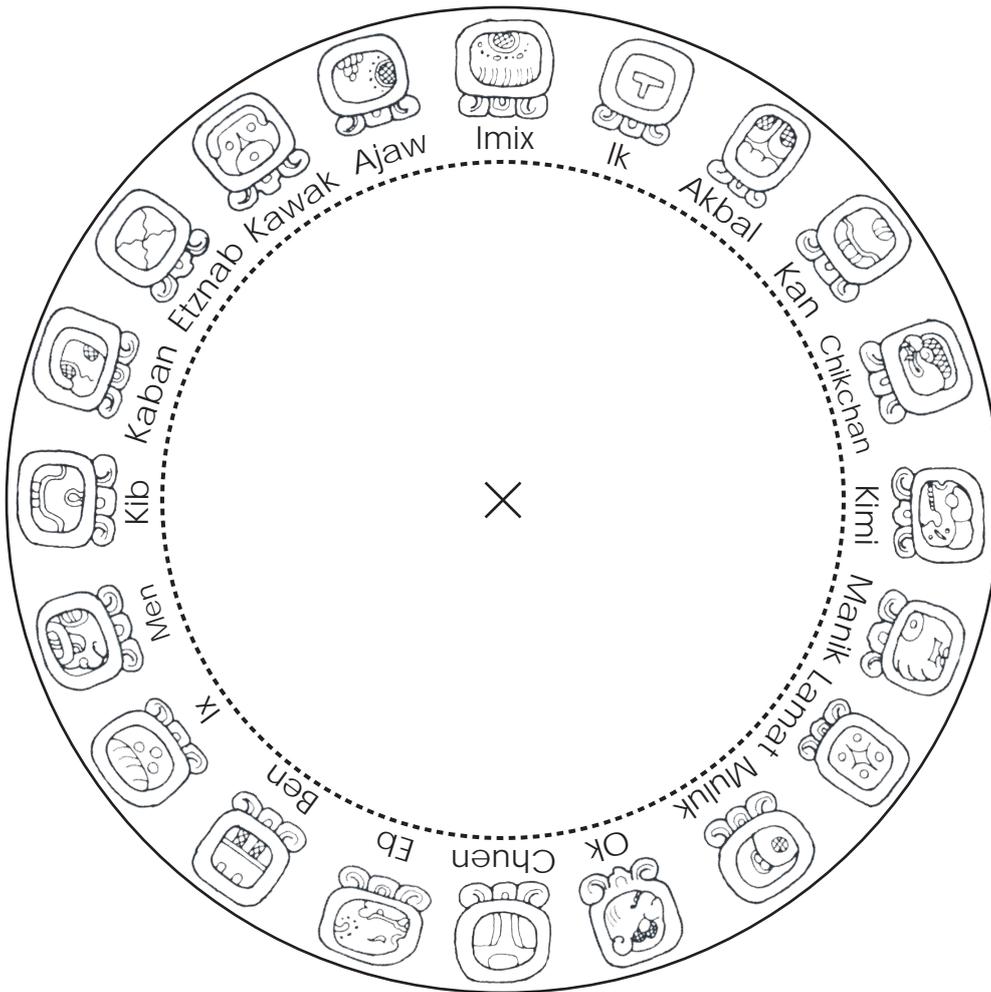


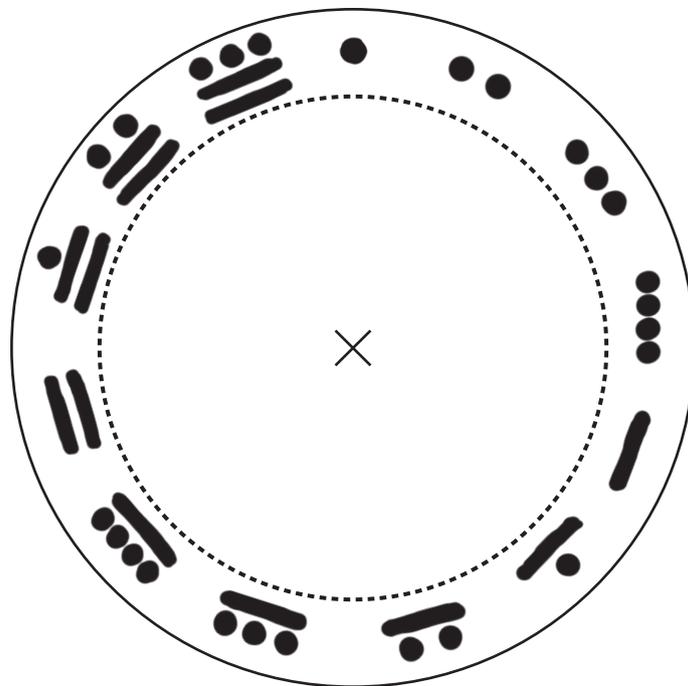
Mayan Maths | Blank number grid

400's					
20's					
1's					











The logo for 'MAYA' is presented on a dark, textured stone tablet. The word 'MAYA' is written in large, white, serif capital letters. Below it, the subtitle 'A JOURNEY THROUGH THE MAYA WORLD' is written in smaller, white, sans-serif capital letters. The stone tablet has a rough, weathered appearance with some faint carvings visible in the background.

# MAYA

A JOURNEY THROUGH THE MAYA WORLD

The Maya **Active**Worksheet Pack takes you on a journey through the Maya world. Combining the traditional worksheet with the latest mobile device and augmented reality technology, you can bring the subject to life with videos, audio & 3D models and animations all on your desk.

Inside the pack you will also find a Teacher Guide with instructions and activities your class can complete using **Active**Worksheets.

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Computeam design Inspyro curriculum resources for Key Stage 1, 2 and 3 and cross-curricular projects for primary schools. As a company we pride ourselves on creating content that is exciting, dramatic, engaging and creative, whilst providing real learning opportunities for teachers.

