

# COUNT ON US

## PRIMARY CHALLENGE



**TEACHER GUIDE: 2022**

## INTRODUCTION

Count on Us Challenge, the Mayor's Fund for London's maths programme, works with schools to help young Londoners reach their full potential, supporting them to become confident mathematicians and leading them towards a brighter future. The programme fosters a change in attitude and increases self-belief and resilience by motivating pupils to improve their numeracy skills, problem solving and team working skills. More importantly, after a very disrupted last two years for our school pupils (and teachers), the Count on Us Challenge programme will support your school's recovery and catch up programme, with a clear focus on pupils developing their confidence with number and problem solving, both individually and collaboratively.

Until the recent pandemic, we have seen 80-100 primary schools from across London competing annually in maths events at City Hall. The last two years have been very different. In 2020, we supported schools to run online clubs and events with their pupils, culminating in a virtual Final, with some pupils participating from home while others engaged from school.

Last year, we ran a very successful programme, running online training, drop-in support sessions and then very successful online Heats, supported by a cadre of our helpful Count on Us teachers, who led breakout rooms and supported the scoring. The 2021 final was held in-person at the fantastic Church House, Westminster, with an additional school participating off-site. The atmosphere was electric, with pupils getting the opportunity to compete safely. Reay Primary, Nelson Primary and Elmgrove Primary came 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup>.

We haven't emerged fully from the pandemic yet and therefore, throughout the 2021/22 programme, we will continue to be vigilant and respond to government and local restrictions. We know that we can run a very successful blended version of the programme and therefore will be keeping some aspects of the online offer, while preparing for both in-person and online versions of the actual tournaments. Rest assured, the online programme, activities and events, if needed, have been designed to capture the intensity and excitement of the normal programme. This Handbook will take you through the programme, from 'getting started' to 'getting ready for the tournament'.

## Using the Count on Us Primary Challenge to support your school's recovery/catch-up programme

- ⇒ How does the Count on Us programme link to the National Curriculum?
- ⇒ What key maths skills does it develop?

Below is a summary of the key activities in the Count on Us programme and their links to the maths curriculum. This Teacher Guide will take you through each of these areas, outlining how to introduce, get better at and finally, be the best you can in each of the activities. The activities are designed for you to use in class and/or in maths clubs and are accessible to all pupils.

**IMPORTANT:** alongside this Guide, there is a Pupil Activity Book, with prepared tasks for your pupils to engage with. Look through this before you get started and you will see how useful the programme is to focus on these exciting, challenging and motivating maths activities to reengage pupils with the maths curriculum.

Activity	Area of maths curriculum	Description from National Curriculum (Y4/5)
1. Dominoes and T-Shape pattern puzzles	Problem solving, developing mathematical fluency	mathematical reasoning solving increasingly sophisticated problems
2. 24 <sup>®</sup> Game	Addition, subtraction, multiplication and division	Mental maths, quick recall of number bonds
3. Codebreaking	Statistics Measurement	Using timetables, price tables etc money, time, distance

We look forward to working with your school this year and seeing you at the exciting Heats in May 2022.

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## WHAT DOES THE COU PRIMARY CHALLENGE INVOLVE?

The Count on Us Primary Challenge programme is designed to be suitable for **all** pupils in Years 4 and 5. The maths activities can be done in class or in clubs. After several months of practising and holding an in-school tournament, you will be able to choose a mixed-gender team of 3 pupils to represent your school at the tournament Heats in May. The highest scoring teams will then go forward to the Final at the end of June 2022.

This year's tournament will build on the successes of previous years, to:

- Involve over 60 schools from across London
- Include rounds on pattern and code breaking as well as the popular 24® Game
- Focus on embedding activities across schools to ensure that a greater number of pupils have access to them
- Support all schools in preparing for the Count on Us Primary Challenge through the:
  - ✓ Teacher Guide,
  - ✓ **NEW:** Pupil Activity Book, with new activities for New Round 1
  - ✓ Primary Challenge Resource Area on the Mayor's Fund for London website
  - ✓ Tournament Handbook and Online Events Guide
  - ✓ Online Drop-in sessions for Teachers

Over the Spring and Summer terms, pupils will become experts at finding number patterns and number bonds at extremely high speeds, as well as solving exciting code-based problems. Some activities will be individual, and others will work best when solved in teams. Most importantly – this a fun, challenging and incredibly motivating programme!

Teachers will be able to access online support to revisit activities covered at training, access ideas to use in class and clubs and hear from teachers and pupils who have taken part in previous tournaments. The Tournament Handbook can be used to assist schools in running their own in-school tournaments.

This Teacher Handbook provides an outline to the kinds of maths activities involved in the programme and how to integrate them into your everyday activities. Before taking part in any of the events, your pupils should have had lots of opportunities to develop their maths skills in each of these areas.

## WHAT DOES THE PROGRAMME STRUCTURE LOOK LIKE?

The programme consists of 4 stages, starting with the training session and culminating in the Count on Us Final. However, it must be stressed that the most important part of the programme is **Stage 2**, where you will set up class and club activities for larger numbers of your pupils to engage with the activities. The tournament events are only the icing on the cake.

- Stage 1**      **Online Training session** in January for all participating schools, clarifying expectations sharing good practice and ensuring that all teachers are confident in setting up the activities in school.
- Stage 2**      **In-school practice** for Years 4 and 5 pupils. Teachers will use the activities in class and / or in clubs to give as much practice as possible, using the Pupil Activity Book as support, before:
- Stage 3**      **In / inter school tournament in all schools** to experience the demands of the Count on Us Challenge and to help teachers choose their team to represent the school.
- Stage 4**      **Heats for all schools (online or in person).** The 12 highest scoring schools will progress to the **Final**.

## WHY IS IT IMPORTANT TO PRACTISE?

There is no doubt that in order to get better at something we need to work at it. A musician will spend hours practising an instrument; an athlete will train to develop strength, speed, and agility. The same is true for maths. The work your pupils will be doing in preparation for the Primary Challenge is based on the notion of '**deep practice**'. As they use the 24<sup>®</sup> Game cards, shape and code breaking ideas, they will become more confident, develop effective strategies, and become fantastic problem solvers!

Count on Us Primary Challenge schools are expected to provide opportunities for all Y4 and Y5 pupils to participate in the maths activities contained within the Primary Challenge. Schools can practise the activities:

- in class
- in Count on Us maths clubs
- through in-school or inter-school tournaments
- in teacher v pupil competitions

The **Count on Us Resource Area** in the Mayor's Fund for London (MfL) website contains all the guidance and support activities, including the Pupil Activity Book, you need and will provide you with many ideas for class and clubs activities to get you started.

Before coming to the Heats, as well as using activities regularly in class or in clubs, schools are expected to run an in-school tournament or with a partner school in April 2022. **This is really important.** Not only will your pupils develop familiarity with the activities and the format, but it will also allow you to select your team. The **Tournament Handbook** includes ideas to help you run your in-school tournament, as well as more activities to further challenge your pupils to ensure they are at their competitive best!

**Password for the Resource Area 2021-2022: [LOVELACE1852](#)**

As in previous years, we really want to focus on and document the work you are doing in schools, and to incentivise this we will be giving **20 BONUS points** towards your school's Heats score for **each** of the following completed activities, before the Heats:

1. Send us a photo of your in-school Maths club/tournament
2. Complete an **Activity Log** of your in-school activities and submit



**CHOOSE YOUR TEAM AFTER YOUR IN-SCHOOL TOURNAMENT IN APRIL!**

## WHO CAN I SELECT FOR THE TEAM?

After running your in-school tournament, schools will then submit a team of **three** players who **must be:**

- **Year 4 or 5** pupils – you can select from either *or* both years
- **A combination of boys and girls** – no single sex teams are allowed!
- **New** to taking part in the Count on Us Primary Challenge – if you have a talented or enthusiastic pupil from a previous year, let them support you in running a Club and mentoring the new Challengers!

It is important that you consider a number of factors when selecting the team. In the past we have been really pleased to see some schools not necessarily selecting their quickest players but instead, selecting players who were likely to really benefit from the experience. So, we have seen teams where the teacher has been impressed by the new excitement with maths shown by a pupil or have selected someone who shows good leadership skills.

**Please note:**

*Unfortunately, schools that do not adhere to the above team conditions will not be allowed to participate.*

## SUPPORT MATERIALS

### PUPIL ACTIVITY BOOK

To support practising in school and to encourage as many pupils to get involved as possible, we have created a Pupil Activity Book, structured around each of the rounds of the Primary Challenge. This is available to download on the **Count on Us Resource Area**; you will need to print it for each of your pupils.

As pupils complete tasks in each stage of the Activity Book, they will mark the completed bridge on the 'My Learning Journey' map page (you can use gold stars / coloured dots or your normal reward stickers) in their Activity Book. Each sticker represents a bridge they have crossed in their learning journey to City Hall (Tower Bridge):

- STAGE 1:** Dominoes – **ALBERT BRIDGE**
- STAGE 2:** T Shapes – **CHELSEA BRIDGE**
- STAGE 3:** 24® Game – **WESTMINSTER BRIDGE**
- STAGE 4:** Codebreaking – **MILLENNIUM BRIDGE**
- STAGE 5:** School Tournament – **TOWER BRIDGE**



The Pupil Activity Book is full of tasks to support them learning, practising and getting better at each of the activities in the Count on Us Challenge. The aim is for pupils to be able to track their own learning progress and reflect on their confidence in each of the Primary Challenge areas. There are also bonus tasks for pupils to complete if they are preparing for the Heats or need a greater challenge! You can decide when to award stickers. For some pupils, completing the first two activities will be a great achievement; for other pupils, you may decide to award the sticker only after they have completed every task, including the bonus one!

## THE COUNT ON US ACTIVITIES: A SUMMARY

### **Round 1**      **NEW! Pattern and problem-solving**      ***A team activity***

Two parts to this round:

Dominoes – where pupils will create a number pattern to match the layout of a domino grid they are given.

T Shapes – a bit like Tangrams. Pupils will make the pictures shown using the 4 T Shape pieces.

They will need to be very skilled at solving these under pressure in timed conditions.

### **Round 2**      **24® Game**      ***An individual activity***

Using the 24® Game cards, pupils compete to find the answer 24. Successful schools will have used these in class, in clubs and at home. Pupils will need to be very quick at spotting number patterns and bonds.

### **Round 3**      **Codebreaking**      ***A team activity***

Teams crack the Caesar Shift codes to find a solution to a tricky problem. They will need to be very good at working together, allocating tasks and problem solving. This year, we will have a **London / finance** theme to this round.

## WHAT DOES EACH ROUND CONSIST OF?

### Round 1. Pattern and problem-solving puzzles

This round consists of two parts:

#### Part 1) Dominoes

##### At the tournaments:

This round is played in school teams, who will work together to arrange their domino pieces to recreate domino grids they are given. Speed is important, as is familiarity with these pieces.

Each school team will be given a Domino set. On the large screens in the event room and/or in a booklet, they will see a series of grids to make. They will get three minutes for each set of grids. Judges will award points for each correctly completed grid.

Bonus: additional grids will be available for teams that complete before the time runs out. Bonus points will be awarded for each completed bonus grid.

#### Ideas to get started, get better and be the best you can:

##### 1. A domino grid

This is the kind of domino grid that your pupils will be able to complete by the time they come to the Heats. BUT don't rush straight into making the domino grids. Start by exploring smaller grids to build up strategies and teamwork.

NOTE: Look through the activities in the Pupil Activity Book which is full of ideas.

In addition to the 6 domino sets in the Resource Kit,

4	4	6	1
1	4	6	1
4	4	1	6
3	3	3	6
6	3	2	6

##### i) Explore the 2 x 2 and 3 x 2 grids

How many different ways can you arrange the dominoes?

Why are no more possible?

3	5
3	5
4	4

ii) Look at the larger grids in the Pupil Activity Book. After exploring them and trying to lay out their dominoes in the same pattern, get your pupils to move on to:

- ✓ working with another person
- ✓ talking through their strategies as they choose and place pieces
- ✓ setting time targets

iii) Give out blank 4 x 4 and 4 x 5 grids. Let them create their own grids, to understand why some are easier to solve than others. Share their grids out to classmates. Discuss why they think some are easier.

## Part 2) T Shapes

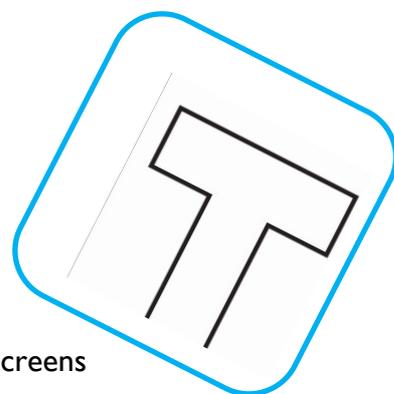
This is a very well-known and surprisingly tricky puzzle.

### At the tournaments:

Each team will get a T Puzzle set consisting of 4 pieces. On the large screens in the event room and/or in a booklet, they will see a series of pictures to make, using their T Shape sets. They will get 3 minutes for each picture, after which time the picture will change and teams will have to try to make a new picture. Judges will award points for each correctly completed picture.

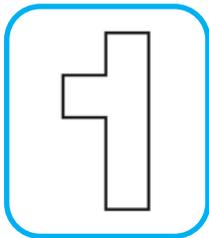
Bonus: additional pictures will be available for teams that complete before the time runs out. Bonus points will be awarded for each completed bonus picture.

**IMPORTANT:** it is very tempting to show your pupils how to solve these or let them show each other. **DON'T!** If you do this, they will never get the chance to go on the learning journey and won't have the skills and understanding they will need when they come to the Heats / Final.



## Ideas to get started, get better and be the best you can:

- i) The best way to get better at T Shape puzzles is to keep doing them. In your School Resource Kit and in the Resource Area on the website, you will find templates. Print onto card, cut out and give every pupil a set.



- ii) Make sure every pupil has access to the Pupil Activity Book. Search for new shapes on the internet.

- iii) Practise doing the puzzles in timed situations, on their own and in pairs, threes.

## Round 2. Number - Using the 24® Game

### At the tournaments:

Each team member competes against players from other schools to find the answer **24** on each of the 24® Game cards placed on the table.



**IMPORTANT:** This round is extremely fast. Many players can spot the number patterns very quickly by the time they come to the Tournament. Therefore, it is vital that you find as many opportunities as you can to let your pupils practise.

### A Reminder: Basic Rules of the 24® Game

#### How to Play the 24® Game

All four numbers on the card must be used once and once only to make 24 using the four basic arithmetic operations: **+** **-** **×** and **÷**

For example: you get a card with the numbers: **4** **2** **4** **3**

You could use the numbers in this way: **4 - 2 = 2** **4 × 3 = 12**

So, the 'last stage' solution is: **2 × 12 = 24**

**When you claim a card, you MUST give the 'last stage' (12 × 2) first, before explaining your solution!**

The deck of cards is held by the teacher referee on each table, and they are responsible for introducing each card into play. Players compete to make **24** using all of the numbers on each card.

When a player thinks they have a solution, they put their hand on the card (or alternative rule to be agreed if this is not allowed) and explain how to make 24 – **starting with the FINAL STAGE and then full solution**, as above. If they are correct, they claim the card, putting it aside with the rest of their claimed cards. Play continues and a new card is placed on the Mat.

At the end of each round, players move to the next table and wait for instruction to begin play.

## A summary of the rules for the Tournament

### Claiming a card

- ✓ Hand on card.
- ✓ Last stage announced first.

### Hesitation, deviations and moving on...

Card removed if:

- ✓ Longer than 3 seconds to start claim
- ✓ Get lost with explanation
- ✓ Make a mistake
- ✓ Two players agree to pass (3 times in a round)

### Scoring

- ✓ Players keep cards won for that round.
- ✓ Points added up and scored at end of round (1 dot = 1 point etc)

### Moving around

- ✓ Teams of three players: A, B, and C
- ✓ A moves clockwise, B stays put, C moves anticlockwise
- ✓ At the end of the round, players add up their points (the dots at the corners of each card, ranging from 1-3 to reflect the level of difficulty of the card) and enter their score onto their individual scorecard. Referees check and initial their scorecards.



## Other classroom ideas for the 24® Game

Give each pupil a 24® Game card. Challenge them to:

- Find as many different answers as possible, using all four numbers and +, -, × and ÷
- Find the largest answer and the smallest answer possible.
- This is an opportunity to extend their knowledge of negative numbers and decimals.
- Find one or more answers that are square numbers.
- Find one or more prime numbers.
- Find one or more ways of getting an answer of 1.

Give each pupil two 24 Game® cards.

- Challenge them to find the same answer with each card using all four operations, without getting an answer of 24.

## Four in a row

Instead of finding the answer 24, pupils play in twos to complete 4 in a row grid.

Pupils take a card in turn and make a number on the grid using all 4 numbers on their card. They cross the number off. The first team or player to get four in a row wins.

25	10	11	12	13
24	9	2	3	14
23	8	1	4	15
22	7	6	5	16
21	20	19	18	17

## Round 3. Code Breaking

### What this round is about:

The final round is an exciting problem-solving activity using the Caesar Shift code.

This year, the code breaking round will have a money theme.

### At the tournaments:

School teams will be given a problem to solve. However, before they can solve the problem, they will need to decipher a coded message. They will have to decipher the message to find the elements to the problem they have to solve.

Points are given for each correctly decoded message and answer, with additional points for solving the problem.

**Important:** We will only be using the **Caesar Cipher** code. Pupils should be very familiar with this so that they can get onto the investigation part of the task.

### What is the Caesar Cipher?

The Caesar Cipher (code) was used in Roman times by Julius Caesar. In order to disguise his plans when he sent these to his armies, he moved the letters along 3 spaces.

So, A became D, M became P etc.

The vital message **'Attack at Dawn'** would therefore read as **'Dwwdfn dw Gdzq'**. The only problem was that his enemies soon got good at cracking the code!

We aren't as kind as Caesar. We are going to use the Caesar Cipher shift, but we will vary it.

So, we might use an offset (shift) of 5, or 12 or 23... We will tell teams the offset at the qualifying heats, but at the final we might not be so kind!

plaintext	a	b	c	d	e	f	g	h	i	j	k	l	m
<b>cipher text</b>													
plaintext	n	o	p	q	r	s	t	u	v	w	x	y	z
<b>cipher text</b>													

## Ideas to get started, get better and be the best you can:

Don't spend hours creating coded messages. A much quicker way is to use the Caesar Cipher chart on Simon Singh's [Black Chamber](#) website.

- Go to '**Offset**' box to select your shift (offset) eg 3.
- Type a word to encrypt, e.g., the name of a pupil in your class: **Chantelle**.
- Click **Encipher Plaintext: F k d q w h o o h**

## Get started in class:

- Give out a blank code breaking chart (see above)
- Give the Caesar Shift (offset).
- In pairs, ask them to fill in the chart, using the shift you have given.
- Give the class an enciphered name.
- Who is it?
- Who is this: K D E L E D (Shift 3?)

## Other classroom ideas

- Give class list out – but enciphered with a shift of 3 – showing groups.
- Pupils work out which group they are in for an activity.
- Decipher names of favourite authors, capital cities, shapes, healthy foods
- Give out a simple enciphered action, e.g. put your hand up. Award points.
- Find an item using clues from a message.

**For more ideas of codebreaking activities and to see the activities from previous events, visit the [Resource Area on the website](#).**

## COUNT ON US RESOURCE AREA ON MFL WEBSITE:

Now that we've given you an overview of the programme and what you and your pupils will be doing back in schools to practise for your in-school tournaments and the Heats, let's take a closer look at the support we have put in place to make sure that you have everything you need to help your pupils progress from **getting started, to getting better and finally be the best they can.**

To ensure that schools have access to as much support and information as possible, we have set up a fantastic Count on Us Resource Area on the MfL website.

[CLICK HERE TO ACCESS](#)

This is available only to participating schools and is password protected:

**Password for 2021-2022: LOVELACE1852**

The Resource Area has four sections:

1. **Getting Started** – with a selection of activities to use in class and clubs
2. **Managing Count on Us** – where you will find guidance for in-school coordinators and access to all of the forms we will be asking you to return.
3. **Running Count on Us** – with the Teacher Guide, Pupil Workbook and Tournament Handbook, as well as the online Heats Guide. We have also uploaded additional helpful resources, such as the domino and T Shape templates, codebreaking charts and 24@ Game scorecards.
4. **Getting Ready for the Tournament** – for the Tournament Handbook and examples from previous Heats to try out in school.

As we move through the programme, we will be capturing examples of good practice and tips from teachers and pupils. We will also set up regular Drop-in sessions to ask, share and network with other Count on Us teachers.

## THE HEATS AND FINAL: IN-PERSON

We hope that by time we get to May 2022, we will be able to hold in-person Heats and Final, with all the competitive elements of previous events. Should we need to opt for a socially distanced version (as we did in the 2021 Final) or online (as we did for the Heats in 2021), we will send out further guidance and support.

### The Room

The room will be arranged with team tables laid out as spokes of a wheel - one table for each team. Each table is managed by a referee (a teacher from each school).

School teams can practise any of the activities while they are waiting for the Count on Us Primary Challenge heat to start. At this point the table referee from each school should remind pupils of the rules. Each school fills in their 24® Game scorecard which is left on the table.

### Round 1: Pattern and problem-solving

Pupils stay at their home table and work as a team. When the Challenge is ready to begin, each teacher moves to sit with a new school. Teacher referees award points as outlined earlier.

### Round 2 Numbers: 24® Game

Each player is allocated the letter A, B or C when they arrive and given a scorecard which they fill in with their name and school name and keep for the next three rounds.

When the hooter to move goes, player B stays at the table, player A moves clockwise to the next table and player C moves anti-clockwise to their next table so that they are ready for the first round. For round 1 of the 24® Game only, the teacher referee also moves one table clockwise and then stays at that table for subsequent rounds.

### Round 3: Problem solving: code breaking

Pupils work as a team at their home tables. Teachers move to referee another school. Scoring is done by the Tournament director.

## WHAT IF WE HAVE TO RUN THE HEATS ONLINE? OVERVIEW AND GUIDANCE?

Last year we ran the Heats very successfully using Zoom. If necessary, we will use this platform and the same model for the 2022 Heats and Final.

### SET UP – PLATFORM USED:

- Zoom - Free for Schools with unlimited meeting time. Please make sure you're familiar with it.
- A Zoom link will be sent to each participating school a week before the Heats.
- Up to 12 Teams in each Heat. 3 players per team plus a supervising teacher (who will observe and NOT assist their team).
- Each team will need a laptop with working webcam, on a table with enough space for the Team members to work and write at.
- MUST be 3 players at a single computer, with one person acting as scribe.

### BREAKOUT ROOMS

- 3/4 co-host teachers will act as judges for each of the 3/4 breakout rooms. The co-hosts will be from across schools participating in the heat. They will each co-host a breakout room, sharing presentations, judging and taking scores.
- Co-hosts will all receive a training session beforehand.
- Co-hosts will not be the supervising adult from their school. If a teacher is a co-host, another adult will need to supervise the Team.
- Co-hosts will send results by email after the rounds to us. (A pre-prepared template email is sent to them which they reply to).

### SETTING UP THE SPACE:

- The set up depends on the regulations within your school. If necessary, you will need to keep team members physically distanced.
- The ideal set up would have a laptop on a table for the team, with a large screen or whiteboard on which the Zoom tournament is also being broadcast.

- Participating players must be in view, using a web cam on a laptop facing the players. The supervising teacher may need to have access to the computer for the purposes of submitting or receiving files.
- Pupils should each have mini whiteboards and pens for the purposes of sharing solutions.
- The co-host Judges must be additional to the supervising teacher and should be based in a separate room. They will judge the Shape and 24 game rounds only. They will need access to TWO computers e.g. fixed and laptop or two laptops. Each will be logged in to a different zoom account. (One for displaying materials via share screen and the other for monitoring the participants).
- Breakout room configurations will be assigned prior to the event. You don't need to do anything other than enter these rooms when assigned.
- These changes will be introduced and trialled at the training sessions in January.
- Teams **MUST** practise beforehand, test audio and video and set up equipment ready.

## WHAT DOES EACH ONLINE ROUND CONSIST OF?

### Round 1. Pattern and problem solving (in breakout rooms)

This round consists of two parts:

- Part 1 – Dominoes
- Part 2 – T Shapes



This round is played in school teams, who will work together to arrange the pieces to create grids / pictures they are given. Speed is important, as is familiarity with a wide range of puzzles using these pieces.

- Dominoes:** Each school team will need 6 dominoes sets. They will see a series of 6 grids to make within 10 minutes. At the end of the round, the grids are photographed and emailed to Count on Us (cou@gmail.com).
- T Shapes:** Each school team will need 6 T Shape sets. They will see a series of 6 pictures to make within 10 minutes. At the end of the round, the pictures are photographed and emailed to Count on Us (cou@gmail.com).

## Round 2. 24® Game (in breakout rooms)

1. In each breakout room there will be up to 4 schools and a Judge.
2. Players from each team are allocated A, B or C. Play starts with all A players; the others sit with their backs to the screen.
3. The Judge shows a sequence of cards to Player A. Players will compete to find how to make 24 using the usual rules of last stage first and raise their hand when they have the full solution.
4. The judge will say which school got there first and that Player says the solution. The Judge will allocate points to that school, if correct. Normal rules apply regarding hesitations, wrong answers and passing.
5. The Judge shows a new card on the screen and the process is repeated.
6. At the end of 2 minutes, Player B swaps in and repeats above. Then Player C.
7. At the end of the round, the Judge totals the score for the schools and Teams move back into the main room, while the Judge emails the points to us at Count on Us.
8. Teams are sent to new breakout rooms, with a new co-host and Players A, B and C repeat all of the above.



## Round 3. Code Breaking - all teams together in main room

### How we will play the codebreaking round in the online Heats:

1. A week before the Heats, each school will receive an emailed file containing:
  - ✓ Information Sheet (print 4 copies – one each for the teacher and 3 pupils)
  - ✓ Blank codebreaking charts to work out the cipher alphabet for the shifts they will get at the Heats (print several copies in case they make mistakes).
  - ✓ Blank answer sheet (print 1 copy to fill in and a spare in case they need it).
2. Schools will not know how to use this information until they get to the Heats.
3. This round is done in the main Zoom room, not in breakout rooms.
4. The codebreaking task is presented to all Teams. A member of each Team acts as the scribe to record the 3 tasks they have to do.
5. The answer sheet is shown, with headings showing what they need to fill in. Teams must record this on their own answer sheet.
6. Then the encrypted clues are shared and kept on the presentation screen during the whole task.
7. Teams can decide how they are going to manage the task and then begin deciphering the clues, finding the answers and working out the solutions to the problem.
8. While still on webcam, teachers take a clear photo of their team's answer sheet (making sure it has the school's name on it) and emails it immediately to the Count on Us team to mark and score.

## HOW IS THE IMPACT OF THE COUNT ON US PRIMARY CHALLENGE MEASURED?

We will be measuring the impact of the programme on your pupils and gathering feedback about how it could be developed for future years.

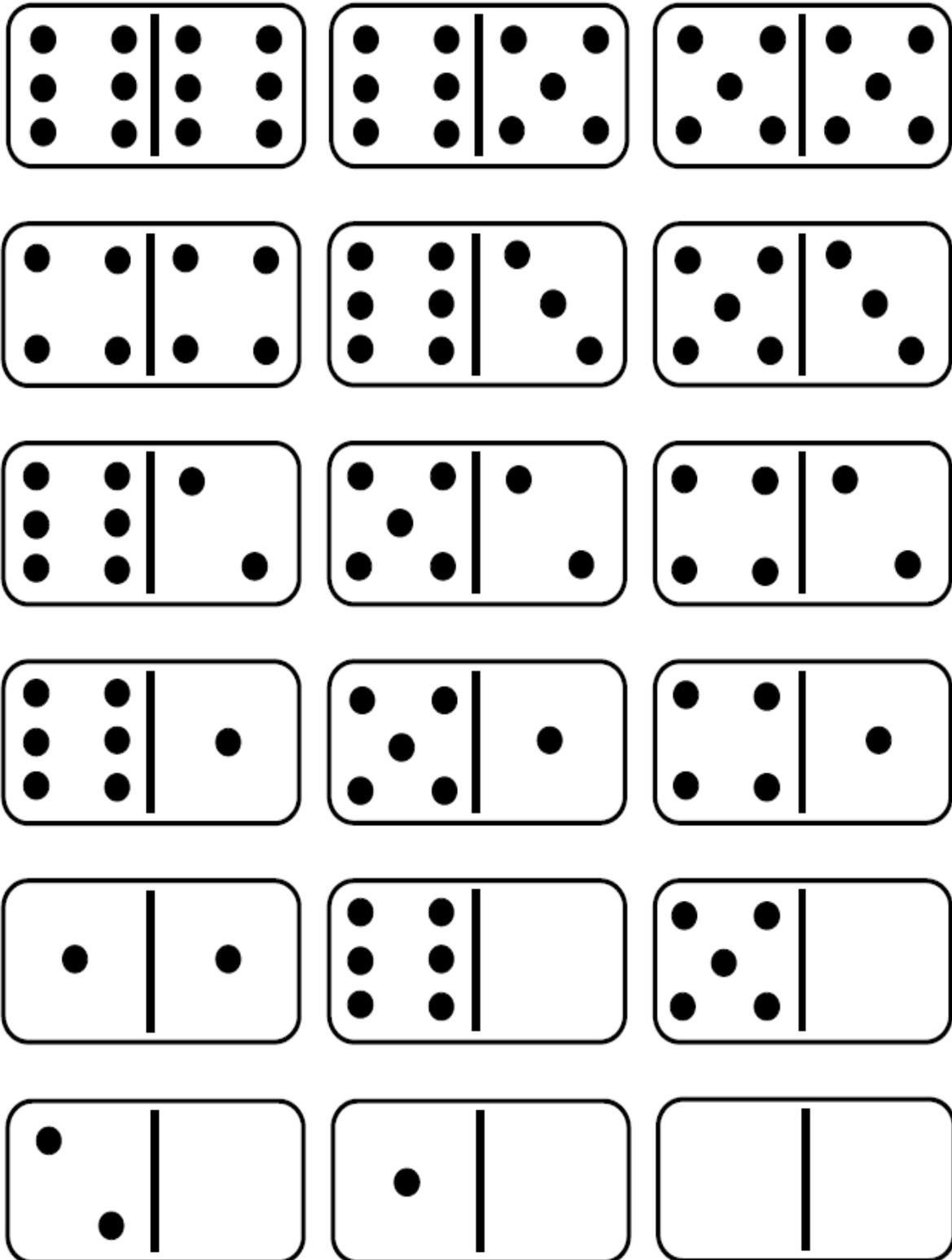
This information will be gathered through evaluation forms for your pupils and staff, interviews with teachers and pupils as well as individual case studies from schools and pupils. The evaluation forms will be shared at each of the Primary Challenge events in the Spring and Summer term.

## WHAT DO YOU NEED TO DO NEXT? A CHECKLIST

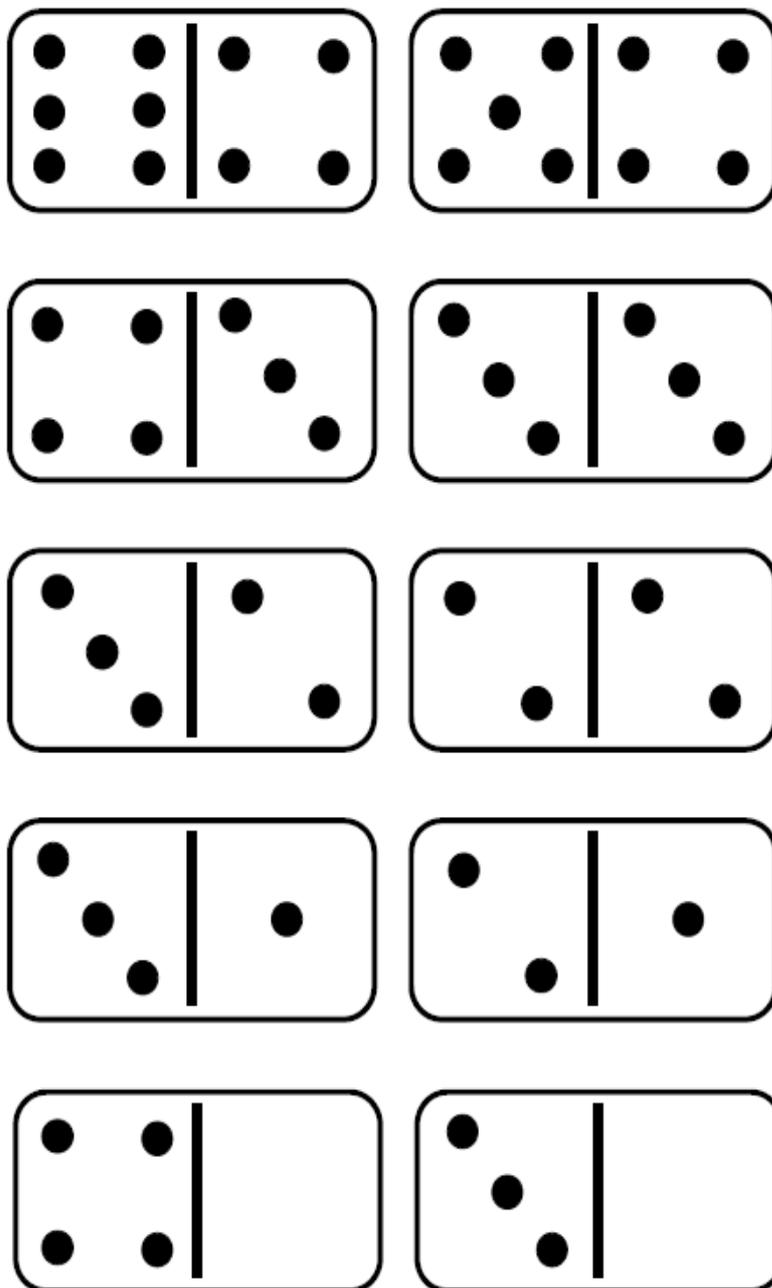
- Assign a lead person to take responsibility for the Count on Us Primary Challenge
- Set up a Count on Us Primary Challenge Club or identify practise opportunities in class.
- Keep a record of your progress on the Activity Log. Send in and get 20 bonus points.
- Practise with all your pupils as much as possible! Use last year's players as mentors.
- Run your in-school tournament and select a mixed-gender team of three.
- Take photos of your club and tournament in action, send to the Count on Us Team and get 20 bonus points.
- Arrange for a lead person and support to attend the heats with pupils. Remember the lead person will be a table referee so they need to know these activities well!
- Complete and return photo consent forms.
- Ensure that all parental consent forms for heat events are complete.
- Arrange transport and staff supervision to the heats (and finals, if successful).

If you have any questions or would like to discuss the Count on Us Primary Challenge and the wider numeracy programmes, please contact the Count on Us Team at the Mayor's Fund for London. In the meantime, have lots of fun with the activities and looking forward to seeing you and your pupils at the Heats.

DOMINOES TEMPLATE: print onto card and cut out.



# COUNT ON US | PRIMARY CHALLENGE



**T SHAPE TEMPLATE:** print onto card and cut out.

