



**THIRD SPACE
LEARNING**

Ultimate Times Tables

Teacher notes for Year 5
games and activities

Year 5

Overview

Activity	Individual activity	Pairs activity	Small group activity	Whole class activity	Resources needed
1 - Divided Race				×	<ul style="list-style-type: none"> • Resource 1 • An area
2 - Dice Duel		×			<ul style="list-style-type: none"> • 12 sided dice per pupil
3 - Maths, Paper, Scissors		×			
4 - Question Race	×				<ul style="list-style-type: none"> • Mini whiteboards
5 - Marathon Race		×			<ul style="list-style-type: none"> • Resource 2 • 6 sided dice • Counters
6 - Links and More Links			×		
7 - Aliens Have Landed	×				<ul style="list-style-type: none"> • Resource 3
8 - Bingo				×	<ul style="list-style-type: none"> • Mini whiteboards
9 - Back to Ten			×		<ul style="list-style-type: none"> • Mini whiteboards
10 - Who has the Maths Factor?			×	×	<ul style="list-style-type: none"> • Mini whiteboards
11 - Spin and Pop				×	

Activity	Individual activity	Pairs activity	Small group activity	Whole class activity	Resources needed
12 - Meet in the Middle				×	<ul style="list-style-type: none">• Resource 4• An area• Mini whiteboards
13 - What do we know?				×	<ul style="list-style-type: none">• Mini whiteboards
14 - Race the Answer				×	<ul style="list-style-type: none">• Two copies of resource 5• A large area
15 - Looping facts				×	<ul style="list-style-type: none">• Resource 6
16 - Multiples Four in a Row		×			<ul style="list-style-type: none">• Resource 7• Different colour counters

Divided Race

Focus: Recall multiplication and division facts for the 1 - 12 times tables.

Aim: Run to the answer of the given question.

Resources:

- Resource 1; an area to play the game

Instructions:

- 1 Before the lesson, place the numbers around the room.
- 2 Pupils stand in the middle of the room.
- 3 Say a division fact for the 1 to 12. Pupils run to the quotient.

Key questions:

- Can you explain your strategy for finding the answer?
- Can you think of another fact linked to this one?

Extension:

- Include some division facts.

Dice Duel

Focus: Recall multiplication and related division facts for the 1 to 12 times tables and facts linked by multiples for 10.

Aim: Be the first person to multiply the two numbers together.

Resources:

- 12 sided dice each

Instructions:

- 1 Pairs roll their die at the same time. They then race against each other to multiply the numbers on the dice together.
- 2 The first person to say the full calculation out loud correctly wins a point. The first person to 20 points wins.

Key questions:

- How have you calculated the answer?
- Which key multiplication facts are you using to help you?

Extension:

- Say a related division fact.
- Roll the two 12 sided dice then roll an extra 6 sided die. Multiply the first product by the number on the 6 sided die.

Maths, Paper, Scissors

Focus: Recognise and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables.

Aim: Play a maths version of rock, paper, scissors.

Instructions:

- 1 In pairs, pupils say, “Maths, paper, scissors.”
- 2 When they say scissors, they each hold up between 2 and 10 fingers.
- 3 Pupils then race to multiply the number of fingers on their hand by the number of fingers on their partner’s hand.
- 4 The first person to say the correct calculation wins. The first person to reach 20 points wins the whole game.

Key questions:

- Why have we said you can’t show 1 or 0 fingers?
- What is the largest possible answer based on the number of fingers you could put out?

Extension:

- Play a round of maths, paper, scissors. The winner of two games play each other. The pupils who didn’t win become cheerleaders. This will result in two pupils battling to be the ultimate winner.

Question Race

Focus: Recognise and use multiplication and division facts for the 2 to 12 times tables.

Aim: Find as many multiplication and division facts for the number given.

Resources:

- Mini whiteboards

Instructions:

- 1 Write a number on the board that is a multiple of more than one number.
- 2 Pupils write as many multiplication and division statements as they can involving the given number.

Key questions:

- Which times table is this number in?

Extension:

- Include numbers that are multiples of 10 or 100.

Marathon Race

Focus: The 1 to 12 times tables and related division facts.

Aim: Land on Athens first.

Resources:

- Resource 2; six-sided dice, different colour counters

Instructions:

- 1 Pairs play the game by rolling a die and moving the indicated number of spaces.
- 2 When they land on a space they need to complete the question or follow the instructions. If they answer the calculation incorrectly, they return to the square they came from.
- 3 A pupil wins when they land on Athens.

Key questions:

- How can you check your partner's answers?
- Which facts do you find easier to recall? Why?
- Which facts can you use to recall other facts?

Extension:

- Give one related fact for the question you land on.

Links and More Links

Focus: Investigate and explore links between the 1 to 12 times tables.

Aim: Explore the links between the different times tables.

Instructions:

- 1 Present pupils with this statement: Evie say, “I know my 4 times table is linked to my 8 times table.”
- 2 Pupils discuss this in groups and prove the link. Then they can identify links between the eight and other times tables.

Key questions:

- Which tables are linked? How do you know? Explain the links.
- How can you use these links to help you solve harder times table questions?
- Which times table has the most links?

Extension:

- Explore the links between multiplying multiples of 10 and the 1 to 12 times tables.

Aliens Have Landed

Focus: Recognise and use multiplication and division facts for the 1 to 12 times tables, including facts related by a power of 10.

Aim: Create tripods and write all the related facts.

Resources:

- Resource 3

Instructions:

- 1 Discuss how the tripods work (the three numbers are related by multiplication or division).
- 2 Pupils then create their own tripods and write all the related calculations in the boxes.

Key questions:

- Which multiple of 10 will you use?
- How can you use your knowledge of the 1 to 12 times tables to help you?

Extension:

- Create a tripod where the multiplier and multiplicand are both multiples of 10.

Bingo

Focus: Related division facts for the 1 to 12 times tables and facts linked through powers of 10 and 100.

Aim: Be the first to cross off all your bingo numbers.

Resources:

- Mini whiteboards

Instructions:

- 1 Tell pupils to write down five numbers between 1 and 12 on their whiteboards.
- 2 Call out a series of division calculations linked to the 1 to 12 times tables but involving two multiples of 10 or 100. If the answer is one of the numbers on the pupil's whiteboard, they can cross it off (encourage them not to rub them off so they can prove their answers are correct).
- 3 When all five numbers are crossed out, they shout bingo.

Key questions:

- What question could I ask that would give one of your numbers?
- Is there more than one question I could ask that would give the answer of [number]?

Extension:

- Pupils could play this game in small groups with one person being the 'caller'.

Back to Ten

Focus: Recall of multiplication and related division facts for the 1 to 12 times tables and facts linked by multiples of 10 or 100.

Aim: Calculate the missing number written by a partner.

Resources:

- Mini whiteboards

Instructions:

- 1 Put pupils in threes and label them A, B and C.
- 2 A and B will need whiteboards.
- 3 C will be the 'spotter'.
- 4 A writes down a multiple of 10 or 100, B writes down a number between 1 and 12.
- 5 C multiplies the two numbers together and says the product only.
- 6 A and B race to calculate the number on the other person's whiteboard using this information.

Key questions:

- How can you work out the missing number? Which facts can you use to help you?
- Can you explain the strategy you are using?

Extension:

- Person C multiplies numbers A and B then multiplies the product by 2.

Who has the Maths Factor?

Focus: Identification of factors of numbers between 1 and 50.

Aim: Find all the factors of a number to win points for your team.

Resources:

- Mini whiteboards

Instructions:

- 1 Put pupils into groups of 3 or 4.
- 2 Write down a number between 1 and 50.
- 3 Pupils then write down the factors of the number on their whiteboards and hold the whiteboards up when they have finished.
- 4 The first pupil to show the correct answer gets 3 points, the second pupil gets 2 points and the third pupil gets 1 point. Incorrect or incomplete answers do not get any points.

Key questions:

- What is a factor?
- How do we find a factor of a number?
- Can the same number be a factor of a number more than once?
- Which number is always a factor of any number?

Extension:

- Expand the range to numbers over 50.
- Identify if the given number is composite, prime or square.

Spin and Pop

Focus: Identify prime and square numbers up to 50.

Aim: Say pop for prime numbers and spin for square numbers when counting in ones.

Instructions:

- 1 Count from 0 to 20 in steps of one. When you are supposed to say a prime number, say 'pop' instead and jump.
- 2 Count from 0 to 30 in steps of one. When you are supposed to say a square number say 'spin' instead and spin.
- 3 Combine these rules counting from 0 to 50.

Key questions:

- What is a prime number? Is 1 a prime number?
- Can a number be a prime AND square number? Why not?

Extension:

- Continue counting to 100.
- Play in small groups, adding a competitive element of being out if incorrect.

Meet in the Middle

Focus: Recall of multiplication and division facts for the 1 to 12 times tables and multiples of 10 or 100.

Aim: Answer the question your partner has.

Resources:

- Resource 4; medium size area; mini whiteboard each

Instructions:

- 1 Hand out the meet in the middle cards. Tell the pupils to walk around the space and then say, 'meet'.
- 2 Pupils should then find a partner and look at their partner's card. They then say at least one related fact for that card.
- 3 Pupils then write down the factors of the number on their whiteboards and hold the whiteboards up when they have finished.
- 4 When both partners have said the facts, they swap cards and find a new partner.

Key questions:

- How many multiplication and division facts could you say?
- Did someone give you a different related calculation to the one you said?

Extension:

- Give all the related facts before moving on.

What do we know?

Focus: Recognise and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables.

Aim: As a class write as many related facts as possible.

Resources:

- Mini whiteboards

Instructions:

- 1 Write a multiplication fact from the 1 to 12 times tables.
- 2 Pupils will have 3 minutes to write down as many related facts as they can.
- 3 When the three minutes are over, set another three minutes and get pupils to write as many calculations as they can on the whiteboard.
- 4 When the time has finished, count the total number of unique calculations

Key questions:

- How is this a related fact? Convince me.
- How many related facts can you find?
- Can you find related facts using each of the four operations?

Extension:

- Include additional restraints e.g. all related facts must be division.

Race the Answer

Focus: Recall of multiplication and division facts for the 1 to 12 times tables and powers of 10.

Aim: Create the answer to the calculation.

Resources:

- Two copies of resource 5; large area

Instructions:

- 1 This game is designed to be played with groups of 20 but can be played with any number of pupils if each pupil holds more than one digit card. With numbers over 20, put pupils in two 'teams' that have to compete to get the answer to the middle first.
- 2 Give pupils digit cards.
- 3 Say an 11 times tables multiplication or division question.
- 4 Pupils race to the middle to display the answer. If two people have the same digit (e.g. $22 \text{ divided by } 11 = 2$), the first person into the middle wins.

Key questions:

- How can you work out the digits needed to make the answer?
- Are some digits more frequent than others? Why?

Extension:

- Pupils can take turns as the question master. Can they create a list of questions that would mean each digit would be used at least once in an answer?

Looping Facts

Focus: Recall of multiplication and related facts for the 1 to 12 times tables.

Aim: Complete the loop of question cards as a class.

Resources:

- Resource 6

Instructions:

- 1 Hand out the loop cards.
- 2 Pick someone to start by saying the question on their card. The pupil with the answer says the answer then reads their question.
- 3 Continue until the first person says their answer.

Key questions:

- Which fact do you think will match your answer / question?
- Which times table matches your question?

Extension:

- Put pupils into two groups with a complete set of cards. Which team can be the quickest to complete the loop?

Multiples Four in a Row

Focus: Recognise and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables.

Aim: Place counters so that you get four counters in a row (horizontally, vertically or diagonally).

Resources:

- Resource 7; different colour counters

Instructions:

- 1 Pupils aim to make a row of five counters on the grid. To place a counter, they need to point at a number and say two multiplication or division facts related to the number.
- 2 If the fact is incorrect, they can't place the counter.

Key questions:

- Which facts will you say? Are there other facts you could say?
- Which numbers link to more than two different times tables?
- Can you explain the method you are using?

Extension:

- Identify at least 3 facts for the number.