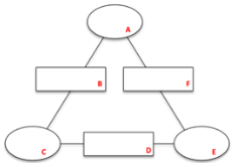
GLOBAL MATHS AND SCIENCE LESSON 2026
LET'S PLAY MATHEMATICALLY TO LEARN

LESSON RESOURCE FOR GLOBAL MATH WEEK
Saturday 10th – Sunday 18th October 2026

Join the many thousands taking part in the Global Maths & Science Lesson during the week
register at https://gtenmaths.org/gmsl
and post a photo of your class taken during the lesson with #gmsl2026 to receive a certificate of participation.

CHECKIT GAME #GMSL2026

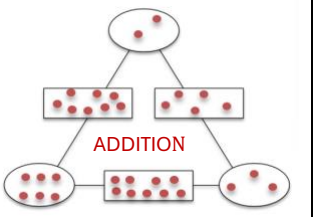
CHECKIT offers games for all ages with many number puzzles as shown in the examples below, also algebra if you want it. Choose a Checkit game to suit your class. Entries in the ovals A, C and E of the Checkit frame combine to give entries in the rectangles B, D and F. Entries can be numbers of different types, or algebraic expressions etc. The operations can be +, -, ×, ÷ or any binary operation of your choice. Decide first which type of entries and which operation for combining entries, you want to use.



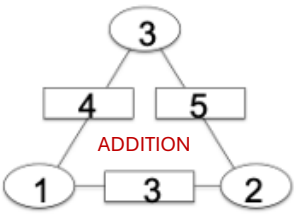
PART 1 OF GLOBAL MATHS LESSON – PLAYING CHECKIT AS A WHOLE CLASS

In this lesson learners will invent puzzles and solve puzzles created by their classmates. First, to learn the game:

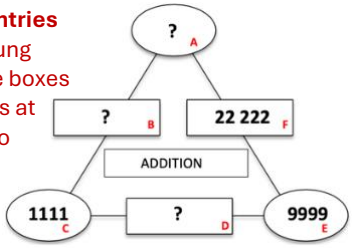
1. Use the examples below. Choose the types of entries and the operations to suit your class and the learning objectives of your lesson. Where there are 6 entries, choose which 3 entries to remove to create puzzles for your learners. Alternatively make up your own examples.
2. Draw on the board a single frame with 3 entries and give learners a set time to copy the frame and write in the other 3 entries. You can give younger players a sheet of blank frames so they just copy in the entries. Older players can sketch their own frames.
3. When the time is up, players get 1 point for making 1 entry, 2 points for making 2 entries and 5 points for making all three entries. The winner is the first player to get 20 points.



Whole numbers up to 10

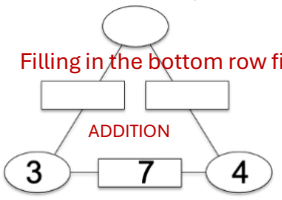


Example of puzzle with 3 entries
Use smaller numbers for young learners. The numbers in the boxes are the sums of the numbers at the vertices. Find numbers to replace the question marks.

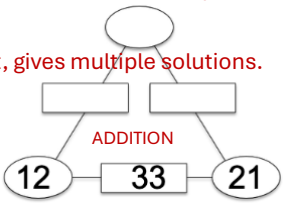


Whole numbers up to 20

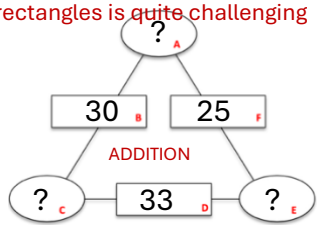
Filling in the bottom row first, gives multiple solutions.



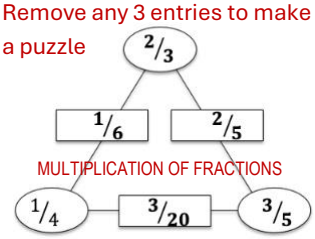
Whole numbers up to 100

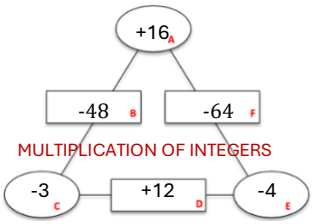


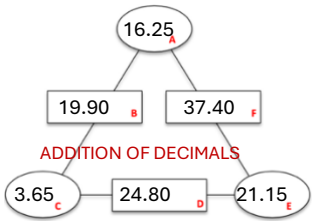
Starting with the numbers in the rectangles is quite challenging

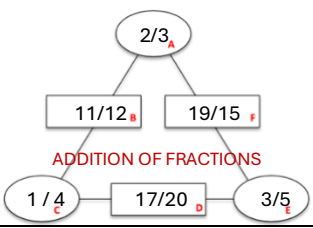


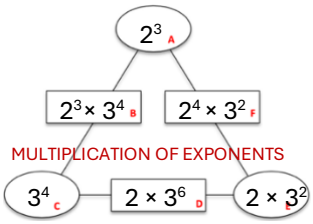
Remove any 3 entries to make a puzzle

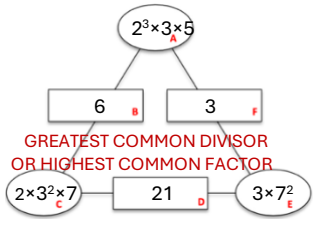




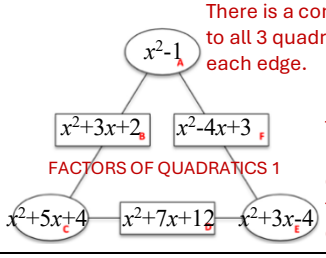






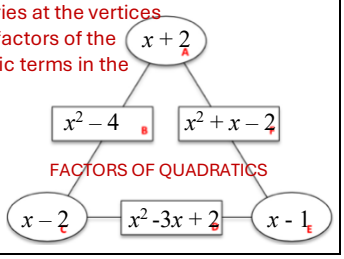


There is a common factor to all 3 quadratics on each edge.



There are two different forms of the Factors of Quadratics Checkits. To create a puzzle remove any 3 entries from one or the other or use different quadratic expressions.

The entries at the vertices are the factors of the quadratic terms in the boxes



PART 2 OF GLOBAL MATHS LESSON - LEARNERS CREATE PUZZLES

1. Learners work in groups of four. All four learners create a Checkit puzzle. They must first agree on the type of entry and the operation. Each player draws a frame and creates a Checkit with 6 entries as in the examples, then draws the frame again, filling in 3 entries and leaving 3 blanks.
2. The learners then swop their puzzles with another member of the group to be checked. Errors should be corrected.
3. The four puzzles are given to players in the group who have not seen them.
4. Everyone solves a puzzle trying to complete all the entries in the agreed time. Then they check solutions and score 1 point for one correct entry, 2 points for 2 correct entries and 5 points for 3 correct entries.

PART 3 OF GLOBAL MATHS LESSON – CLASS DISCUSSION

Ask a pair of learners to come to the front, ask one of them to draw the puzzle they set on the board and ask the class to solve it. Then, ask the partner to explain the strategy they used to solve the puzzle. Ask members of the class to join in the discussion if they solved the puzzle in a different way. If time allows, repeat this for other pairs of learners.

WHY PLAY THESE GAMES IN LESSONS

Checkit games change routine drill and practice in doing calculations of all types into enjoyable activities. They can be used to reinforce familiarity with mathematical language and understanding of the concept of inverse operations. The games encourage discussion about checking calculations. The group work in this lesson allows for differentiation and inclusion as the teacher can organise the groups accordingly and suggest the type of puzzle each group should concentrate on.

Games provide useful lesson starters for learners of all ages. They serve to introduce the learning objective for the lesson, to develop numeracy, to provide drill and practice and to develop important transferable skills. When the learners know the rules from earlier lessons, this has the advantage that a lesson starter game can serve its purpose and take no longer than five minutes.

Playing games not only helps learners to learn mathematics, but also to develop strategic thinking and other transferable skills valuable in life. In planning their own actions, players need to consider all the possibilities for other players' strategies and decisions.

Playful learning should be accessible to everyone, everywhere, from cradle to grave, because research shows that people of all ages learn best through focussed play and it can help students learn fundamental concepts and skills, as well as develop their abilities to collaborate, solve problems, and navigate uncertainty. Play as a teaching strategy for learning involves asking "What if" in order to explore, adapt, and create, and this is vital in addressing complex local and global issues.

Teachers who adopt playful learning in their teaching repertoire find that their students' attitudes to mathematics change, their fear of the subject disappears, and they remember and understand mathematical methods, number concepts and facts better. This happens because human beings naturally enjoy play and thrive on it.

The 'Let's Play Mathematically' books provide ideas and free resources for playful learning at home and in school.

LEARNING OBJECTIVES

- numeracy skills;
- binary operations at all levels involving whole numbers, integers, fractions, decimals, prime decomposition, HCF & LCM, and factorisation of quadratics
- deeper understanding of inverse operations
- communication and presentation skills
- creativity
- playing games without being overanxious to win.

ORIGINS

Arithmagon puzzles are well known. Here we have created a new game using the Arithmagon format.