

3-6: REMOTE MATHS

EDITION 18

NUMBER AND ALGEBRA - GAMES

Mathematical language: place value, hundreds, tens, ones, rename, multiples, fractions, add, multiply, arrays.

GAME 1: RENAME THAT NUMBER *Adapted from James Russo*

This game focuses on renaming (place value). It's for one or more players.

Materials

Two (or 3) dice (10-sided if you have some), paper, pencils, toothpicks, rubber bands, and small zip-lock bags, or alternatively you can use a set of blocks with 3 different colours.

Rules

- Before you begin, bundle some of the toothpicks into groups of ten, secured by a rubber band, or if using blocks determine which colour represents the tens and which one represents the ones (*for extension – ten bundles into zip-lock bags represents hundreds, or third colour represents hundreds).
- Pair (or individual) A rolls two dice and creates a two-digit number, using one of the die to represent the tens column, and the other die to represent the ones column (e.g. 67).
- Pair (or individual) B needs to construct the number using the materials that you have chosen (toothpicks or blocks) using standard partitioning. For example, getting 6 bundles of toothpicks and 7 single toothpicks.
- While B is constructing the number, A is working on how to rename the number (e.g. 5 tens and 17 ones). They record their number on the paper, without B seeing what they have recorded.
- B needs to work out how A renamed the number. Record how many attempts it takes B to guess correctly.
- The roles are now switched. This time B rolls the dice and the process is repeated.
- The winner is the person or pair with the lowest score.



EDITION 18: NUMBER AND ALGEBRA - GAMES (CONT.)

GAME 2: MULTIPLE MADNESS *Source: Paul Swan*

This game focuses on multiples (multiplicative thinking). It's for one or more players.

Materials

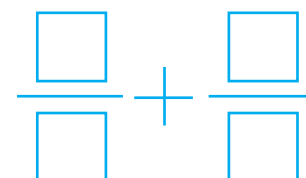
A calculator and a deck of cards with the picture cards removed.

Rules

- All the cards are dealt out to each player (players must not look at their cards).
- The dealer chooses a number from 1 to 10 (e.g. 3). This number becomes the multiple for that round.
- Players take turns to flip over their top card and place it on a pile in the middle.
- Players must keep a mental running total of the cards (i.e. the values of the cards) added to the pile.
- When the total is a multiple of the chosen number – say 3 – then the first person to call out '3, 3, 3' collects the cards.
- Players may challenge whether the result is really divisible by that number. The calculator may be used to settle disputes. If it is not divisible, the person who called '3, 3, 3' places two of their cards in the middle.
- The winner is the person with the most cards in his/her hand after a set time.

GAME 3: NEAREST TO ONE *Source: Michael Minas and James Russo*

This game focuses on fractions (rational numbers). It's for two players.



Materials

Paper, pens and a deck of cards with the picture cards removed.

Rules

- Draw 4 squares for each player like the picture on the right.
- The aim of the game is to be the closest to 1 when your two fractions are added together.
- Turn five cards over from the deck and place them face up.
- Player A chooses two cards to make their first fraction. Player B chooses two cards to make a fraction.
- The fifth card is discarded, and five more cards are turned over face up.
- Player B chooses two cards first this time to make their second fraction.
- Player A chooses two cards to make their fraction.
- The one closest to 1 gets a point. Play the game five times to determine the overall winner.
- Fractional shapes (made commercially or from paper) can be used to help determine who is closer.

Look out for more tasks next week!