ADDITION TOWER

A CHALLENGE FOCUSED ON REINFORCING NUMBER RECOGNITION & RECALL OF BASIC FACTS

AIM: To quickly recall basic addition equations to build a tower using LEGO* & dice

ITEMS NEEDED:

- 2 Dice
- 40 basic LEGO bricks per person
- Optional - A base plate or other large LEGO plate to act as the base to build from

THE TASK:

Step 1: Decide who starts

Step 2: When it is your turn, roll both the dice together.

Step 3: Add the 2 numbers together and call out your answer. If you get it correct you get to add the total you called out to your tower.
For example, if you roll a 3 and a 5 when added together they equal 8. Now you can add 8 bricks to your tower.

TWIST: if you answer incorrectly you do not get to add the bricks to the tower.

Step 4: Keep taking turns until someone uses all 40 of their bricks!

ALTERNATIVES & EXTENSIONS

Note about dice: Depending on where you are at with your students you choose which type of dice you need - dice with actual numbers on it, or the classic dice with dots.

Note about Step 4: You can change up the final goal in many ways. You could add more - use 50, 60, or even 100 bricks. You could keep going until someone's tower falls over, and the winner is the one that stays in for the longest without their tower falling over.

Note about the Twist: If you really want to make the game exciting, if students get the answer incorrect they have to subtract their incorrect answer off their tower!

Let's start at the beginning. Do you have young students who are learning to recognise numbers and count? If yes then start with this basic counting challenge...

Alternative #1 - Early number recognition and counting: Use just 1 dice per person. This activity can be done individually or in groups. Roll the dice, get your student to say the number that is rolled. Once they have this correct get them to count out the right number of bricks and start their tower. NOTE: If their fine motor skills are not advanced enough to build a tower, simply get them to build the bricks on a base plate.

Do you have students that need an extra boost? If yes, let's make things trickier! You choose the level to suit where your student's learning is at. Here are some ideas to extend this game and include more skills.

Extension #1: Add more dice. If your students have aced adding 2 numbers easily add in more dice. 3, 4, 5...

Extension #2: Change the type of dice. There are dice out there with more than 6 sides. Check out a toy store that sells board games for extra dice. You can get 4, 6, 8, 10, 12, and 20, plus a wide variety more if needed!

Extension #3: Change from addition to multiplication or subtraction. Simply use the same rules as per the original game but change 'add the dice' to 'multiply the dice numbers'. If your students are working on subtraction get them to subtract the lowest number from the highest number (remember to use the correct language and prompt those that need it by suggesting "which number is greater than...or less than").

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RICH EXPERIENCES

- **Number recognition** - the dice can have either the numerical number or the number represented by dots, children need to be able to identify the number in both of these forms to play the game.
- **Fine motor skills** - assembling the tower takes hand eye co-ordination and fine motor strength as the tower is built. If playing the subtracting the bricks for a wrong answer then this also takes dexterity as they disassemble the tower.
- **Group participation** - playing this as a games encourages group participation and learning the rules of the game.

LINKS TO CURRICULUM

Te Whāriki

Mana reo - Communication

Children recognise mathematical symbols and concepts and use them with enjoyment, meaning and purpose.

This links to children gaining knowledge and understanding of the numbers 1-6 and understanding that these can also be represented in symbol form as dots on a die. Children learn maths can be learnt through fun and creative games. Extending children through early maths skills from counting the dots to matching this with the bricks and building the tower to simple addition.

Mana tangata - Contribution

Children are encouraged to learn with and alongside others.

This links to groups of children working together to play the game. Learning how to take turn, encourage each other, help and correct each other in a positive way which makes it enjoyable for all participating.

Mana whenua - Belonging

Children learn the limits and boundaries and respect the rules and rights of others.

This links to children deciding and agreeing on the rules of the game and respecting each others turns and learning to be good winner and a good loser.

New Zealand Curriculum

Maths - Number & Algebra

Students will be able to record and interpret additive and simple multiplicative strategies, using symbols with an understanding of equality. (L3)

This links to students being able to add & subtract and later when the game is extended do simple multiplication to build the tower.

Students will be able to generalise that the next counting number gives the result of adding one object to a set and that counting the number of objects in a set tells how many. (L1)

This links to students learning how to count the dots on the dice and then add them together to get the total number they need to build their tower.

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