

Bundling Craft Sticks to 120 Game:

Using a Tens and Ones proforma for Addition and Subtraction

Background

Play this game repeatedly using a ten and ones proforma so that students get opportunity practice the place value idea to 120+. It is important that students become comfortable with exchanging and are able to communicate what the number the craft sticks represent. **Remember to develop the 'Action before Abstraction' (Korbosky 2014).**

The students should then be given the opportunity to record the progress of the game. Change the game to give students the ability to record the progress of the game (see Korbosky ***Dice Throw Bundling Ten Craft Sticks to 120 Game***)

Students draw pictures to record the craft sticks (you need to clearly show students how to draw bundled craft sticks) and use symbols. Link the place value game to addition.

These A4 games should be enlarged to A3 for students to be able to draw the materials.

Link the game to subtraction by giving the students 120 craft sticks and rather than add when they throw the dice they take away the quantity. Start the subtraction idea with the tens and ones proforma. After many opportunities for regrouping, introduce the game format which allows students to record the process, as in the addition game previously described. (see Korbosky ***'Break 120 Subtract Dice Throw Bundling Ten Game'***)

What mathematics education is happening here?

- The students are using materials to develop their understandings of place value.
- Scaffolding place value ideas to draw and write the mathematics is developed using a game that the students are familiar with.
- Making connections between 'hands on', pictures, symbols to place value ideas, addition and subtraction calculations develops greater meaning.
- A problem solving approach is reinforced naturally in this game approach using different strategies
- Students are recording their attempts and this gives teachers an opportunity to access their work.

TENS	ONES

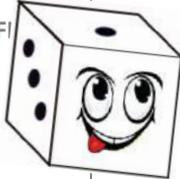
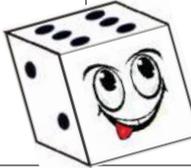
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Strategy: 120 Game
 Worksheet: Addition

Remember to develop the **action before abstraction**. (Korbosky 2014).

The steps:

1. Throw the six sided dice.
2. Collect the number of craft sticks shown on the dice
3. Draw the number of craft sticks you have.
4. Now write using numbers how many craft sticks you have by adding both drawings together.
5. Throw the dice again and see how you go! EASY!

Throws	Draw how many you have	Draw the number you collected this turn	Write the total number of craft sticks you have
FIRST	 <p>I rolled a 1 on my first turn!</p>		1
SECOND	 <p>I rolled a 6 on my 2nd turn!</p>		<p>Psst... Add together the craft sticks in your drawings to get the answer</p> <p> + = 7</p>

Throw #	Draw how many you have	Draw the number you collected this turn	Write the total number of craft sticks you have
FIRST	<p><i>You don't have any sticks yet, pick up the dice and get rolling</i></p>		
SECOND			
THIRD			
FOURTH			

Throw #	Draw how many you have	Draw the number you collected this turn	Write the total number of craft sticks you have
FIFTH			
SIXTH			
SEVENTH			
EIGHTH			
NINETH			
TENTH			
ELEVENTH			
TWELFTH			