

The Crow and the Pitcher activity¹

Team members 1. 2.
 3. 4.
 5. 6.

In this activity, you will simulate the story of "The Crow and the Pitcher" using a graduated cylinder and marbles.

Experiment: Fill your graduated cylinder with water, up to 100 mm height. You will be adding marbles (*one at a time*) until the water reaches a level of at least 120 mm—the level at which the crow can reach the water.

Question 1: Complete the first five rows of the table on the right. The water level has *not* raised enough, but can you predict how many marbles you will finally need to reach your goal of the 120mm height?

We believe that if we have a total amount of 11 marbles inside the graduated cylinder, then the height of the water level will be about 120mm.

Number of marbles n	Height of water level (mm) h
0	100
1	100 101
2	102
3	102
4	103
5	104
6	105
7	111
8	11
9	112
10	113
11	120

Question 2: Keep adding marbles, and complete the table above. Was your prediction correct?

Try to represent your inputs graphically. What do you notice?

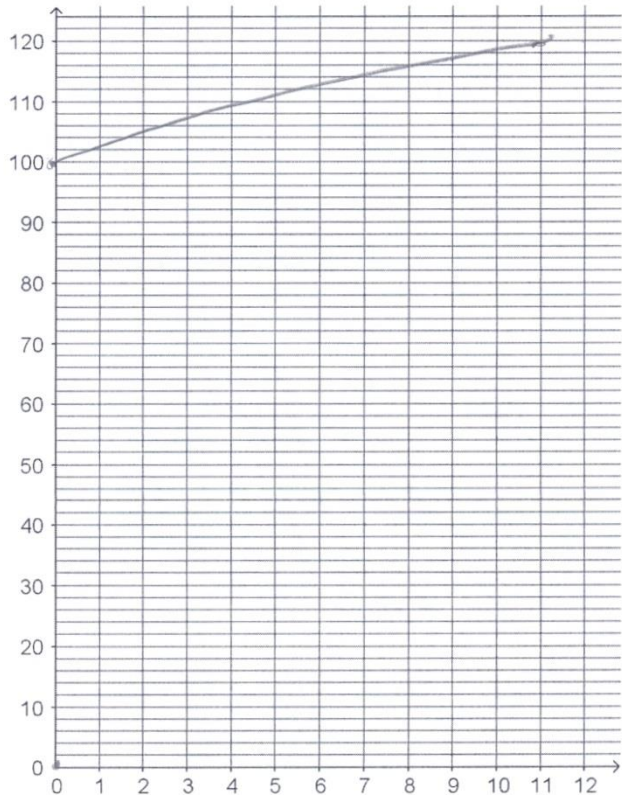
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Question 3: Can you find a rule that relates the variable "h" (height of water level) to the variable "n" (number of marbles)?

Write it in the space below:

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Figure out which of the two variables is dependent and which is independent.



¹ This activity is based on a lesson plan of National Council of Teachers of Mathematics (NCTM) published in "Illuminations": <http://illuminations.nctm.org/lesson.aspx?id=3667>