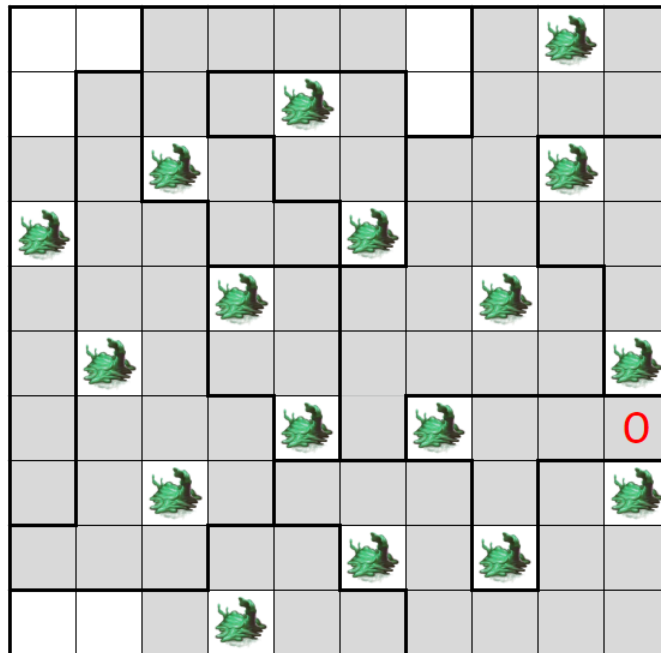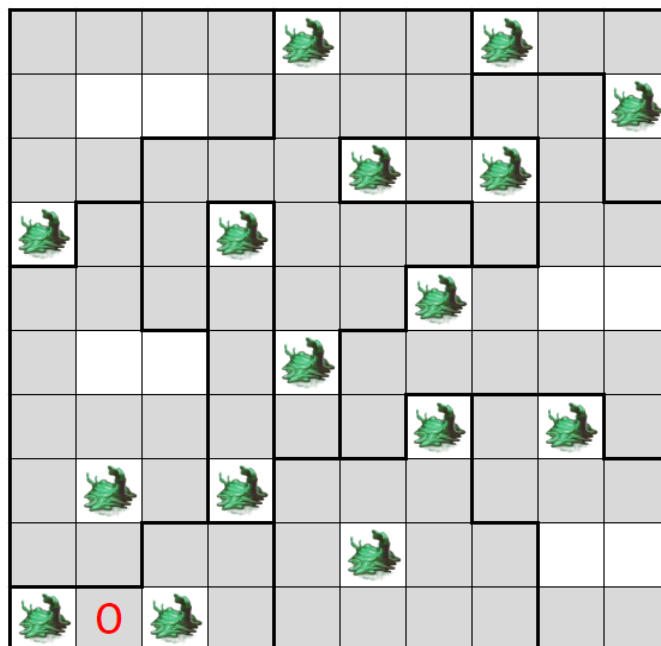## Ooze (solution)
by Celestine Lau

This is a variant on a [Star Battle](#) puzzle. It is effectively a 1★ and 2★ Star Battle puzzle on the same board, with some restrictions linking the 2 solutions. The 1★ Star Battle (large oozes) is highly unconstrained at this point, and solvers should instead attempt to solve the 2★ (smaller oozes) puzzle first as far as possible. The solution, however, will not be unique without considering also the extra rules and the 1★ puzzle, but solvers should at least be able to obtain the following partial boards using only the 2★ puzzle. (Grey cells indicate squares where an ooze is impossible.
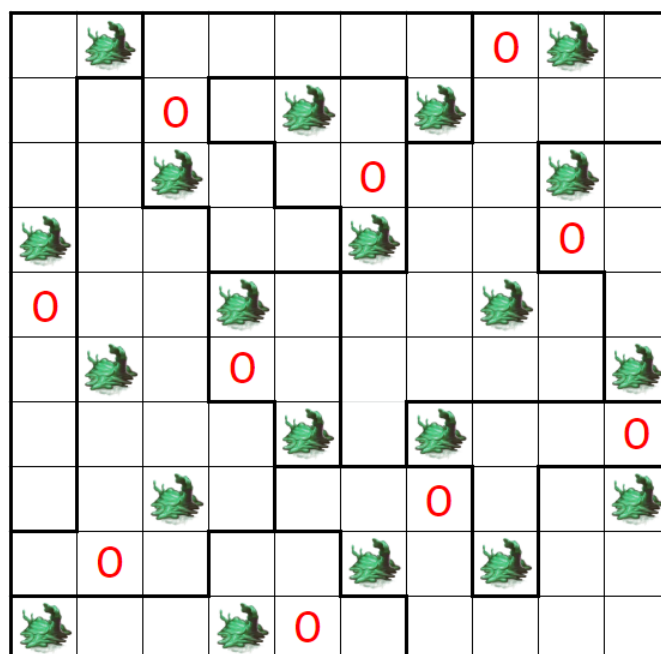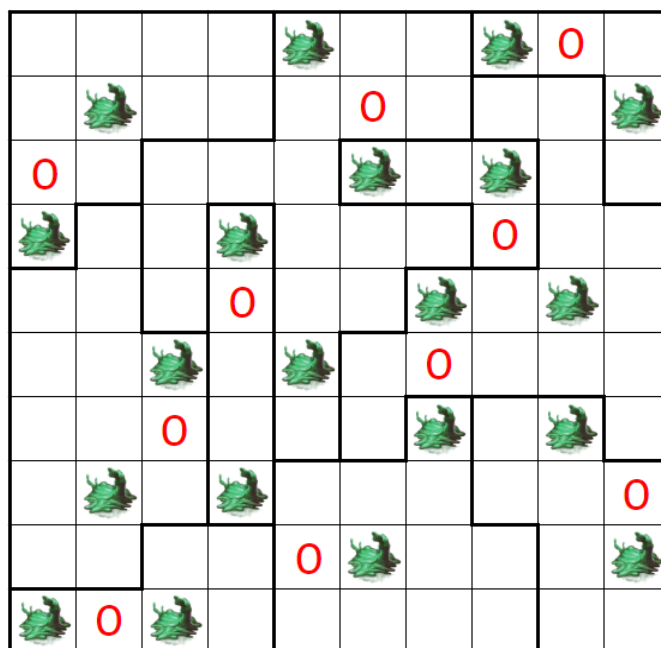

Board 1

Board 2

From this point, the other rules must be considered. Since there can be at most one ooze per row and column, a good approach would be to identify locations along the edges which must contain a larger ooze (because otherwise, there would not be a larger ooze on that row or column). One such location is indicated with a red O in the grids above. At some point, the positions of the larger oozes will force one or more of the smaller oozes and will allow the entire grid to be solved.

The completed grids are shown below, where the red Os represent larger oozes.

Board 1

Board 2

Using the positions of the larger oozes on the extraction grid produces the clue phrase ITEM TO PARTITION A ROOM, which is a **DIVIDER**.

Constructor's Notes:

Star Battle is one of my favorite logic puzzle types. Once, I encountered a Star Battle that was constructed so that it could be solved as both a 1★ or a 2★ puzzle (Although due to the significant constraints of such a puzzle, the solution was relatively trivial). Unfortunately I cannot find the link to that puzzle (although I remember that the page was in Japanese).

I thought that a play on a board that can solve to 1★ or 2★ could fit an Ooze theme fairly well given that splitting into two is a well known ability of Oozes. Constructing the grids themselves was also in itself a challenge, as the boards have to have multiple solutions for the 2★ puzzle yet be constrained enough that sufficient progress can be made to the point that the 1★ positions can be determined from the partial board. I ended up writing a program to verify the number of solutions for the 2★ and completed puzzles and then manually tweaked boards / solve paths until there were a small number of 2★ solutions remaining.