7 eights are 56!

Game rationale
This game was developed to assist students in developing multiplicative thinking skills through building on known multiples. Many teachers and students mention how difficult it is for students to learn some multiplication 'facts', in particular 7 x 8. Multiples of seven are difficult for students as they are not "double" anything. For example, strategies we use to solve multiples of 6 (doubling known multiples of 3) doesn't work. Resources I've used in the past focus on seeing multiples of seven as "5 and 2", linking to distributive property e.g. 8 x 7 is the same as 8(5 + 2) which is the same as 8 x 5 + 8 x 2.

Focusing on 7 x 8 = 56 through a game, can breakdown some of the difficulty students have with this multiple and others as well. Understanding how multiplication works is more important than learning "times tables" as a rote list. Using strategies such as doubling and halving, and distributive property make for flexible thinkers and allows students to see relationships between numbers. If students know multiples "off by heart" that's ok, what we want to avoid though, is going back to one when students get 'stuck'. For example, if a student doesn't know *6 sevens*, starting back at *one seven, two sevens, three sevens etc* is not an efficient strategy. Using known multiples like "well I know 5 sevens is 35" as a benchmark, then adding on from there is a step in the right (efficient) direction.

Game rules
- Playing in pairs (or threes)
- One board each (see attached printable boards)
- 2 x 8-sided dice (numbered 1 to 8)
- Pen, pencil, or highlighter to colour (or laminate the game boards and use whiteboard markers)

There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they find the multiple (e.g. 16) and colour in the section. Their go is over, and the next player has their go. The multiple (e.g. 16) may appear on the board more than once, they can only colour-in one section per go. If they roll 7 and 8, they can colour-in the ***56 box*** and have an extra turn (this can only happen once per player per game). If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note
There is a 'spare' box on the board, students can divide this box to use for multiples they have already coloured or that do not appear on the board. The area they colour must always be in equal rows.

Alternate play version
Provide students with only *one* dice. Students have to look at the number (factor) they rolled, think about another factor to multiply it by to find the multiple (product) on the board. For example, they roll a 5, students might see that there are multiples on the board that could be coloured-in e.g. 10, 25, or 40. They need to state to the other players "five fives are 25" then colour-in 25. This version focuses on working back from the multiple (division).

Alternate boards
The **first** board focuses more on students using known strategies to find the multiple that matches their roll. Students may find this the easiest as it has 'answers' on the board.
The **second** board has the partitioned sections with the factors on the outside. This board encourages students to find a section that matches their roll, but students need to determine the multiple on their own. For this board game they need to write the multiple in the box (e.g. in a 2 and 7 section write 14) then colour-in the box.
The **third** board allows students to partition each box as they need it, labelling both the outside factors and inside multiple (product).

Further boards could be created; adapting the first board to also include all outside factors, boards with grid lines in each box, board with array dots in each box etc.

7 eights are 56

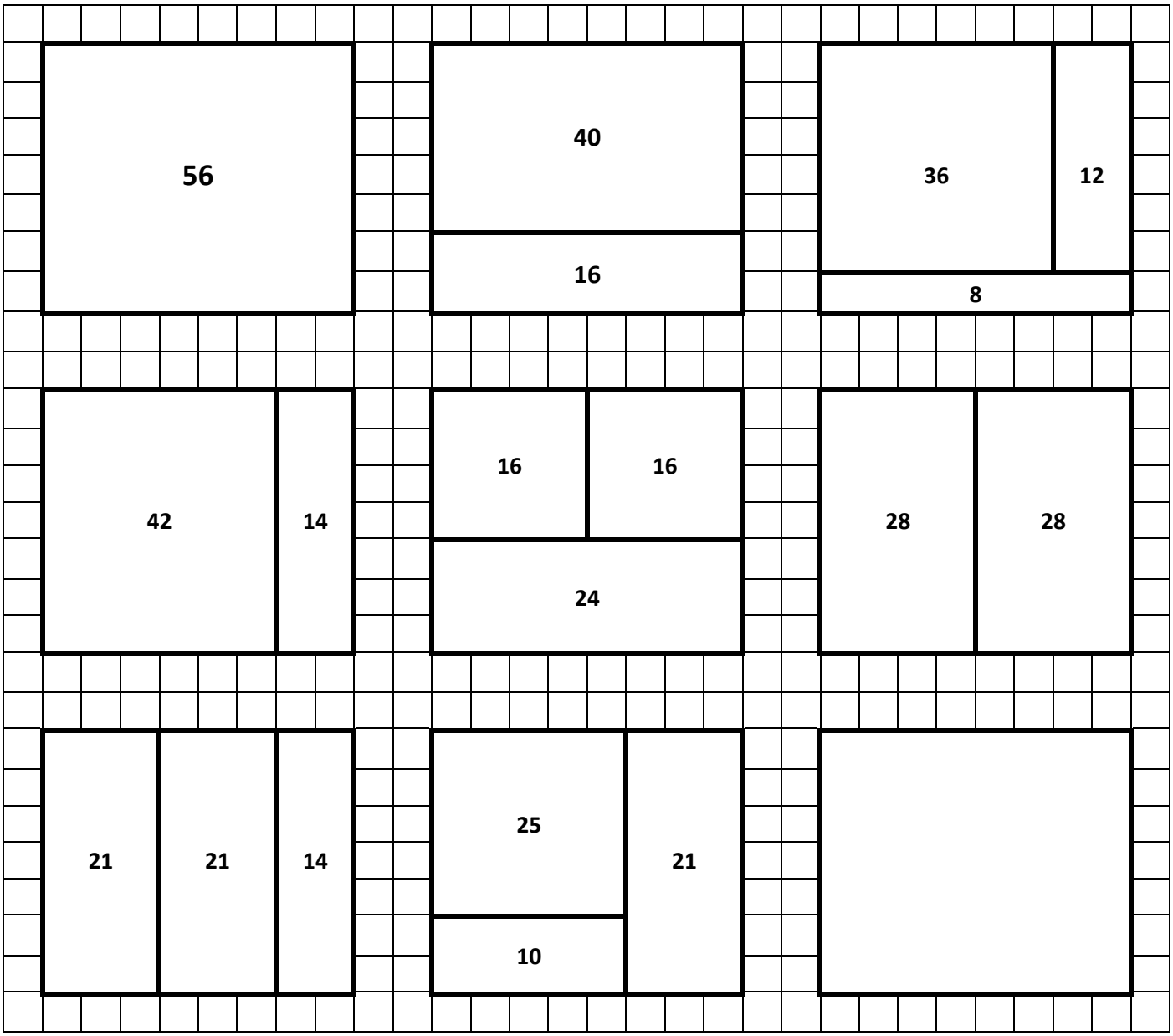
(Version 1)

There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they find the multiple (e.g. 16) and colour-in the section. Their go is over, and the next player has their go. The multiple (e.g. 16) may appear on the board more than once, they can only colour-in one section per go. If they roll 7 and 8, they can colour-in the ***56 box*** and have an extra turn (this can only happen once per player per game). If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note

There is a 'spare' box on the board, students can divide this box to use for multiples they have already coloured or that do not appear on the board. The area they colour must always be in equal rows.



7 eights are 56

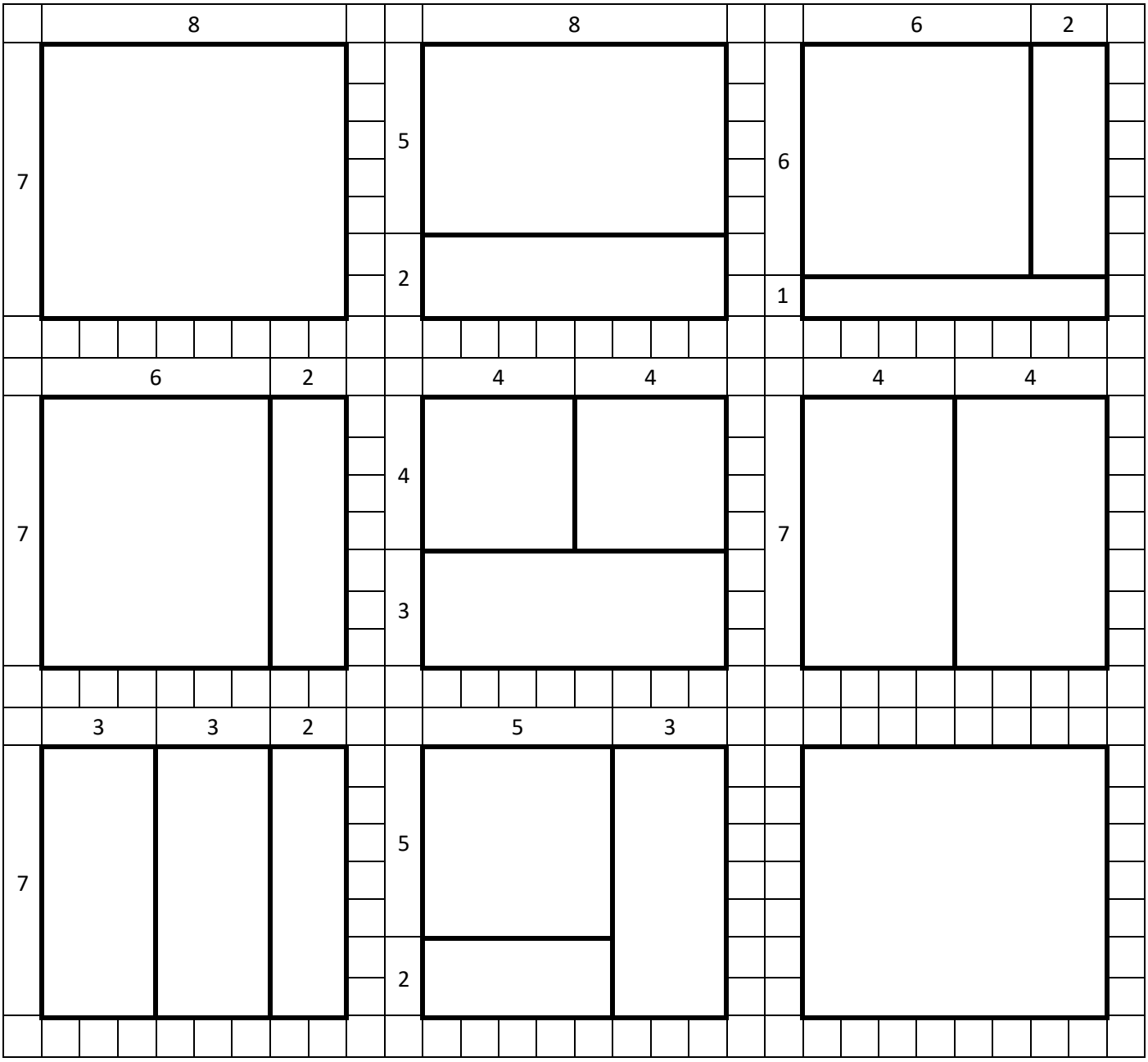
(Version 2)

There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they find a section labelled 2 and 8 and work out the product (e.g. 16) write 16 inside the box, and colour-in the section. Their go is over, and the next player has their go. The multiple (e.g. 16) may appear on the board more than once, they can only colour-in one section per go. If they roll 7 and 8, they can colour-in the ***56 box*** and have an extra turn (this can only happen once per player per game). If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note

There is a 'spare' box on the board, students can divide this box to use for multiples they have already coloured or that do not appear on the board. The area they colour must always be in equal rows.



7 eights are 56

(Version 3)

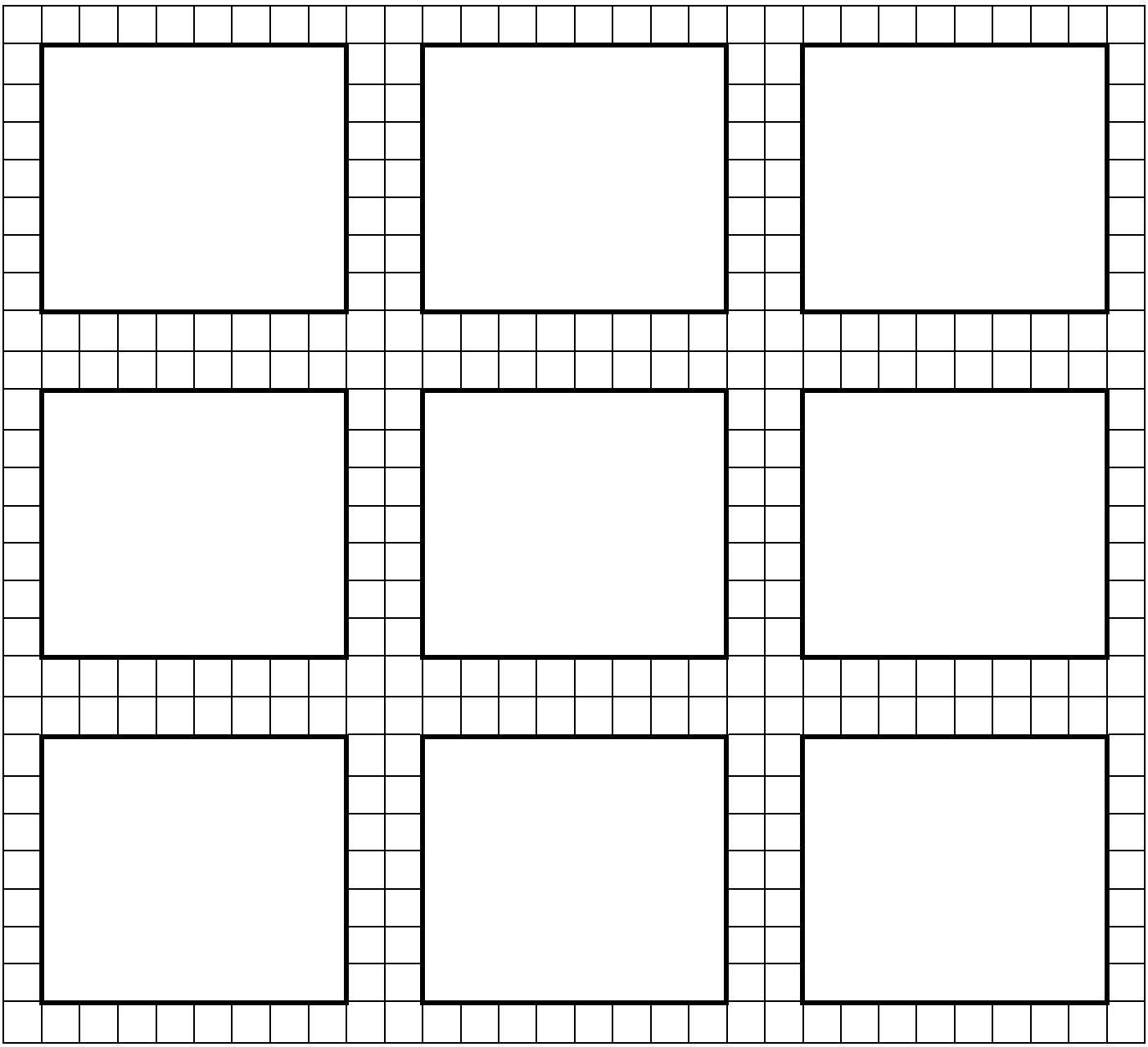
There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they create the multiple (e.g. 16) and colour in the section of a box. Their go is over, and the next player has their go. If they roll 7 and 8, they can colour-in a whole ***56 box*** and have an extra turn. If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note

Sections must always be in equal rows.

Students can record their turns as number sentences below the playing board.



7 eights are 56

(Make your own version – with grids)

There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they create the multiple (e.g. 16) and colour in the section. Their go is over, and the next player has their go. If they roll 7 and 8, they can colour-in the ***56 box*** and have an extra turn. If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note

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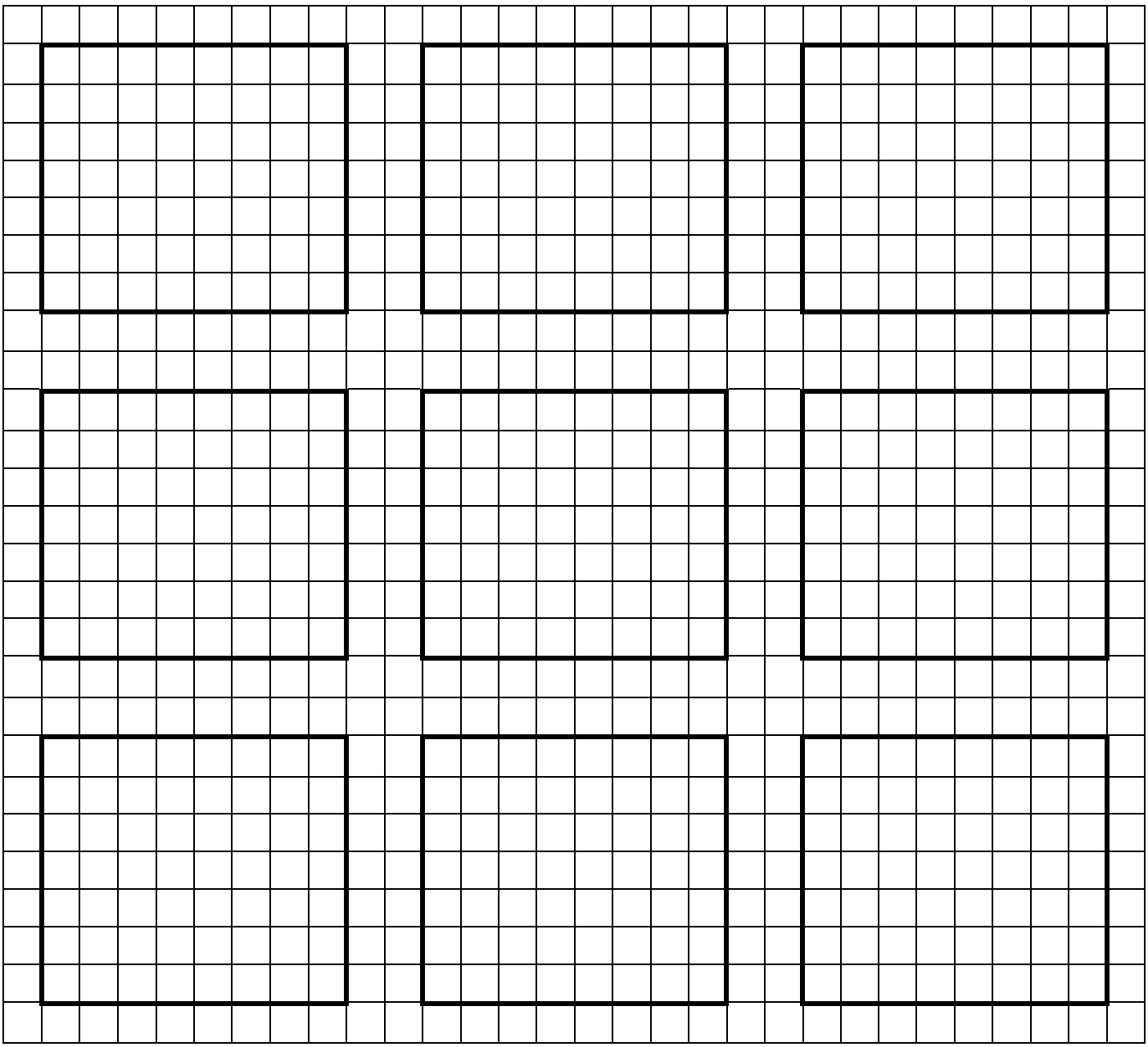

7 eights are 56

(Make your own version – without grids)

There are nine 7 by 8 boxes on the game board. The aim of the game is to fully colour a certain number of the boxes. For 2 players you need to colour in 6 boxes, for three or more players 4 boxes. (Rules can be adapted)

Players take turns rolling both dice. When a player rolls the dice (e.g. 2 and 8) they create the multiple (e.g. 16) and colour in the section. Their go is over, and the next player has their go. If they roll 7 and 8, they can colour-in the ***56 box*** and have an extra turn. If 8 and 8 are rolled, miss a turn. If students cannot find a place to go, miss a turn.

Note

Sections must always be in equal rows.

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