

# Front End Technical Question

**Goal:** Production of a client-side Web application to help a child understand multiplication.

**Duration:** This test is intended to take 1-2 hours.

**Description:** The application will display a grid of all the numbers from 1 to 144 evenly laid out with a large clickable box around each number. The number should be centered in each box. When the child clicks a box then all the numbers which are a multiple of that number should be highlighted in some way. Clicking a second time on a previously highlighted number should remove all highlighting from numbers that are multiples of the number that is clicked.

**Constraints:** On mobile devices the grid will display 1 number per row. On tablet devices 2 numbers per row and on desktop and larger devices 3 numbers per row. The numbers should fill their rows equally. When the screen width grows very large a margin should appear either side of the grid so that the boxes don't keep getting larger.

No code libraries should be used, but a library can be used for testing: the exercise is intended to demonstrate personal knowledge and experience rather than use of libraries.

If there is any information that you feel is missing from the story then please make sensible decisions (for example it's up to you how you define 'mobile', as long as it's sensible, similarly please define highlighting).

**Criteria for assessment:** Important things that will be assessed are:

1. Project layout.
2. Coding style (HTML, CSS, JavaScript and tests).
3. The test code that you write.
4. Use of object-oriented JavaScript.
5. Use of responsive design.
6. Naming conventions used.
7. Meeting the above requirements.

The test won't be assessed on design at all, so don't worry how it looks.