GRID GARDEN

Level 1 of 28

Welcome to Grid Garden, where you write CSS code to grow your carrot garden! Water only the areas that have carrots by using the `grid-column-start` property.

For example, `grid-column-start: 3;` will water the area starting at the 3rd vertical grid line, which is another way of saying the 3rd vertical border from the left in the grid.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 3;
}
```

Next

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GRID GARDEN

Level 2 of 28

Uh oh, looks like weeds are growing in the corner of your garden. Use `grid-column-start` to poison them. Note that the weeds start at the 5th vertical grid line.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#poison {
  grid-column-start:5;
}
```

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GRID GARDEN

Level 3 of 28

When `grid-column-start` is used alone, the grid item by default will span exactly one column. However, you can extend the item across multiple columns by adding the `grid-column-end` property.

Using `grid-column-end`, water all of your carrots while avoiding the dirt. We don't want to waste any water! Note that the carrots start at the 1st vertical grid line and end at the 4th.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 1;
  grid-column-end:4;
}
```

Next

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GRID GARDEN

Level 4 of 28

When pairing `grid-column-start` and `grid-column-end`, you might assume that the end value has to be greater than the start value. But this turns out not the case!

Try setting `grid-column-end` to a value less than 5 to water your carrots.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 5;
  grid-column-end:2;
}
```

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GRID GARDEN

Level 5 of 28

If you want to count grid lines from the right instead of the left, you can give `grid-column-start` and `grid-column-end` negative values. For example, you can set it to -1 to specify the first grid line from the right.

Try setting `grid-column-end` to a negative value.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 1;
  grid-column-end:-2;
}
```

Next

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GRID GARDEN

Level 6 of 28

Now try setting `grid-column-start` to a negative value.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#poison {
  grid-column-start:-3;
}
```

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GRID GARDEN

Level 7 of 28

Instead of defining a grid item based on the start and end positions of the grid lines, you can define it based on your desired column width using the `span` keyword. Keep in mind that `span` only works with positive values.

For example, water these carrots with the rule `grid-column-end: span 2;`.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 2;
  grid-column-end: span 2;
}
```

Next

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GRID GARDEN

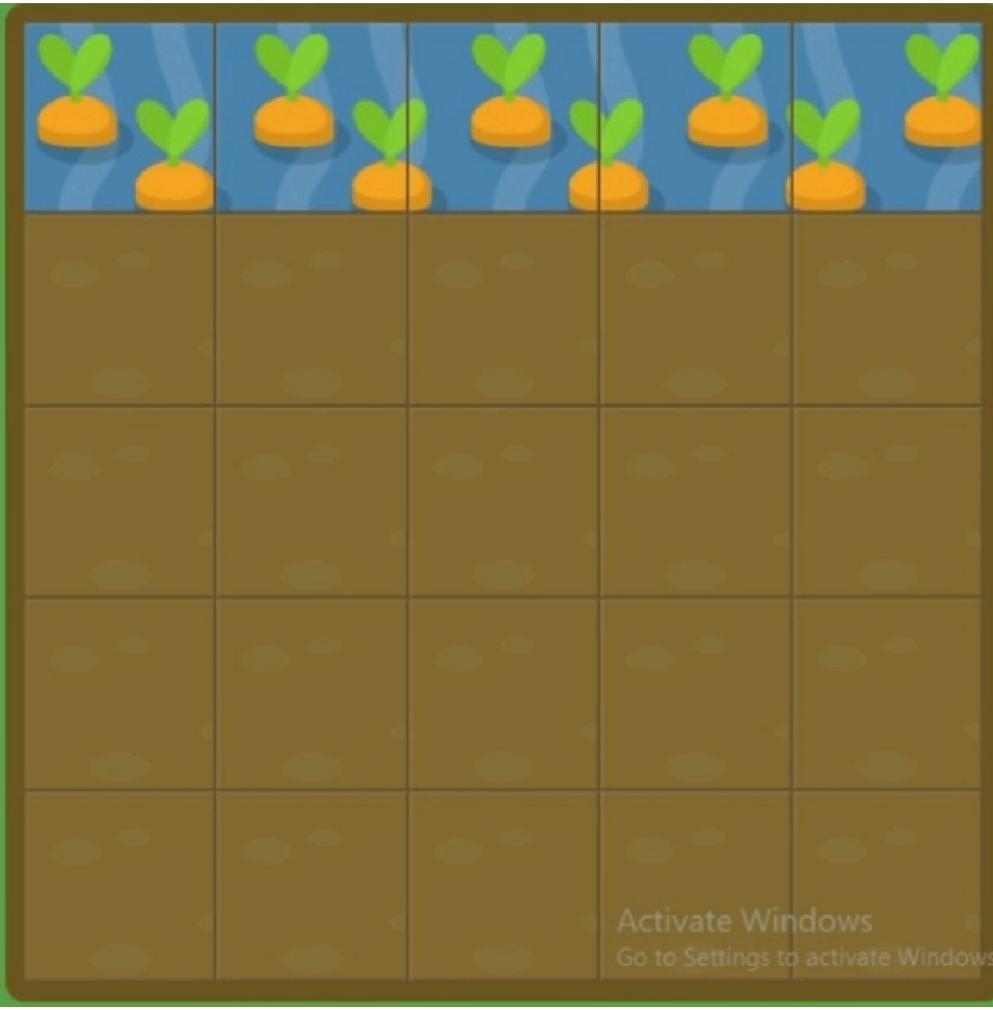
Level 8 of 28

Try using `grid-column-end` with the `span` keyword again to water your carrots.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start: 1;
  grid-column-end:span 5;
}
```

Next



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GRID GARDEN

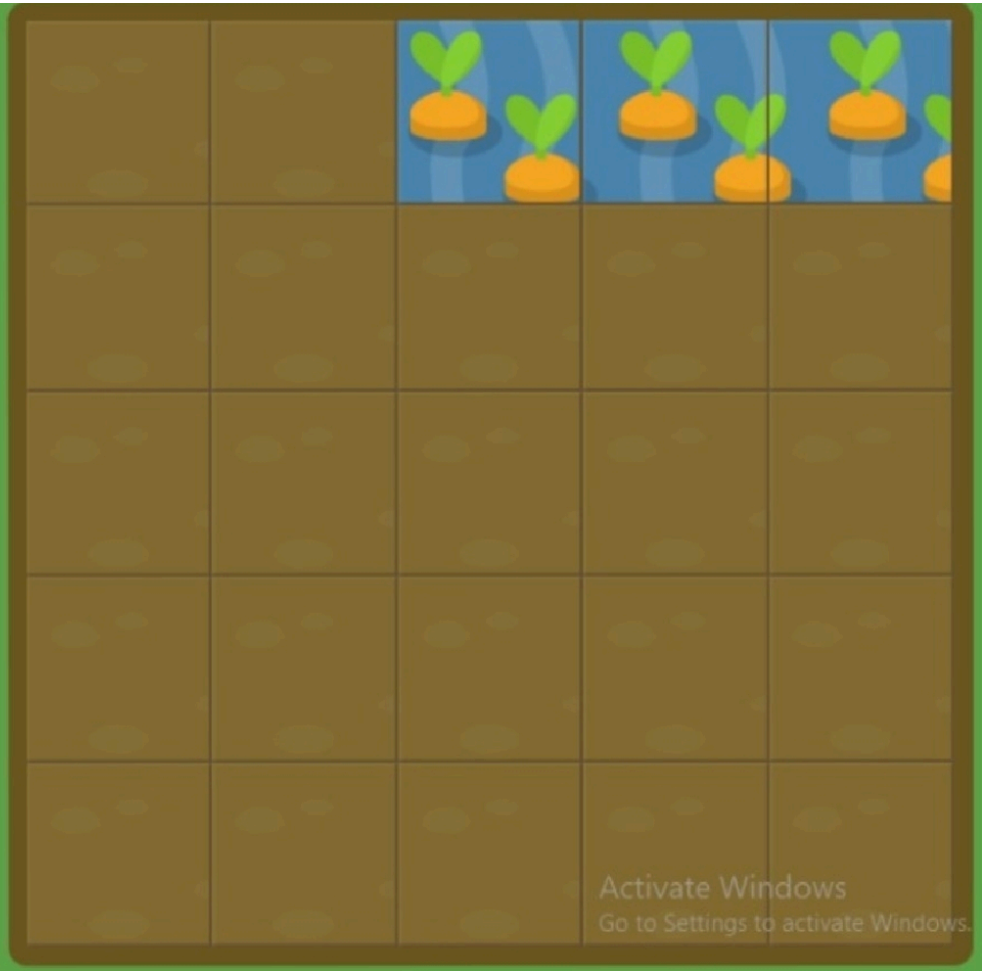
Level 9 of 28

You can also use the `span` keyword with `grid-column-start` to set your item's width relative to the end position.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column-start:span 3;
  grid-column-end: 6;
}
```

Next



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GRID GARDEN

Level 10 of 28

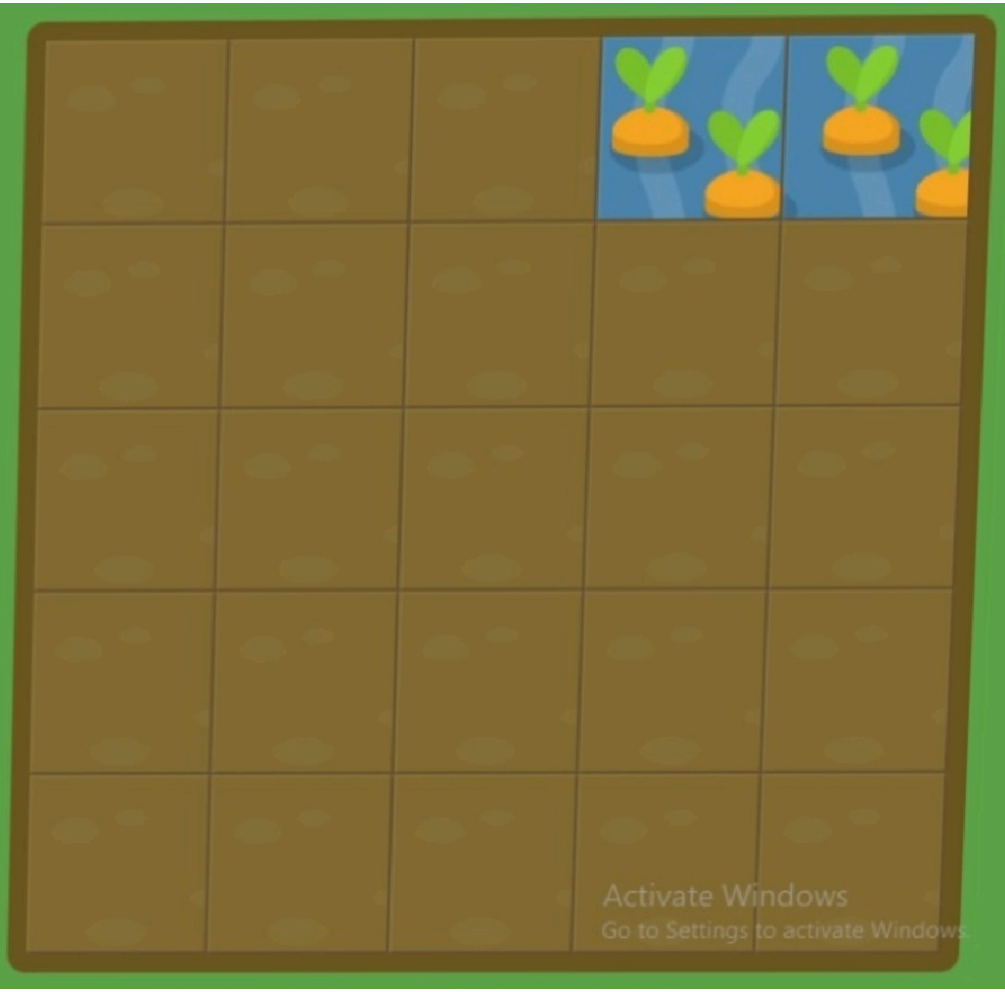
Typing both `grid-column-start` and `grid-column-end` every time can get tiring. Fortunately, `grid-column` is a shorthand property that can accept both values at once, separated by a slash.

For example, `grid-column: 2 / 4;` will set the grid item to start on the 2nd vertical grid line and end on the 4th grid line.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column:4/6;
}
```

Next



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GRID GARDEN

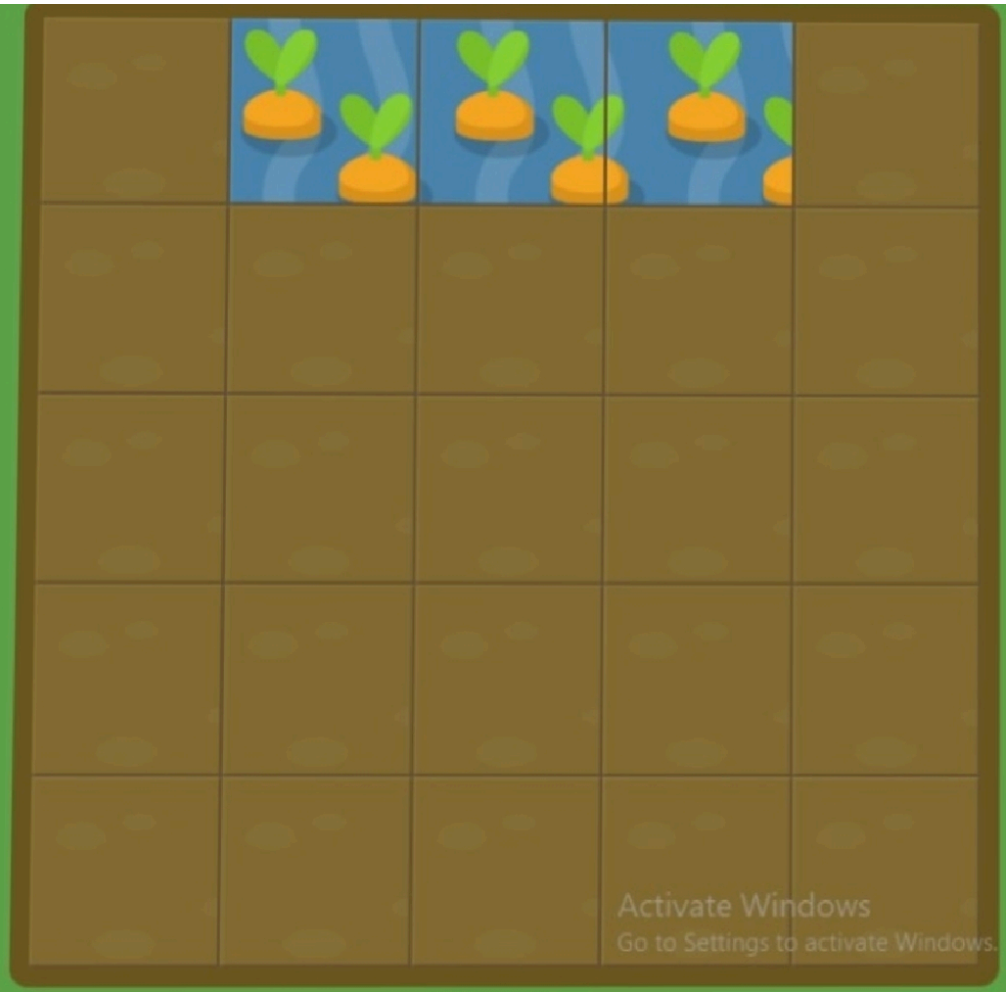
Level 11 of 28

Try using `grid-column` to water these carrots. The `span` keyword also works with this shorthand property so give it a try!

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column:2/span 3;
}
```

Next



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GRID GARDEN

Level 12 of 28

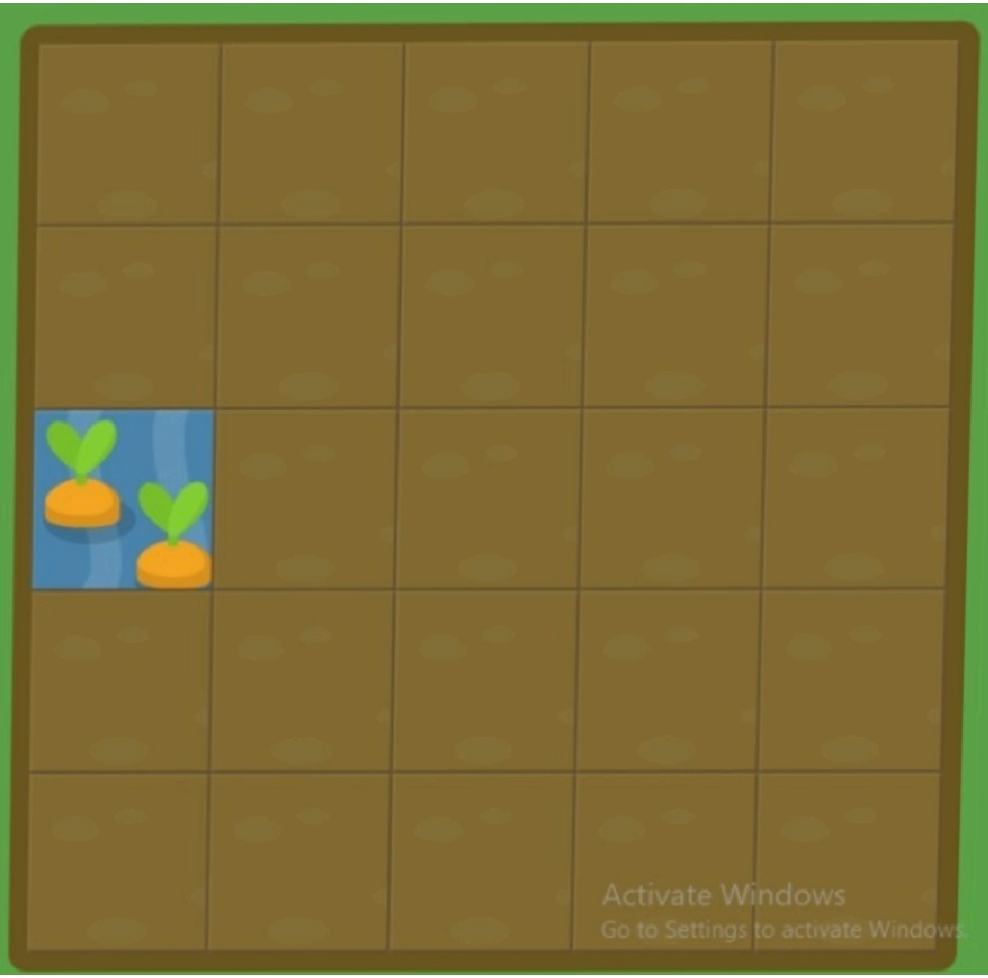
One of the things that sets CSS grids apart from flexbox is that you can easily position items in two dimensions: columns and rows. `grid-row-start` works much like `grid-column-start` except along the vertical axis.

Use `grid-row-start` to water these carrots.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-row-start:3;
}
```

Next



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GRID GARDEN

Level 13 of 28

Now give the shorthand property `grid-row` a try.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-row:3/span 3;
}
```

Next

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GRID GARDEN

Level 14 of 28

Use `grid-column` and `grid-row` at the same time to set position in both dimensions.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#poison {
  grid-column:2;
  grid-row:5;
}
```

Next

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GRID GARDEN

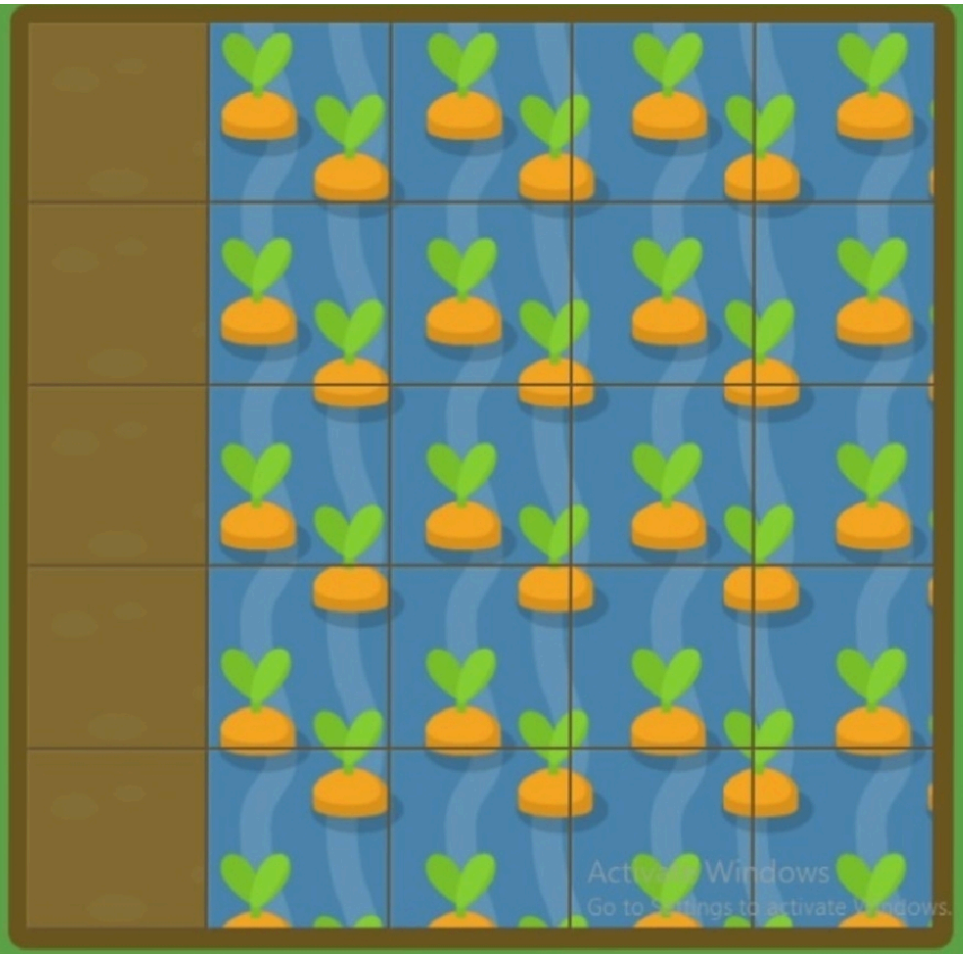
Level 15 of 28

You can also use `grid-column` and `grid-row` together to span larger areas within the grid. Give it a try!

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column:2/6;
  grid-row:1/span 5;
}
```

Next



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GRID GARDEN

Level 16 of 28

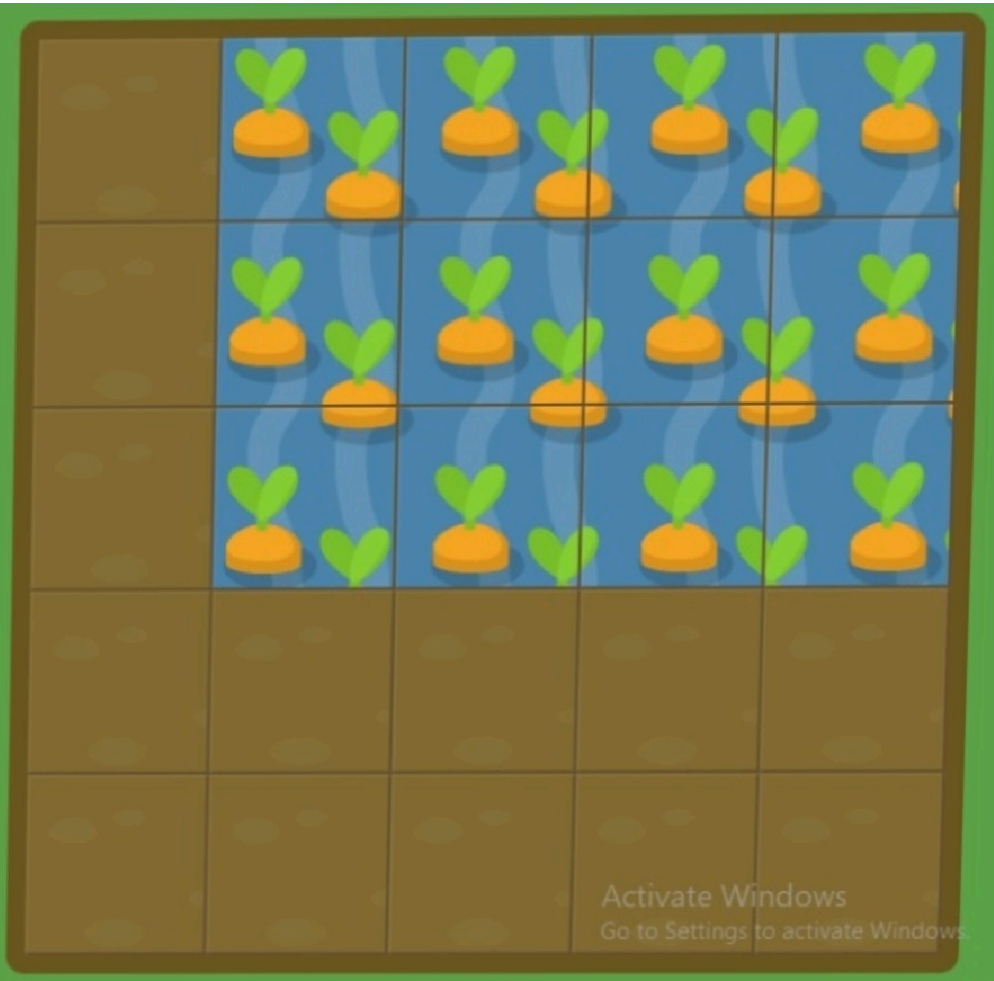
If typing out both `grid-column` and `grid-row` is too much for you, there's yet another shorthand for that. `grid-area` accepts four values separated by slashes: `grid-row-start`, `grid-column-start`, `grid-row-end`, followed by `grid-column-end`.

One example of this would be `grid-area: 1 / 1 / 3 / 6;`.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-area:1/2/4/6;
}
```

Next



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GRID GARDEN

Level 17 of 28

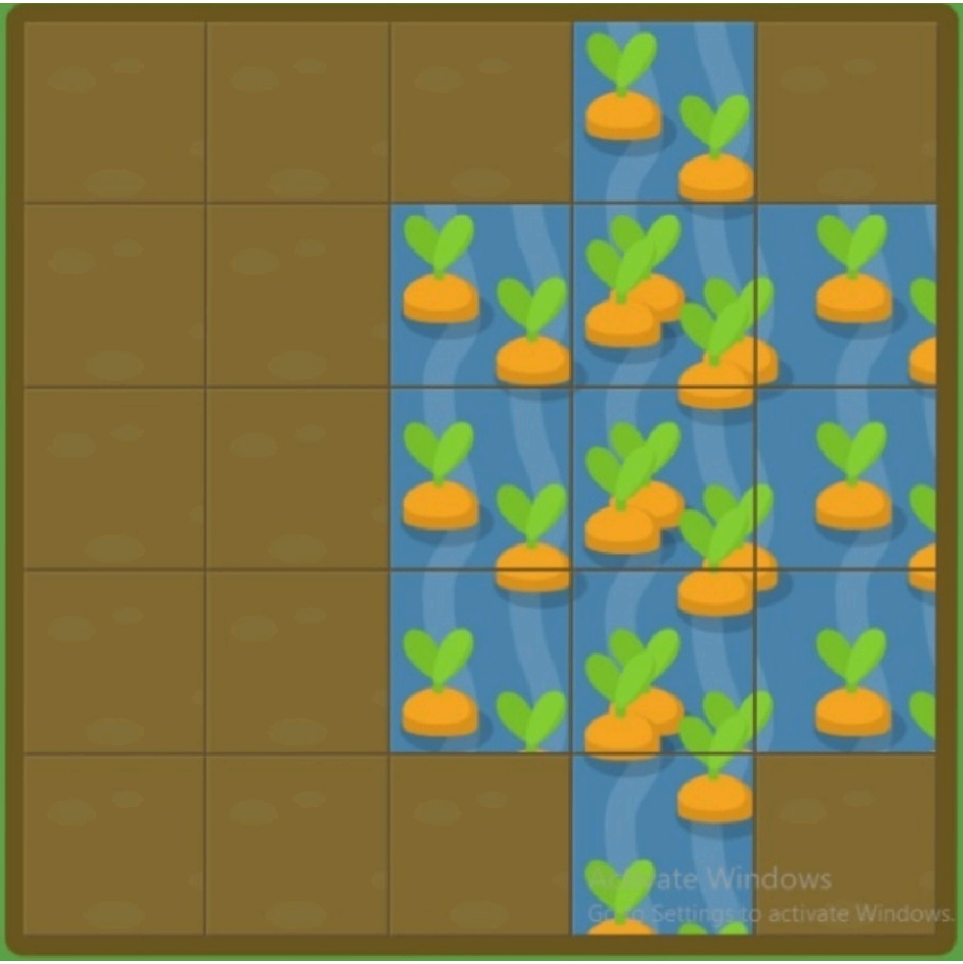
How about multiple items? You can overlap them without any trouble. Use `grid-area` to define a second area that covers all of the unwatered carrots.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water-1 {
  grid-area: 1 / 4 / 6 / 5;
}

#water-2 {
  grid-area:2/3/5/7;
}
```

Next



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GRID GARDEN

Level 18 of 28

If grid items aren't explicitly placed with `grid-area`, `grid-column`, `grid-row`, etc., they are automatically placed according to their order in the source code. We can override this using the `order` property, which is one of the advantages of grid over table-based layout.

By default, all grid items have an `order` of 0, but this can be set to any positive or negative value, similar to `z-index`.

Right now, the carrots in the second column are being poisoned and the weeds in the last column are being watered. Change the `order` value of the poison to fix this right away!

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

.water {
  order: 0;
}

#poison {
  order:1;
}
```

Next

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GRID GARDEN

Level 17 of 28

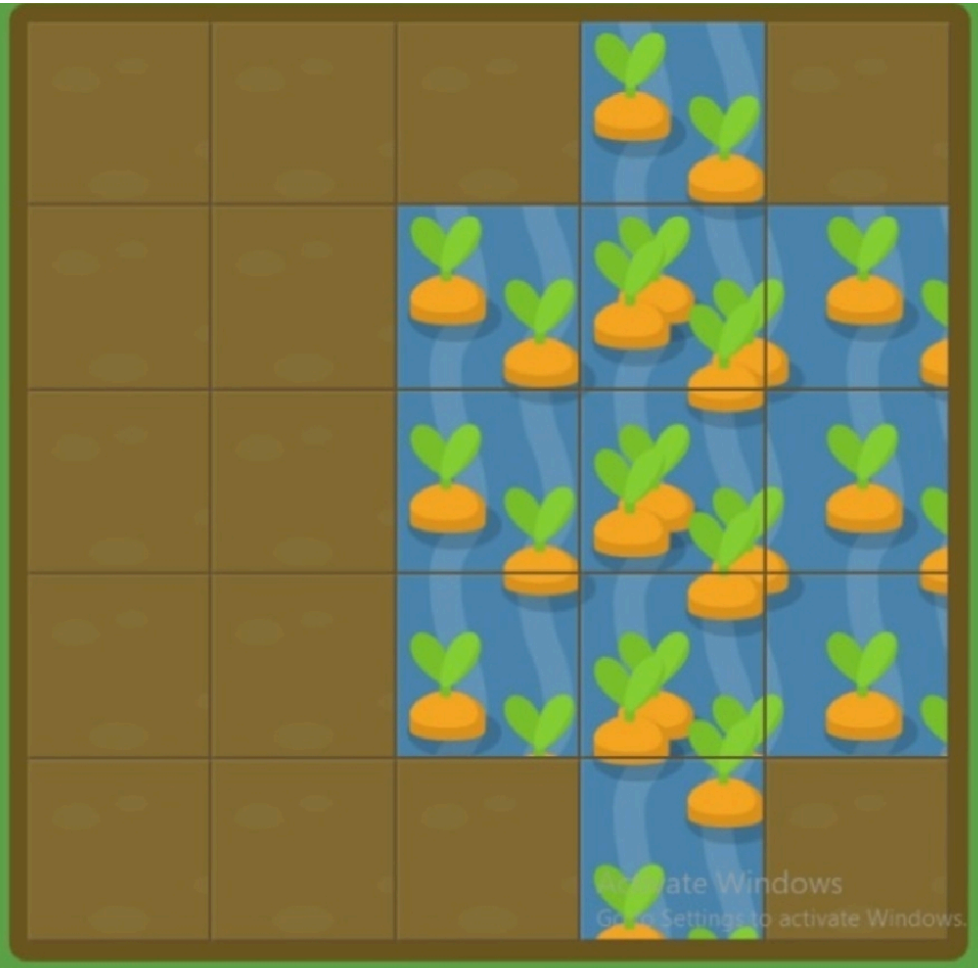
How about multiple items? You can overlap them without any trouble. Use `grid-area` to define a second area that covers all of the unwatered carrots.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water-1 {
  grid-area: 1 / 4 / 6 / 5;
}

#water-2 {
  grid-area:2/3/5/6;
}
```

Next



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GRID GARDEN

Level 19 of 28

Now the water and poison are alternating, even though all of the weeds are at the start of your garden. Set the `order` of the poisons to remedy this.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

.water {
  order: 0;
}

.poison {
  order:-1;
}
```

Next

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GRID GARDEN

Level 20 of 28

Up to this point, you've had your garden set up as a grid with five columns, each 20% of the full width, and five rows, each 20% of the full height.

This was done with the rules `grid-template-columns: 20% 20% 20% 20% 20%;` and `grid-template-rows: 20% 20% 20% 20% 20%;` Each rule has five values which create five columns, each set to 20% of the overall width of the garden.

But you can set the grid up however you like. Give `grid-template-columns` a new value to water your carrots. You'll want to set the width of the 1st column to be 50%.

```
#garden {
  display: grid;
  grid-template-columns:50%;
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column: 1;
  grid-row: 1;
}
```

Next

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Go to Settings to activate Windows.

GRID GARDEN

Level 21 of 28

Specifying a bunch of columns with identical widths can get tedious. Luckily there's a `repeat` function to help with that.

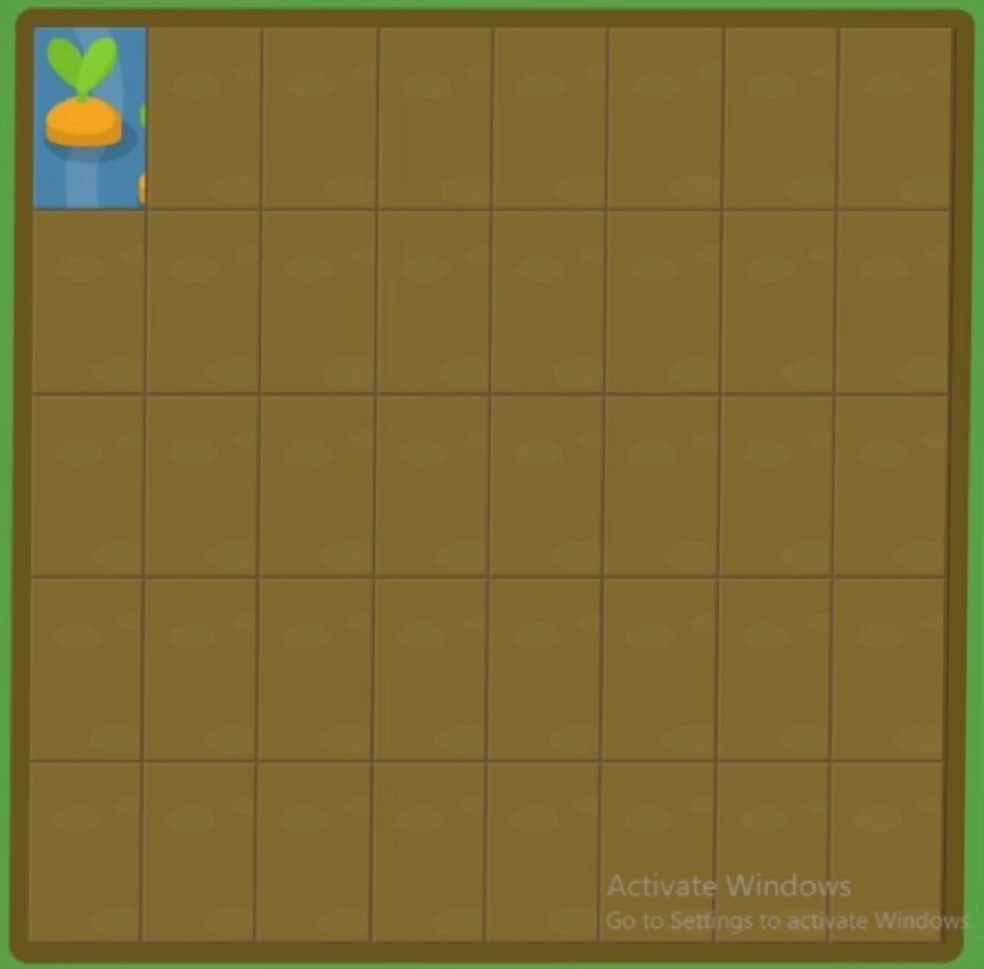
For example, we previously defined five 20% columns with the rule `grid-template-columns: 20% 20% 20% 20% 20%;`. This can be simplified as `grid-template-columns: repeat(5, 20%);`

Using `grid-template-columns` with the `repeat` function, create eight columns each with 12.5% width. This way you won't overwater your garden.

```
#garden {
  display: grid;
  grid-template-columns:repeat(8 ,12.5%);
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-column: 1;
  grid-row: 1;
}
```

Next



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GRID GARDEN

Level 22 of 28

`grid-template-columns` doesn't just accept values in percentages, but also length units like pixels and ems. You can even mix different units together.

Here, set three columns to `100px`, `3em`, and `40%` respectively.

```
#garden {
  display: grid;
  grid-template-columns:100px 3em 40%
  grid-template-rows: 20% 20% 20% 20% 20%;
}
```

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GRID GARDEN

Level 23 of 28

Grid also introduces a new unit, the fractional `fr`. Each `fr` unit allocates one share of the available space. For example, if two elements are set to `1fr` and `3fr` respectively, the space is divided into 4 equal shares; the first element occupies 1/4 and the second element 3/4 of any leftover space.

Here, weeds make up the left 1/6 of your first row and carrots the remaining 5/6. Create two columns with these widths using `fr` units.

```
#garden {
  display: grid;
  grid-template-columns:1fr 5fr
  grid-template-rows: 20% 20% 20% 20% 20%;
}
```

Next

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Go to Settings to activate Windows.

GRID GARDEN

Level 24 of 28

When columns are set with pixels, percentages, or ems, any other columns set with `fr` will divvy up the space that's left over.

Here the carrots form a 50 pixel column on the left, and the weeds a 50 pixel column on the right. With `grid-template-columns`, create these two columns, and use `fr` to make three more columns that take up the remaining space in between.

```
#garden {
  display: grid;
  grid-template-columns:50px repeat(3,1fr)50px
  grid-template-rows: 20% 20% 20% 20% 20%;
}

#water {
  grid-area: 1 / 1 / 6 / 2;
}

#poison {
  grid-area: 1 / 5 / 6 / 6;
}
```

Next

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GRID GARDEN

Level 25 of 28

Now there is a 75 pixel column of weeds on the left side of your garden. 3/5 of the remaining space is growing carrots, while 2/5 has been overrun with weeds.

Use `grid-template-columns` with a combination of `px` and `fr` units to make the necessary columns.

```
#garden {
  display: grid;
  grid-template-columns:75px 3fr 2fr
  grid-template-rows: 100%;
}
```

Next

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GRID GARDEN

Level 26 of 28

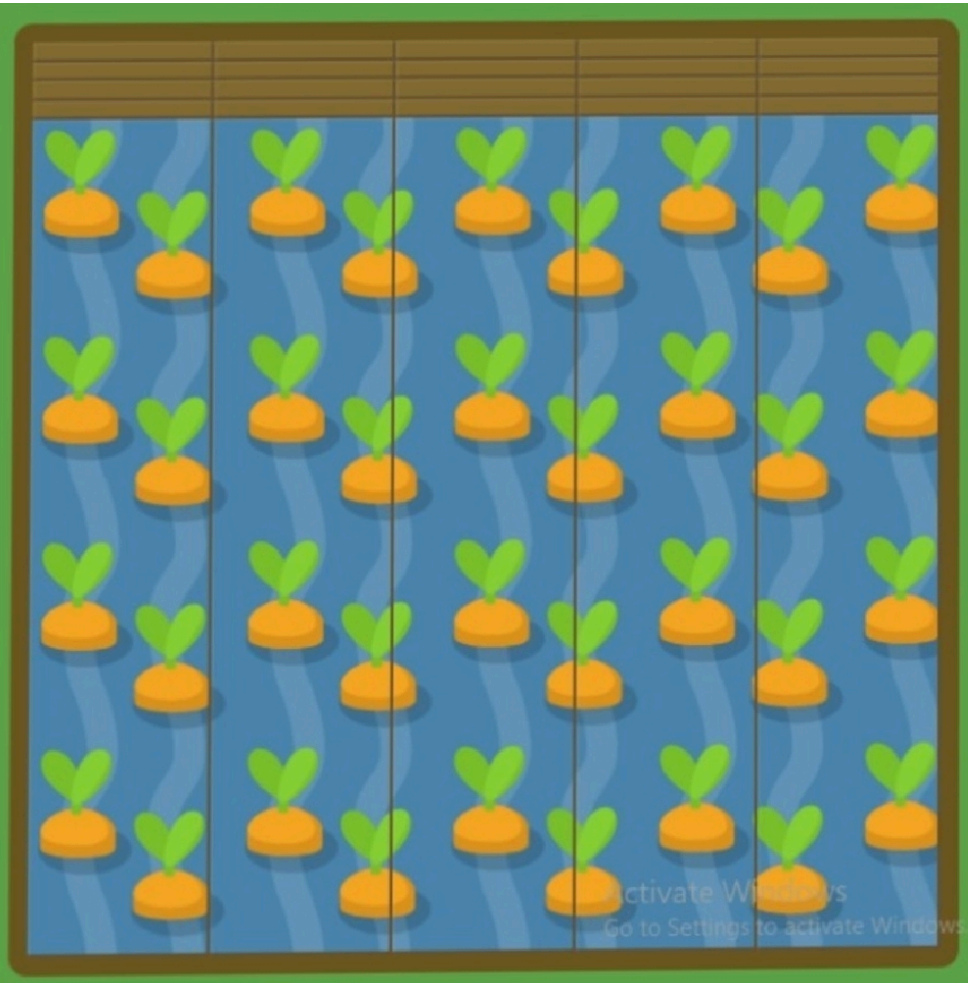
`grid-template-rows` works much the same as `grid-template-columns`.

Use `grid-template-rows` to water all but the top 50 pixels of your garden. Note that the water is set to fill only your 5th row, so you'll need to create 5 rows in total.

```
#garden {
  display: grid;
  grid-template-columns: 20% 20% 20% 20% 20%;
  grid-template-rows:repeat(4,12.5px) 1fr
}

#water {
  grid-column: 1 / 6;
  grid-row: 5 / 6;
}
```

Next



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`grid-template` is a shorthand property that combines `grid-template-rows` and `grid-template-columns`.

For example, `grid-template: 50% 50% / 200px;` will create a grid with two rows that are 50% each, and one column that is 200 pixels wide.

Try using `grid-template` to water an area that includes the top 60% and left 200 pixels of your garden.

```
#garden {
  display: grid;
  grid-template:60% 40%/200px
}

#water {
  grid-column: 1;
  grid-row: 1;
}
```

Next

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GRID GARDEN

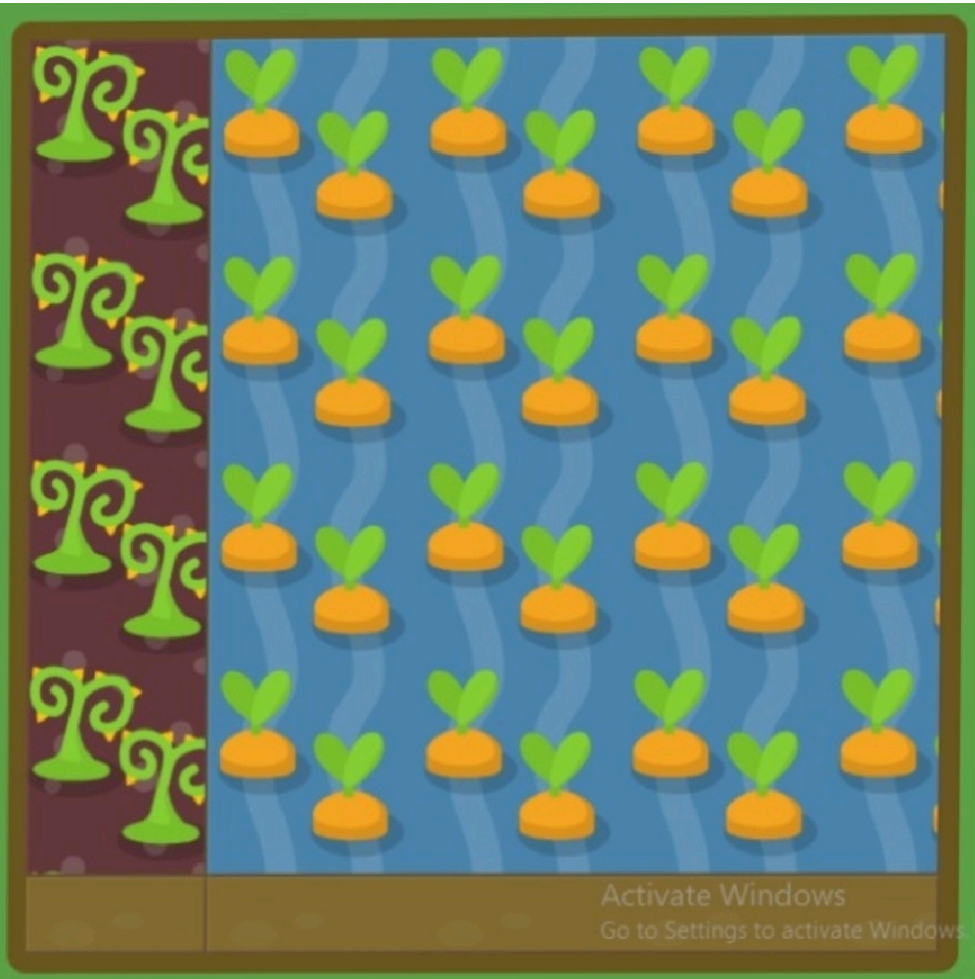
Level 28 of 28

Your garden is looking great. Here you've left a 50 pixel path at the bottom of your garden and filled the rest with carrots.

Unfortunately, the left 20% of your carrots have been overrun with weeds. Use CSS grid one last time to treat your garden.

```
#garden {
  display: grid;
  grid-template:1fr 50px/20% 1fr
}
```

Next



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