



When Grids Go Wrong

(Debugging CSS Grid)





- **Front End Developer at Ordoo**
- **Mozilla Tech Speaker**
- **Author of CSS { In Real Life }**

```
.sidebar {  
  float: left;  
  width: 200px;  
}  
  
.clearfix {  
  overflow: auto;  
}  
  
.clearfix::after {  
  content: '';  
  clear: both;  
  display: table;  
}
```




CSS Grid

CSS Grid

+



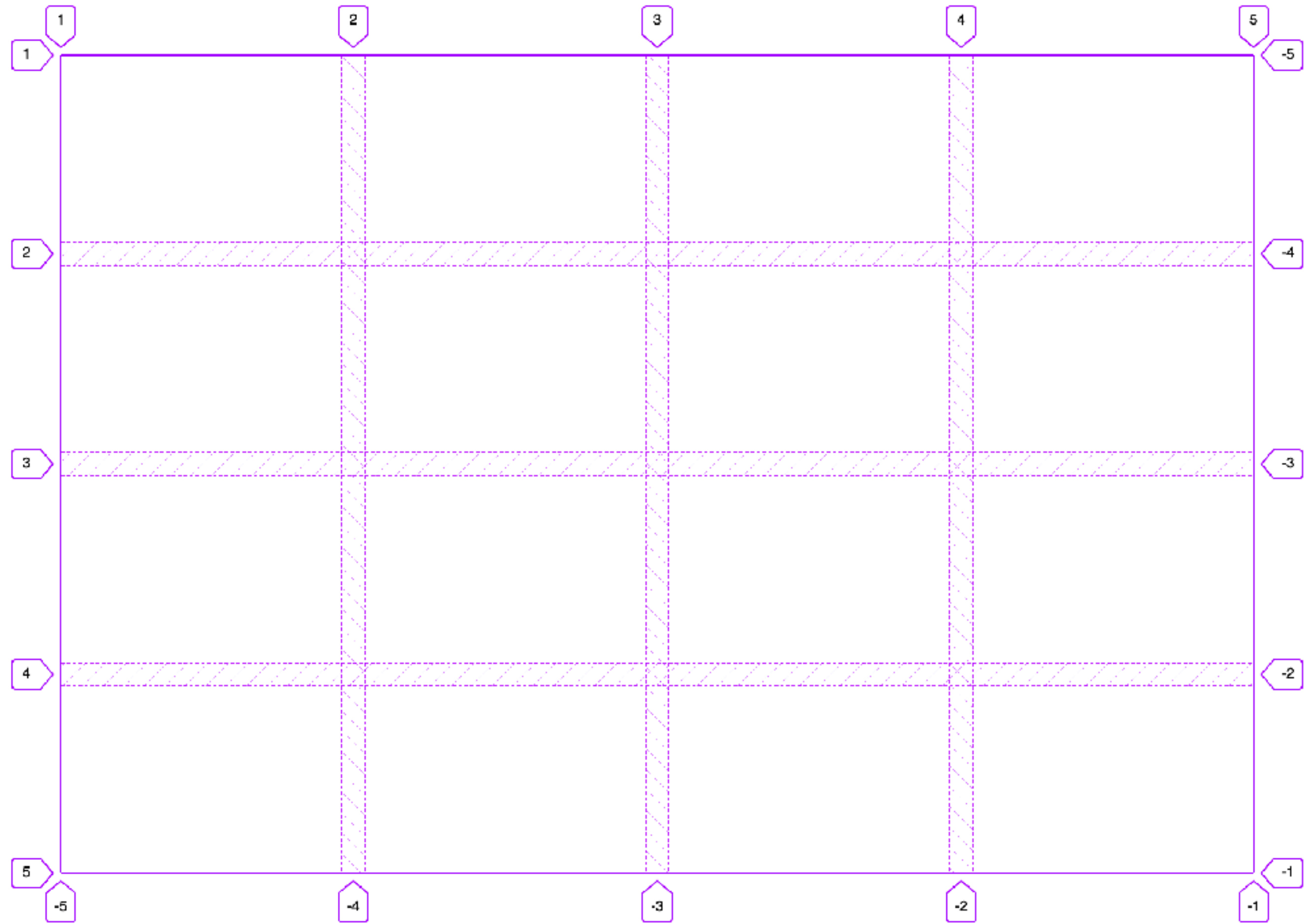
Scaffolding

(building the grid)

@MicheBarks




```
.grid {  
  display: grid;  
  grid-template-rows: repeat(4, 8rem);  
  grid-template-columns: repeat(4, 12rem);  
  gap: 1rem;  
}
```

Empty grid

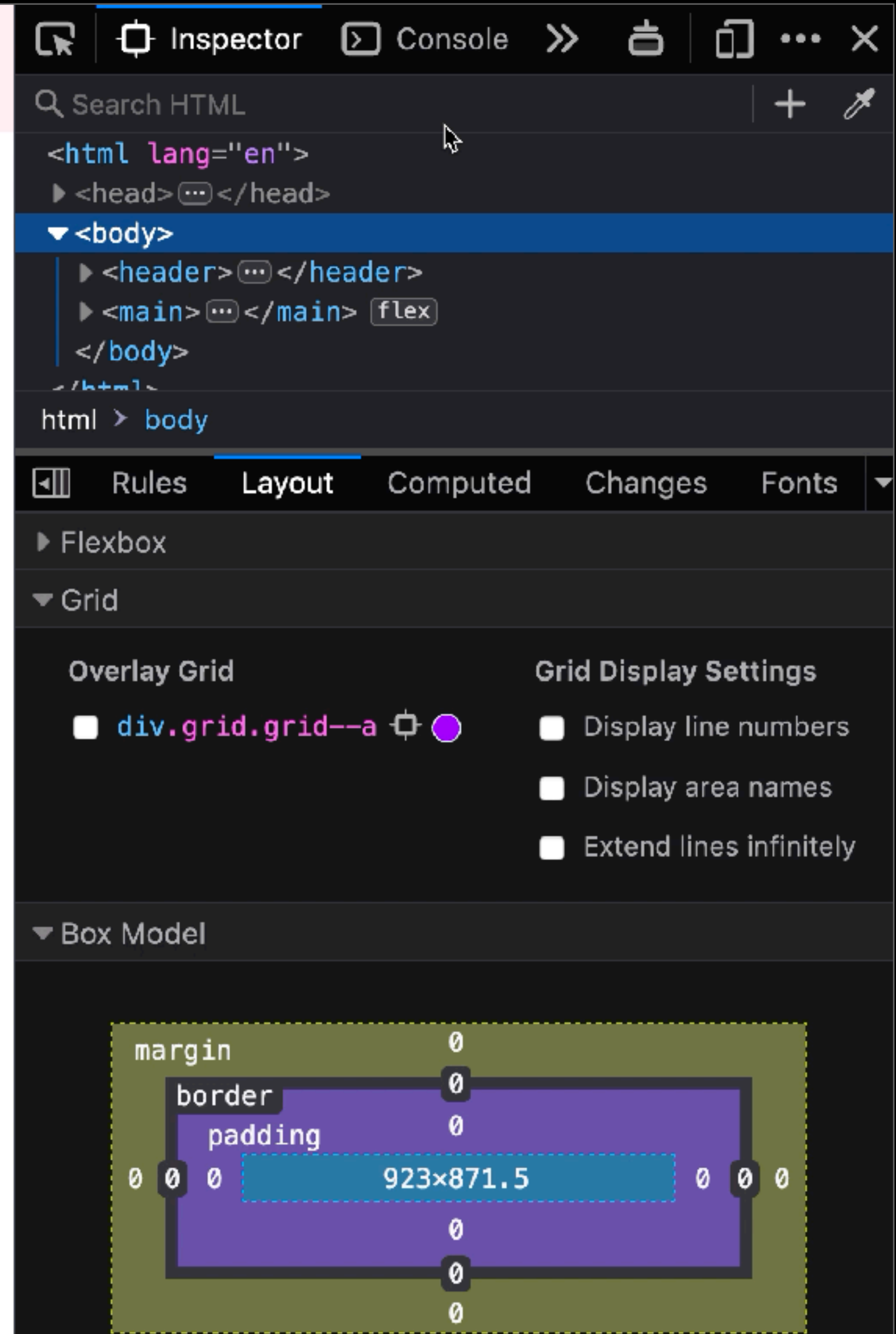
Overlapping items with grid areas

Negative grid lines

Fr tracks

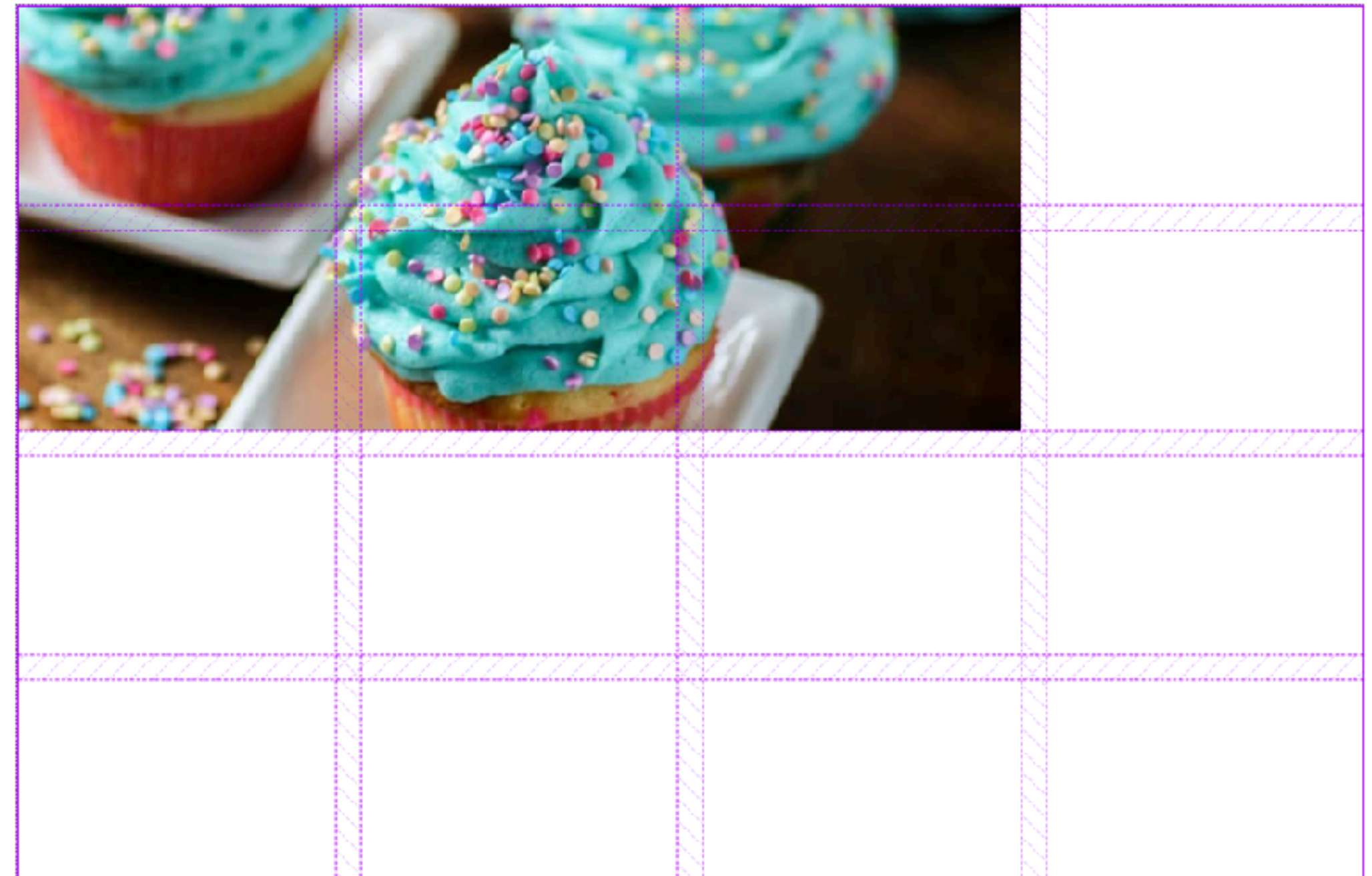
Auto-flow

Empty grid



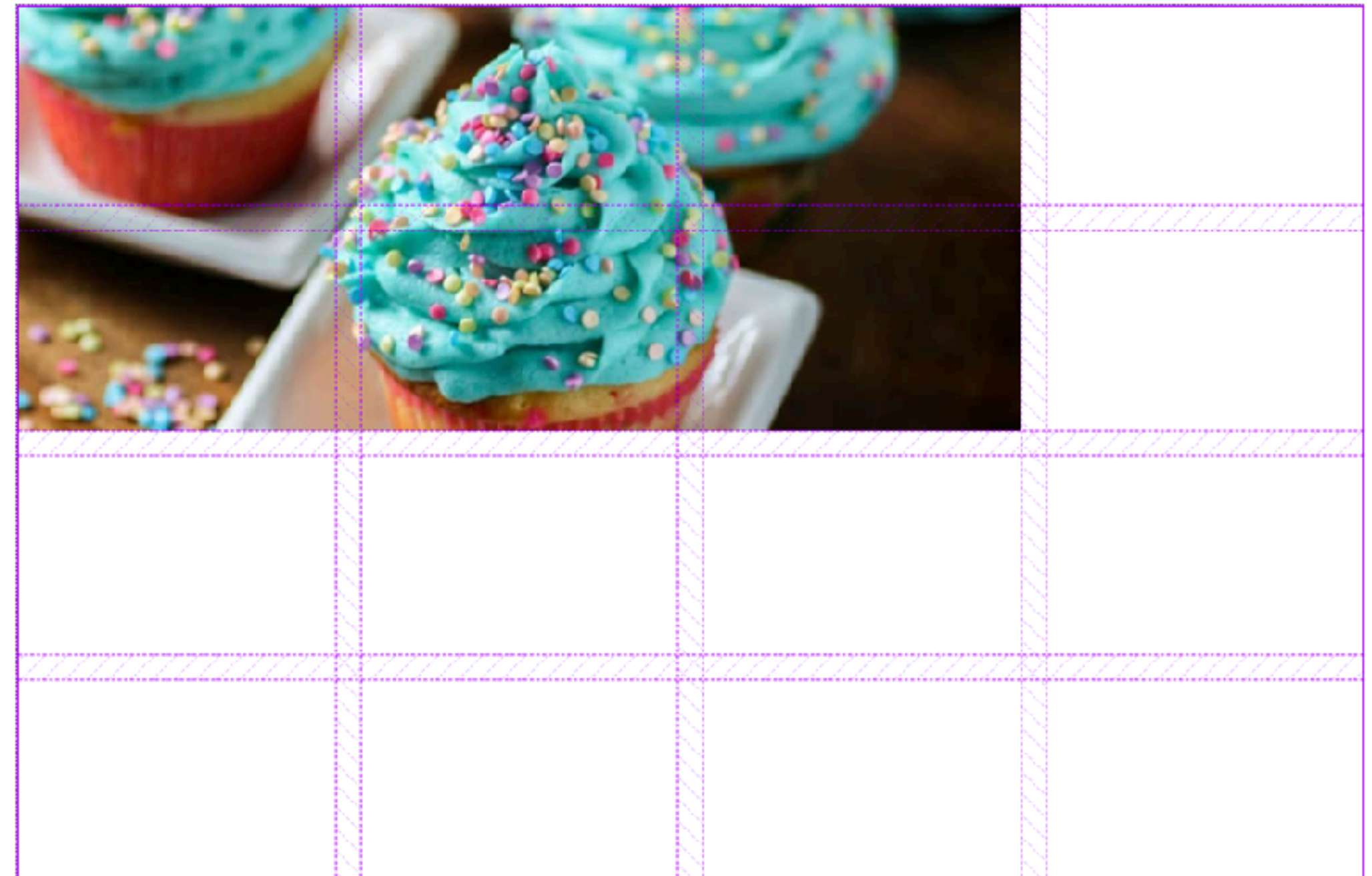
Placing items

```
.image {  
  grid-row: 1 / 3;  
  grid-column: 1 / 4;  
}
```



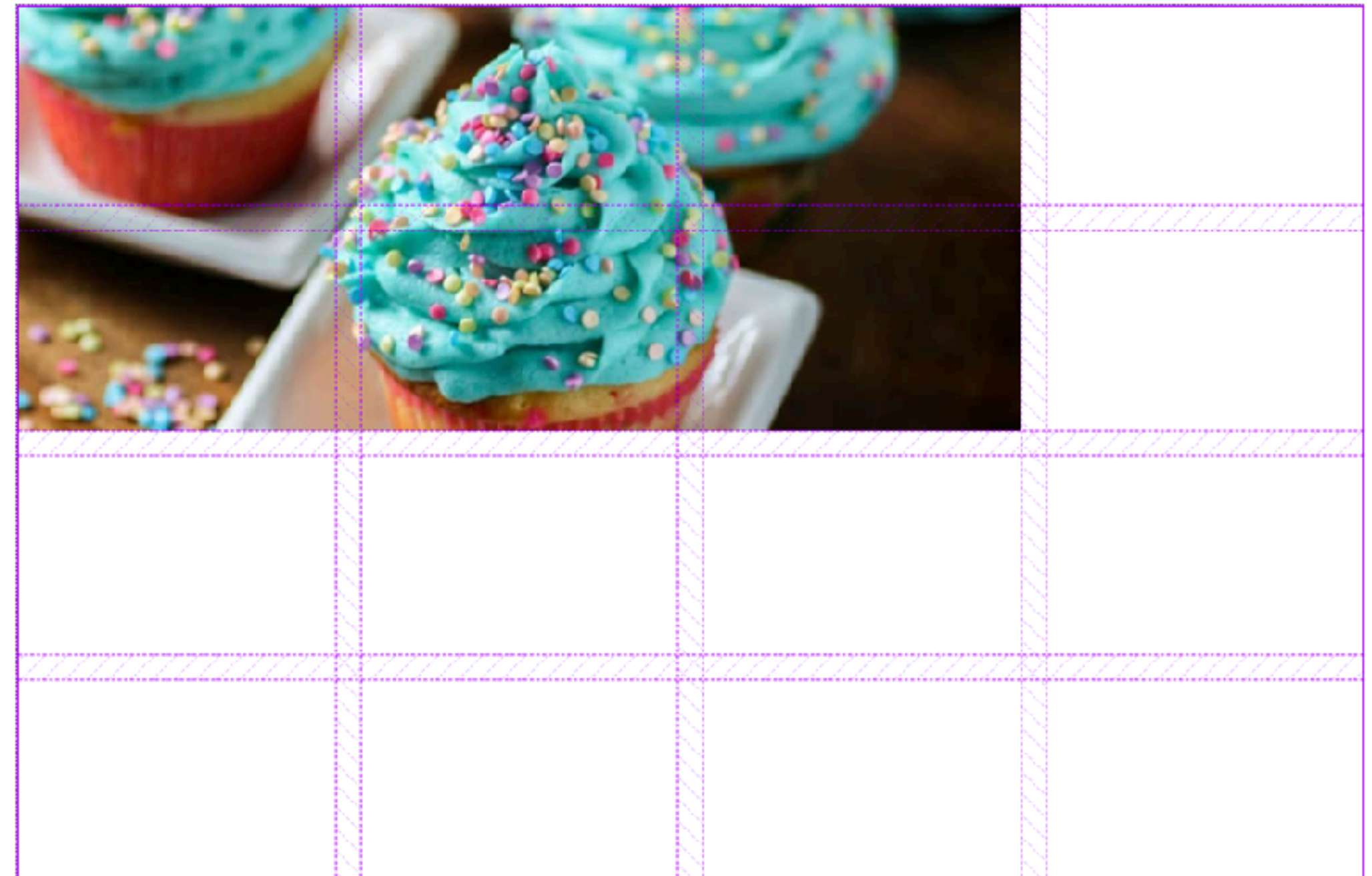
Placing items

```
.image {  
  grid-row: 1 / span 2;  
  grid-column: 1 / span 3;  
}
```



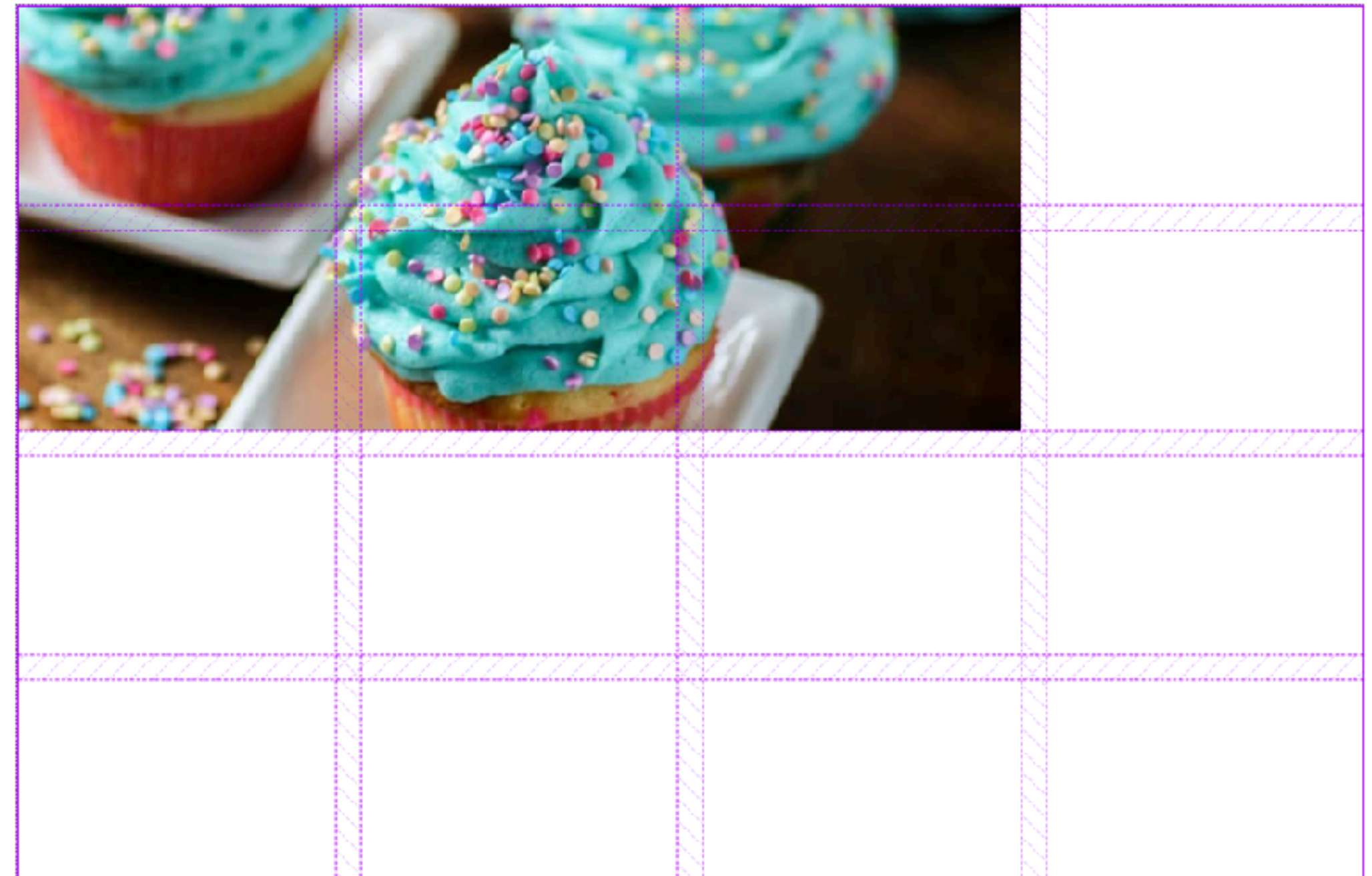
Placing items

```
.image {  
  grid-row: span 2 / 3;  
  grid-column: span 3 / 4;  
}
```



Placing items

```
.image {  
  grid-row: span 2;  
  grid-column: span 3;  
}
```



Placing items

```
.grid {  
  display: grid;  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns: repeat(4, 12rem);  
  gap: 1rem;  
}  
  
.image {  
  grid-row: image;  
  grid-column: 1 / 4;  
}
```


Placing items

```
.grid {  
  display: grid;  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns: repeat(4, 12rem);  
  gap: 1rem;  
}
```

```
.image {  
  grid-row: image;  
  grid-column: 1 / 4;  
}
```


Placing items

```
.grid {  
  display: grid;  
  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns:  
    [image-start] 12rem 12rem 12rem [image-end] 12rem;  
  
  gap: 1rem;  
}  
  
.image {  
  grid-area: image;  
}
```

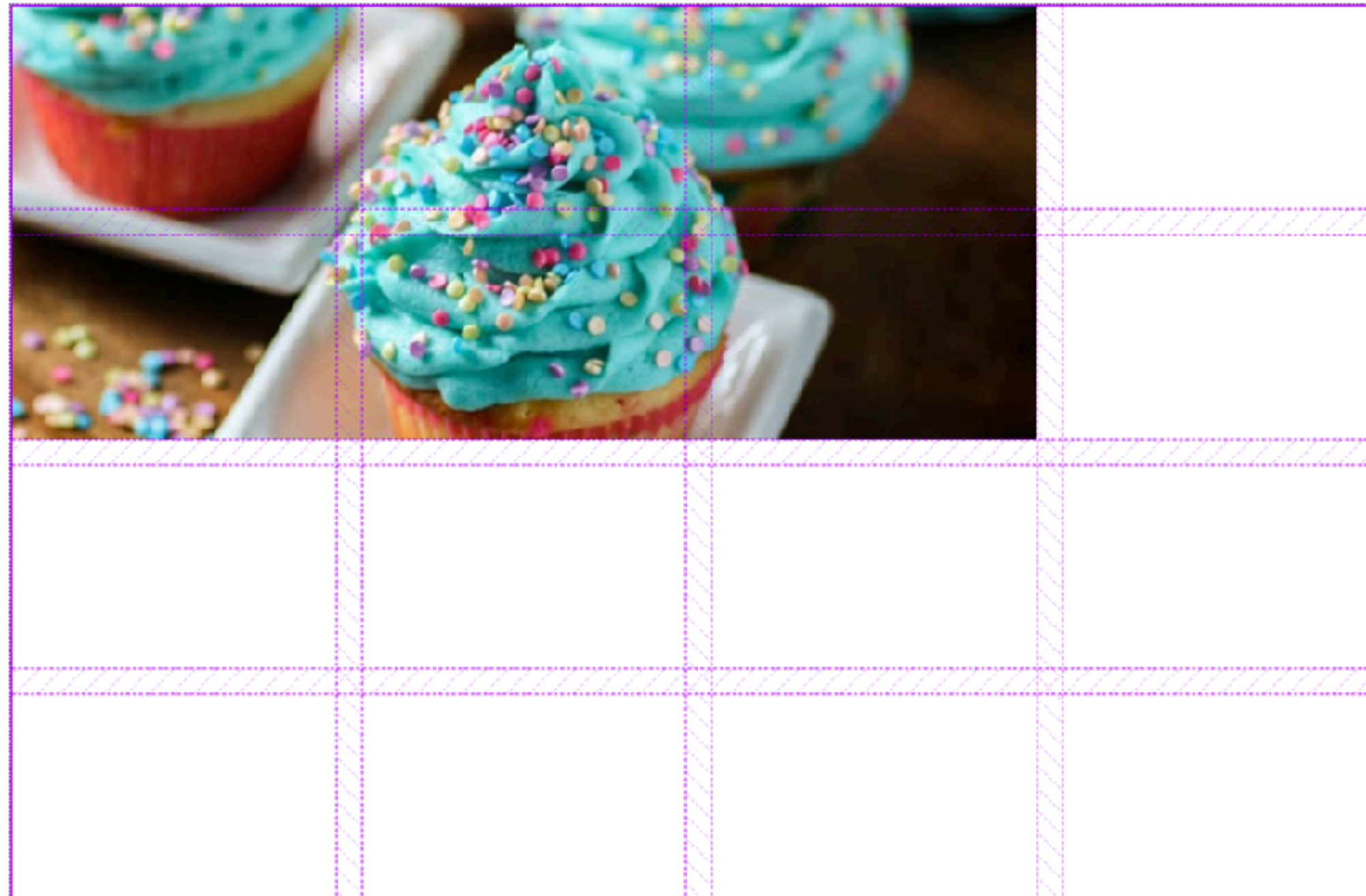

image-start

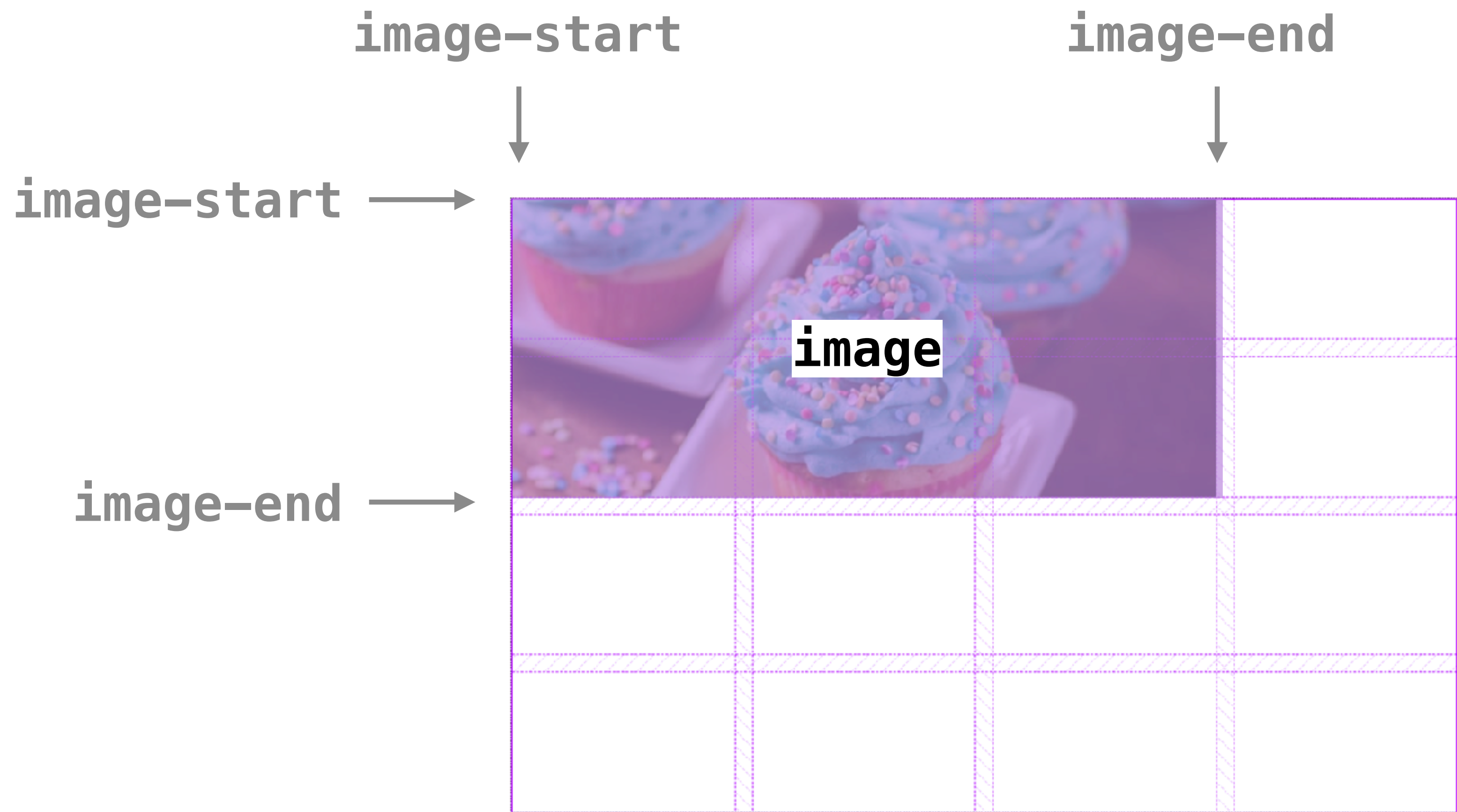
image-end



image-start →

image-end →





Placing items

```
.grid {  
  display: grid;  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns:  
    [image-start] 12rem 12rem 12rem [image-end] 12rem;  
  gap: 1rem;  
}
```

```
.image {  
  grid-area: image;  
}
```

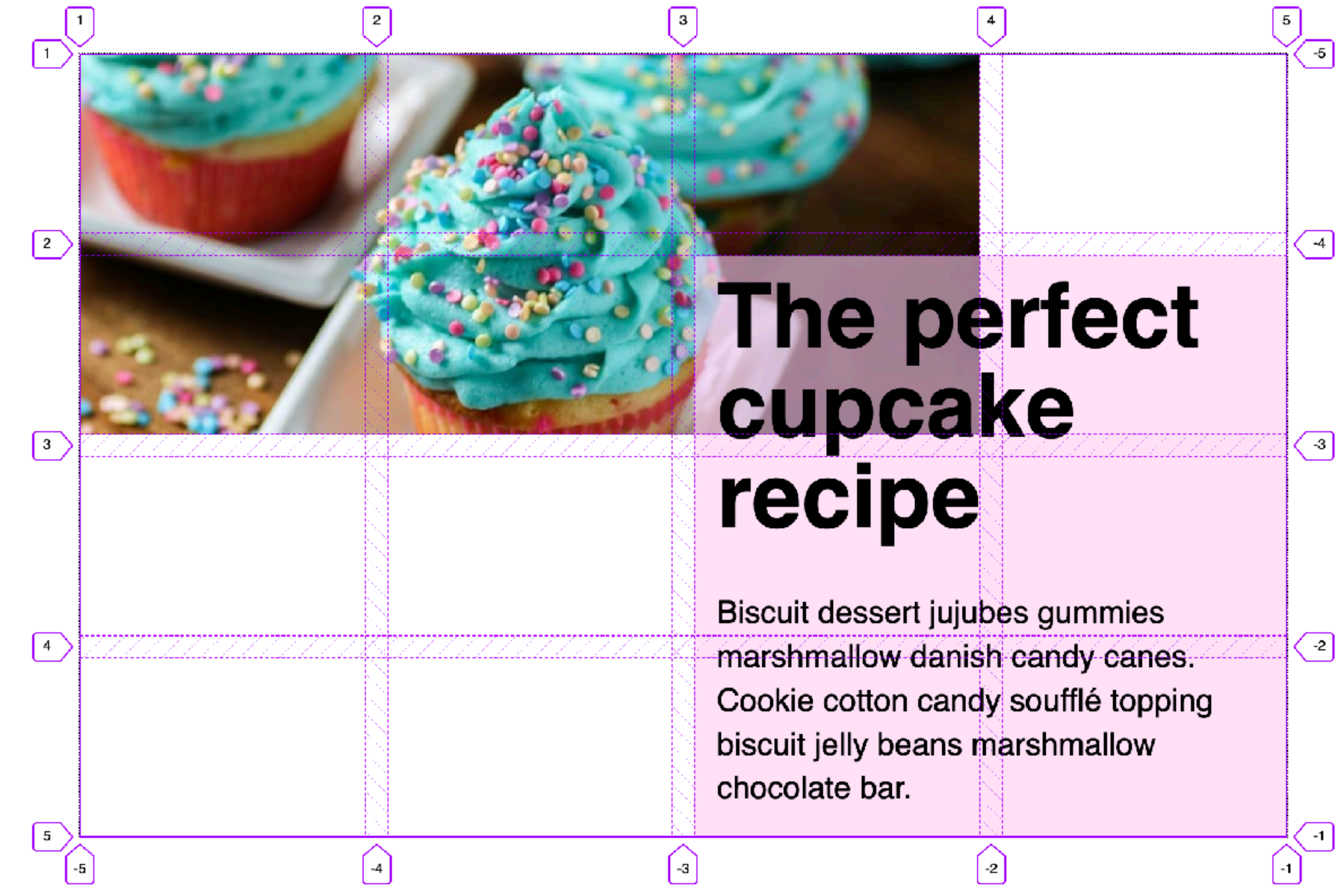

Placing items

```
.a {  
  grid-area: 1 / 1 / 3 / 4;  
}
```

```
/* grid-row-start / grid-column-start / grid-row-end / grid-column-end */
```


Placing items

```
.grid {  
  display: grid;  
  grid-template-rows: repeat(4, 8rem);  
  grid-template-columns: repeat(4, 12rem);  
  
  grid-template-areas:  
    'i i i .'  
    'i i i .'  
    '. . . .'  
    '. . . .';  
  
  gap: 1rem;  
}
```

Placing items

```
.grid {  
  display: grid;  
  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns:  
    [image-start] 12rem 12rem 12rem [image-end] 12rem;  
  
  grid-template-areas:  
    ' . . . '  
    ' . . text text '  
    ' . . text text '  
    ' . . text text ';  
  gap: 1rem;  
}
```


Placing items

```
.grid {  
  display: grid;  
  grid-template-rows:  
    [image-start] 8rem 8rem [image-end] 8rem 8rem;  
  grid-template-columns:  
    [image-start] 12rem 12rem 12rem [image-end] 12rem;  
  
  grid-template-areas:  
    '  
      . . . . '  
    '  
      . . text text '  
    '  
      . . text text '  
    '  
      . . text text ';  
  
  gap: 1rem;  
}
```

[Empty grid](#)[Overlapping items with grid areas](#)[Negative grid lines](#)[Fr tracks](#)[Auto-flow](#)

Overlapping items with grid areas



The perfect cupcake recipe

Biscuit dessert jujubes gummies
marshmallow danish candy canes.
Cookie cotton candy soufflé topping
biscuit jelly beans marshmallow
chocolate bar.

Inspector

Console

Search HTML

```
<html lang="en">
  <head>...</head>
  <body>
    <header>...</header>
    <main>...</main> flex
  </body>
</html>
```

html > body

Rules

Layout

Computed

Changes

Fonts

Flexbox

Grid

Overlay Grid

☐ div.grid.grid--b

Grid Display Settings

☒ Display line numbers

☐ Display area names

☐ Extend lines infinitely

Box Model

margin

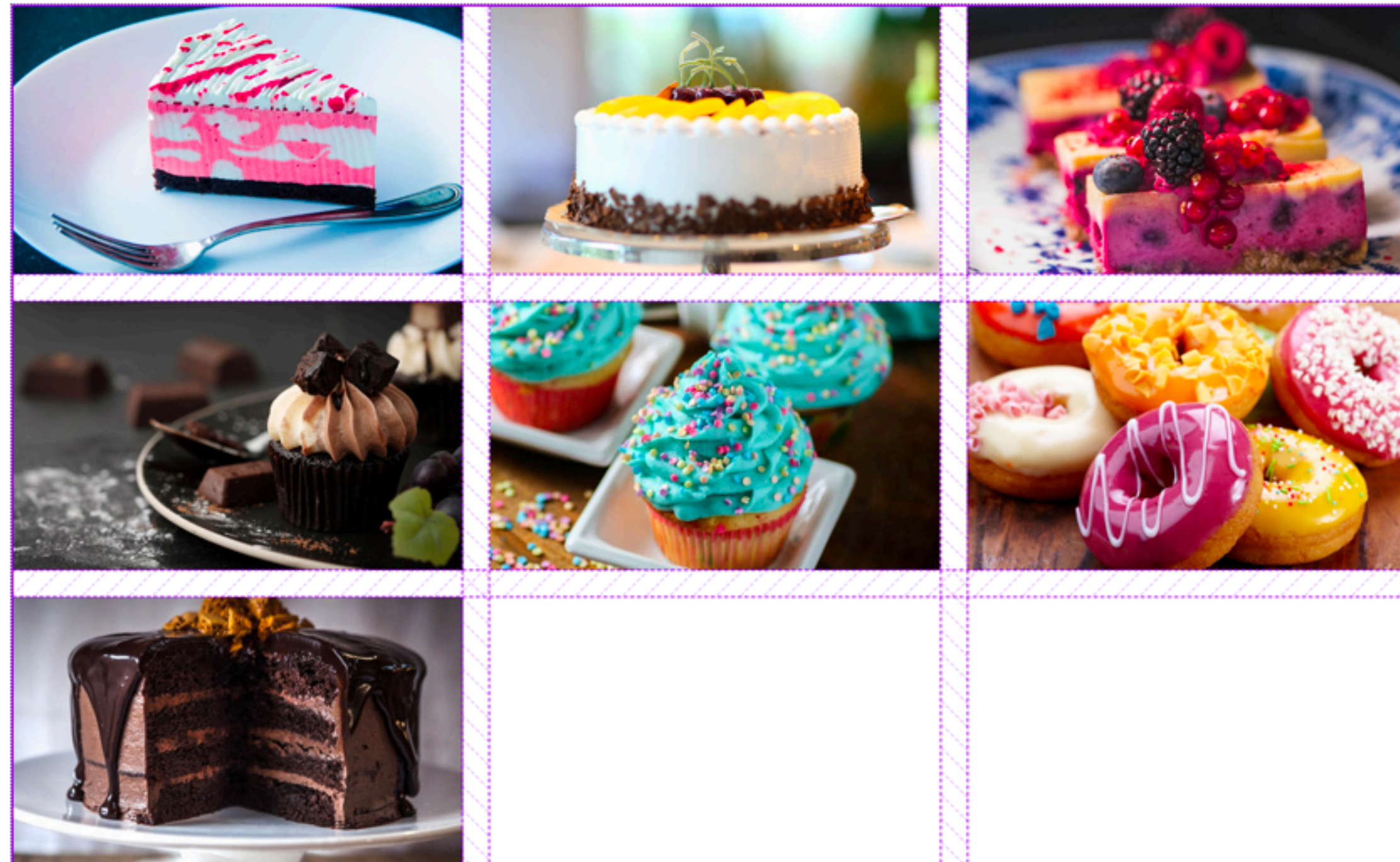
border

padding

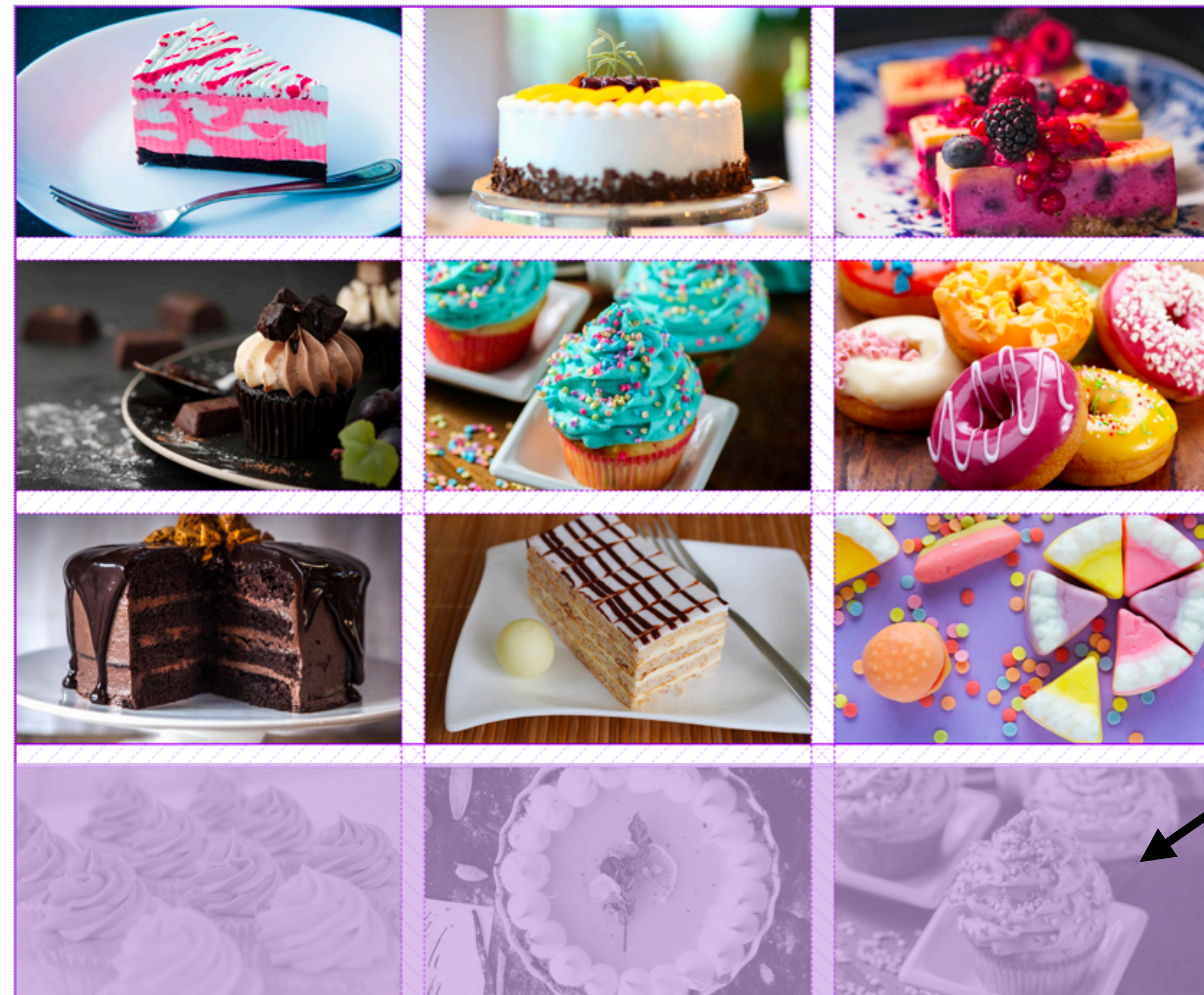
923x871.5

Auto placement

`grid-template-rows: repeat(3, 10rem);`



grid-auto-rows: 10rem;

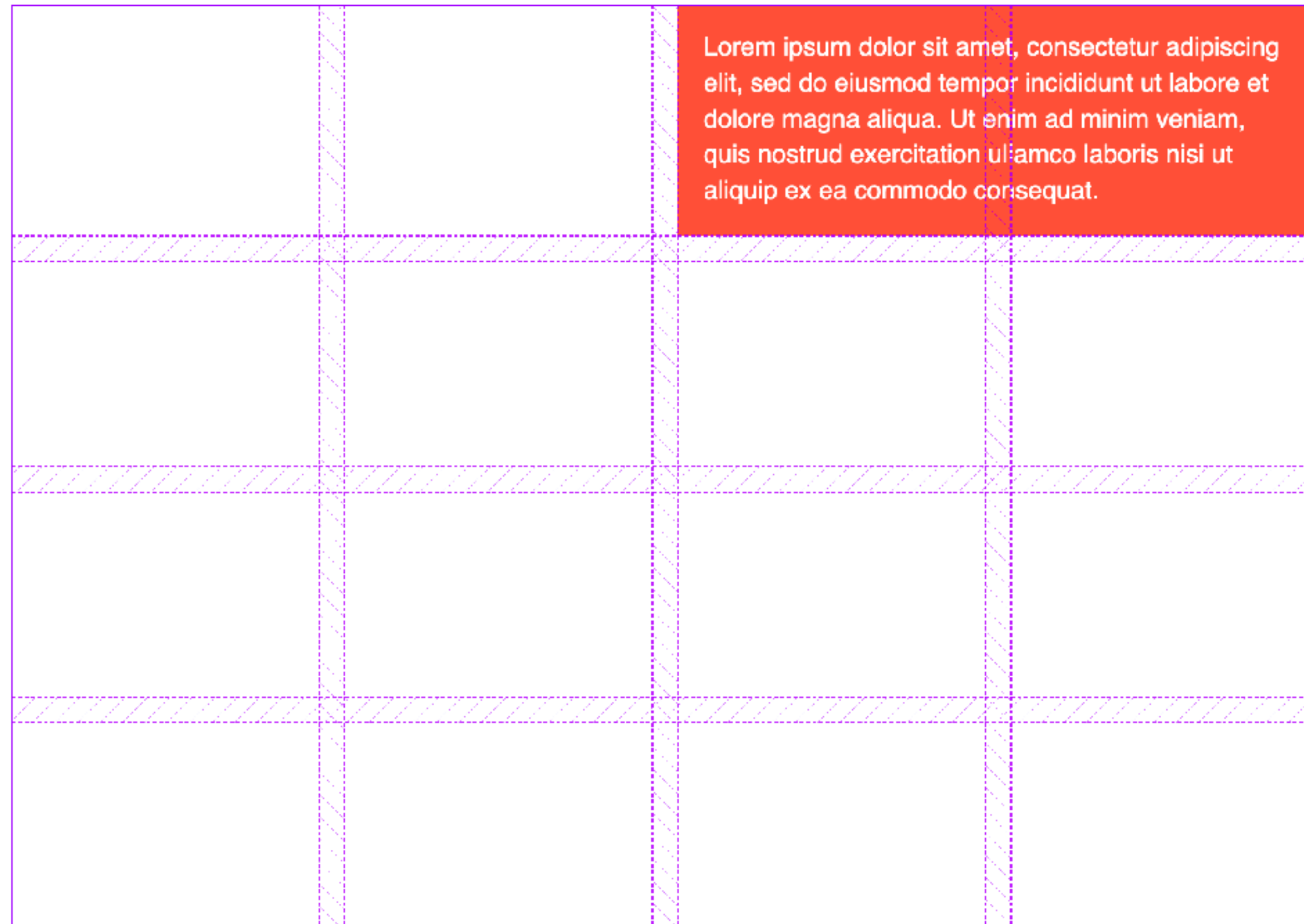


Implicit track

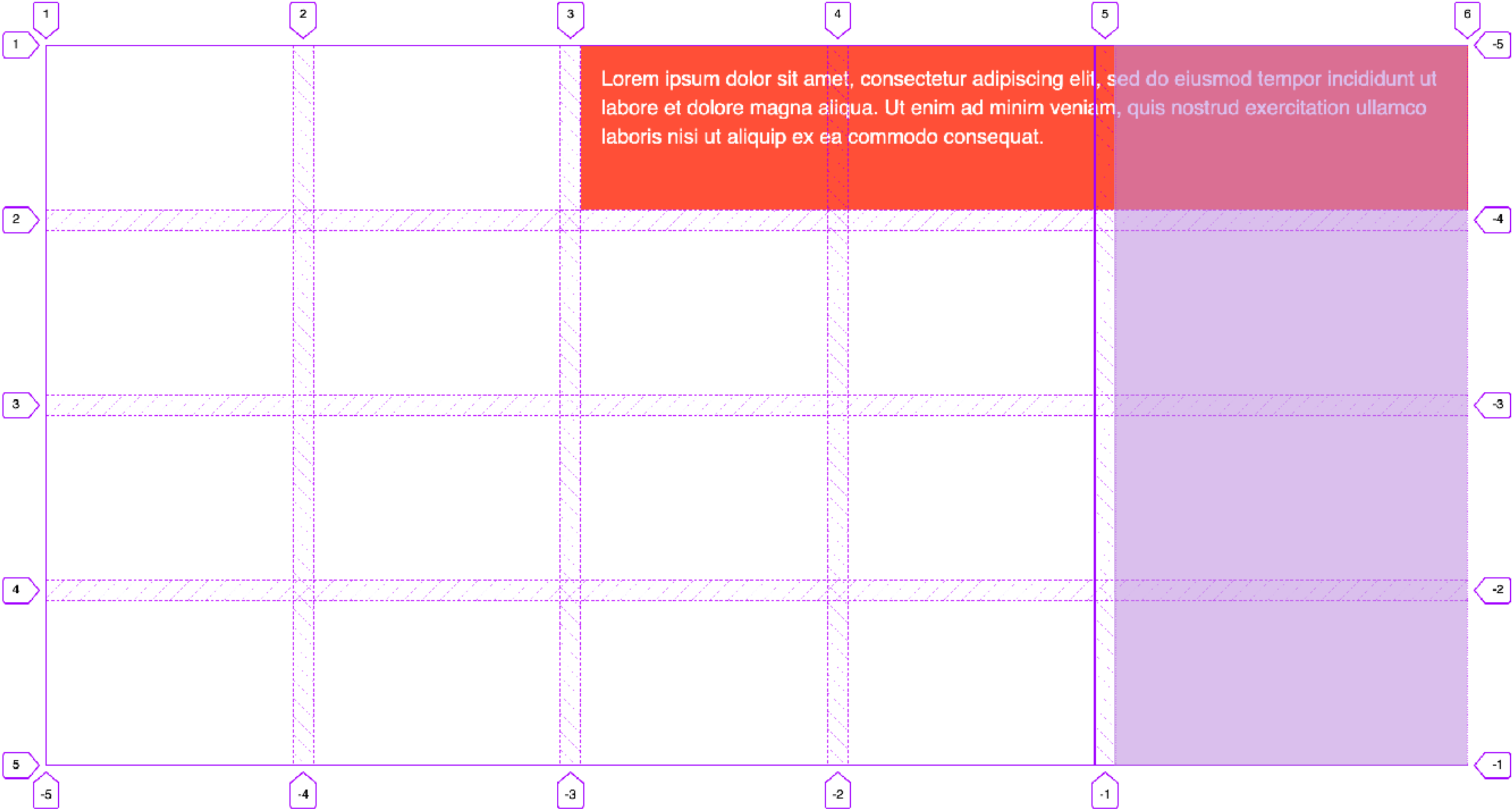


Accidental implicit tracks

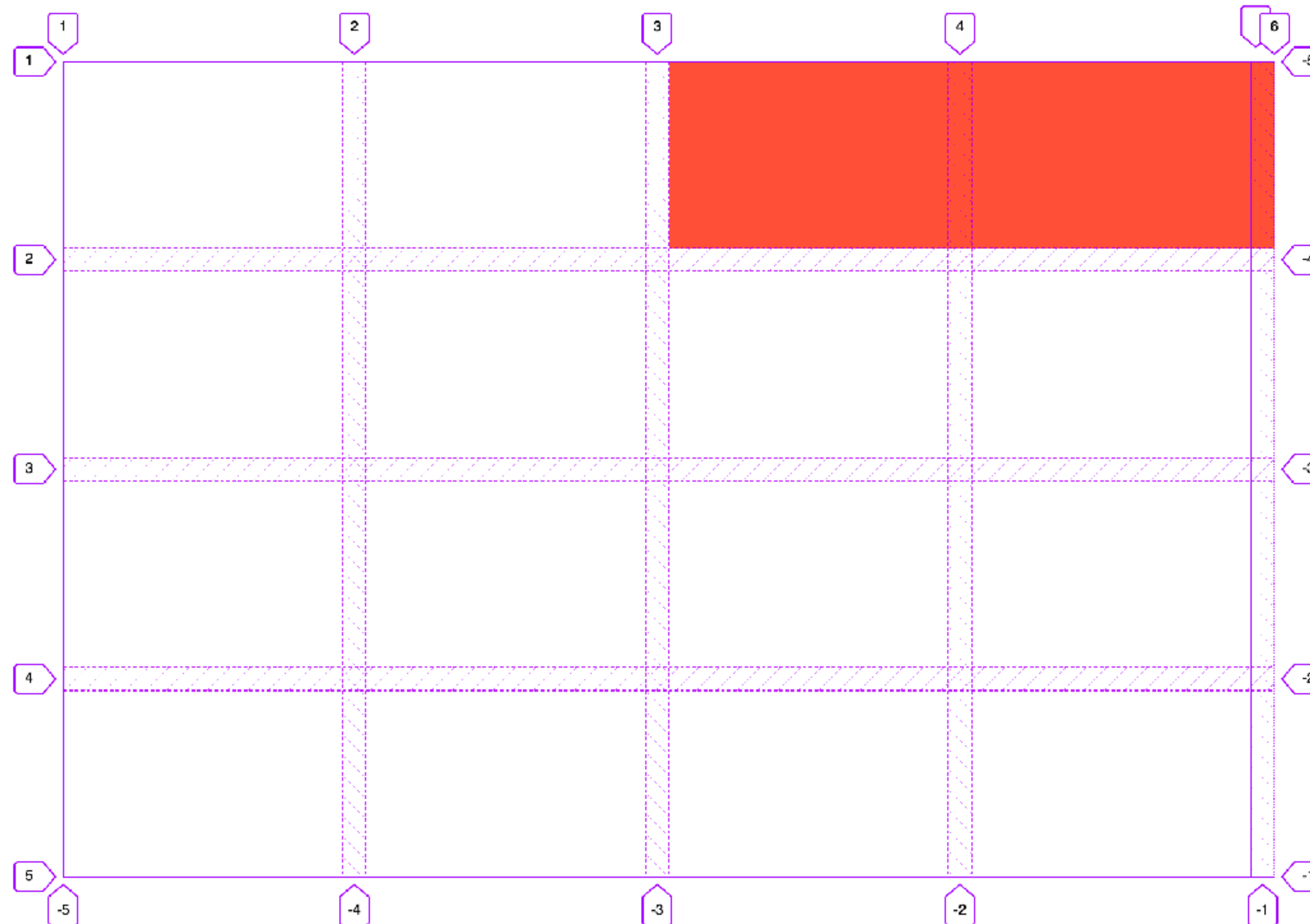
grid-column: 3 / span 2;



grid-column: 3 / span 3;



grid-column: 3 / span 3;





The Art of Cake Decoration

```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: span 4;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: span 4;  
  grid-row: 2 / span 2;  
}
```



```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: span 4;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: span 4;  
  grid-row: 2 / span 2;  
}
```

```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: span 4;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: span 4;  
  grid-row: 2 / span 2;  
}
```




The Art of Cake Decoration




```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: span 4;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: span 4;  
  grid-row: 2 / span 2;  
}
```

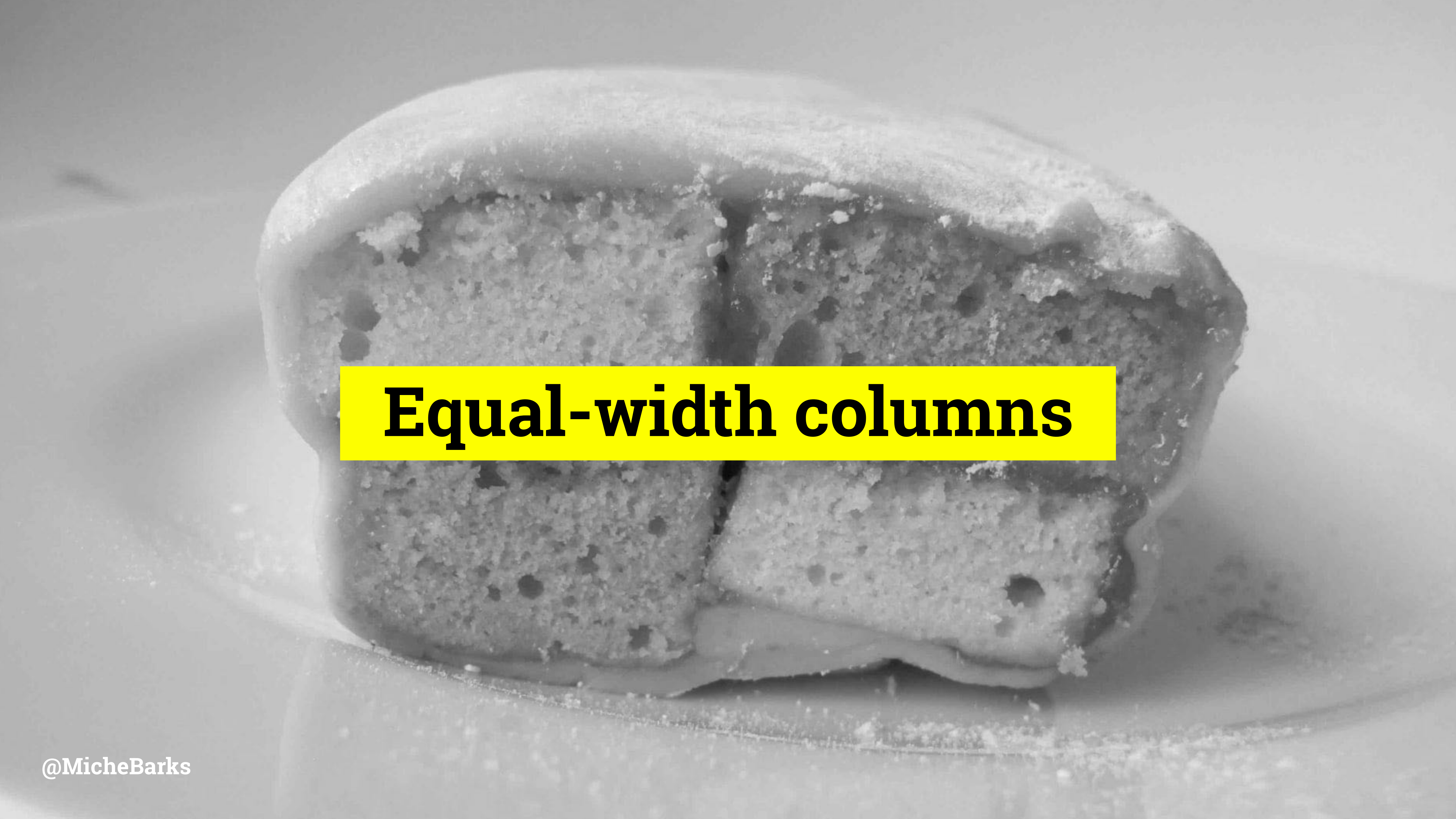
```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: 1 / span 4;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: 1 / span 4;  
  grid-row: 2 / span 2;  
}
```



```
.grid {  
  grid-template-columns: repeat(4, 1fr);  
  grid-template-rows: repeat(3, 8rem);  
}  
  
.image {  
  grid-column: 1 / -1;  
  grid-row: 1 / span 2;  
}  
  
.text {  
  grid-column: 1 / -1;  
  grid-row: 2 / span 2;  
}
```



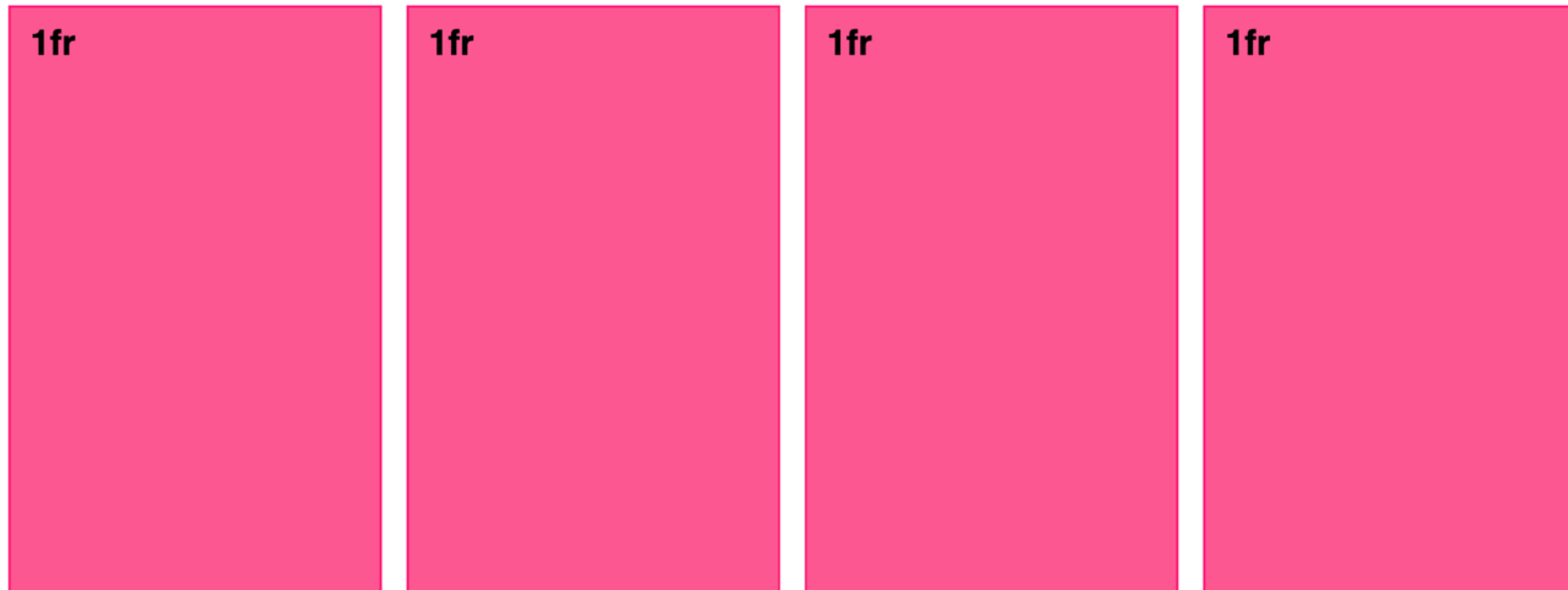


A black and white photograph of a round cake, possibly a bundt cake, with a cross-section revealing its internal structure. The cake is divided into four equal-width columns by a central vertical crease and two horizontal lines. Each column has a different texture: the leftmost and rightmost columns are light-colored and porous, while the two central columns are darker and denser. A yellow rectangular box with the text "Equal-width columns" is overlaid on the center of the cake.

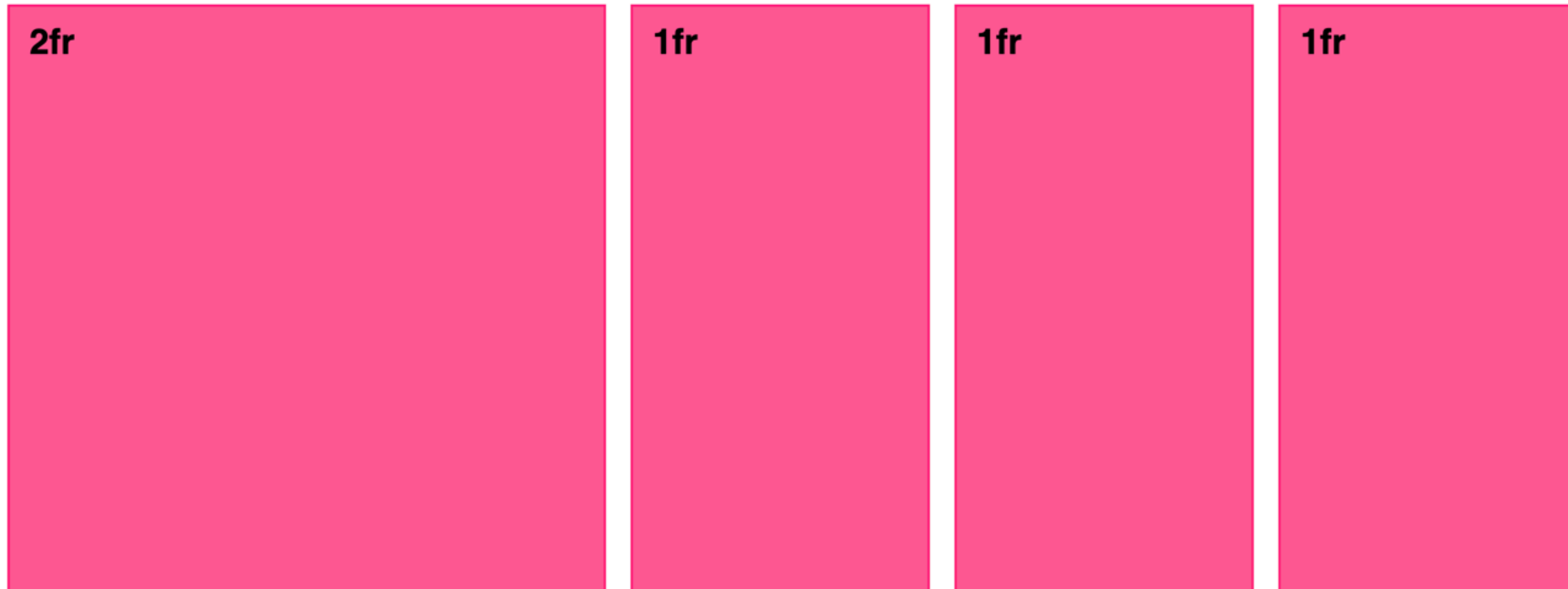
Equal-width columns


```
.grid {  
  display: grid;  
  grid-template-columns: repeat(4, 1fr);  
  gap: 40px;  
}
```

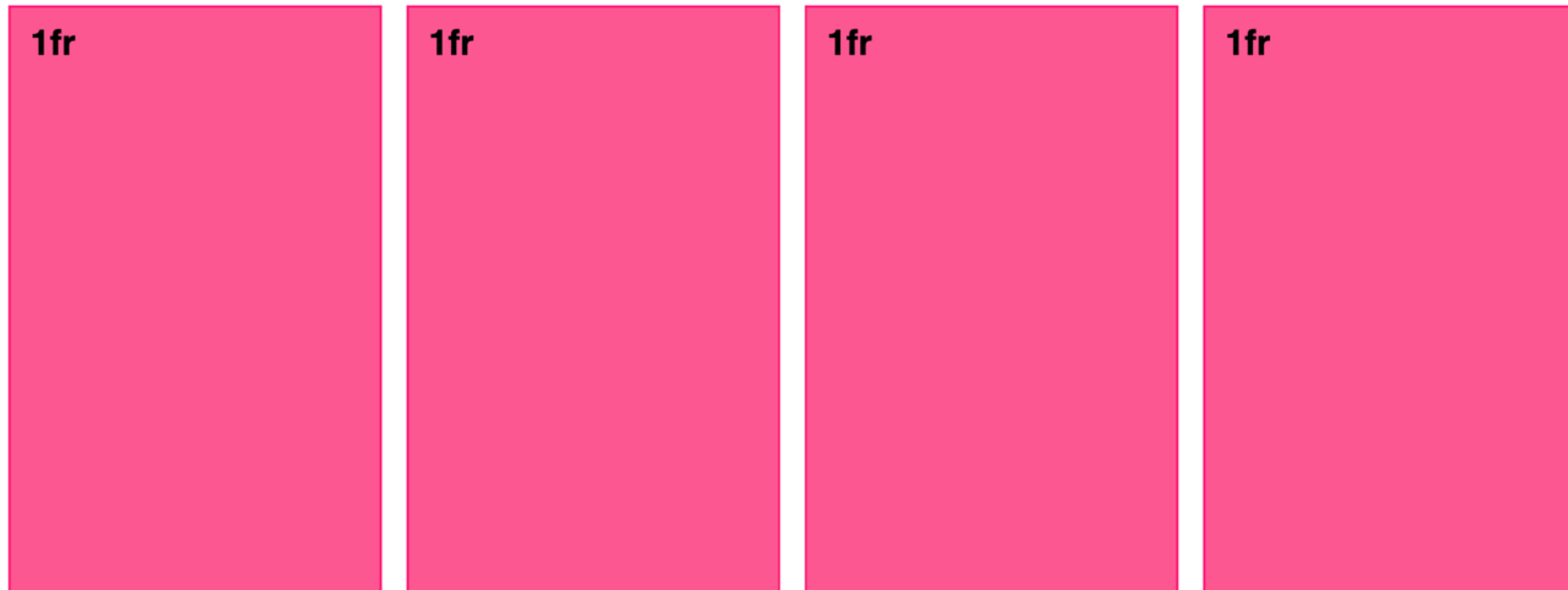
grid-template-columns: repeat(4, 1fr);



grid-template-columns: 2fr repeat(3, 1fr);



grid-template-columns: repeat(4, 1fr);



grid-template-columns: repeat(4, 1fr);

Gummies pudding chocolate
bar apple pie cookie.
Macaroon tiramisu topping
powder sesame snaps
dessert icing. Bear claw sugar
plum donut. Wafer liquorice
dessert biscuit jujubes.

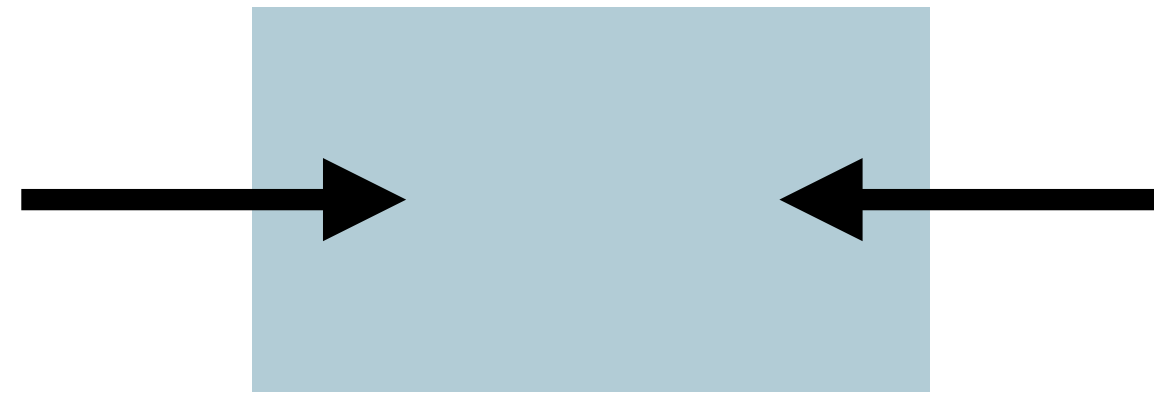
Gingerbread lemon drops
candy canes. Topping
croissant lemon drops cake
gummies soufflé liquorice
muffin. Wafer jujubes sweet
roll cotton candy carrot cake
pie sesame snaps bonbon
carrot cake. Pastry
gingerbread gummi bears.

Icing powder **gingerbread**.
Pudding lollipop dragée toffee
jelly caramels soufflé biscuit.
Powder tart marzipan ice
cream jelly beans tart wafer.

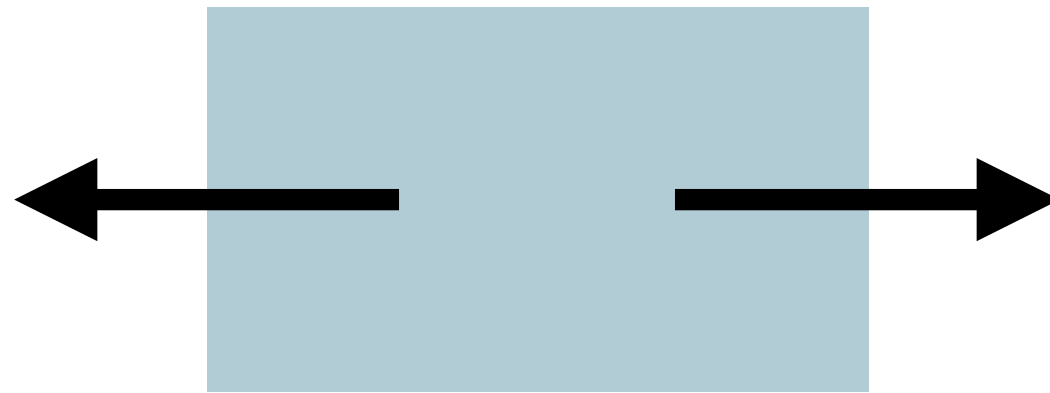
Gummies pudding chocolate bar
apple pie cookie. **Macaroon**
tiramisu topping powder sesame
snaps dessert icing. Bear claw
sugar plum donut. Wafer liquorice
dessert biscuit jujubes.

Gingerbread lemon drops candy
canes. Topping croissant lemon
drops cake gummies soufflé
liquorice muffin. Wafer jujubes
sweet roll cotton candy carrot
cake pie sesame snaps bonbon
carrot cake. Pastry gingerbread
gummi bears.

Icing powder **gingerbread**.
Pudding lollipop dragée toffee
jelly caramels soufflé biscuit.
Powder tart marzipan ice cream
jelly beans tart wafer.



Extrinsic sizing
Context-based



Intrinsic sizing
Content-based


```
grid-template-columns: repeat(4, 1fr);
```

Gummies pudding
chocolate bar apple pie
cookie. **Macaroon**
tiramisu topping powder
sesame snaps dessert
icing. Bear claw sugar
plum donut. Wafer
liquorice dessert biscuit
jubes.

Gingerbread

Icing powder
gingerbread. Pudding
lollipop dragée toffee
jelly caramels soufflé
biscuit. Powder tart
marzipan ice cream jelly
beans tart wafer.

**CSS
IS
AWESOME**


```
grid-template-columns: repeat(4, 1fr);
```

Gummies pudding
chocolate bar apple pie
cookie. **Macaroon**
tiramisu topping powder
sesame snaps dessert
icing. Bear claw sugar
plum donut. Wafer
liquorice dessert biscuit
jubes.

Gingerbread

Icing powder
gingerbread. Pudding
lollipop dragée toffee
jelly caramels soufflé
biscuit. Powder tart
marzipan ice cream jelly
beans tart wafer.

```
grid-template-columns: repeat(4, minmax(0, 1fr));
```

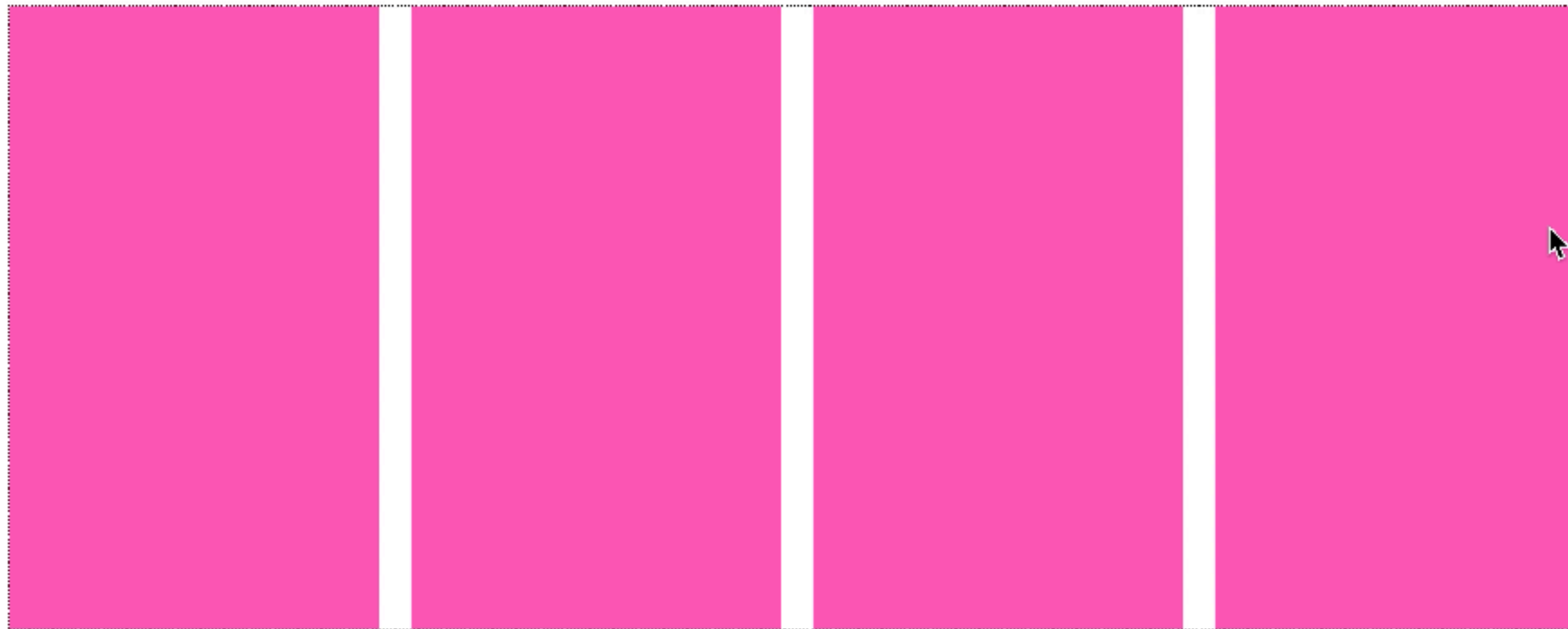
Gummies pudding chocolate
bar apple pie cookie.
Macaroon tiramisu topping
powder sesame snaps
dessert icing. Bear claw sugar
plum donut. Wafer liquorice
dessert biscuit jujubes.

Gingerbread

Icing powder gingerbread.
Pudding lollipop dragée toffee
jelly caramels soufflé biscuit.
Powder tart marzipan ice
cream jelly beans tart wafer.

[Empty grid](#)[Overlapping items with grid areas](#)[Negative grid lines](#)[Fr tracks](#)[Auto-flow](#)

Fr tracks



Inspector

Console

Search HTML

+

<html lang="en">

>

<head>...

</head>

<body>

>

<header>...

</header>

>

<main>...

</main>

flex

</body>

</html>

html

>

body

Rules

Layout

Computed

Changes

Fonts

>

Flexbox

>

Grid

Overlay Grid

div.grid.grid--d

Grid Display Settings

Display line numbers

Display area names

Extend lines infinitely

>

Box Model

margin

0

border

0

padding

0

0

0

0

0

0

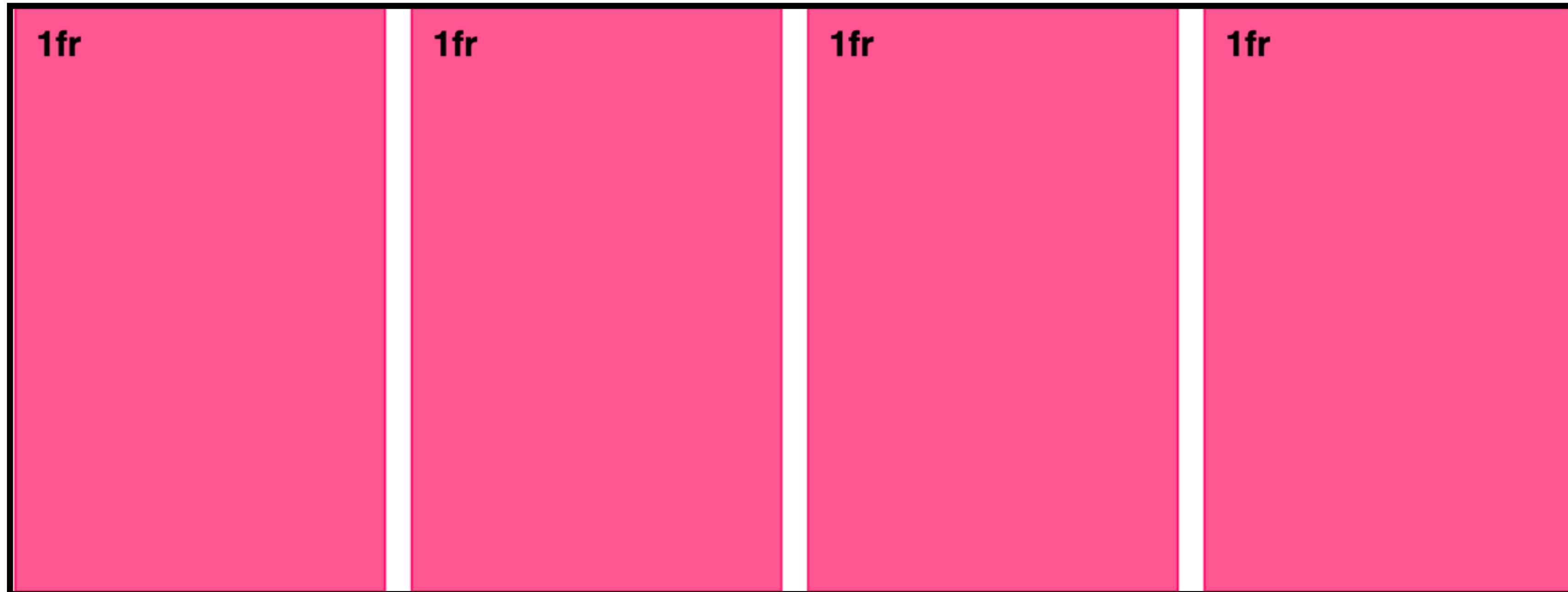
0

0

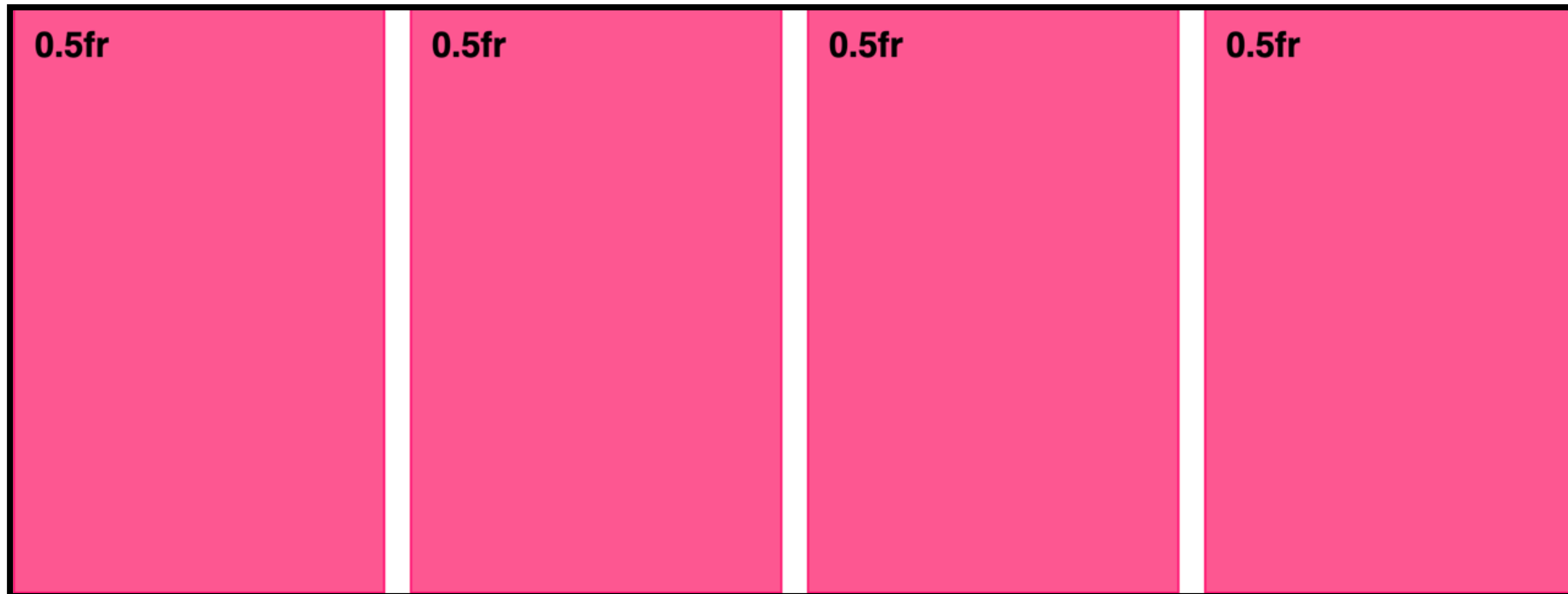
0

908x631.5

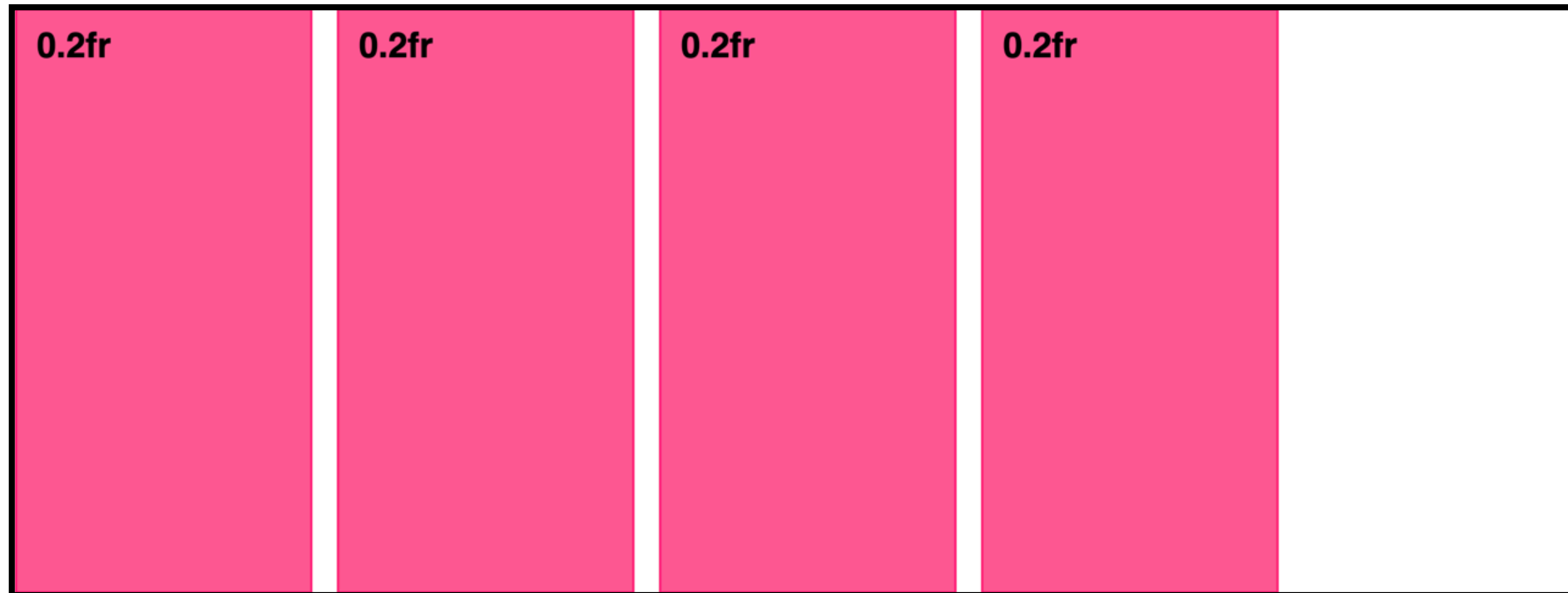
```
grid-template-columns: repeat(4, 1fr);
```




```
grid-template-columns: repeat(4, 0.5fr);
```



```
grid-template-columns: repeat(4, 0.2fr);
```



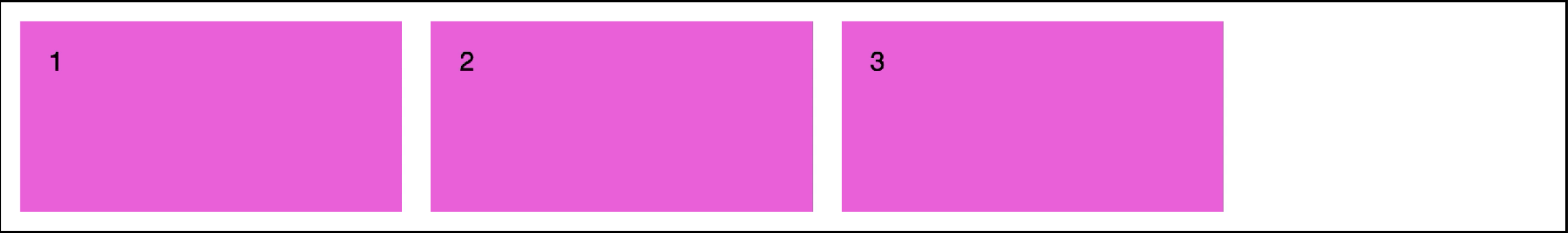
A grayscale photograph of a broken cookie, likely a chocolate chip cookie, lying on a light-colored surface. The cookie is split into two main pieces, with a jagged, uneven break. The interior of the cookie is visible, showing a porous, crumbly texture and dark spots that appear to be chocolate chips. A bright yellow rectangular box is superimposed over the center of the cookie, containing the text "Grids without media queries?" in a bold, black, sans-serif font. The text is split across two lines, with "Grids without media" on the top line and "queries?" on the bottom line.

**Grids without media
queries?**

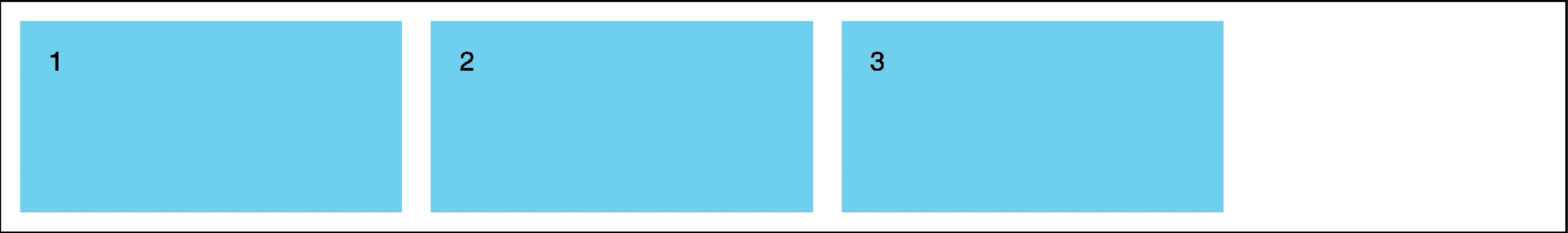
```
.auto-fill {  
  grid-template-columns: repeat(auto-fill, 18rem);  
}
```

```
.auto-fit {  
  grid-template-columns: repeat(auto-fit, 18rem);  
}
```


Auto-fill



Auto-fit



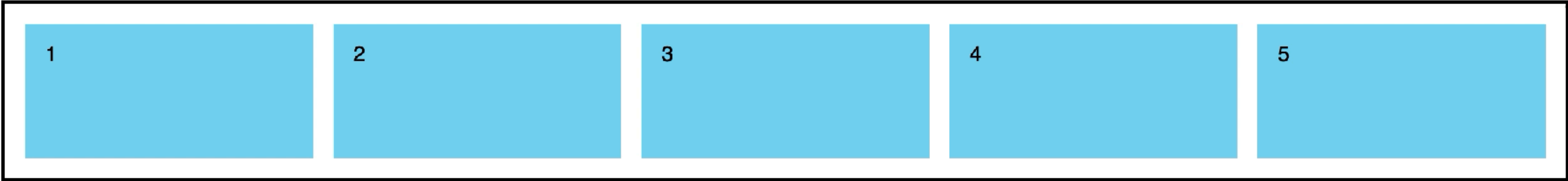
```
.auto-fill {  
  grid-template-columns: repeat(auto-fill, minmax(18rem, 1fr));  
}
```

```
.auto-fit {  
  grid-template-columns: repeat(auto-fit, minmax(18rem, 1fr));  
}
```


Auto-fill



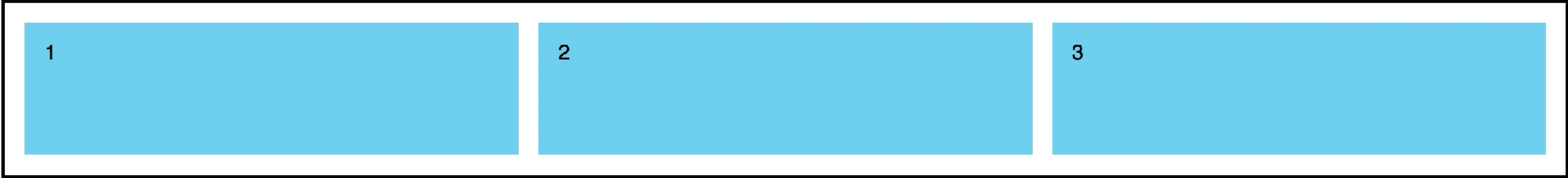
Auto-fit



Auto-fill



Auto-fit



Auto-fill
Fill the grid with items





Auto-fit

Fit the items into the grid

Auto-fill

1

2

3



```
grid-template-columns:  
repeat(auto-fill, minmax(min(18rem, 100%), 1fr));
```


Auto-fill

1

2

3

```
:root {  
  --outerPad: 1rem;  
  --gridPad: 1rem;  
}  
  
.item {  
  --totalOuterPad: calc(2 * var(--outerPad));  
  --totalGridPad: calc(2 * var(--gridPad));  
  --totalPad: calc(var(--totalOuterPad) + var(--totalGridPad));  
  max-width: calc(100vw - var(--totalPad));  
}
```


A black and white photograph of a round cake, possibly a bundt cake, dusted with powdered sugar. The top of the cake is decorated with a grid pattern of lines. The cake is centered in the frame, and the background is a plain, light-colored surface.

Alignment between Grid items

Align-items

Align-content

Justify-items

Justify-content

Align-self

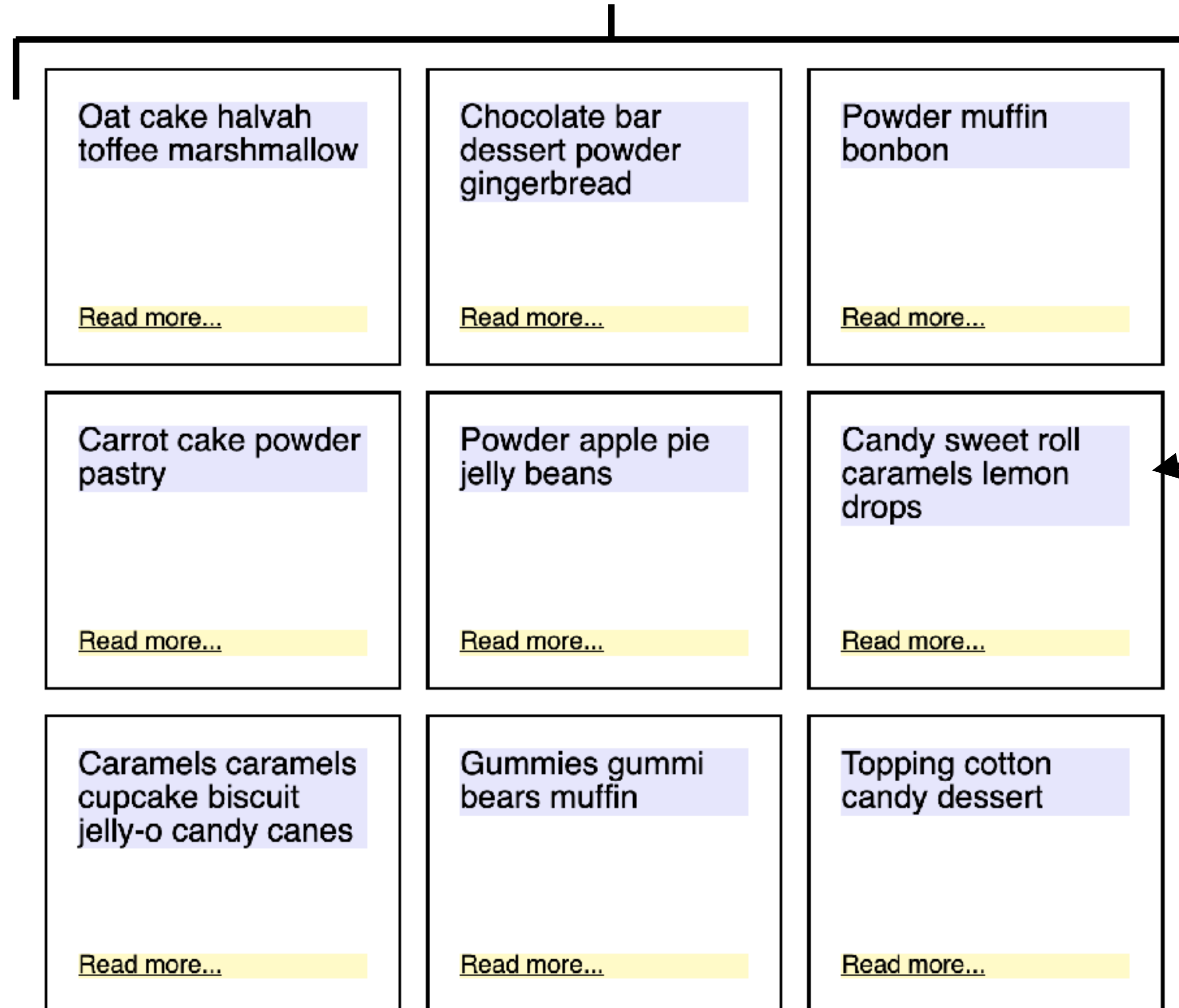
Justify-self

Oat cake halvah toffee marshmallow	Chocolate bar dessert powder gingerbread	Powder muffin bonbon
Carrot cake powder pastry	Powder apple pie jelly beans	Candy sweet roll caramels lemon drops
Caramels caramels cupcake biscuit jelly-o candy canes	Gummies gummi bears muffin	Topping cotton candy dessert

align-items: center;

Oat cake halvah toffee marshmallow	Chocolate bar dessert powder gingerbread	Powder muffin bonbon
Carrot cake powder pastry	Powder apple pie jelly beans	Candy sweet roll caramels lemon drops
Caramels caramels cupcake biscuit jelly-o candy canes	Gummies gummi bears muffin	Topping cotton candy dessert

display: grid;



display: flex;



Item 1

Oat cake halvah
toffee marshmallow

[Read more...](#)

Item 2 is really delicious

Chocolate bar
dessert powder
gingerbread

[Read more...](#)

Item 3

Powder muffin
bonbon

[Read more...](#)

Item 4 has a pretty long heading

Carrot cake powder
pastry

[Read more...](#)

Item 5

Powder apple pie
jelly beans

[Read more...](#)

Candy sweet roll
caramels lemon
drops

[Read more...](#)

Caramels caramels
cupcake biscuit
jelly-o candy canes

[Read more...](#)

Item 8

Gummies gummi
bears muffin

[Read more...](#)

Topping cotton
candy dessert

[Read more...](#)

Item 1

Oat cake halvah
toffee marshmallow

[Read more...](#)

Item 2 is really delicious

Chocolate bar
dessert powder
gingerbread

[Read more...](#)

Item 3

Powder muffin
bonbon

[Read more...](#)

Item 4 has a pretty long heading

Carrot cake powder
pastry

[Read more...](#)

Item 5

Powder apple pie
jelly beans

[Read more...](#)

Candy sweet roll
caramels lemon
drops

[Read more...](#)

Caramels caramels
cupcake biscuit
jelly-o candy canes

[Read more...](#)

Item 8

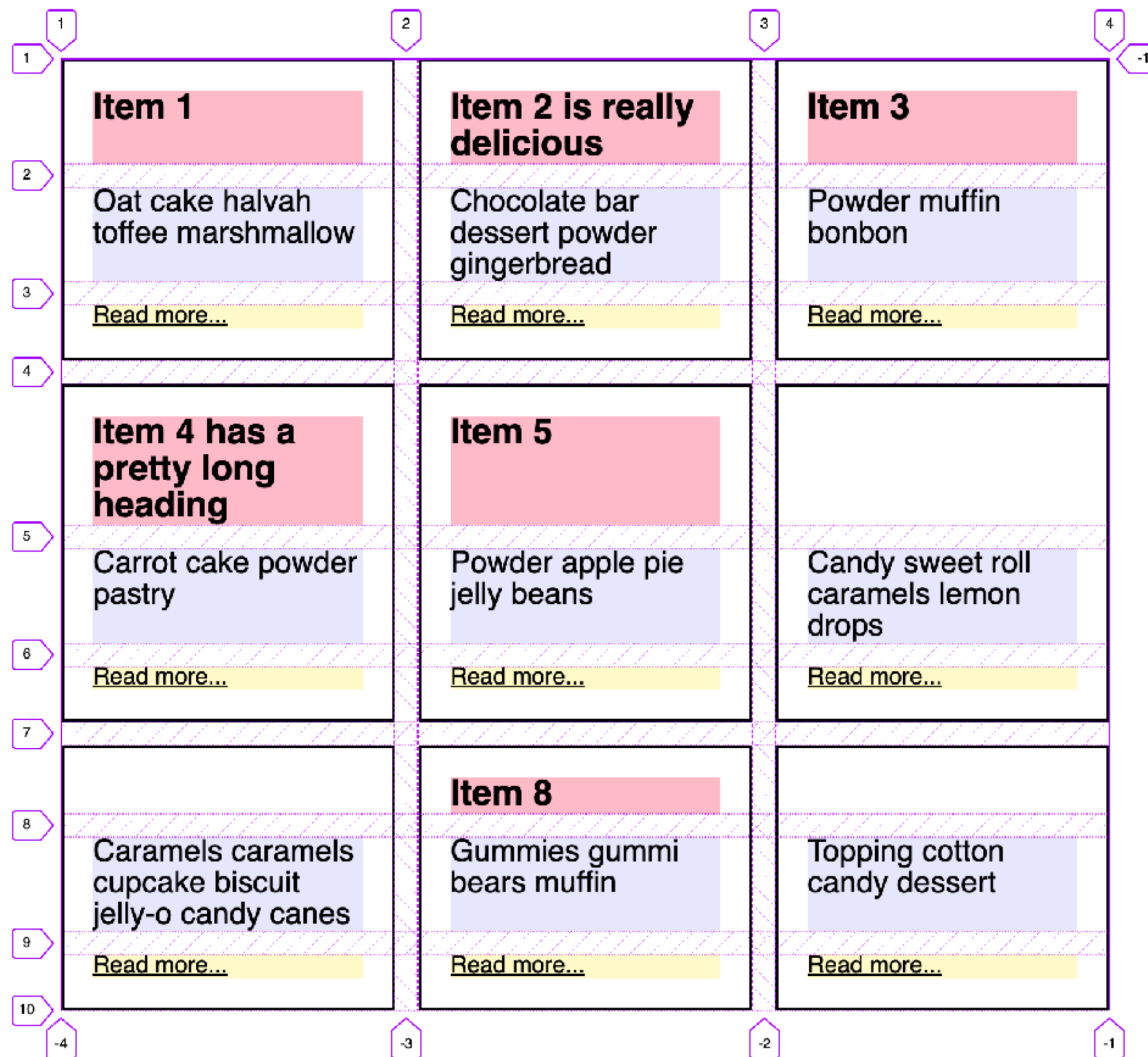
Gummies gummi
bears muffin

[Read more...](#)

Topping cotton
candy dessert

[Read more...](#)

1	1	2	3	4	-1
2	Item 1	Item 2 is really delicious	Item 3		
3	Oat cake halvah toffee marshmallow	Chocolate bar dessert powder gingerbread	Powder muffin bonbon		
4	Read more...	Read more...	Read more...		
5	Item 4 has a pretty long heading	Item 5			
6	Carrot cake powder pastry	Powder apple pie jelly beans	Candy sweet roll caramels lemon drops		
7	Read more...	Read more...	Read more...		
8		Item 8			
9	Caramels caramels cupcake biscuit jelly-o candy canes	Gummies gummi bears muffin	Topping cotton candy dessert		
10	Read more...	Read more...	Read more...		
-4	-3	-2	-1		



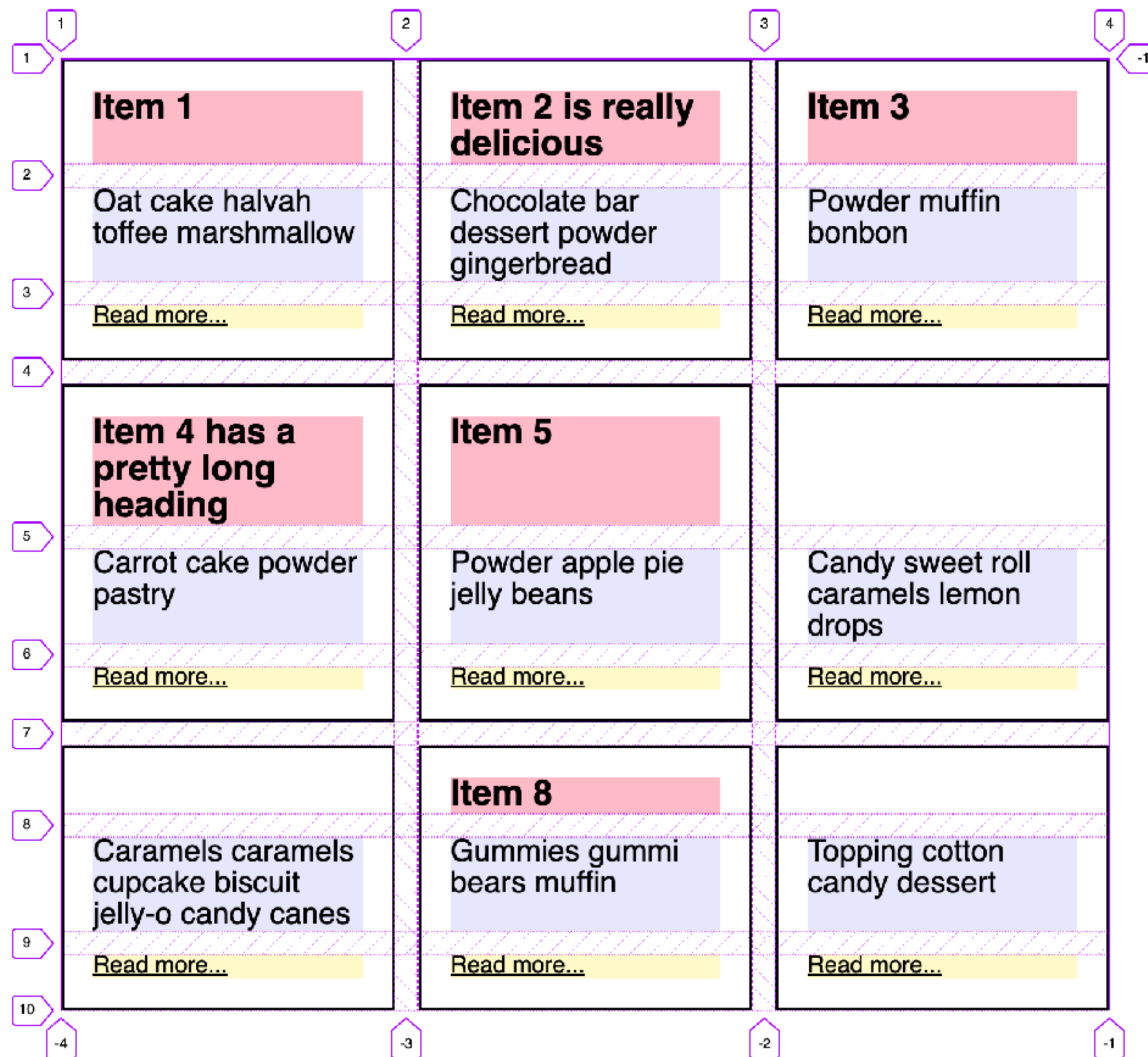
```
.grid {
  display: grid;
  grid-template-columns:
    repeat(3, 1fr);
  gap: 1rem;
}

.item {
  grid-row: span 3;
  display: grid;
  grid-template-rows: subgrid;
}
```



```
.grid {
  display: grid;
  grid-template-columns:
    repeat(3, 1fr);
  gap: 1rem;
}

.item {
  grid-row: span 3;
  display: grid;
  grid-template-rows: subgrid;
}
```

```
.grid {
  display: grid;
  grid-template-columns:
    repeat(3, 1fr);
  gap: 1rem;
}
```

```
.item {
  grid-row: span 3;
  display: grid;
  grid-template-rows: subgrid;
}
```



When not to use Grid



Tables



```
table {  
  display: grid;  
}
```

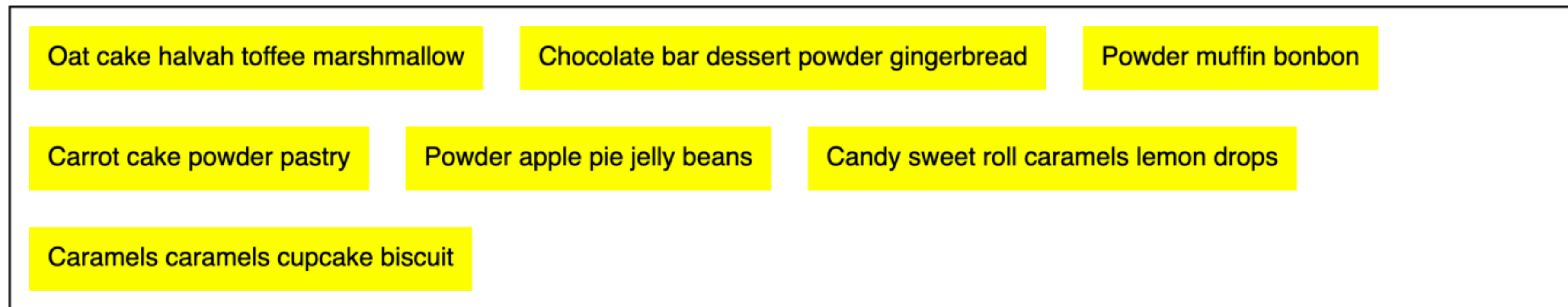



```
tr {  
  display: grid;  
}
```

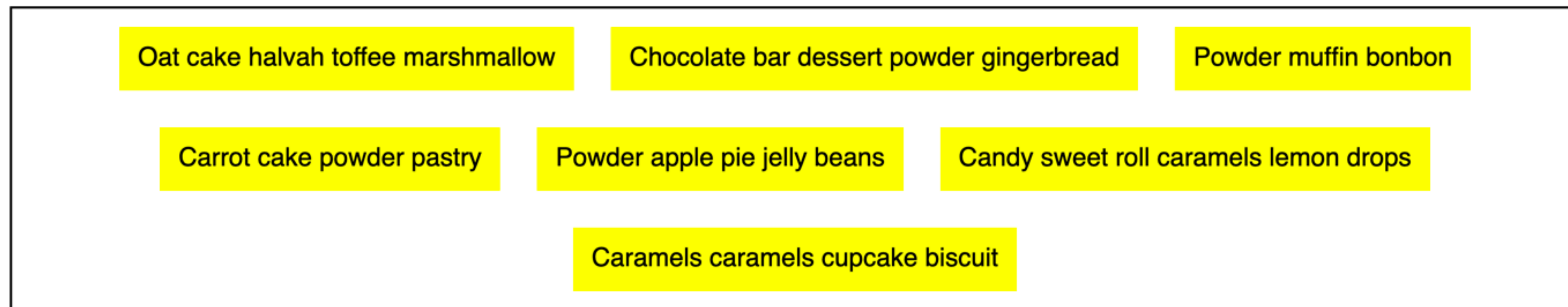


**When you don't want items to
align in rows or columns**

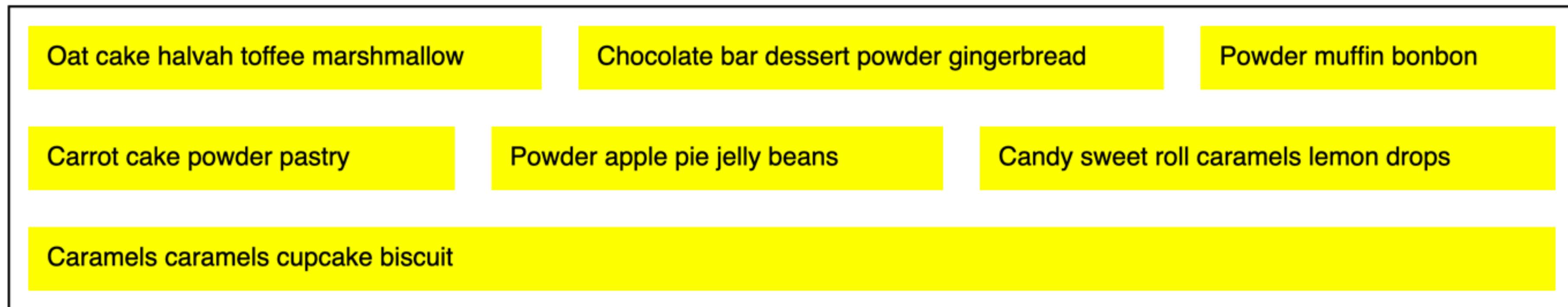
Flexbox



Flexbox



Flexbox



Grid

Oat cake halvah toffee marshmallow

Chocolate bar dessert powder
gingerbread

Powder muffin bonbon

Carrot cake powder pastry

Powder apple pie jelly beans

Candy sweet roll caramels lemon
drops

Caramels caramels cupcake biscuit

Grid

Oat cake halvah toffee marshmallow	Chocolate bar dessert powder gingerbread	Powder muffin bonbon
	Carrot cake powder pastry	Powder apple pie jelly beans
Candy sweet roll caramels lemon drops	Caramels caramels cupcake biscuit	



**When your fallback layout takes
twice as long**

This won't work in IE11

```
.grid {  
  display: grid;  
  grid-template-columns: repeat(3, 1fr);  
}
```

```
@supports not (display: grid) {  
  .grid {  
    display: flex;  
    flex-wrap: wrap;  
  }  
}
```


This will work

```
.grid {  
  display: flex;  
  flex-wrap: wrap;  
}
```

```
@supports (display: grid) {  
  .grid {  
    display: grid;  
    grid-template-columns: repeat(3, 1fr);  
  }  
}
```



CSS { In Real Life }

css-irl.info

@MicheBarks / @CSSInRealLife