



Making Sense of the new CSS Layout

Rachel Andrew, Fluent 2016



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Modern CSS Layout?

- Floats
- Inline-block
- display: table
- Absolute & Relative positioning
- Frameworks ... lots of frameworks

Snippet from Bootstrap
Grid mark-up.

```
<div class="row">
  <div class="col-md-8">
    .col-md-8
    <div class="row">
      <div class="col-md-6">
        .col-md-6
      </div>
      <div class="col-md-6">
        .col-md-6
      </div>
    </div>
    <div class="col-md-4">
      .col-md-4
    </div>
  </div>
```

The cost of taming layout methods

- Developer hours spent learning non-obvious concepts.
- Compromises in terms of document semantics in order to achieve responsive layouts.
- Needing to lean on frameworks to help with complex maths.
- Adding markup to create grids
- Using preprocessors to abstract layout hacks

Our great hopes for layout

- Flexbox

<https://drafts.csswg.org/css-flexbox/>

- CSS Grid Layout

<https://drafts.csswg.org/css-grid/>

- Box Alignment

<https://drafts.csswg.org/css-align/>

The new CSS for Layout

- Items in our layouts understand themselves as part of an overall layout.
- True separation of document source order and visual display.
- Precise control of alignment - horizontally and vertically.
- Responsive and flexible by default.

Items in our layouts understand
themselves as part of a complete layout.

Faux Columns

by [Dan Cederholm](#) · January 09, 2004

Published in [CSS](#), [Layout & Grids](#)



A note from the editors: While excellent for its time, this article may not reflect modern best practices.

One of the questions I get asked the most often regarding my personal site's design is the following:

How do you get the right column's background color to extend all the way down the page?

It's a simple concept, really — one that many of you may already be familiar with. But for those who aren't, the following technique can be a handy little trick.



Vertical stretch

83 comments

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COLIN | BLOG

The Anti-hero of CSS Layout - "display:table"

Redeeming the maligned reputation of CSS Table

October 27, 2014



<http://colintoh.com/blog/display-table-anti-hero>

Flexbox

Full height columns with flexbox, taking advantage of default alignment values.

```
.wrapper {  
    display: flex;  
}  
.sidebar {  
    flex: 1 1 30%;  
}  
.content {  
    flex: 1 1 70%;  
}
```

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Grid Layout

Full height columns in CSS
Grid Layout.

```
.wrapper {  
    display: grid;  
    grid-template-columns: 30% 70%;  
}  
.sidebar {  
    grid-column: 1;  
}  
.content {  
    grid-column: 2;  
}
```

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Separation of source and display

Flexbox

The flex-direction property can take a value of row to display things as a row or column to display them as a column.

```
nav ul{  
    display: flex;  
    justify-content: space-between;  
    flex-direction: row;  
}
```

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Flexbox

The visual order can be switched using row-reverse or column-reverse.

```
nav ul{  
    display: flex;  
    justify-content: space-between;  
    flex-direction: row-reverse;  
}
```

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Flexbox

Adding display: flex to our container element causes the items to display flexibly in a row.

```
.wrapper {  
    display: flex;  
}
```

1.



2.



3.



4.

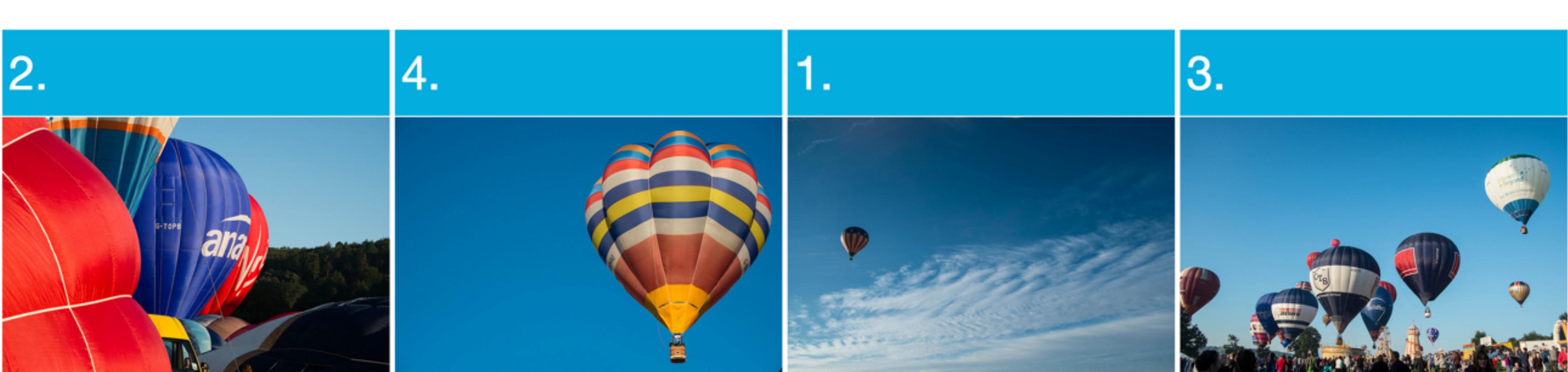


Flexbox

The order property means we can change the order of flex items using CSS.

This does not change their source order.

```
li:nth-child(1) {  
    order: 3;  
}  
li:nth-child(2) {  
    order: 1;  
}  
li:nth-child(3) {  
    order: 4;  
}  
li:nth-child(4) {  
    order: 2;  
}
```



Grid Layout

I have created a grid on my wrapper element.

The grid has 3 equal width columns.

Rows will be created as required as we position items into them.

```
.wrapper {  
  display: grid;  
  grid-template-columns: 1fr 1fr 1fr;  
}
```

Grid Layout

I am positioning my elements using CSS Grid Layout line-based positioning.

Setting a column and a row line using the grid-column and grid-row properties.

```
li:nth-child(1) {  
    grid-column: 3 / 4 ;  
    grid-row: 2 / 3;  
}  
  
li:nth-child(2) {  
    grid-column: 1 / 2;  
    grid-row: 2 / 3;  
}  
  
li:nth-child(3) {  
    grid-column: 1 / 2;  
    grid-row: 1 / 2;  
}  
li:nth-child(4) {  
    grid-column: 2 / 3;  
    grid-row: 1 / 2;  
}
```

3.



4.



2.



1.



CSS Grid automatic placement

<http://www.w3.org/TR/2015/WD-css-grid-1-20150917/#grid-auto-flow-property>

<https://rachelandrew.co.uk/archives/2015/04/14/grid-layout-automatic-placement-and-packing-modes/>

1.



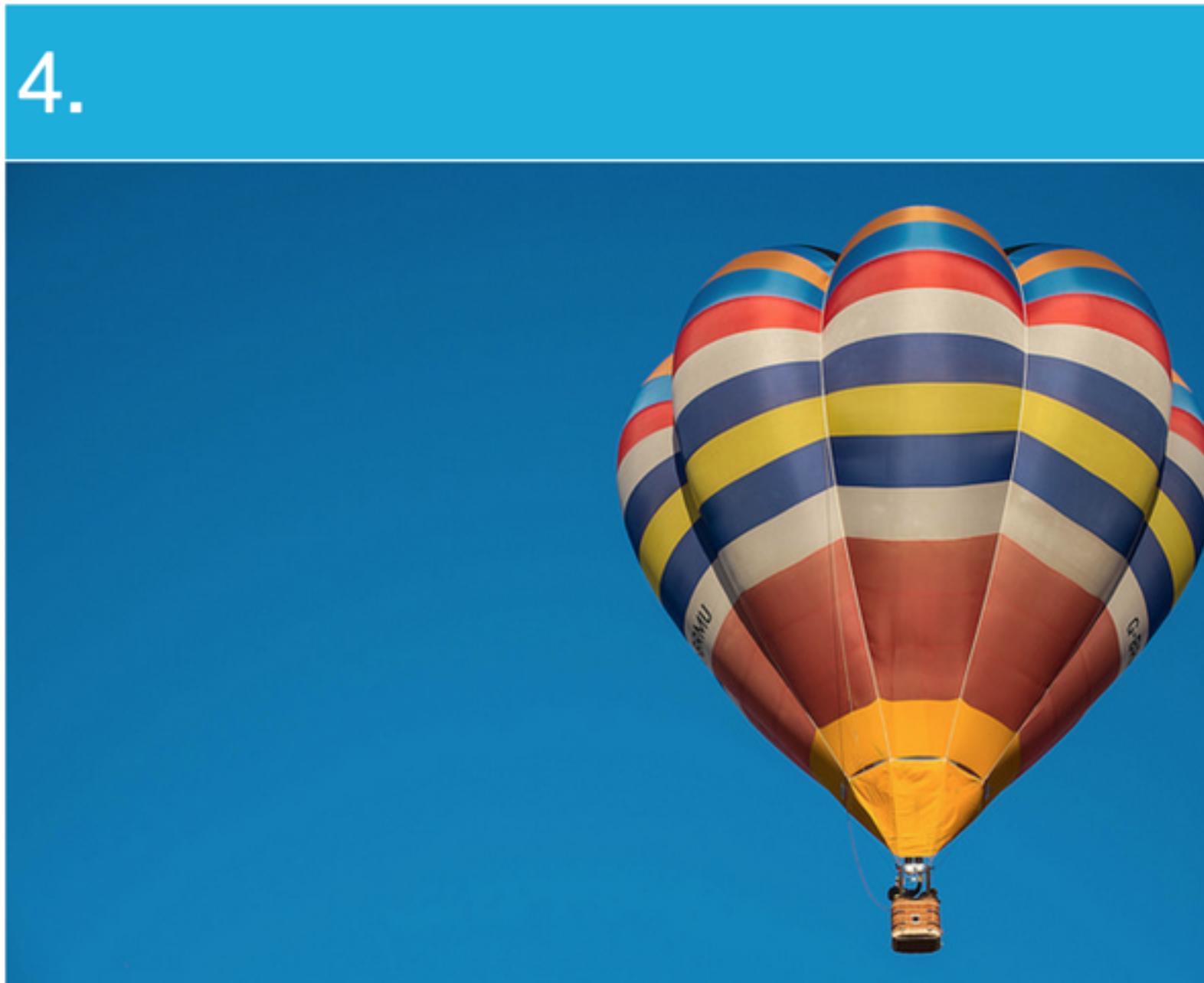
2.



3.



4.



Grid Layout

When using automatic placement we can create rules for items in our document - for example displaying portrait and landscape images differently.

```
.wrapper {  
    display: grid;  
    grid-template-columns: 1fr 1fr 1fr 1fr;  
    grid-template-rows: auto;  
}  
  
.landscape {  
    grid-column-end: span 2;  
}
```

grid-auto-flow

The default value of grid-auto-flow is sparse. Grid will move forward planning items skipping cells if items do not fit .



Grid Layout

With a dense packing mode grid will move items out of source order to backfill spaces.

```
.wrapper {  
    display: grid;  
    grid-template-columns: 1fr 1fr 1fr 1fr;  
    grid-template-rows: auto;  
    grid-auto-flow: dense;  
}  
  
.landscape {  
    grid-column-end: span 2;  
}
```

grid-auto-flow

With grid-auto-flow dense items are displayed out of source order. Grid backfills any suitable gaps.



Power and responsibility

- **Good** = creating the most accessible source order and using Grid or Flexbox to get the optimal display for each device.
- **Bad** = using Grid or Flexbox as an excuse to forget about the source.
- **Terrible** - stripping out semantic elements to make everything a grid or flex item.

*Authors must use order only for visual,
not logical, reordering of content. Style
sheets that use order to perform
logical reordering are non-conforming.*

<https://drafts.csswg.org/css-flexbox/#order-accessibility>

Control of alignment

CSS Box Alignment Module Level 3

“This module contains the features of CSS relating to the alignment of boxes within their containers in the various CSS box layout models: block layout, table layout, flex layout, and grid layout.” - <https://drafts.csswg.org/css-align/>

Vertically centre ALL THE THINGS!

Distributed alignment

justify-content and align-content properties.

Values: space-between, space-around, stretch, space-evenly

Flexbox

The justify-content property is set to space-between.

The items at each end are placed against the container and the remaining space distributed evenly.

```
nav ul{  
    display: flex;  
    justify-content: space-between;  
    flex-direction: row;  
}
```

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Flexbox

The justify-content property is set to space-around.

The items are evenly distributed in the container with a half size space at each end.

```
nav ul{  
    display: flex;  
    justify-content: space-around;  
    flex-direction: row;  
}
```

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Default alignment

Used by the justify-items and align-items properties.

The align-items and justify-items properties set the default align-self and justify-self behavior of the items contained by the element.

Flexbox

The value of align-items is stretch by default.

If I add extra text in one navigation point the others all take the same height.

```
nav ul{  
    display: flex;  
    justify-content: space-around;  
    flex-direction: row;  
    align-items: stretch;  
}
```

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Flexbox

If I set the value of align-items to center then we get vertical centring.

```
nav ul{  
    display: flex;  
    justify-content: space-around;  
    flex-direction: row;  
    align-items: center;  
}
```

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Flexbox

If flex-direction is column and I set the value of align-items to center then we get horizontal centring.

```
nav ul{  
    display: flex;  
    justify-content: space-around;  
    flex-direction: column;  
    align-items: center;  
}
```

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The balloon rose to the height of about twenty feet, then followed a horizontal line, and descended. But the gallery had no

Self alignment

justify-self and **align-self** properties.

The **justify-self** and **align-self** properties control alignment of the box within its containing block.

Flexbox

You can use the align-self and justify-self properties to target individual flex items.

In this example I have set the group to centre, but the third item to stretch.

```
nav ul{  
    display: flex;  
    justify-content: space-around;  
    flex-direction: row;  
    align-items: center;  
}  
  
nav li:nth-child(3) {  
    align-self: stretch;  
}
```

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Box alignment in CSS Grid Layout

Grid Layout

Creating a grid with the align-items property set to centre.

All items will be centered inside their grid area.

```
.wrapper {  
    display: grid;  
    align-items: center;  
    grid-template-columns: repeat(5, 150px 10px) 150px;  
    grid-template-rows: 150px 10px 150px 10px 150px 10px 150px;  
}  
.a {  
    grid-column: 1 / 4;  
    grid-row: 1 / 4;  
}  
.b {  
    grid-column: 5 / 8;  
    grid-row: 1 / 4;  
}  
.c {  
    grid-column: 1 / 4;  
    grid-row: 5 / 10;  
}  
.d {  
    grid-column: 5 / 8;  
    grid-row: 5 / 10;  
}  
.e {  
    grid-column: 9 / 12;  
    grid-row: 1 / 10;  
}
```

This is box A.

This is box B.

This is box C.

This is box D.

Each of the boxes on the left has a grid area of 3 columns and 3 rows (we're counting the gutter col/row).

The align-items property is used to align the content inside each grid-area.

Other values of align-items are:

- stretch
- start
- end
- center

Grid Layout

Creating a grid with the justify-items property set to centre.

All items will be centered horizontally inside their grid area.

```
.wrapper {  
    display: grid;  
    justify-items: center;  
    grid-template-columns: repeat(5, 150px 10px) 150px;  
    grid-template-rows: 150px 10px 150px 10px 150px 10px  
150px;  
}  
.a {  
    grid-column: 1 / 4;  
    grid-row: 1 / 4;  
}  
.b {  
    grid-column: 5 / 8;  
    grid-row: 1 / 4;  
}  
.c {  
    grid-column: 1 / 4;  
    grid-row: 5 / 10;  
}  
.d {  
    grid-column: 5 / 8;  
    grid-row: 5 / 10;  
}  
.e {  
    grid-column: 9 / 12;  
    grid-row: 1 / 10;  
}
```

This is box A.

This is box B.

Each of the boxes on the left has a grid area of 3 columns and 3 rows (we're counting the gutter col/row).

The justify-items property is used to justify the content inside each grid-area.

Other values of justify-items are:

- stretch
- start
- end
- center

This is box C.

This is box D.

Grid Layout

As with flexbox we can use align-self and justify-self to target individual grid items.

```
.a {  
    grid-column: 1 / 4;  
    grid-row: 1 / 4;  
    align-self: stretch;  
}  
.b {  
    grid-column: 5 / 8;  
    grid-row: 1 / 4;  
    align-self: end;  
}  
.c {  
    grid-column: 1 / 4;  
    grid-row: 5 / 10;  
    align-self: start;  
}  
.d {  
    grid-column: 5 / 8;  
    grid-row: 5 / 10;  
    align-self: center;  
}  
.e {  
    grid-column: 9 / 12;  
    grid-row: 1 / 10;  
}
```

This is box A.

`align-self: stretch`

Each of the boxes on the left has a grid area of 3 columns and 3 rows (we're counting the gutter col/row). So each covers the same size area as box A.

This is box B.

`align-self: end`

The align-self property is used to align the content inside the grid-area.

This is box C.

`align-self: start`

This is box D.

`align-self: center`

Responsive by default

“... every aspect of the grid—and the elements laid upon it—can be expressed as a proportion relative to its container.”

Ethan Marcotte, Fluid Grids

target ÷ context = result

```
h1 {  
    margin-left: 14.575%; /* 144px / 988px = 0.14575 */  
    width: 70.85%; /* 700px / 988px = 0.7085 */  
}
```

Flexbox

The most simple flexbox example demonstrates the inherent flexibility.

The items will be displayed as a row, with equal space between each item.

```
nav ul{  
    display: flex;  
    justify-content: space-between;  
}
```

The flex property

- **flex-grow** - add space
- **flex-shrink** - remove space
- **flex-basis** - the initial size before any growing or shrinking

Authors are encouraged to control flexibility using the flex shorthand rather than with its longhand properties directly, as the shorthand correctly resets any unspecified components to accommodate common uses.

<https://drafts.csswg.org/css-flexbox/#flex-components>

Flexbox

```
flex: 1 1 200px;
```

```
flex-grow: 1
```

```
flex-shrink: 1;
```

```
flex-basis: 200px;
```

The initial width of our box is 200 pixels, however it can grow larger and shrink smaller than 200 pixels.

```
.boxes {  
    display: flex;  
    justify-content: space-around;  
}
```

```
.box {  
    flex: 1 1 200px;  
    min-width: 1px;  
}
```

Balloons I have seen recently.



A proper balloon

This is a good standard balloon shape. Looks like it will fly nicely. If I were to fly in a balloon, I think I'd prefer it was this sort.

I also like stripy hot air balloons. So this one ticks all of the boxes.



Terrifying.

Imagine waking up to find this thing descending into your garden.



A chicken?

Is it an Angry Bird?

Flexbox

```
flex: 1 1 200px;
```

```
flex-grow: 1
```

```
flex-shrink: 1;
```

```
flex-basis: 200px;
```

If we allow the flex items to wrap we can see how flex-basis works by dragging the window smaller.

```
.boxes {  
    display: flex;  
    flex-flow: row wrap;  
    justify-content: space-around;  
}
```

```
.box {  
    flex: 1 1 200px;  
    min-width: 1px;  
}
```

Balloons I have seen recently.



A proper balloon

This is a good standard balloon shape. Looks like it will fly nicely. If I were to fly in a balloon, I think I'd prefer it was this sort.

I also like stripy hot air balloons. So this one ticks all of the boxes.



Terrifying.

Imagine waking up to find this thing descending into your garden.



A chicken?

Is it an Angry Bird?

Flexbox

```
flex: 0 1 200px;
```

```
flex-grow: 0
```

```
flex-shrink: 1;
```

```
flex-basis: 200px;
```

The initial width of our box is 200 pixels, it can shrink smaller than 200 pixels but may not get larger.

```
.boxes {  
    display: flex;  
    justify-content: space-around;  
}
```

```
.box {  
    flex: 0 1 200px;  
    min-width: 1px;  
}
```

Balloons I have seen recently.



A proper balloon

This is a good standard balloon shape. Looks like it will fly nicely. If I were to fly in a balloon, I think I'd prefer it was this sort.

I also like stripy hot air balloons. So this one ticks all of the boxes.



Terrifying.

Imagine waking up to find this thing descending into your garden.



A chicken?

Is it an Angry Bird?

Flexbox

flex: 1 1 200px;

flex-grow: 1;

flex-shrink: 1;

flex-basis: 200px;

.box3 has been set to

flex: 0 1 200px;

so cannot grow.

```
.boxes {  
    display: flex;  
    justify-content: space-around;  
}
```

```
.box {  
    flex: 1 1 200px;  
    min-width: 1px;  
}
```

```
.box3 {  
    flex: 0 1 200px;  
}
```

Balloons I have seen recently.



A proper balloon

This is a good standard balloon shape. Looks like it will fly nicely. If I were to fly in a balloon, I think I'd prefer it was this sort.

I also like stripy hot air balloons. So this one ticks all of the boxes.



Terrifying.

Imagine waking up to find this thing descending into your garden.



A chicken?

Is it an Angry Bird?

Flexbox

If we set box3 to
flex-grow: 2

This box will be assigned
twice of much of the
available free space after
we have reached the 200
pixel initial width.

```
.boxes {  
    display: flex;  
    justify-content: space-around;  
}  
  
.box {  
    flex: 1 1 200px;  
    min-width: 1px;  
}  
  
.box3 {  
    flex: 2 1 200px;  
}
```

Balloons I have seen recently.



A proper balloon

This is a good standard balloon shape. Looks like it will fly nicely. If I were to fly in a balloon, I think I'd prefer it was this sort.

I also like stripy hot air balloons. So this one ticks all of the boxes.



Terrifying.

Imagine waking up to find this thing descending into your garden.



A chicken?

Is it an Angry Bird?

Flexbox Tester

Understand how to calculate the width of flex items.

flex-

grow:

flex-

shrink:

flex-

basis:

flex-

grow:

flex-

shrink:

flex-

basis:

flex-

grow:

flex-

shrink:

flex-

basis:

Flex item 1

300px

Flex item 2

300px

Flex item 3

300px

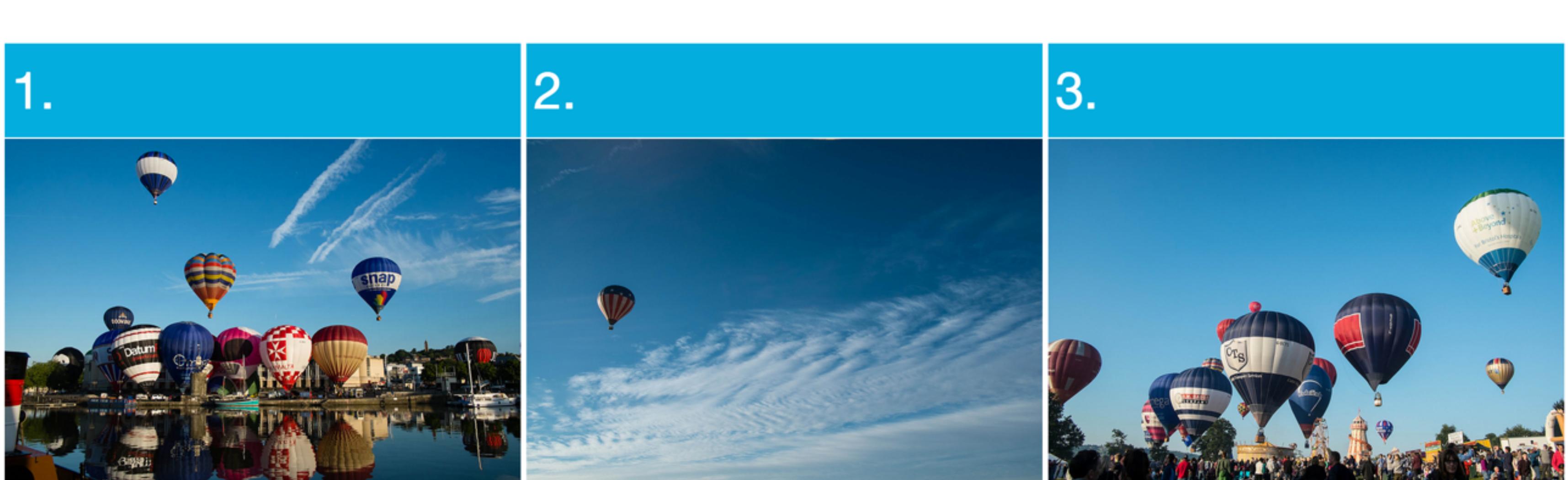
The CSS Grid Layout fr unit

Grid Layout

I am creating three grid column tracks, all 1fr in width.

This gives me three equally sized column tracks.

```
.wrapper {  
  display: grid;  
  grid-template-columns: 1fr 1fr 1fr;  
}
```



Grid Layout

If I create the first column as 600 pixels and then have two 1fr columns the 600 pixel track is removed from the available space and the remainder is distributed equally between the two columns.

```
.wrapper {  
  display: grid;  
  grid-template-columns: 600px 1fr 1fr;  
}
```

1.



2.



3.

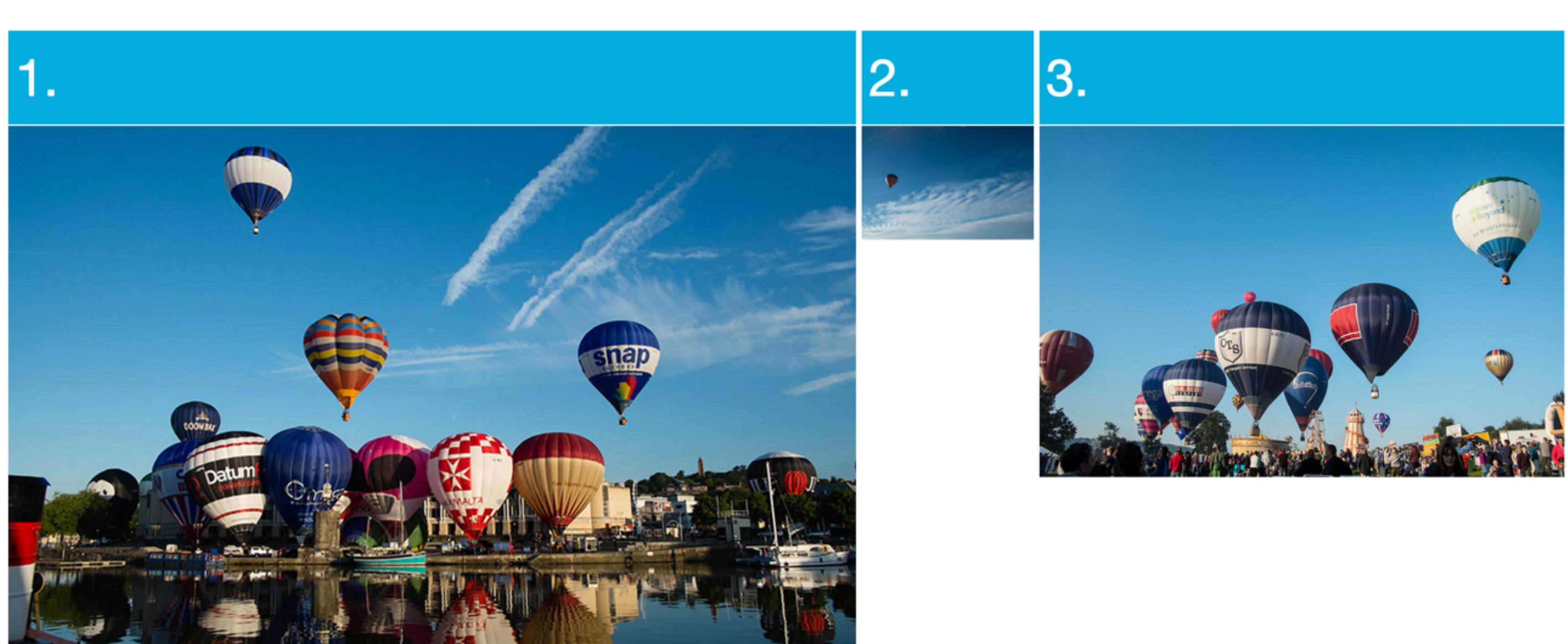


Grid Layout

With a 600 pixel column, a 1fr and a 3fr column. The 600 pixels is removed from the available space then the remaining space is divided by 4.

The 1fr column gets 25% and the 3fr column 75%.

```
.wrapper {  
  display: grid;  
  grid-template-columns: 600px 1fr 3fr;  
}
```



Three columns. One fixed-width sidebar for your navigation, another for, say, your Google Ads or your Flickr photos—and, as in a fancy truffle, a liquid center for the real substance.

<http://alistapart.com/article/holygrail>

Grid Layout

CSS Grid “Holy Grail”
using grid-template-
areas.

```
//css
.header { grid-area: header;}
.footer { grid-area: footer;}
.side1 { grid-area: nav;}
.side2 { grid-area: ads;}
.content { grid-area: content;}

.wrapper {
  display: grid;
  grid-template-columns: 300px 20px 1fr 20px 300px;
  grid-template-rows: auto;
  grid-template-areas:
    "header header header header header"
    "nav     ..... content ..... ads"
    "footer footer footer footer footer"
  ;
}

//html
<div class="wrapper">
  <header class="header">This is the header</header>
  <article class="content"></article>
  <div class="side1"></div>
  <div class="side2"></div>
  <footer class="footer"></div>
</div>
```

This is the left sidebar.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla.

This is the main content.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla.

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This is the right sidebar.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla.

A new system for layout.

Flexbox for 1 dimensional layout.

CSS Grid is for 2 dimensional layout.

Wrapping list items using flexbox.

```
.flex {  
  display: flex;  
  flex-wrap: wrap;  
  margin: 0 -10px;  
}  
  
.flex li {  
  flex: 1 1 200px;  
  margin: 10px;  
}
```

Card 1

Posuere varius ullamcorper ipsum adipiscing dignissim ipsum adipiscing a a quisque malesuada quam purus venenatis sagittis fermentum parturient curabitur montes a metus.

Card 2

Posuere varius ullamcorper ipsum adipiscing dignissim ipsum adipiscing a a quisque malesuada quam purus venenatis sagittis fermentum parturient curabitur montes a metus.

Card 3

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Card 4

Posuere varius ullamcorper ipsum adipiscing dignissim ipsum adipiscing a a quisque malesuada quam purus venenatis sagittis fermentum parturient curabitur montes a metus.

Card 5

Posuere varius ullamcorper ipsum adipiscing dignissim ipsum adipiscing a a quisque malesuada quam purus venenatis sagittis fermentum parturient curabitur montes a metus.

Card 1

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
adipiscing a a quisque malesuada
quam purus venenatis sagittis
fermentum parturient curabitur
montes a metus.

Card 2

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
adipiscing a a quisque malesuada
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fermentum parturient curabitur
montes a metus.

Card 3

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
adipiscing a a quisque malesuada
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fermentum parturient curabitur
montes a metus.

Card 4

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
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fermentum parturient curabitur
montes a metus.

Card 5

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
adipiscing a a quisque malesuada
quam purus venenatis sagittis
fermentum parturient curabitur
montes a metus.

Wrapping list items with Grid Layout.

```
.grid {  
  display: grid;  
  grid-template-columns:  
    repeat(auto-fill, minmax(200px 1fr));  
  grid-gap: 20px;  
}
```

Card 1

Posuere varius ullamcorper ipsum
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adipiscing a a quisque malesuada
quam purus venenatis sagittis
fermentum parturient curabitur
montes a metus.

Card 2

Posuere varius ullamcorper ipsum
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adipiscing a a quisque malesuada
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Card 3

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Card 5

Posuere varius ullamcorper ipsum
adipiscing dignissim ipsum
adipiscing a a quisque malesuada
quam purus venenatis sagittis
fermentum parturient curabitur
montes a metus.

Flexible Box Layout Module - CR

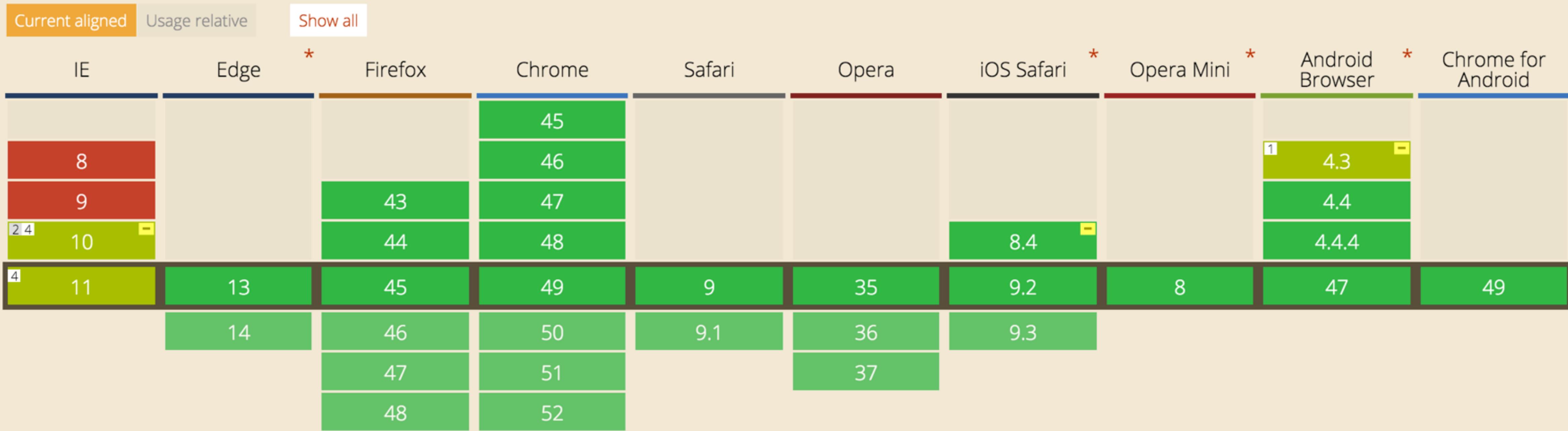
Method of positioning elements in horizontal or vertical stacks.
Support includes the support for all properties prefixed with **flex** as well as **display: flex**, **display: inline-flex**, **align-content**, **align-items**, **align-self**, **justify-content** and **order**.

Global

77.48% + 18.25% = 95.74%

unprefixed:

75.52% + 6.24% = 81.76%



Notes

Known issues (10)

Resources (11)

Feedback

Most partial support refers to supporting an [older version](#) of the specification or an [older syntax](#).

¹ Only supports the [old flexbox](#) specification and does not support wrapping.

Browser Support for Grid Layout

All my examples work in Chrome unprefixed - you need to enable the Experimental Web Platform Features flag.

You can also use Webkit nightlies, with the -webkit prefix.

The work in Blink and Webkit is being done by Igalia, sponsored by Bloomberg.

IE10 and up has support for the old syntax, with an -ms prefix.

Grid is on the Edge backlog, marked as High Priority.

Mozilla are currently implementing Grid in Firefox. Some examples work in Firefox Nightlies.

There is a Polyfill under active development: <https://github.com/FremyCompany/css-grid-polyfill/>

What is Grid Layout?

Examples

-- Page Layouts

Browser Support

Other Grid Links

Problems with Grid

My Grid Presentations

About

Grid by Example

simple usage examples for the CSS3 Grid Layout Module

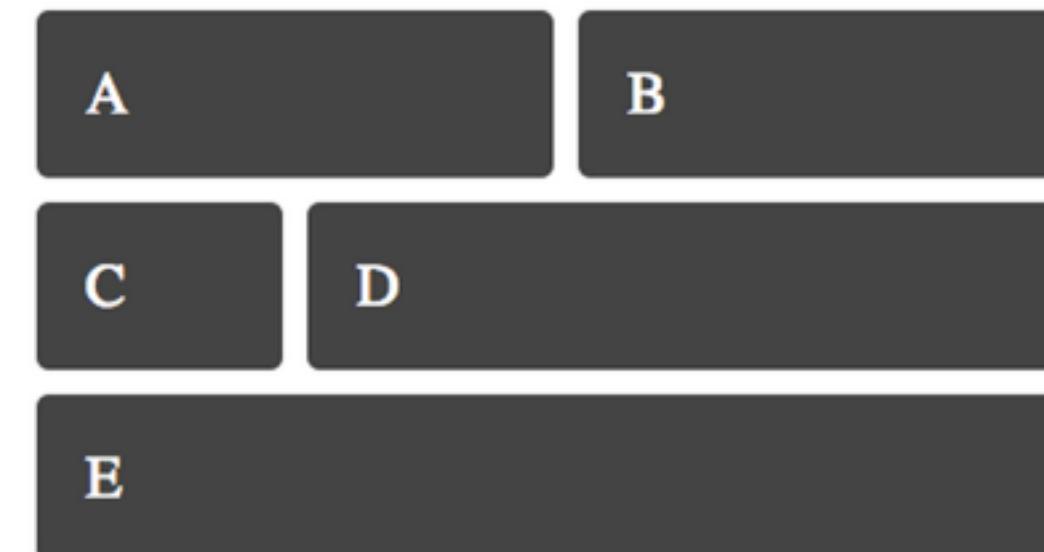
I have been writing and speaking about the CSS Grid Layout Module for some time now. In order to learn how Grid works I've put together lots of small examples, and I am publishing them here as a resource for anyone else interested in this emerging specification.

Grid Examples

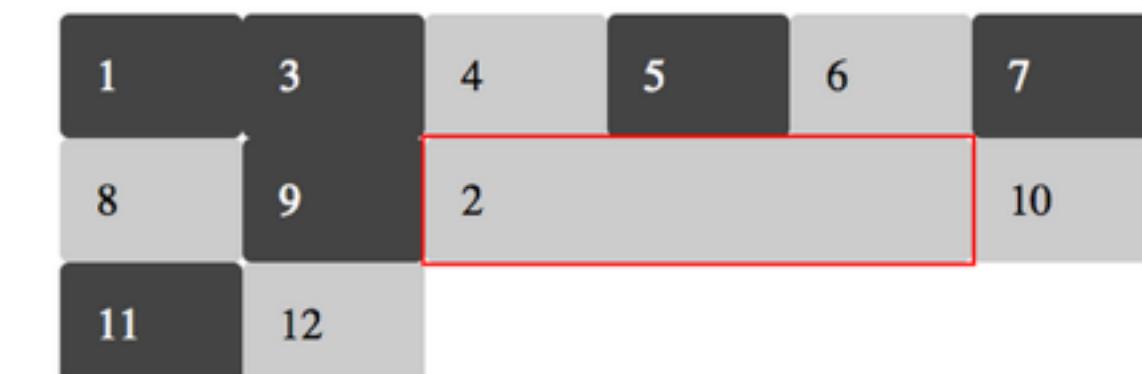
[Line based placement spanning cells](#)



[Line based placement named lines with span](#)



[Grid auto flow with a positioned element](#)



[Explore all of the examples](#)

Examples of layout with Grid

[Two column responsive layout with footer](#)

The Dominion of the Air
The Story of Aerial Navigation
Excerpts from the book by J.M. Bacon

Chapter listing

The First Balloon Ascent in
England

[Skeleton 12 column grid experiments](#)

Skeleton Grid



[Auto placement example](#)



In this example this text block is given a position on the grid. At the 460 pixel breakpoint it goes into the first row spanning both columns. At 660 pixels it spans 2 rows and goes into the second column, spanning two columns.
The other items are display according to the grid auto placement algorithm, with grid-auto-flow set to dense.



At the 660 pixel breakpoint I set two of the images to span 2 columns. These wide images mean that if we set grid-auto-flow to sparse there would be a gap where the image 'balloons 5' sits as it would be displayed in source order after the wider 'balloons 4' image which needs to move down to the next row to have room.

Thank you

Slides, Resources and code examples:

<https://rachelandrew.co.uk/presentations/modern-css-layout>

<http://csslayout.news> - sign up for my weekly CSS Layout email

—
@rachelandrew

me@rachelandrew.co.uk

—
<https://rachelandrew.co.uk>

<https://grabaperch.com>