



# Responsiv webbdesign

Media Queries

# Dagens föreläsning

- Vad innebär responsiv design?
- Exempel på responsiv design
- Att ”tänka” responsivt
- CSS: Media queries
- Att tänka på vid responsiv utveckling utav webbplatser
- Demo – Att bygga responsivt
- Flexbox

Frågor innan vi  
börjar?

# Tillbaka till 2009...

- *Webbplatser hade fasta bredder, så var det.*
- Vad hände sedan?
  - Våra skärmar blev större och större
  - Användare med mobiltelefoner började alltmer besöka våra webbplatser
- Resan från **960px** breda webbplatser, till **responsiva**

# Reponsiv webbdesign?

alistapart.com/article/responsive-web-design

ARTICLES COLUMNS BLOG EVENTS TOPICS WRITE FOR US

## A LIST APART



Issue No 306

**Responsive Web Design**

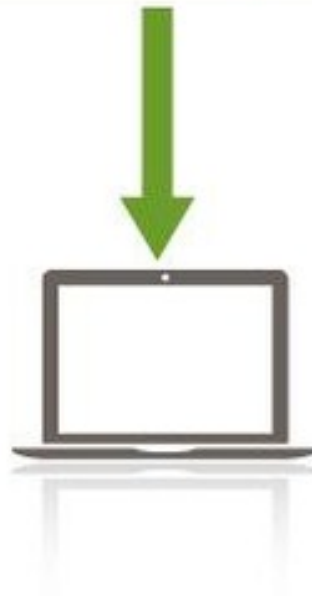
by [Ethan Marcotte](#) · May 25, 2010

Published in CSS, Layout & Grids, Mobile/Multidevice, Responsive Design, Interaction Design

Illustration by Kevin Cornell

"The control which designers know in the print medium, and often desire in the

<http://alistapart.com/article/responsive-web-design>



Responsive design  
vs.  
Adaptive design

# Responsive v.s adaptive design



<https://css-tricks.com/the-difference-between-responsive-and-adaptive-design/>





Varför är det så viktigt att fokusera på responsiv design?

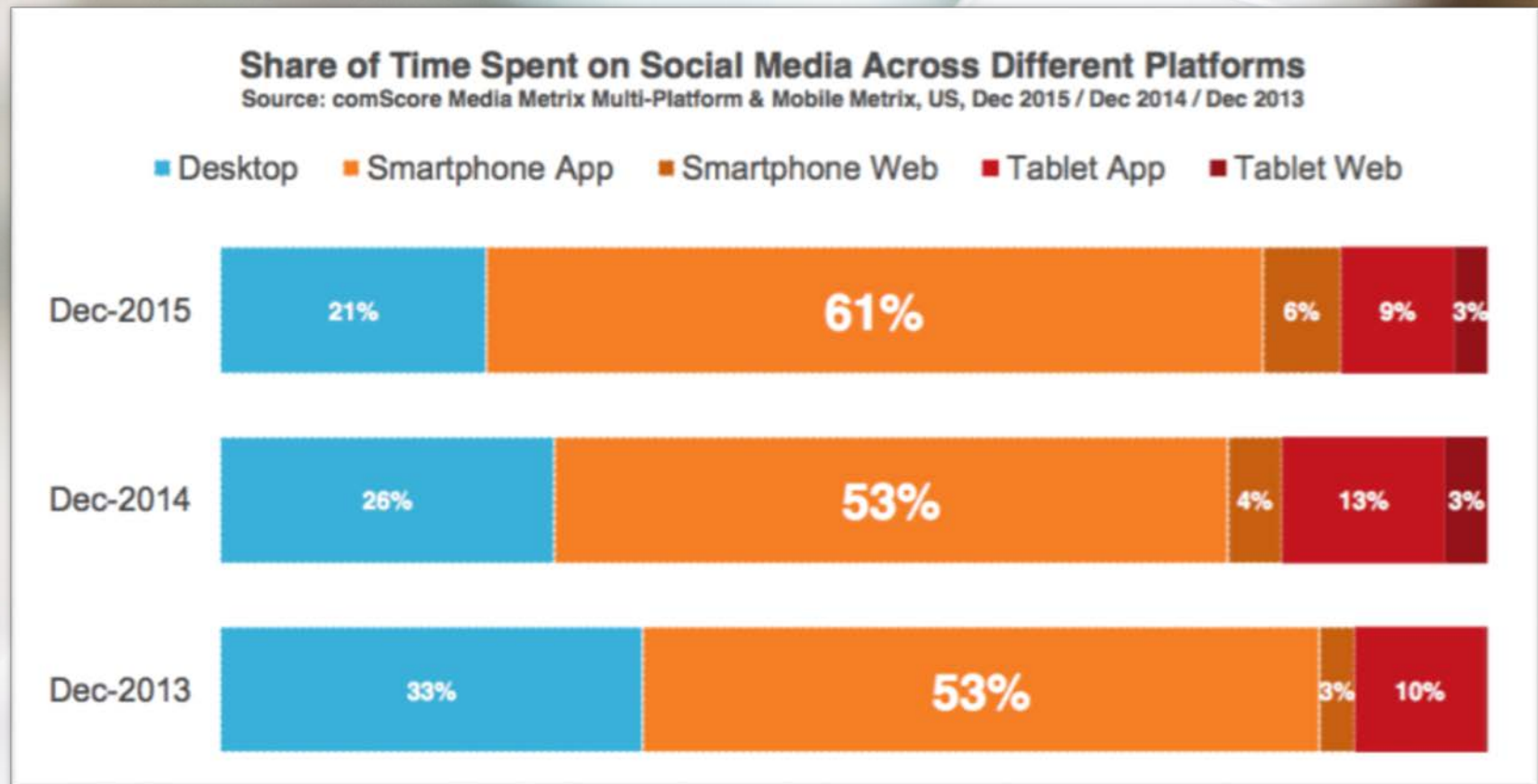
# 1. Allt fler surfar med mobiler/surfplattor



2. Ger oss möjlighet anpassa innehållet efter det medium som användaren användare



### 3. Många webbsidor hittas genom social media, vilket används mest på mobiler



# 4. Responsiva webbplatser prioriteras av Google vid sökningar

Multi-screen guidelines

## Make sure your site's ready for mobile-friendly Google search results



NEXT: OPTIMIZATIONS FOR THE MOBILE WEB



Starting April 21, 2015, Google Search will be expanding its use of mobile-friendliness as a ranking signal. This change will affect mobile searches in all languages worldwide and will have a significant impact in Google Search results. Users will find it easier to get relevant, high quality search results optimized for their devices. To help you make sure your website is ready for this search change, we've put together the following frequently asked questions:

### Will this change affect my desktop traffic?

No. This change will affect mobile searches in all languages worldwide.

## 5. Snabbbar upp webbsidorna



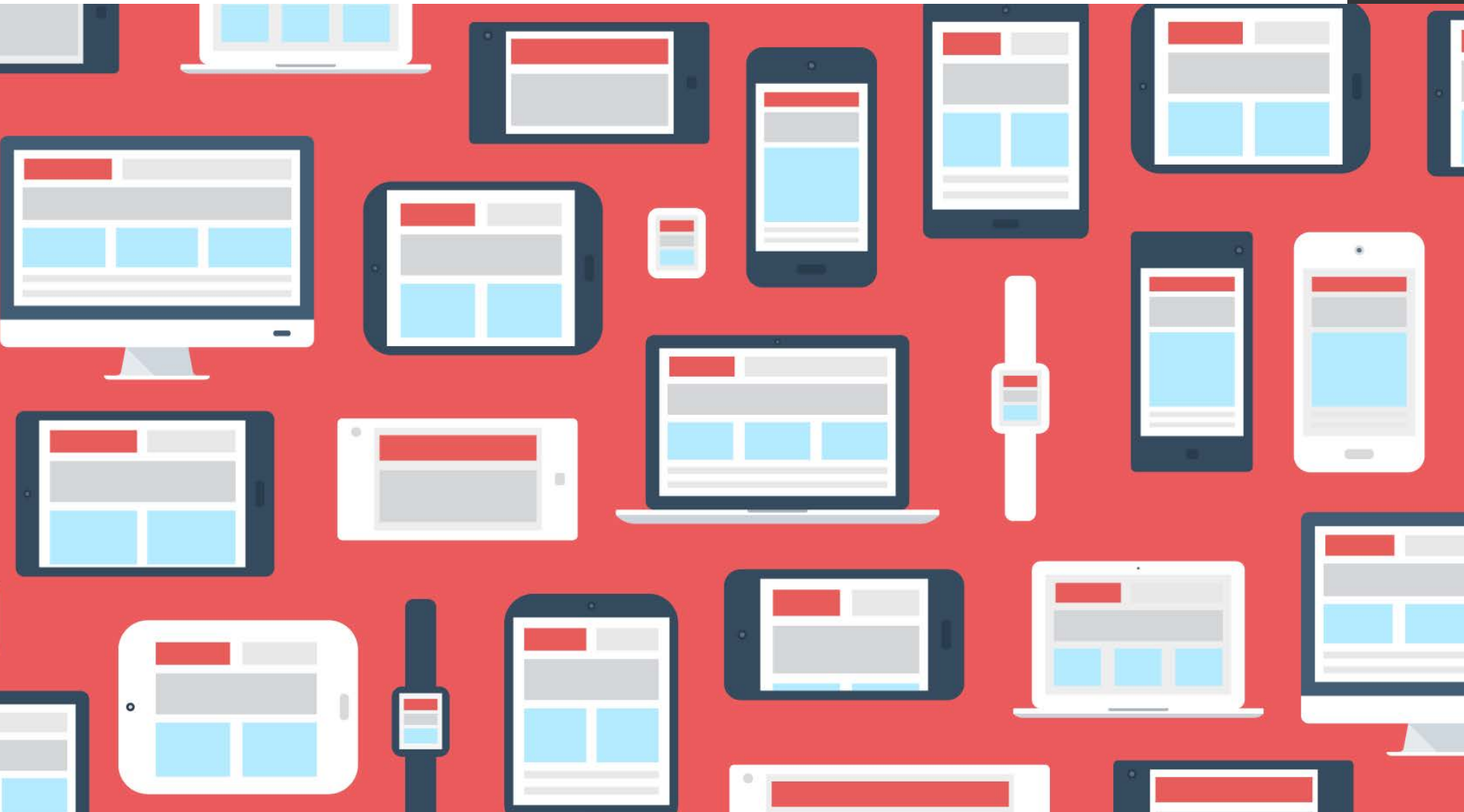
## 6. Vi använder mer och mer olika enheter, för att utföra, eller fortsätta utföra en uppgift

**Sequential screening is common & mostly completed within a day**





Med andra ord – tänk  
responsivt!





Fler argument...

*Once your page loads, users form an  
opinion in .05 seconds.*

— Kinesis Inc.

*40% of people will choose a different search result if the first is not mobile friendly.*

–Skillcrush

*40% of people will leave a website if it takes more than 3 seconds to load.*

— Econsultancy

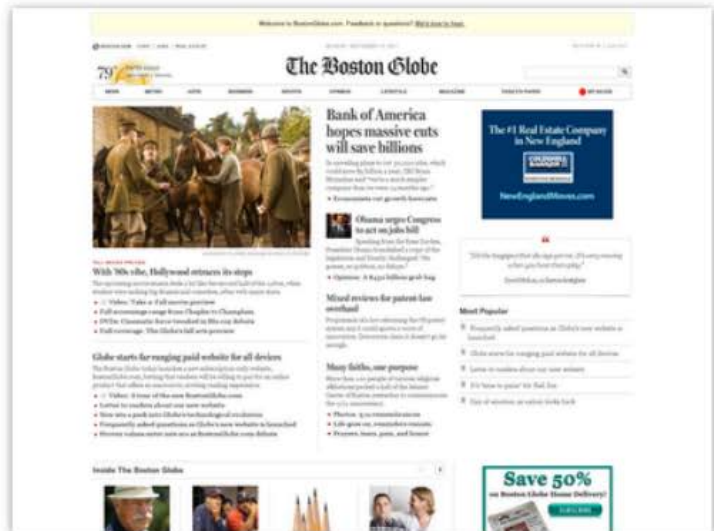
*You have 10 seconds to leave an impression and tell them what they'll get out of your website and company. After this time (and oftentimes before), they'll leave.*

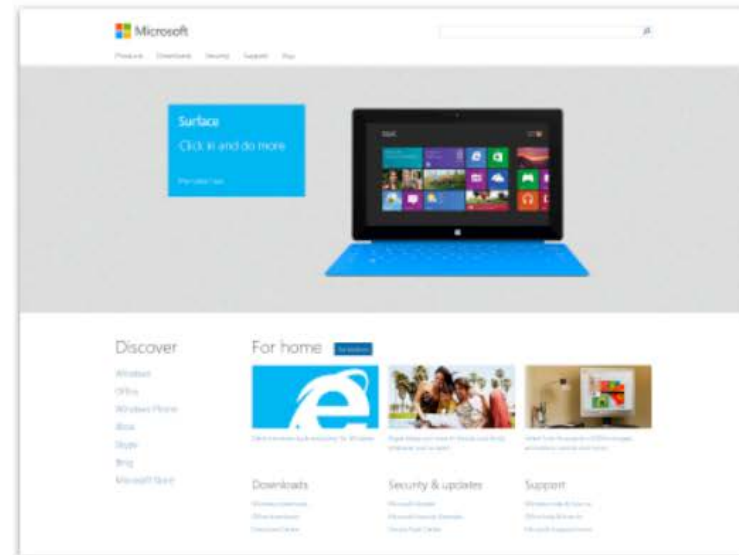
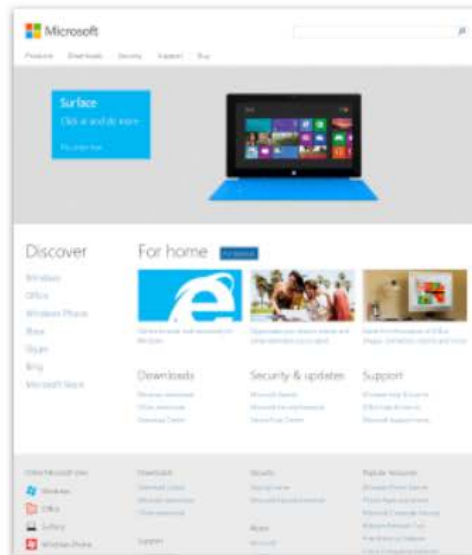
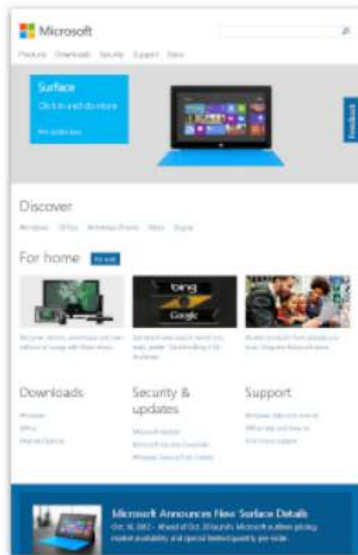
— NN Group

# Vad krävs för att bli responsiv?

1. En flexibel, "grid"-baserad layout (boxar...)
2. Flexibla bilder, media, och
3. Media queries

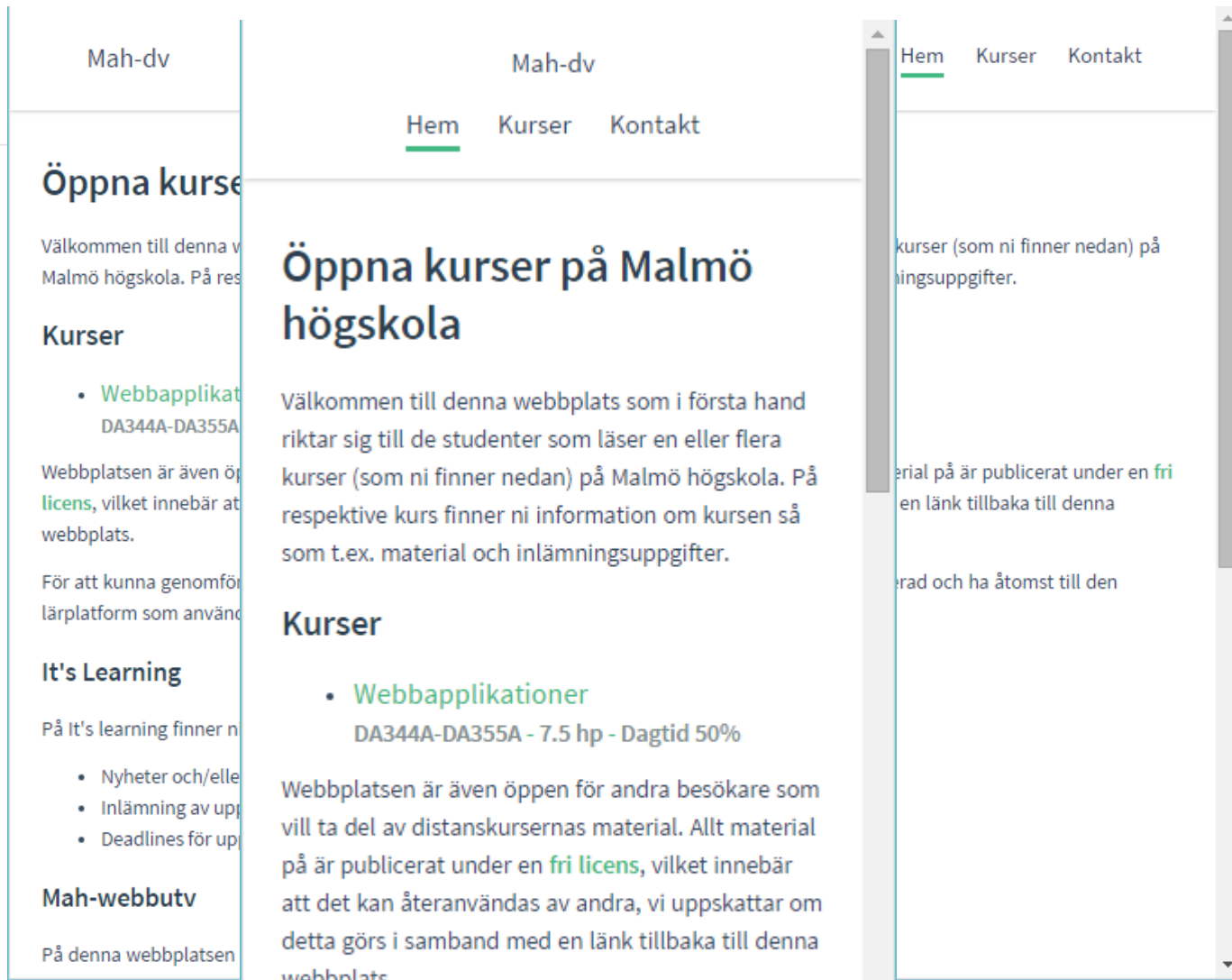








# http://mah-dv.github.io/



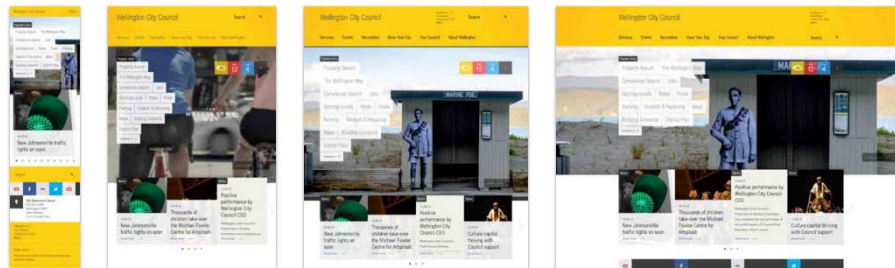
# Inspiration för responsiv design?

- <http://mediaqueries.es/>



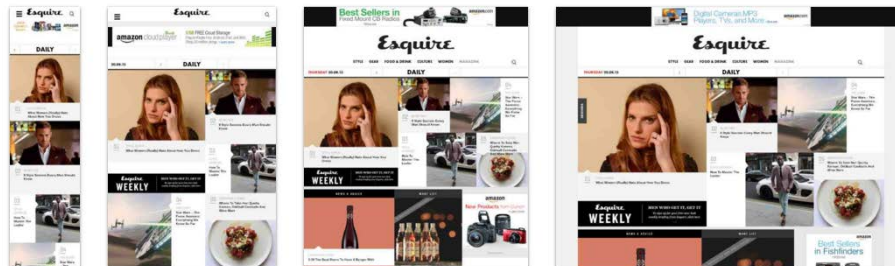
Wellington City Council

♥ 6



Esquire

♥ 4





Att formge olika medier

# Olika typer av stilmallar



```
<link rel="stylesheet" type="text/css" media="screen" href="style.css">
```



```
<link rel="stylesheet" type="text/css" media="print" href="print.css">
```

# Att styla för olika mål

```
@media screen {  
    body { font-family: sans-serif; }  
}
```



```
@media print {  
    body { font-family: serif }  
}
```



Ex. Print

# Att styla för olika upplösningar

```
@media screen and (max-width:360px) {
```

```
...
```

```
}
```

```
@media (min-width:480px) {
```

```
...
```

```
}
```

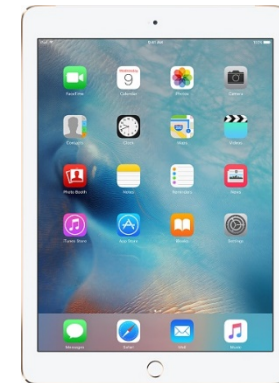
```
@media screen
```

```
and (min-device-width: 480px)
```

```
and (orientation: landscape){
```

```
...
```

```
}
```



# W3C - Standarder

<http://www.w3.org/TR/css3-mediaqueries/>

```
/* for 480px or less */
@media screen and (max-width: 480px) {

    #header {
        height: auto;
    }
    h1 {
        font-size: 24px;
    }
    #sidebar {
        display: none;
    }

}
```

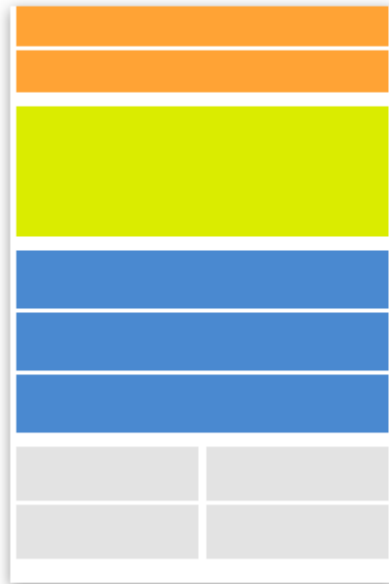




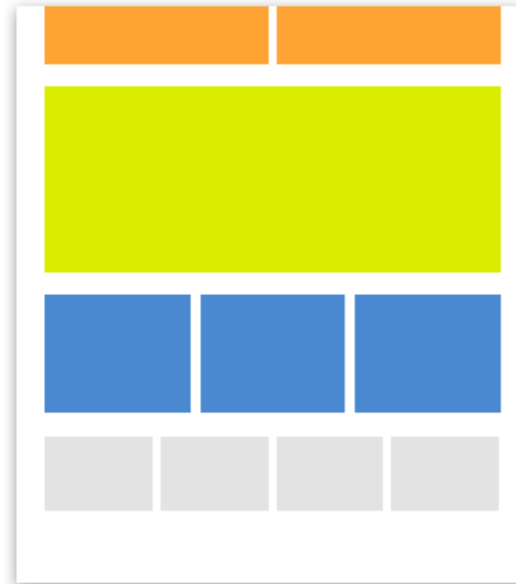
320px



768px



1024px



# Flexibel layout & media

# 0%

# Enheter i CSS

## Relative Lengths

Relative length units specify a length relative to another length property. Relative length units scales better between different rendering mediums.

Unit	Description	
em	Relative to the font-size of the element (2em means 2 times the size of the current font)	<a href="#">Try it</a>
ex	Relative to the x-height of the current font (rarely used)	<a href="#">Try it</a>
ch	Relative to width of the "0" (zero)	
rem	Relative to font-size of the root element	
vw	Relative to 1% of the width of the viewport*	<a href="#">Try it</a>
vh	Relative to 1% of the height of the viewport*	<a href="#">Try it</a>
vmin	Relative to 1% of viewport's* smaller dimension	<a href="#">Try it</a>
vmax	Relative to 1% of viewport's* larger dimension	<a href="#">Try it</a>
%		

# Enheter i CSS

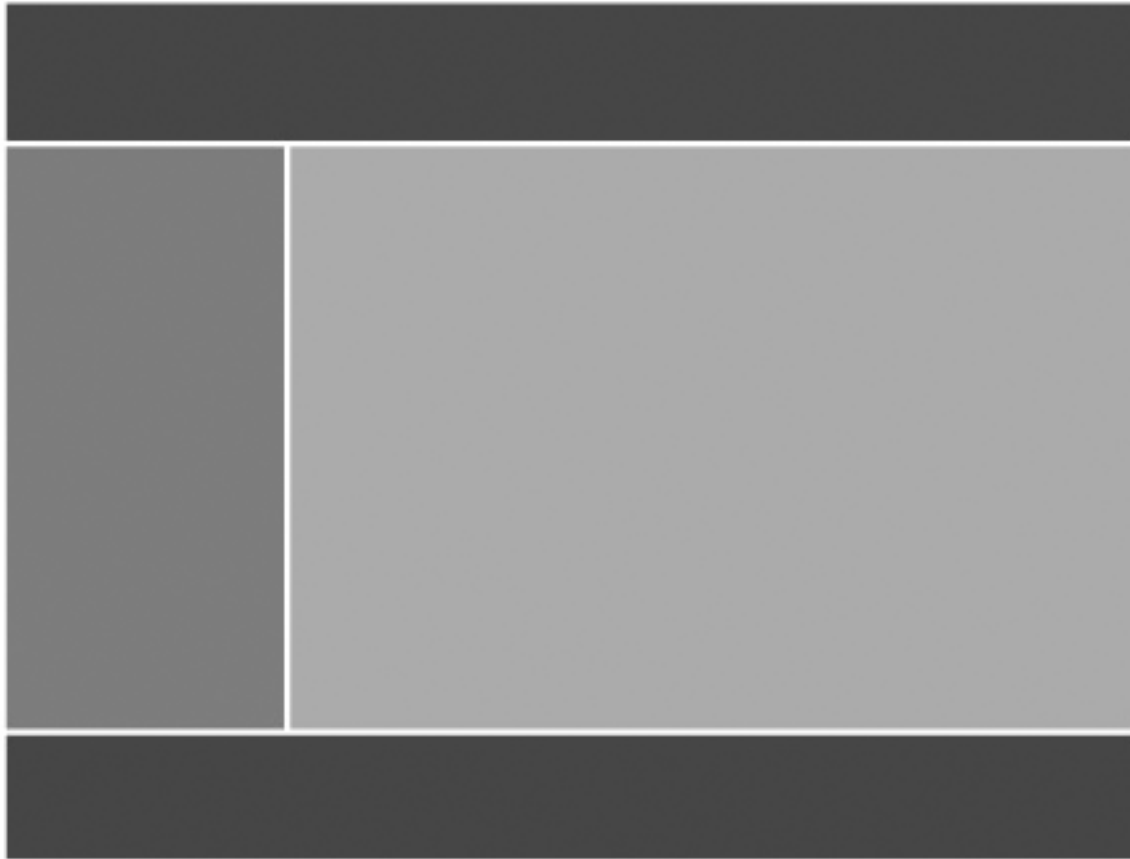
## Absolute Lengths

The absolute length units are fixed and a length expressed in any of these will appear as exactly that size.

Absolute length units are not recommended for use on screen, because screen sizes vary so much. However, they can be used if the output medium is known, such as for print layout.

Unit	Description	
cm	centimeters	<a href="#">Try it</a>
mm	millimeters	<a href="#">Try it</a>
in	inches (1in = 96px = 2.54cm)	<a href="#">Try it</a>
px *	pixels (1px = 1/96th of 1in)	<a href="#">Try it</a>
pt	points (1pt = 1/72 of 1in)	<a href="#">Try it</a>
pc	picas (1pc = 12 pt)	<a href="#">Try it</a>

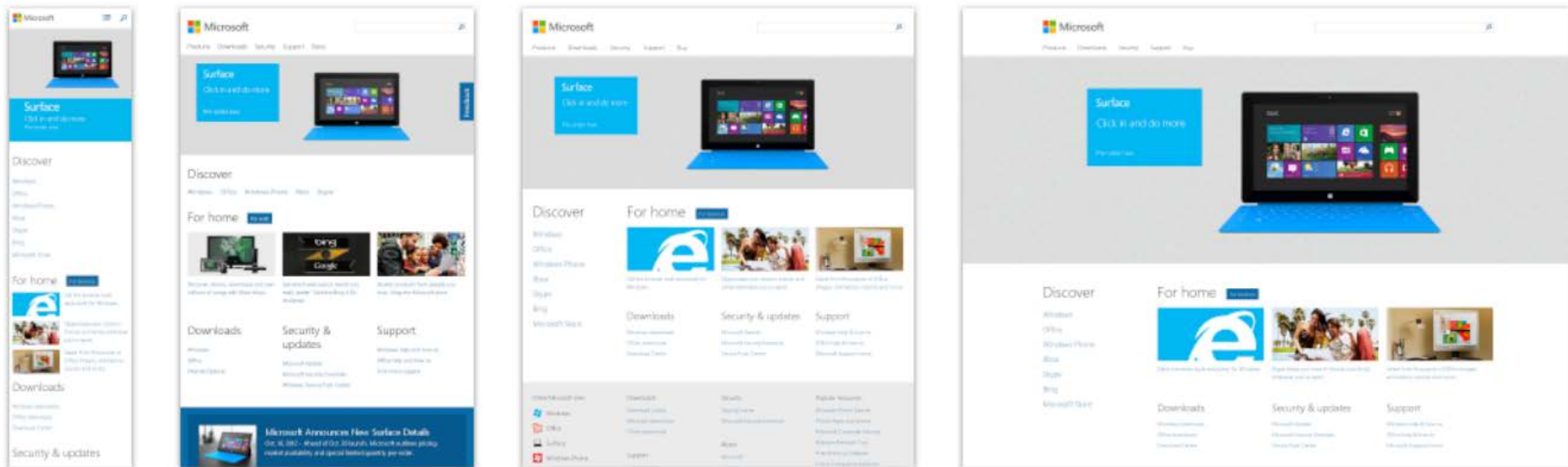
# Exempel på layout



# Men detta har vi ju gjort innan =)

- ... men hur bra var det egentligen nu med tanke på responsiv design?
  - Exempel 1
- Vi använder % istället! Då löser sig väl alla problem?
  - Exempel 2

# Brytpunkter? Hur var när?



320 pixels	For small screen devices, like phones, held in portrait mode.
480 pixels	For small screen devices, like phones, held in landscape mode.
600 pixels	Smaller tablets, like the Amazon Kindle (600×800) and Barnes & Noble Nook (600×1024), held in portrait mode.
768 pixels	Ten-inch tablets like the iPad (768×1024) held in portrait mode.
1024 pixels	Tablets like the iPad (1024×768) held in landscape mode, as well as certain laptop, netbook, and desktop displays.
1200 pixels	For widescreen displays, primarily laptop and desktop browsers.

**TABLE 5.1:** A list of example resolution breakpoints.

## Exempel på brytpunkter

<http://lawrencestewart.ca/popular-media-queries-for-responsive-web-design/>  
 Ännu fler: <http://viewportsizes.com/>

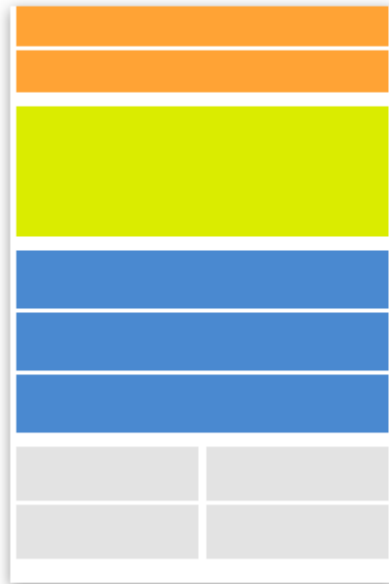




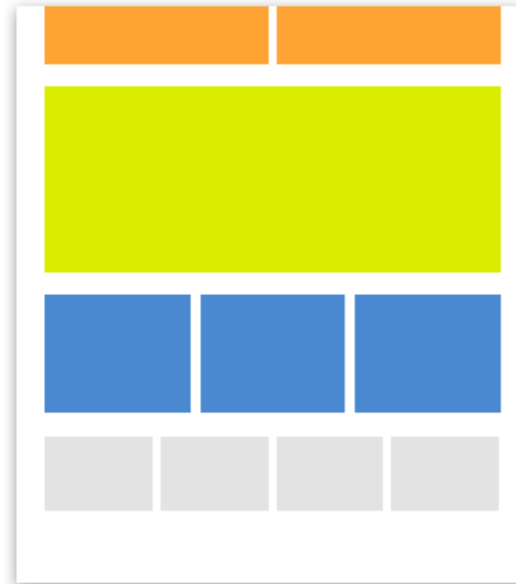
320px



768px



1024px





A BOOK APART

*Brief books for people who make websites*

No.

6

Luke Wroblewski

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# MOBILE FIRST

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FOREWORD BY Jeffrey Zeldman

<http://www.peachpit.com/articles/article.aspx?p=1945831>

*"Start with the small screen first,  
then expand until it looks like \*crap\*.  
Time to insert a breakpoint!"*

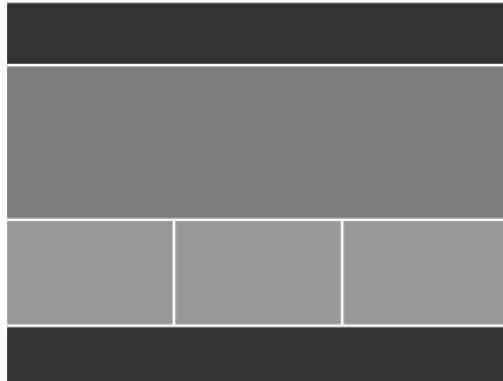
A-

- Fö

- Ta

ter

HOME



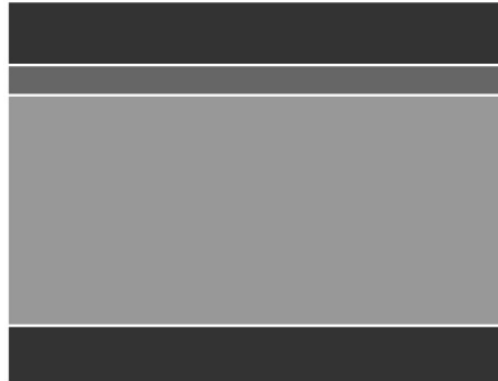
SUBPAGE OPTION 1



SUBPAGE OPTION 2



SUBPAGE OPTION 3

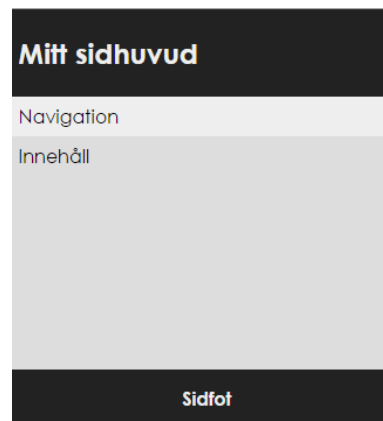
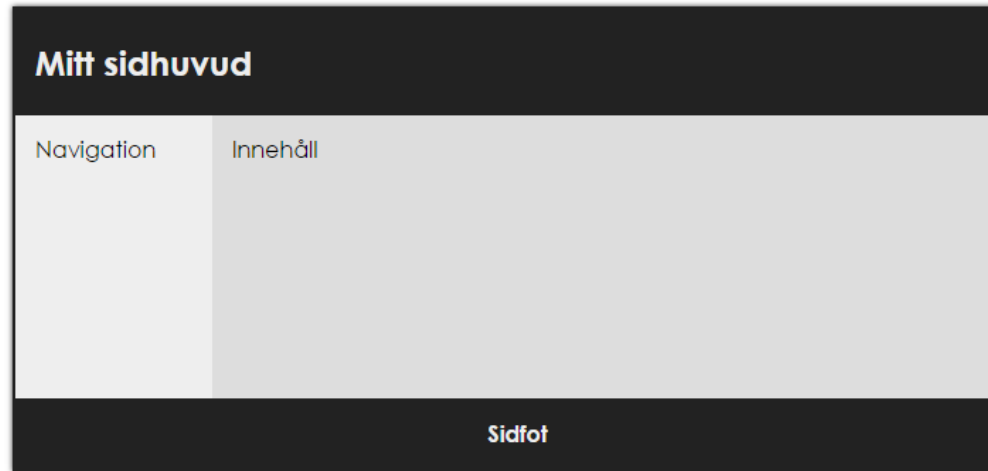


SUBPAGE OPTION 4



SUBPAGE OPTION 5





## Mitt sidhuvud

Navigation

Innehåll

Sidfot

```
@media screen and (max-width:480px){  
  body{  
    margin: 0px;  
  }  
  #wrapper{  
    margin:0px;  
    border:none;  
  }  
  #wrapper > nav, #wrapper > main{  
    width: 100%;  
  }  
}
```



## Mitt sidhuvud

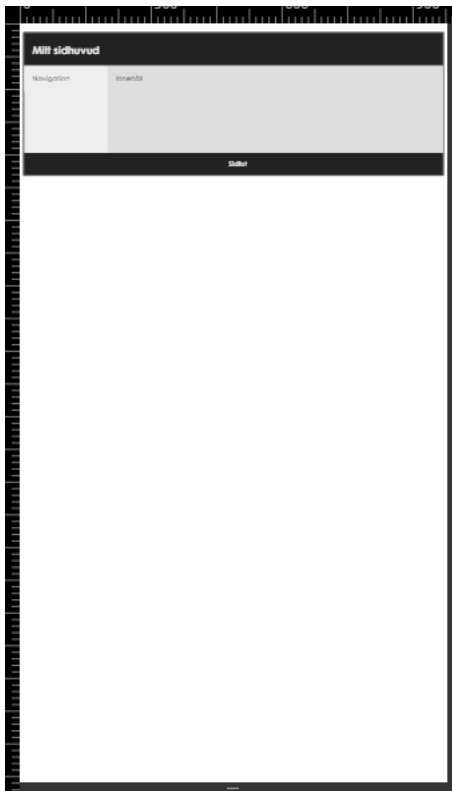
Navigation

Innehåll

Sidfot

Ex. Responsiv

# Om vi surfar in till en mobil?





# Vi testar!

<http://webshare.mah.se/tsanti/responsiv.html>



Vilken upplösning har era mobiler?



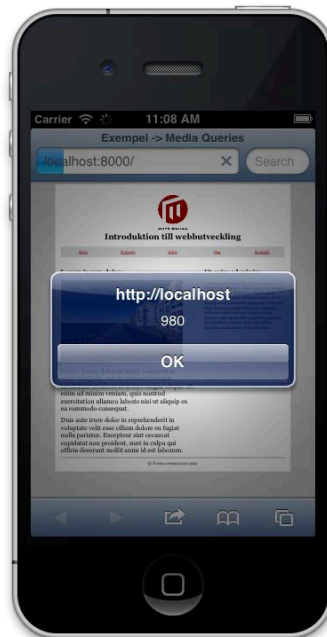
# Vilken bredd har er skärm?

<http://webshare.mah.se/tsanti/screensize.html>

# <meta name="viewport">

Är en pixel alltid en pixel?

[https://developer.mozilla.org/en-US/docs/Mozilla/Mobile/Viewport\\_meta\\_tag](https://developer.mozilla.org/en-US/docs/Mozilla/Mobile/Viewport_meta_tag)



mydevice.io

Mobile devices, in Responsive Web Design, relate to a core value which is the value of **CSS width** or ("device-width"), in CSS Device Independent Pixels, which depends both of the browser and user zoom settings.

Smartphones Tablets Other connected

Common Smartphones values

name	phys. width	phys. height	CSS width	CSS height	pixel ratio	phys. ppi	CSS ppi
Apple iPhone 7	750	1334	375	667	2	326	192
Apple iPhone 6 Plus, 6s Plus	1080	1920	414	736	3	401	249
Apple iPhone 6, 6s	750	1334	375	667	2	326	192
Apple iPhone 5	640	1136	320	568	2	326	192
Apple iPhone 4	640	960	320	480	2	326	192
	320	480	320	480	1	163	96
	640	1136	320	568	2	326	192
	1440	2560	360	640	4	538	384
	1440	2560	360	640	4	538	384
	1440	2560	360	640	4	538	384

<http://mydevice.io/devices/>

# Olika viewport-egenskaper

```
<meta name="viewport" content="initial-scale=1.0, width=device-width">
```

initial-scale=1

maximum-scale=1

minimum-scale=1

width=500

user-scalable=no

<http://dev.w3.org/csswg/css-device-adapt/>

```
<meta name="viewport" content="initial-scale=1.0, width=device-width">
```

<http://webshare.mah.se/tsanti/viewport.html>

# Kompabilitet?

1.No media queries? No problem.

Tänk igenom basfallet.

2.[css3-mediaqueries.js](#) eller

[respond.js](#)

Kanske...



# Andra saker som man bör tänka på?

- Designa för mobila enheter!
  - Vi har stora fingrar jämfört med skärmens storlek, gör saker enkla att klicka på!
  - Undvik – om det går – textinmatning, klickar är enklare
  - Välj rätt tangentbord för rätt input
- Bandbredd...
  - Olika bilder för olika enheter?
  - Optimera JS och CSS

# CSS: reset?

<http://meyerweb.com/eric/tools/css/reset/>

## World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#) , [Policy](#) , November's [W3 news](#) , [Frequently Asked Questions](#) .

### [What's out there?](#)

Pointers to the world's online information, [subjects](#) , [W3 servers](#) , etc.

### [Help](#)

on the browser you are using

### [Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#) , [X11 Viola](#) , [NeXTStep](#) , [Servers](#) , [Tools](#) , [Mail robot](#) , [Library](#) )

### [Technical](#)

Details of protocols, formats, program internals etc

### [Bibliography](#)

Paper documentation on W3 and references.

### [People](#)

A list of some people involved in the project.

### [History](#)

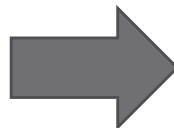
A summary of the history of the project.

### [How can I help ?](#)

If you would like to support the web..

### [Getting code](#)

Getting the code by [anonymous FTP](#) , etc.



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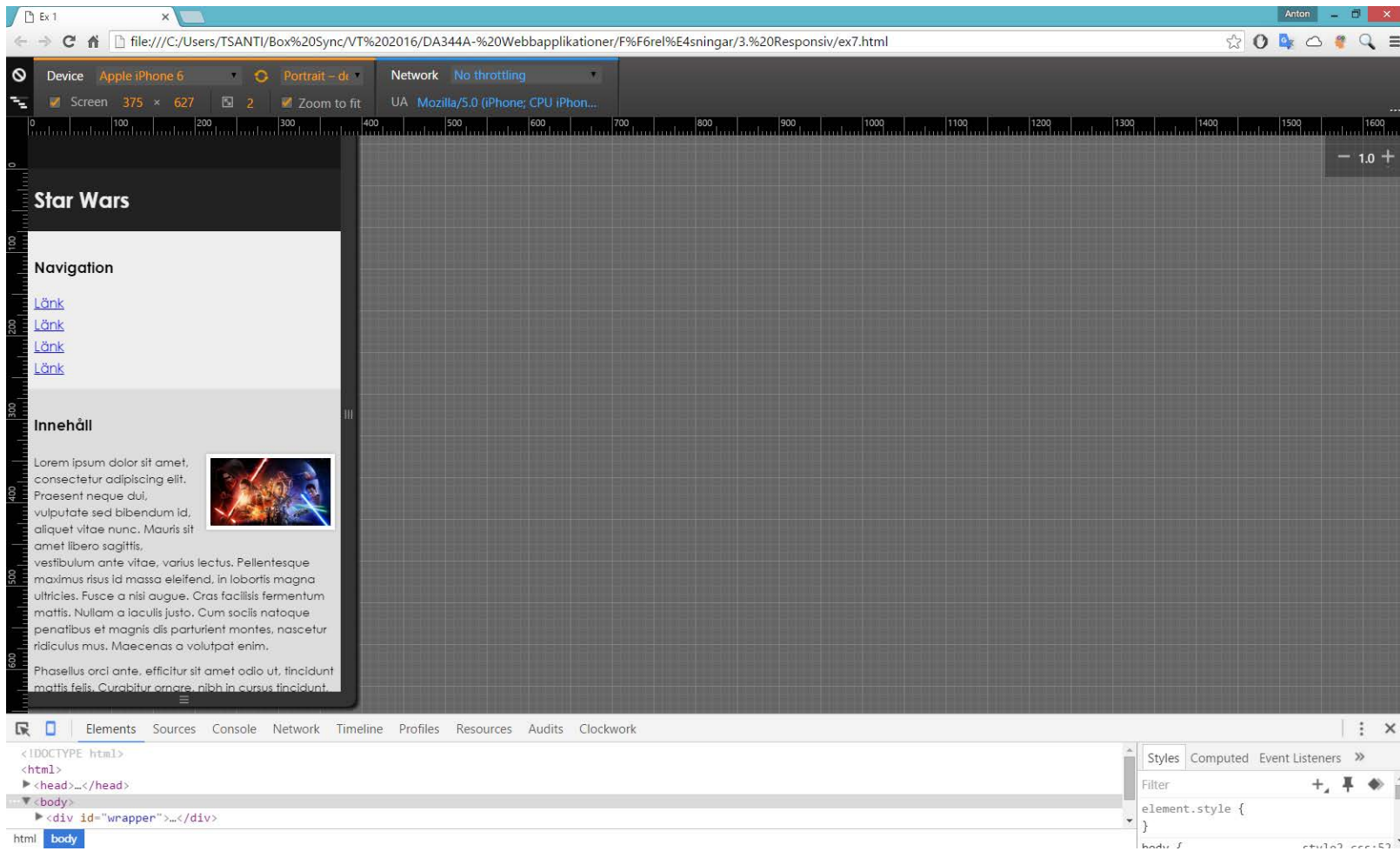
If you would like to support the web..

Getting code

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# Utvecklingsmiljö?

- Utvecklingskonsoler i t.ex. Chrome är bra hjälp



# Frågor?

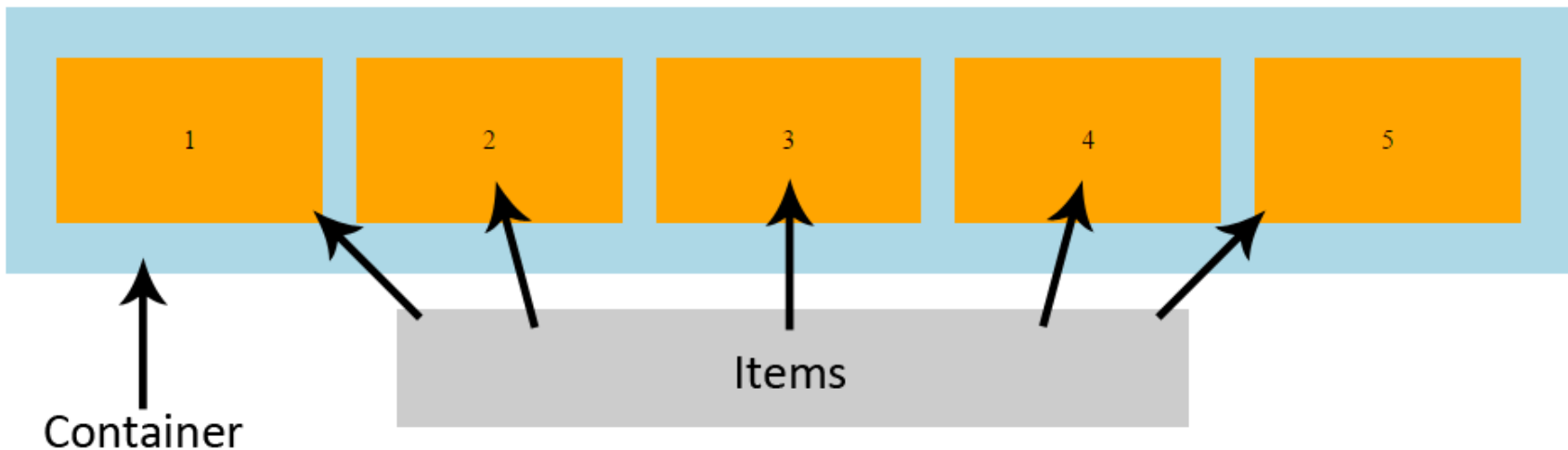
Att göra en layout responsiv

# Flexbox

<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

# Vad är flexbox?

- Ett sätt att positionera ut element på en webbsida
  - Ett alternativ till att använda t.ex. float för att bygga layouter
- Flexbox utgår från att positionera ut barn-element i en "container" på olika sätt.



# Om Flexbox

## Fördelar

- Enkelt att anpassa elements storlek efter dess innehåll
- Enkelt att centrera element (vertikalt & horisontellt)
- Enkelt att sätta i vilken ordning som element ska visas

## Nackdelar

- Dåligt stöd för äldre webbläsare, även ”nyare” versioner av IE (IE 11 har stöd)

# Support för flexbox

#

## Flexible Box Layout Module - CR

Global

82.83% + 14.55% = 97.38%

unprefixed:

82.05% + 3.66% = 85.71%

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

Current aligned

Usage relative

Date relative

Show all

IE	Edge	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Android Browser	Chrome for Android
			49						
			51					<sup>1</sup> 4.3	
			54					4.4	
		50	55			9.3		4.4.4	
<sup>4</sup> 11	14	51	56	10	42	10.2	all	53	55
	15	52	57	10.1	43				
		53	58	TP	44				
		54	59						

Notes

Known issues (8)

Resources (12)

Feedback

Most partial support refers to supporting an **older version** of the specification or an **older syntax**.

<sup>1</sup> Only supports the **old flexbox** specification and does not support wrapping.

<sup>4</sup> Partial support is due to large amount of bugs present (see known issues)

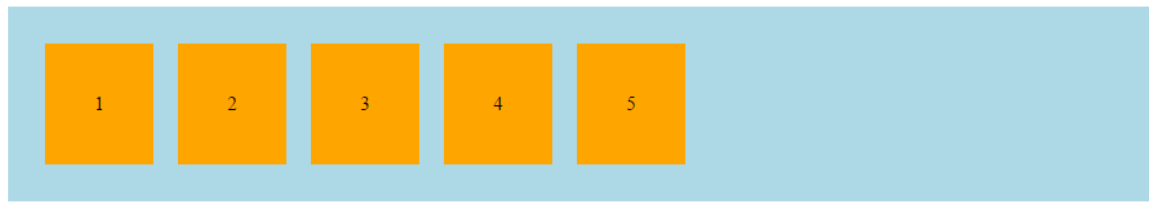




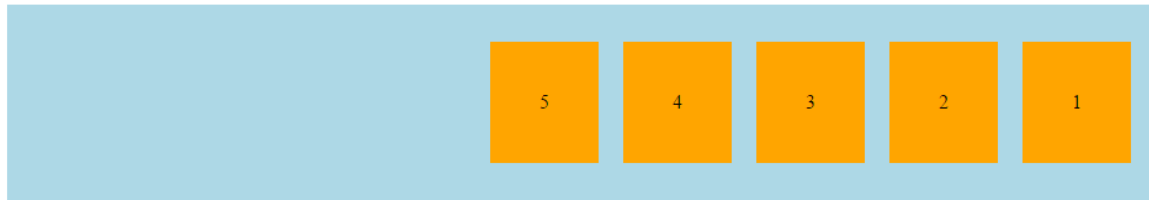
# #container

# flex-direction

- flex-direction: row; (standard)

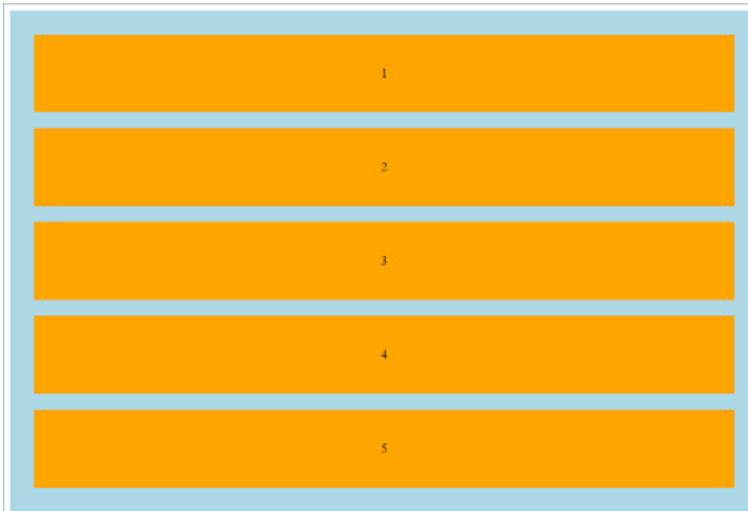


- flex-direction: row-reverse;



# #container

`flex-direction: column;`



# flex-direction

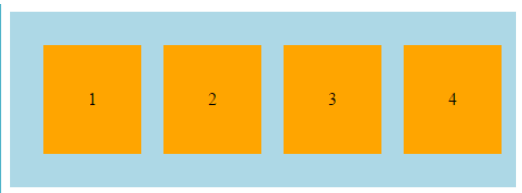
`flex-direction: column-reverse;`



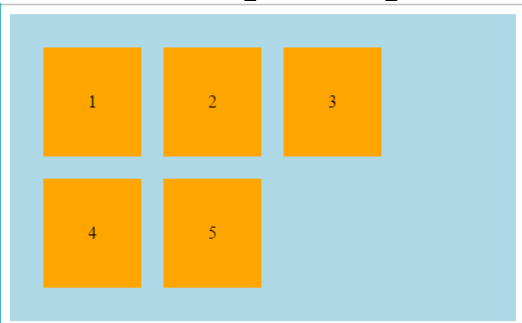
# #container

## flex-wrap

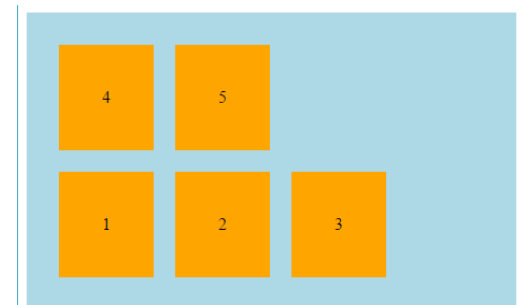
- flex-wrap: nowrap; (standard) – Allt på samma rad



- flex-wrap: wrap;



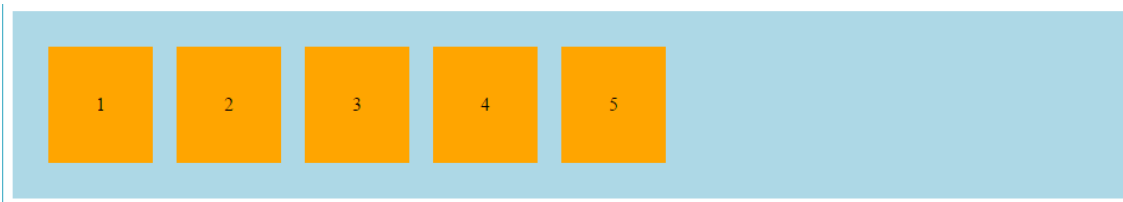
- flex-wrap: wrap-reverse;



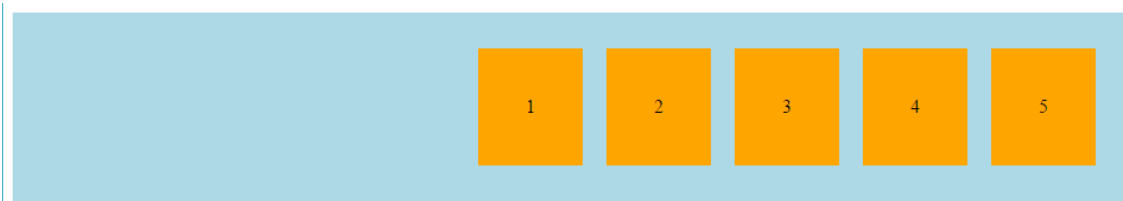
# #container

## justify-content

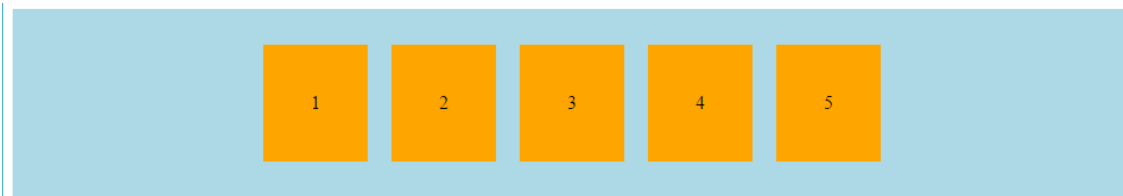
- justify-content: flex-start;



- justify-content: flex-end;



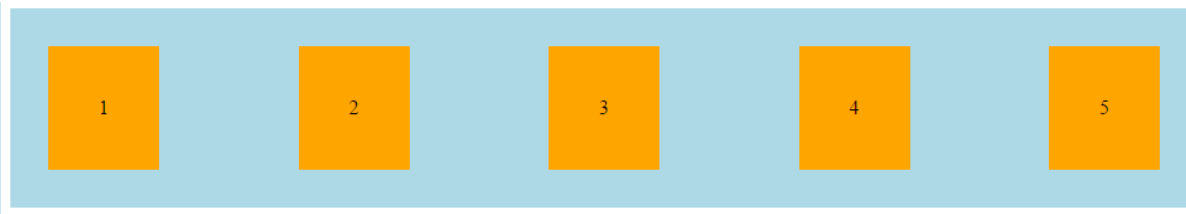
- justify-content: center;



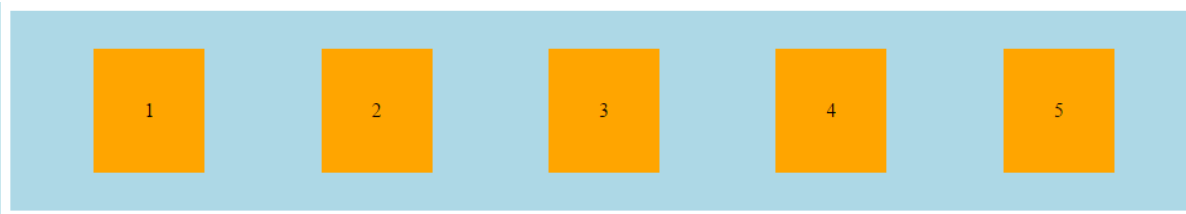
# #container

## justify-content

- justify-content: space-between;

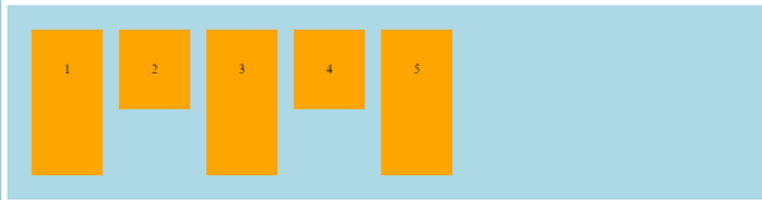


- justify-content: space-around;

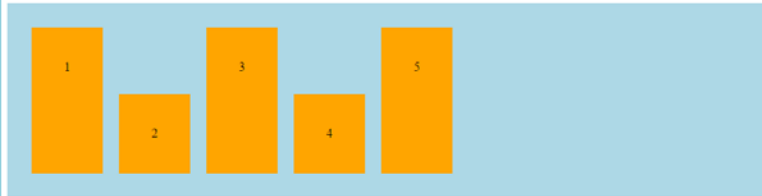


# #container

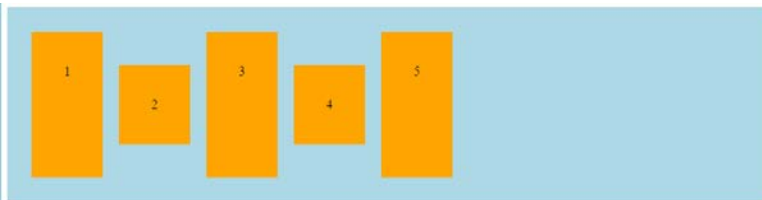
- align-items: flex-start; (standard)



- align-items: flex-end;



- align-items: flex-end;

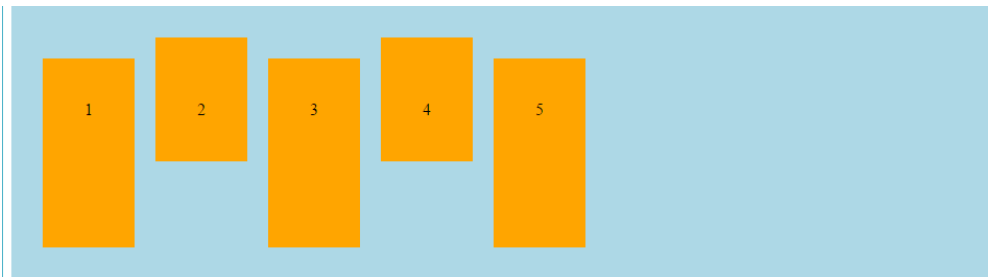


# align-items

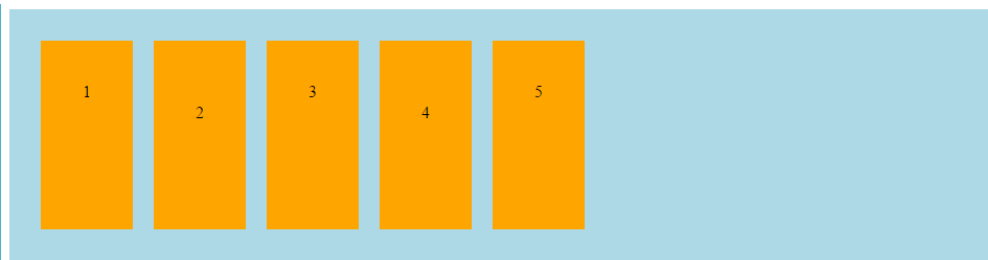
```
#container{  
  background-color: lightblue;  
  padding: 20px;  
  /* Egenskaper för flexbox */  
  display: flex;  
  align-items: flex-start;  
}  
  
.item{  
  text-align: center;  
  background-color: orange;  
  margin: 10px;  
  padding: 40px;  
}  
  
.item:nth-child(odd){  
  height: 100px;  
}
```

# #container

- align-items: baseline;



- align-items: stretch;



# align-items

```
#container{
  background-color: lightblue;
  padding: 20px;
  /* Egenskaper för flexbox */
  display: flex;
  align-items: baseline ;
}

.item{
  text-align: center;
  background-color: orange;
  margin: 10px;
  padding: 40px;
}

.item:nth-child(odd){
  height: 100px;
}

.item:nth-child(even){
  padding-top: 60px;
}
```

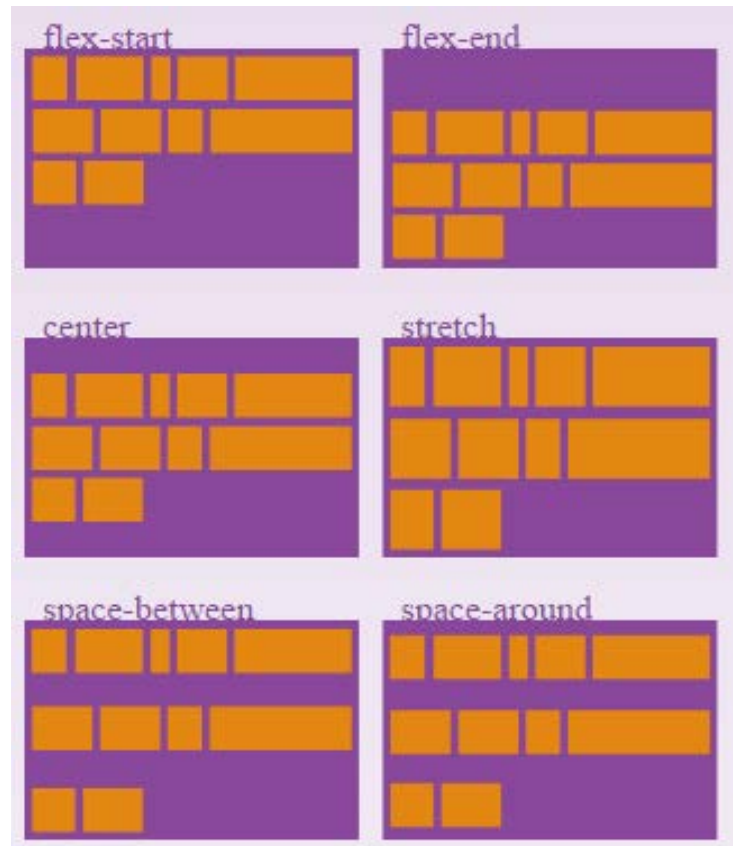


# #container

## align-content

- Används bara vid flera rader

```
.container { align-content: flex-start | flex-end | center | space-between | space-around | stretch; }
```



<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

# Hur man positionerar .item

<https://css-tricks.com/snippets/css/a-guide-to-flexbox/>

# Nytt också: CSS-grids

<https://css-tricks.com/snippets/css/complete-guide-grid/>

Demo?