



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?
- Grids?

Frågor innan vi
börjar?

DA344A

The diagram consists of two identical arrows pointing downwards, positioned side-by-side. Each arrow has a rectangular stem and a triangular head. The text 'DA344A' is centered within the stem of the left arrow. The text 'DA355A' is centered within the stem of the right arrow. Below these two arrows is a single, larger arrow pointing downwards, which is wider than the individual arrows above it. The text 'DA344A & DA355A' is centered within the stem of this larger arrow. The entire diagram is set against a white background with dark gray vertical bars on the left and right edges.

DA355A

DA344A & DA355A

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

Illustration by Kevin Cornell

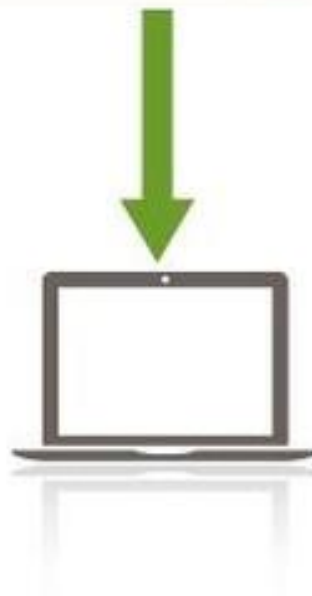
Responsive Web Design

by [Ethan Marcotte](#) · May 25, 2010

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

“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/>

Mer bra läsning: <https://www.fastcodesign.com/3038367/9-gifs-that-explain-responsive-design-brilliantly>



Varför är det så viktigt att fokusera på responsiv design?

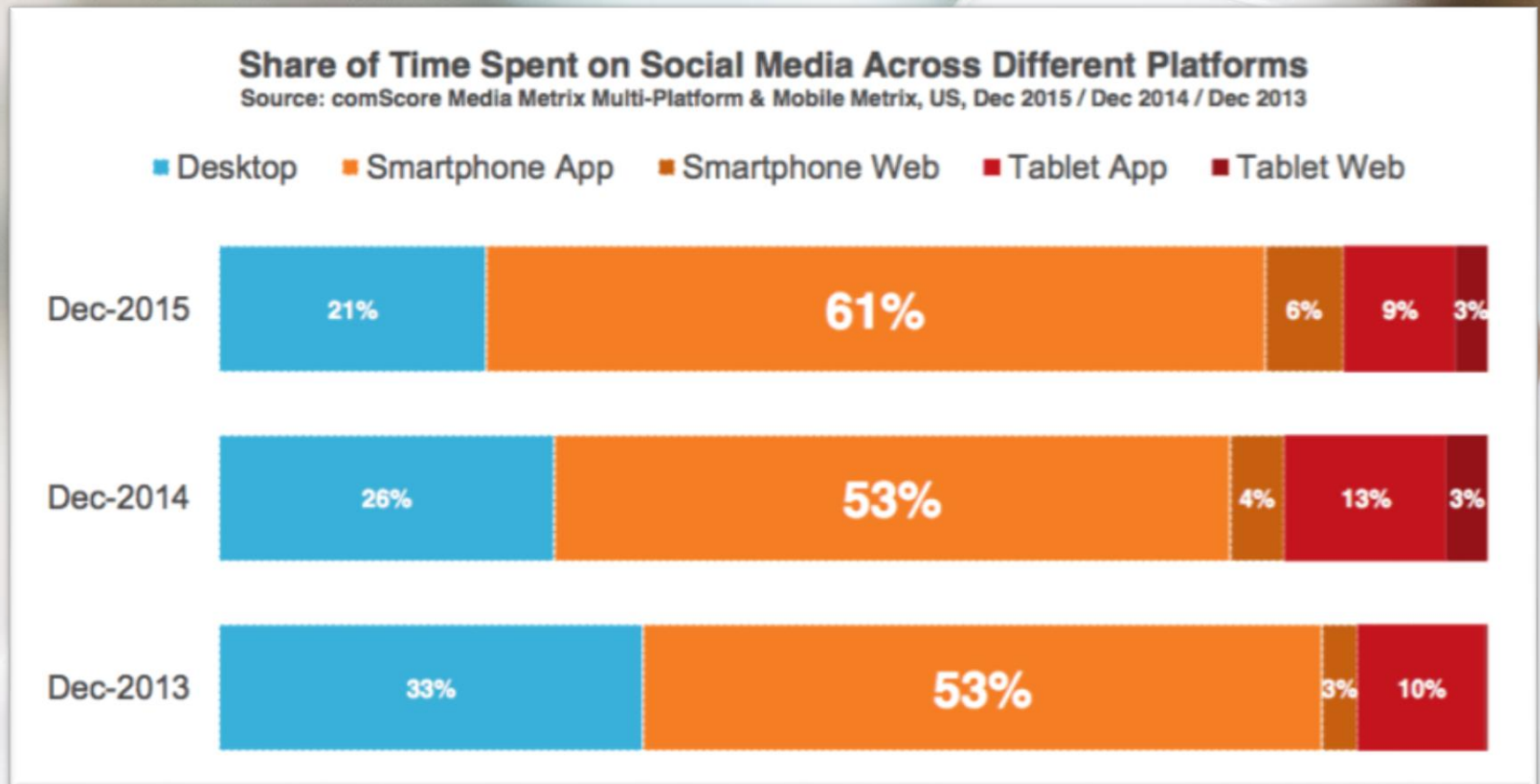
1. Allt fler surfar med mobiler/surfplattor



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



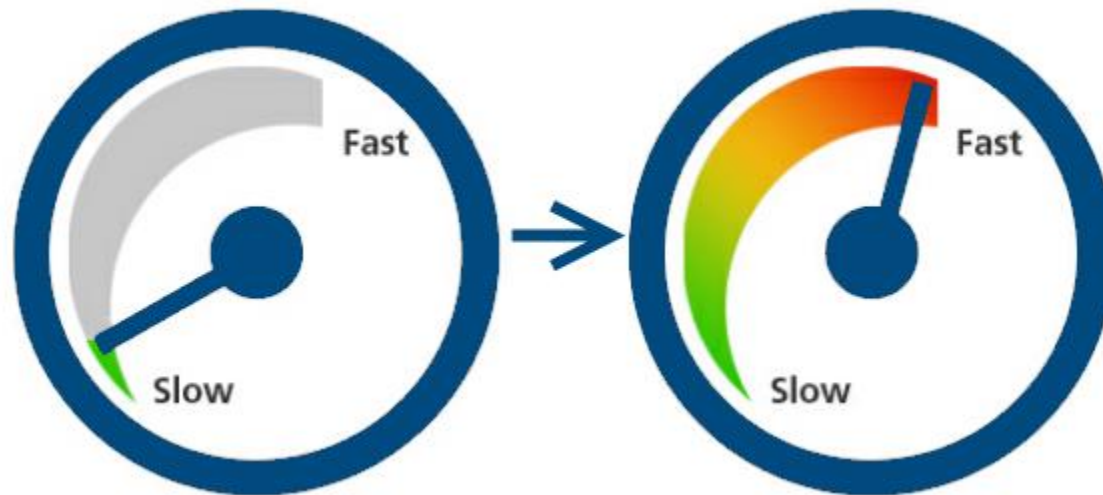
NEXT: OPTIMIZATIONS FOR THE MOBILE WEB >

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

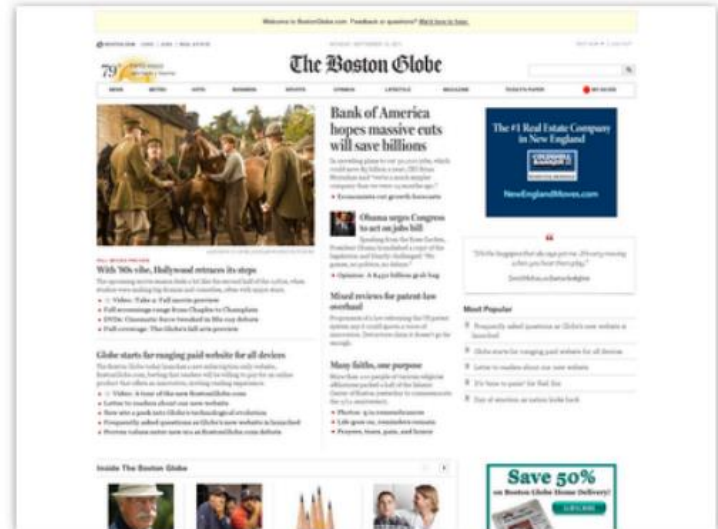
You have 10 seconds to leave an impression and tell them what they'll get out of your website and company. After this time (and oftentimes before), they'll leave.

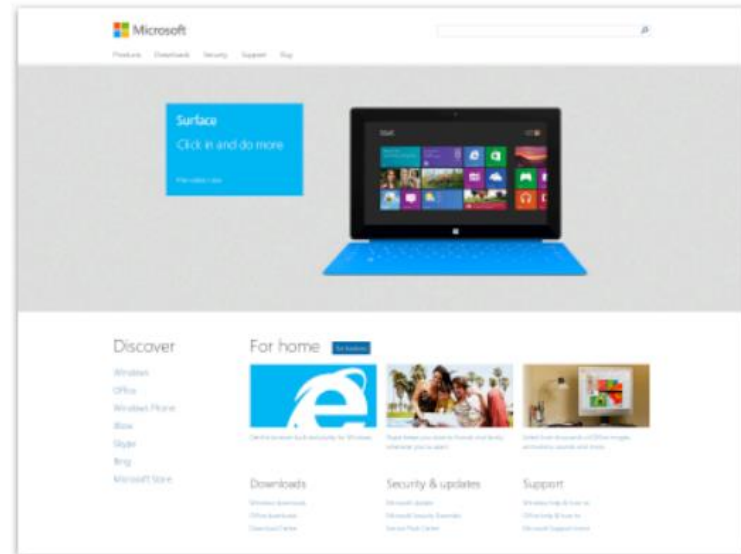
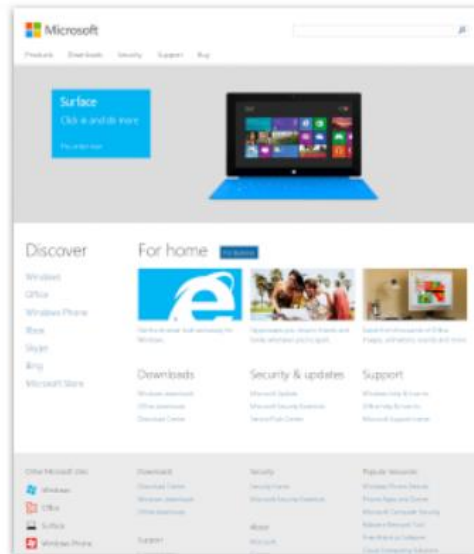
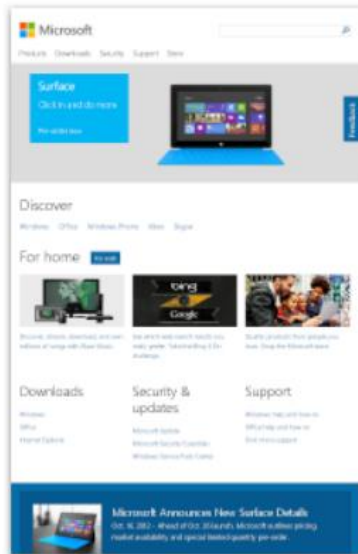
— NN Group

Vad krävs för att bli responsiv?

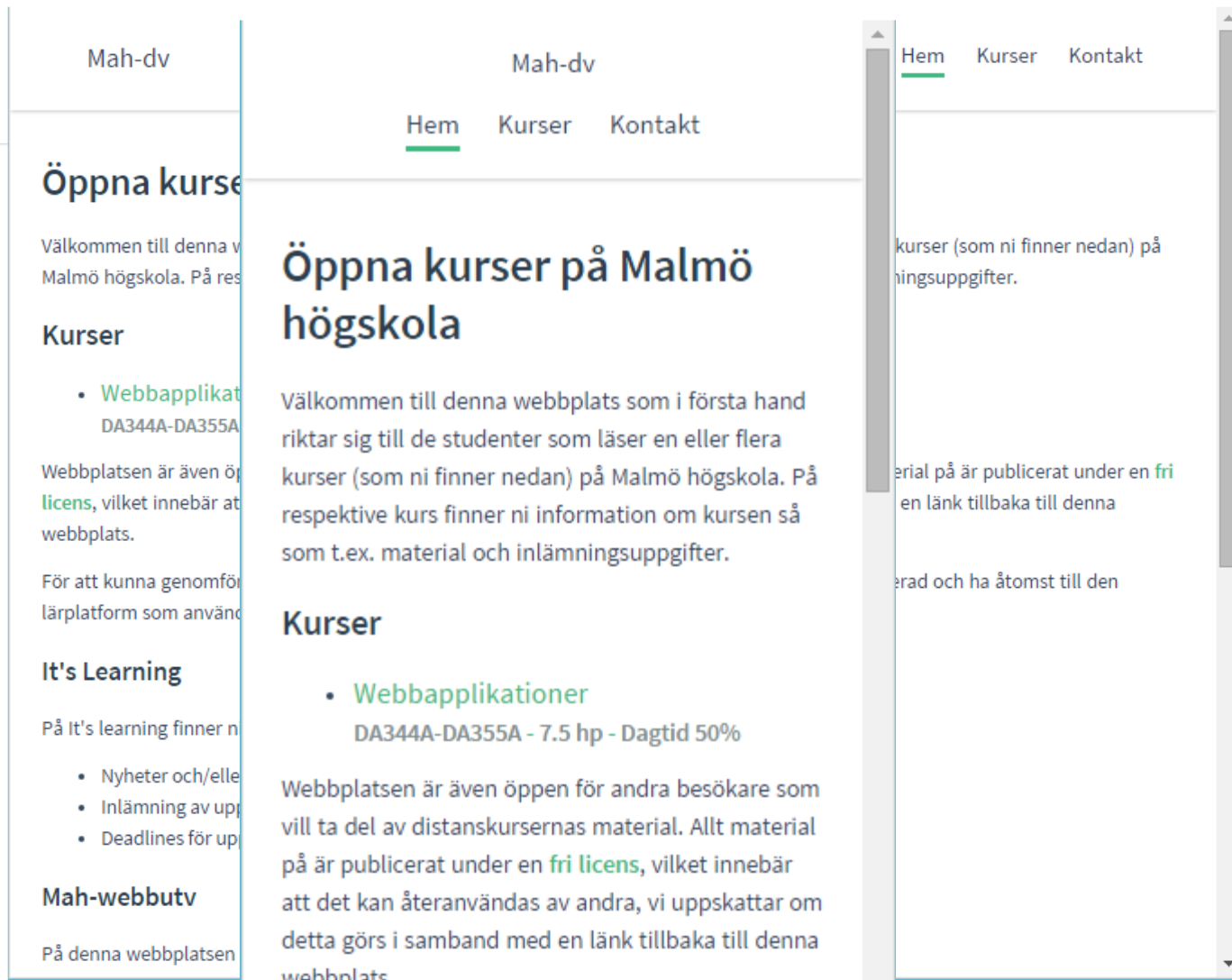
1. En flexibel, ”grid”-baserad layout (boxar...)
2. Flexibla bilder, media, och
3. Media queries







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



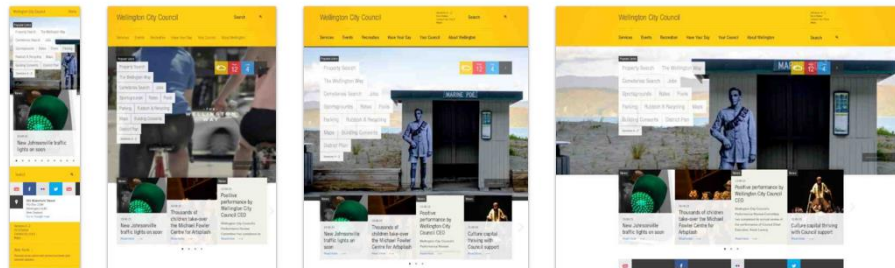
Inspiration för responsiv design?

- <http://mediaqueries.es/>



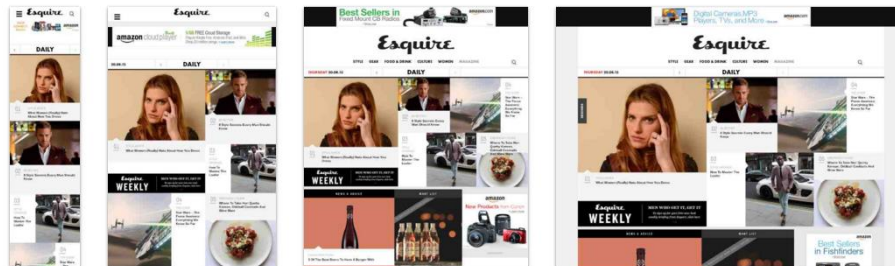
Wellington City Council

♥ 6



Esquire

♥ 4



<http://alistapart.com/article/da> O

The web's greatest strength, I believe, is often seen as a limitation, as a defect. It is the nature of the web to be flexible, and it should be our role as designers and developers to embrace this flexibility, and produce pages which, by being flexible, are accessible to all.

—John Allsopp, 2000

Nyckelord för responsiv webbdesign

- CSS 3 Media Queries
- Flexible layout
- Breakpoints
- Mobile viewport sizes
- Compatibility

KEYWORDS



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



Media Queries

W3C Recommendation 19 June 2012

This Version:

<http://www.w3.org/TR/2012/REC-css3-mediaqueries-20120619/>

Latest Version:

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

Latest Editor's Draft:

<http://dev.w3.org/csswg/css3-mediaqueries/>

Previous Version:

<http://www.w3.org/TR/2012/PR-css3-mediaqueries-20120426/>

Disposition of Comments:

<http://www.w3.org/Style/2012/MediaQueriesDisposalOfComments.html>

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Please refer to the **[errata](#)** for this document, which may include some normative corrections.

See also **[translations](#)**.



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{  
  /* Gör texten blå till webbsidan för skärmar */  
  body{  
    color: blue;  
  }  
}
```



```
@media print{  
  /* Gör texten svart till utskriftsversionen av webbsidan */  
  body{  
    color: black;  
  }  
}
```



PRINT

Ex. Print

Att styla för olika upplösningar

```
@media screen and (min-width: 900px){  
  body{  
    background-color: blue;  
  }  
}
```

```
@media screen and (max-width: 500px){  
  body{  
    background-color: red;  
  }  
}
```

```
@media screen and (min-width: 500px) and (max-width: 900px){  
  body{  
    background-color: green;  
  }  
}
```

Att styla för olika upplösningar

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

```
...
```

```
}
```

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

```
...
```

```
}
```

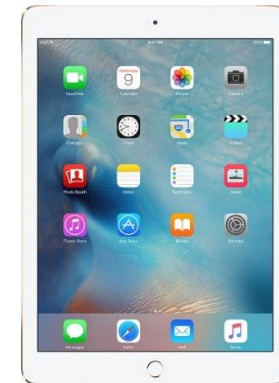
```
@media screen
```

```
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;
    }

}
```



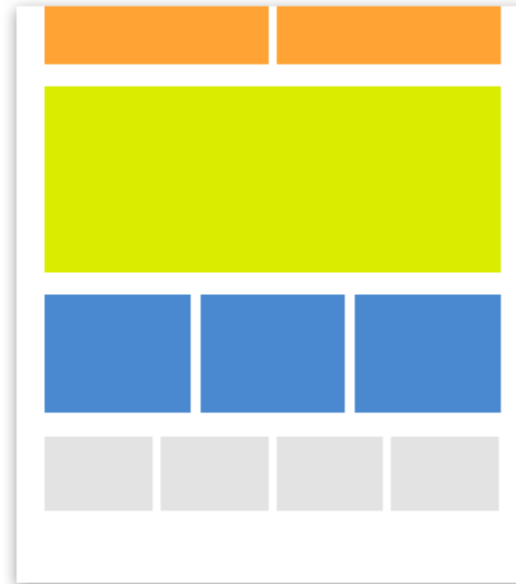
320px



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)	Try it
ex	Relative to the x-height of the current font (rarely used)	Try it
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*	Try it
vh	Relative to 1% of the height of the viewport*	Try it
vmin	Relative to 1% of viewport's* smaller dimension	Try it
vmax	Relative to 1% of viewport's* larger dimension	Try it
%		

Enheter i CSS

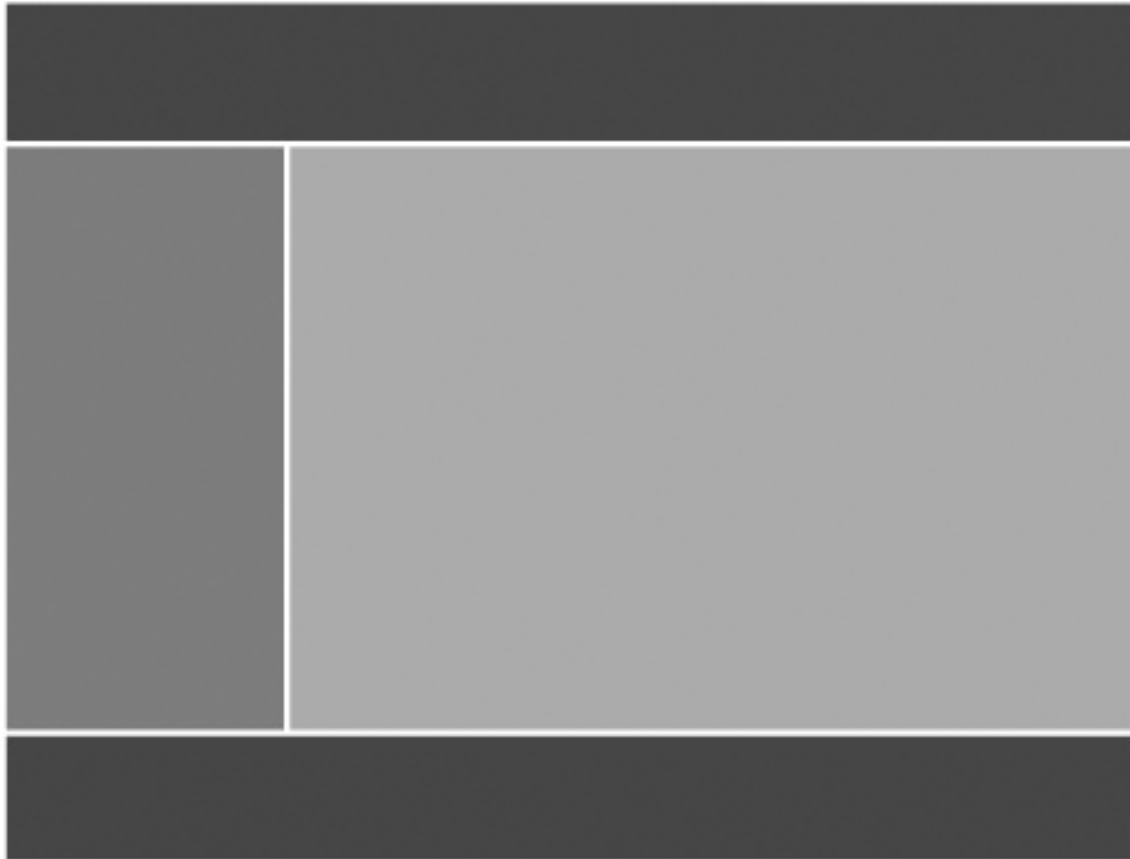
Absolute Lengths

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	Try it
mm	millimeters	Try it
in	inches (1in = 96px = 2.54cm)	Try it
px *	pixels (1px = 1/96th of 1in)	Try it
pt	points (1pt = 1/72 of 1in)	Try it
pc	picas (1pc = 12 pt)	Try it

Exempel på layout



Meny

[Länk 1](#)[Länk 2](#)[Länk 3](#)[Länk 4](#)

Lite innehåll

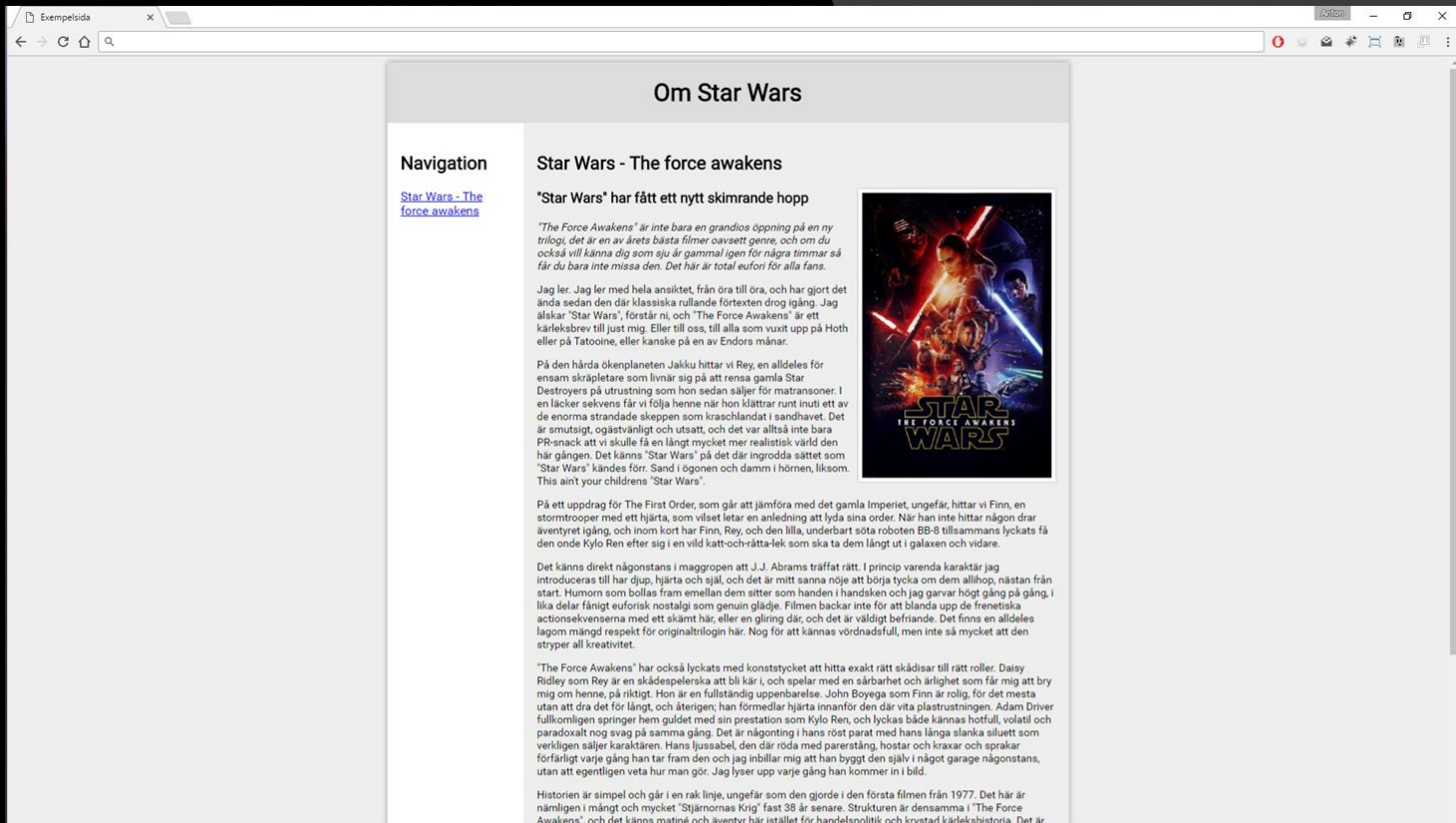
Seventeen thousand! Those guys must really be desperate. This could really save my neck. Get back to the ship and get her ready. You'll have to sell your speeder. That's okay. I'm never coming back to this planet again. Going somewhere, Solo? Yes, Greedo. As a matter of fact, I was just going to see your boss. Tell Jabba that I've got his money. It's too late. You should have paid him when you had the chance. Jabba's put a price on your head, so large that every bounty hunter in the galaxy will be looking for you. I'm lucky I found you first. Yeah, but this time I got the money. If you give it to me, I might forget I found you. I don't have it with me. Tell Jabba...



This is Chewbacca. He's first-mate on a ship that might suit our needs. I don't like the look of this. Han Solo. I'm captain of the Millennium Falcon. Chewie here tells me you're looking for passage to the Alderaan system. Yes, indeed. If it's a fast ship. Fast ship? You've never heard of the Millennium Falcon?

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



Om Star Wars

Navigation

[Star Wars - The Force Awakens](#)

Star Wars - The force awakens

"Star Wars" har fått ett nytt skimrande hopp

"The Force Awakens" är inte bara en grandios öppning på en ny trilogi, det är en av årets bästa filmer oavsett genre, och om du också vill känna dig som sju år gammal igen för några timmar så får du bara inte missa den. Det här är total eufori för alla fans.



Jag ler. Jag ler med hela ansiktet, från öra till öra, och har gjort det ända sedan den där klassiska rullande förtexten drog igång. Jag älskar "Star Wars", förstår ni, och "The Force Awakens" är ett kärleksbrev till just mig. Eller till oss, till alla som vuxit upp på Hoth eller på Tatooine, eller kanske på en av Endors månar.

På den hårda ökenplaneten Jakku hittar vi Rey, en alldeles för ensam skräpövertalare som livnär sig på att rensa gamla Star Destroyers på utrustning som hon sedan säljer för matransoner. I en läcker sekvens får vi följa henne när hon klättrar runt inuti ett av de enorma strandade skeppen som kraschlandat i sandhavet. Det är smutsigt, ogästvänligt och utsatt, och det var alltså inte bara PR-snack att vi skulle få en långt mycket mer realistisk värld den här gången. Det känns "Star Wars" på det där ingrodda sättet som "Star Wars" kändes förr. Sand i ögonen och damm i hörnen, liksom. This ain't your childrens "Star Wars".

På ett uppdrag för The First Order, som går att jämföra med det gamla Imperiet, ungefär, hittar vi Finn, en stormtrooper med ett hjärta, som vilset letar en anledning att lyda sina order. När han inte hittar någon drar äventyret igång, och inom kort har Finn, Rey, och den lilla, underbart söta roboten BB-8 tillsammans lyckats få den onde Kylo Ren efter sig i en vild katt-och-rätta-lek som ska ta dem långt ut i galaxen och vidare.

Det känns direkt någonstans i maggropen att J.J. Abrams träffat rätt. I princip varenda karaktär jag introduceras till har djup, hjärta och själ, och det är mitt sanna nöje att börja tycka om dem allihop, nästan från start. Humorn som bollas

från en till den andra, som handlar om kändisar och inget

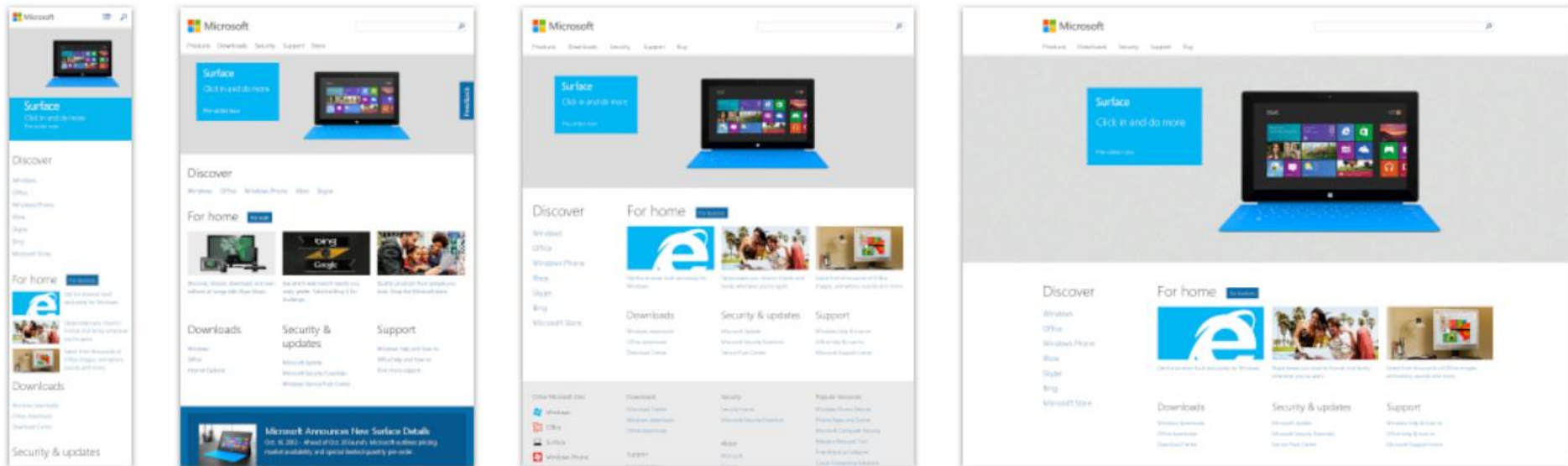
Auto



Att jobba med dynamisk
bredd

% istället för pixlar

Brytpunkter? Hur var när?

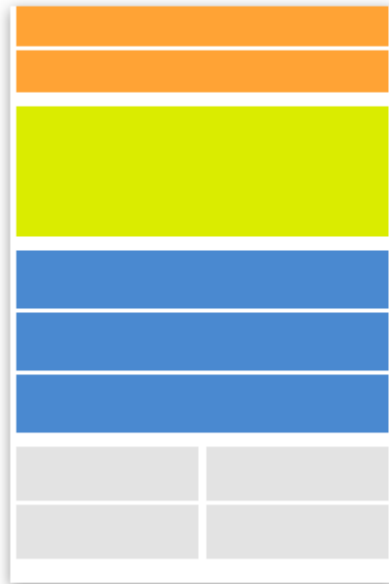




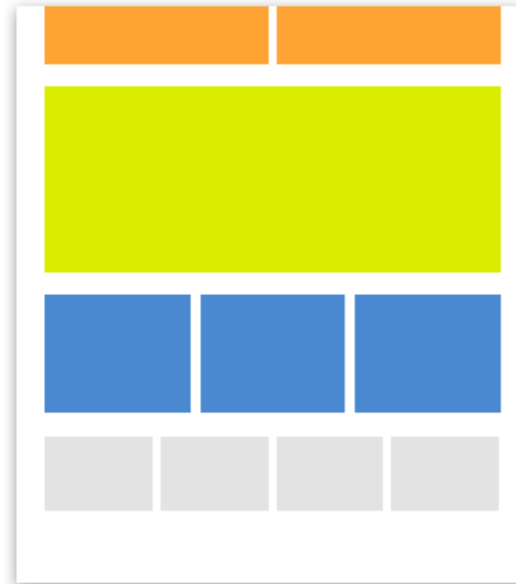
320px



768px



1024px



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/>

 A BOOK APART

Brief books for people who make websites

No.

6

Luke Wroblewski

MOBILE FIRST

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!"*

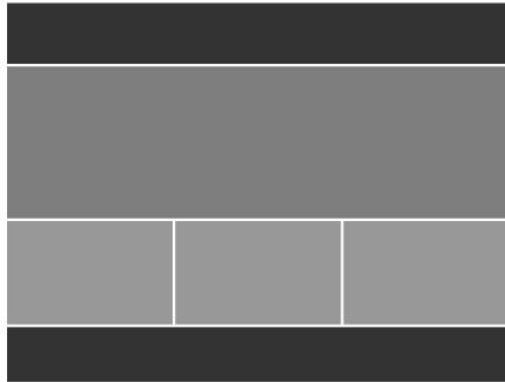
A

• Fö

• Ta

ter

HOME



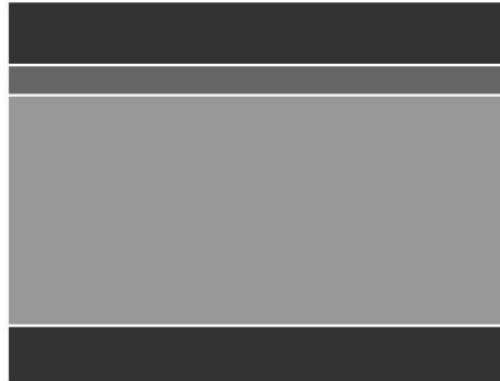
SUBPAGE OPTION 1



SUBPAGE OPTION 2



SUBPAGE OPTION 3

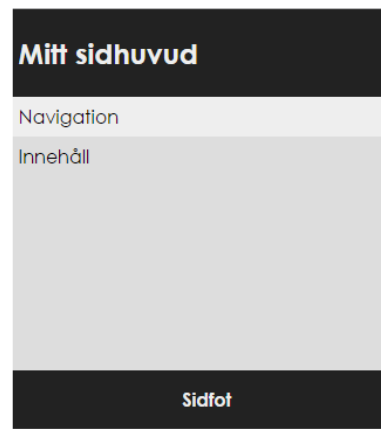
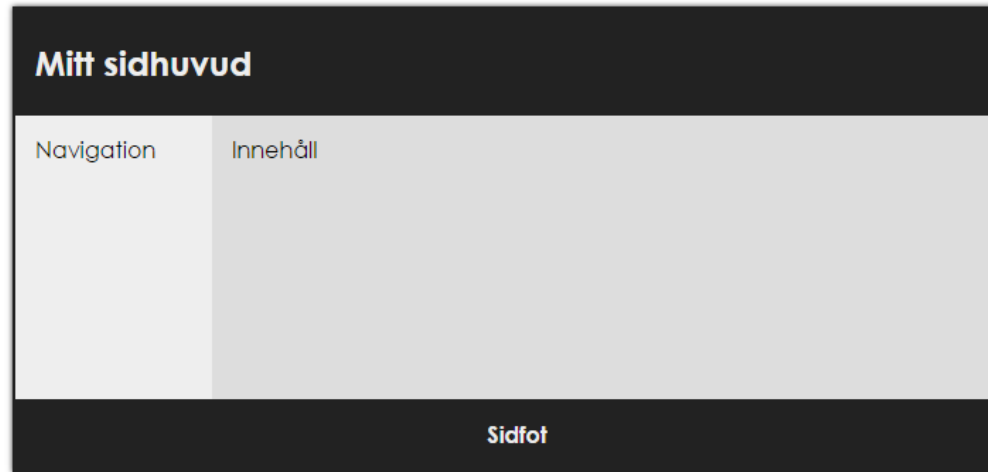


SUBPAGE OPTION 4



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

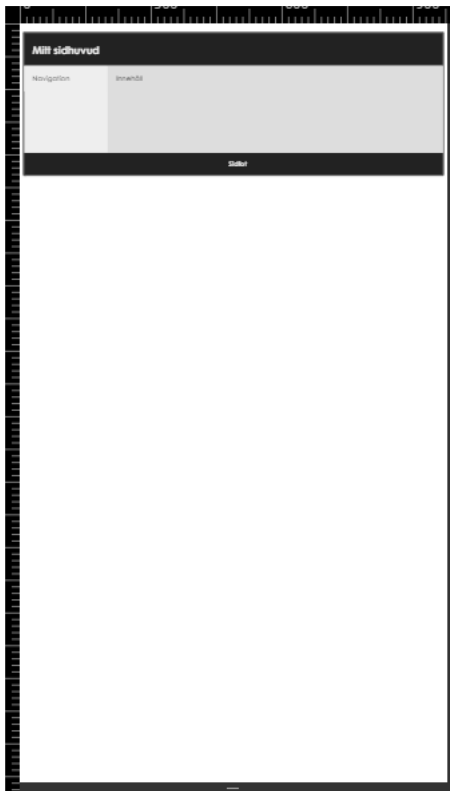
Innehåll

Sidfot

Ex. Responsiv

<https://goo.gl/VBLNHe>

Om vi surfar in till en mobil?



Vi testar!

<https://goo.gl/VBLNHe>



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



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](#)

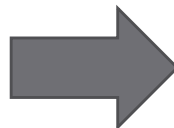
A summary of the history of the project.

[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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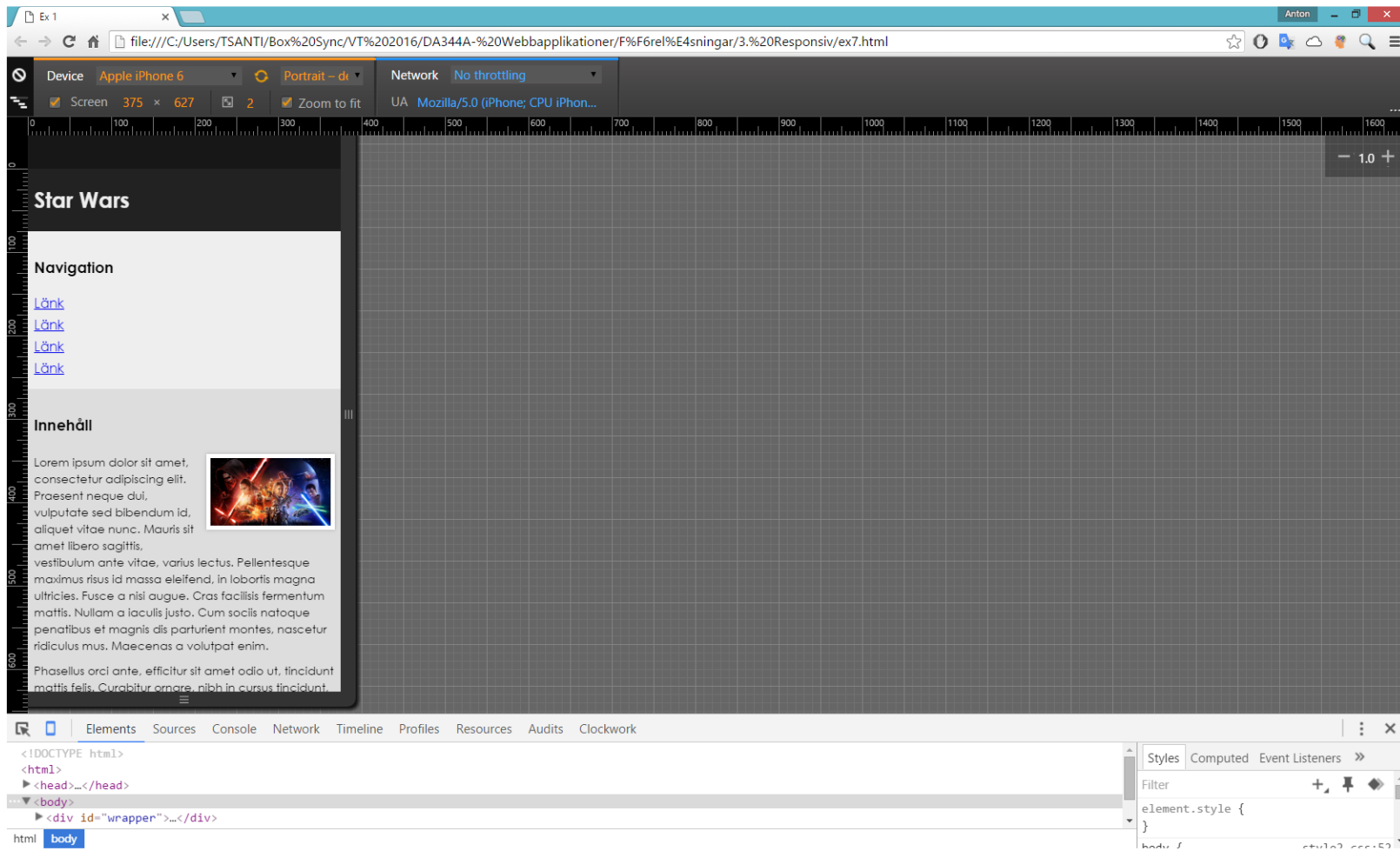
If you would like to support the web..

Getting code

Getting the code by anonymous FTP , etc.

Utvecklingsmiljö?

- Utvecklingskonsoler i t.ex. Chrome är bra hjälp



Frågor?

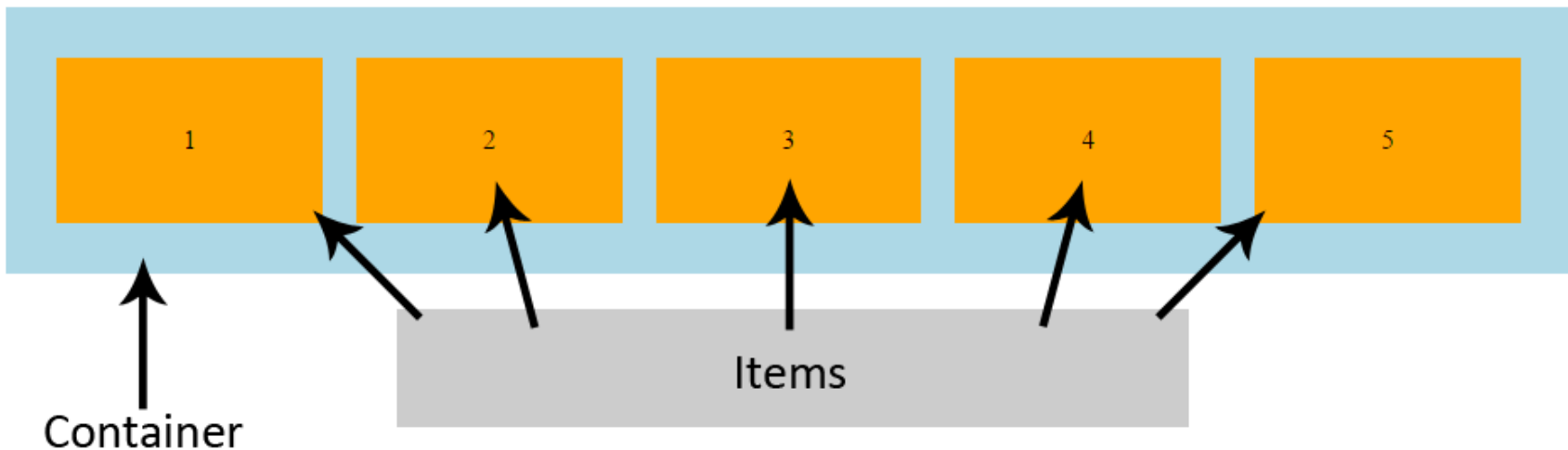
Att göra en layout responsiv

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 positionerna 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					¹ 4.3	
			54					4.4	
		50	55			9.3		4.4.4	
⁴ 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**.

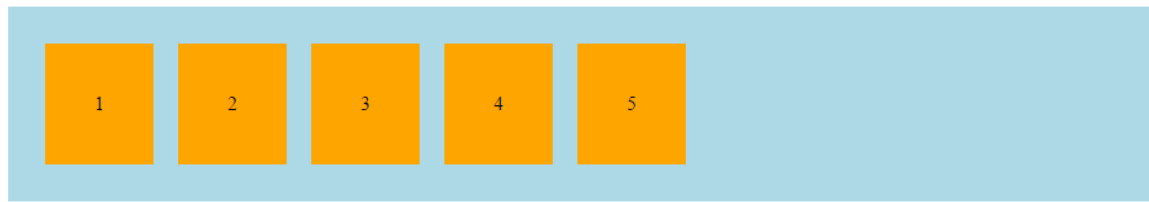
¹ Only supports the **old flexbox** specification and does not support wrapping.

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

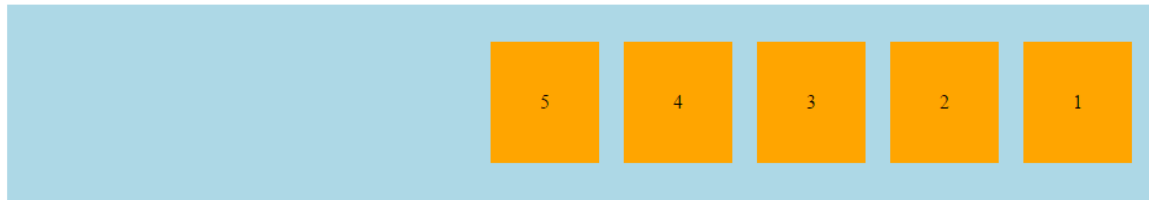
#container

flex-direction

- flex-direction: row; (standard)



- flex-direction: row-reverse;



#container

`flex-direction: column;`



flex-direction

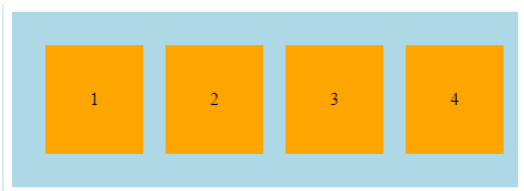
`flex-direction: column-reverse;`



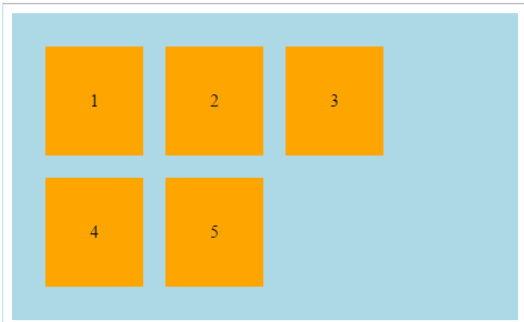
#container

flex-wrap

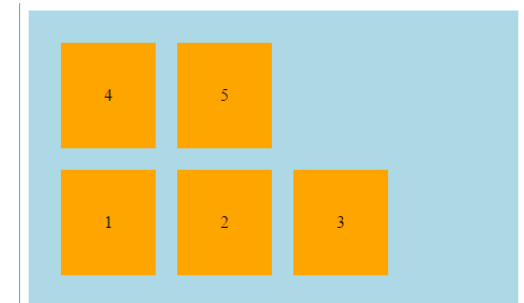
- flex-wrap: nowrap; (standard) – Allt på samma rad



- flex-wrap: wrap;



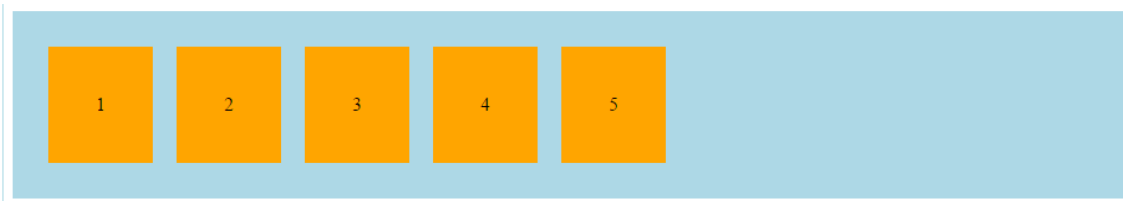
- flex-wrap: wrap-reverse;



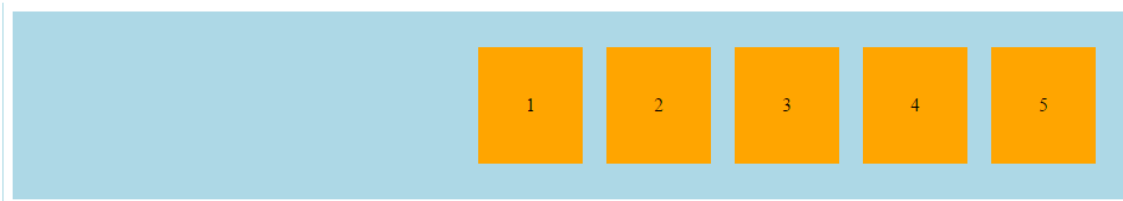
#container

justify-content

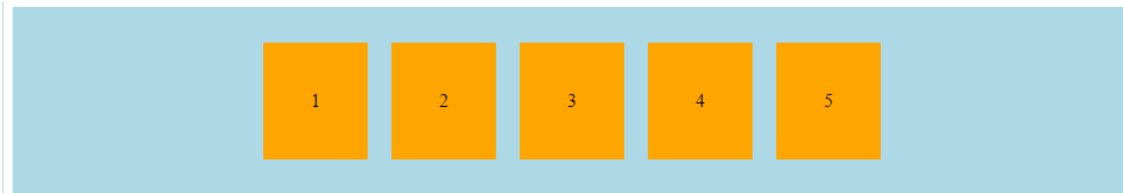
- `justify-content: flex-start;`



- `justify-content: flex-end;`



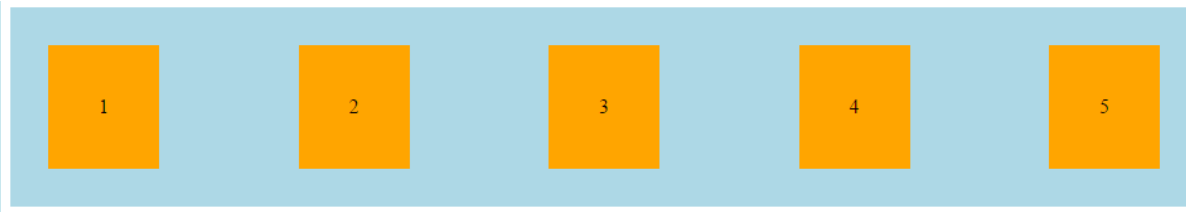
- `justify-content: center;`



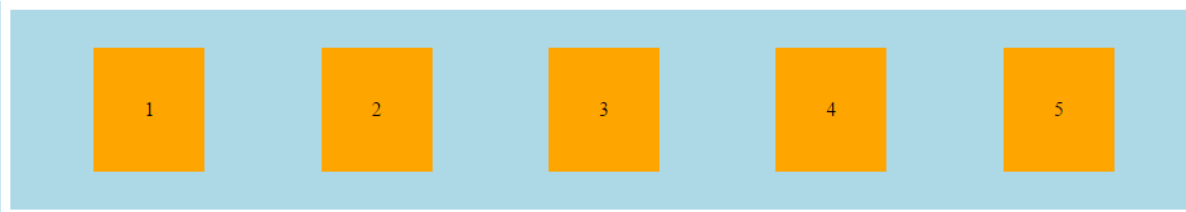
#container

justify-content

- justify-content: space-between;

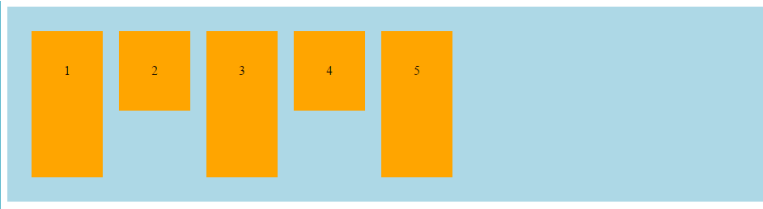


- justify-content: space-around;

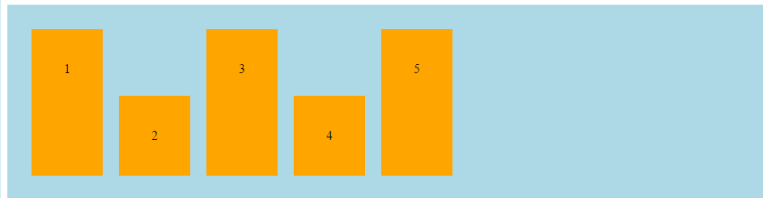


#container

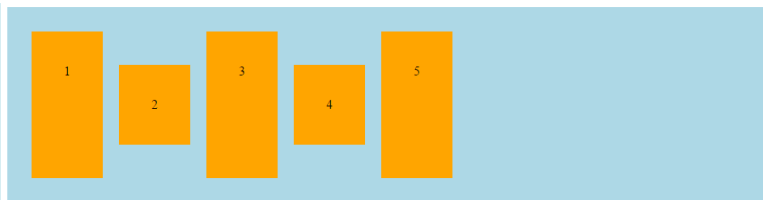
- align-items: flex-start; (standard)



- align-items: flex-end;



- align-items: flex-end;



align-items

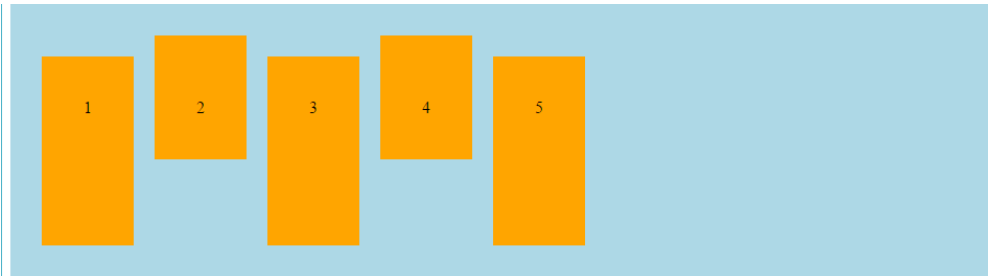
```
#container{
  background-color: lightblue;
  padding: 20px;
  /* Egenskaper för flexbox */
  display: flex;
  align-items: flex-start;
}

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

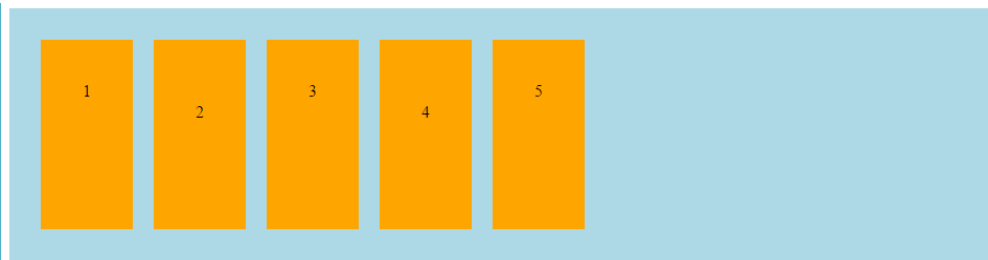
.item:nth-child(odd){
  height: 100px;
}
```


#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;
}

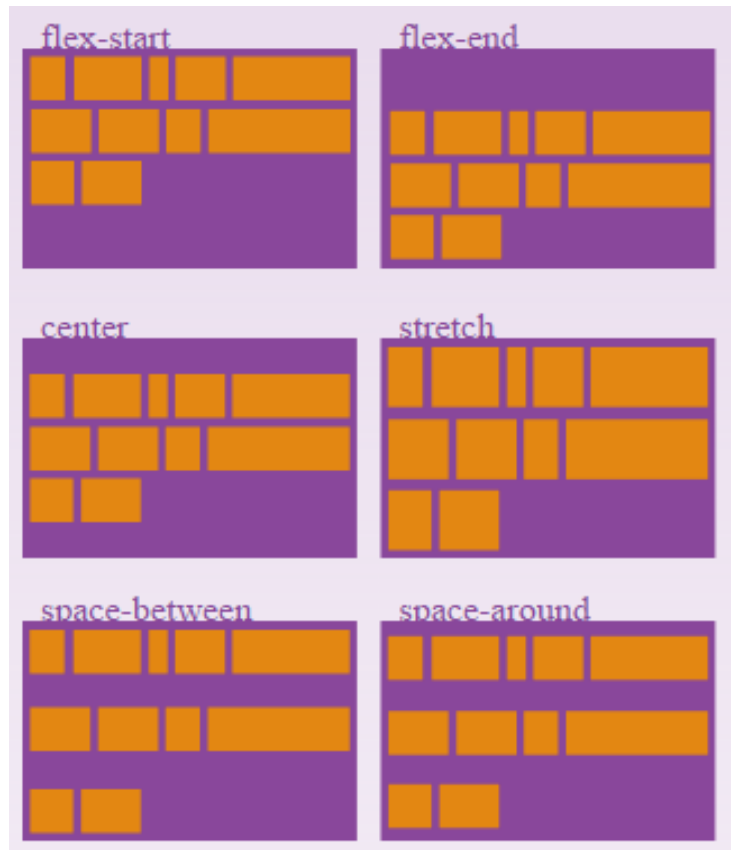
.item:nth-child(even){
  padding-top: 60px;
}
```

#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/>

Exempel

https://www.w3schools.com/css/tryit.asp?filename=trycss3_flexbox_image_gallery

Nytt också: CSS-grids

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

Demo?