



Building Responsive Layouts

by Zoe Mickley Gillenwater
@zomigi

August 28, 2012

Responsive Web Design Summit

What I do

Books



Stunning CSS3:
A Project-based Guide to
the Latest in CSS

www.stunningcss3.com



Flexible Web Design:
Creating Liquid and Elastic
Layouts with CSS

www.flexiblewebbook.com

Web

Accessibility
specialist at AT&T

Visual designer

CSS developer
and consultant



why

responsive web design works



what



why

responsive web design means



what



why



how

to do responsive web design

fluid/liquid layout

uses percentage widths to adapt
to size of viewport

hybrid layout

one+ column flexible, one+ not

responsive web design

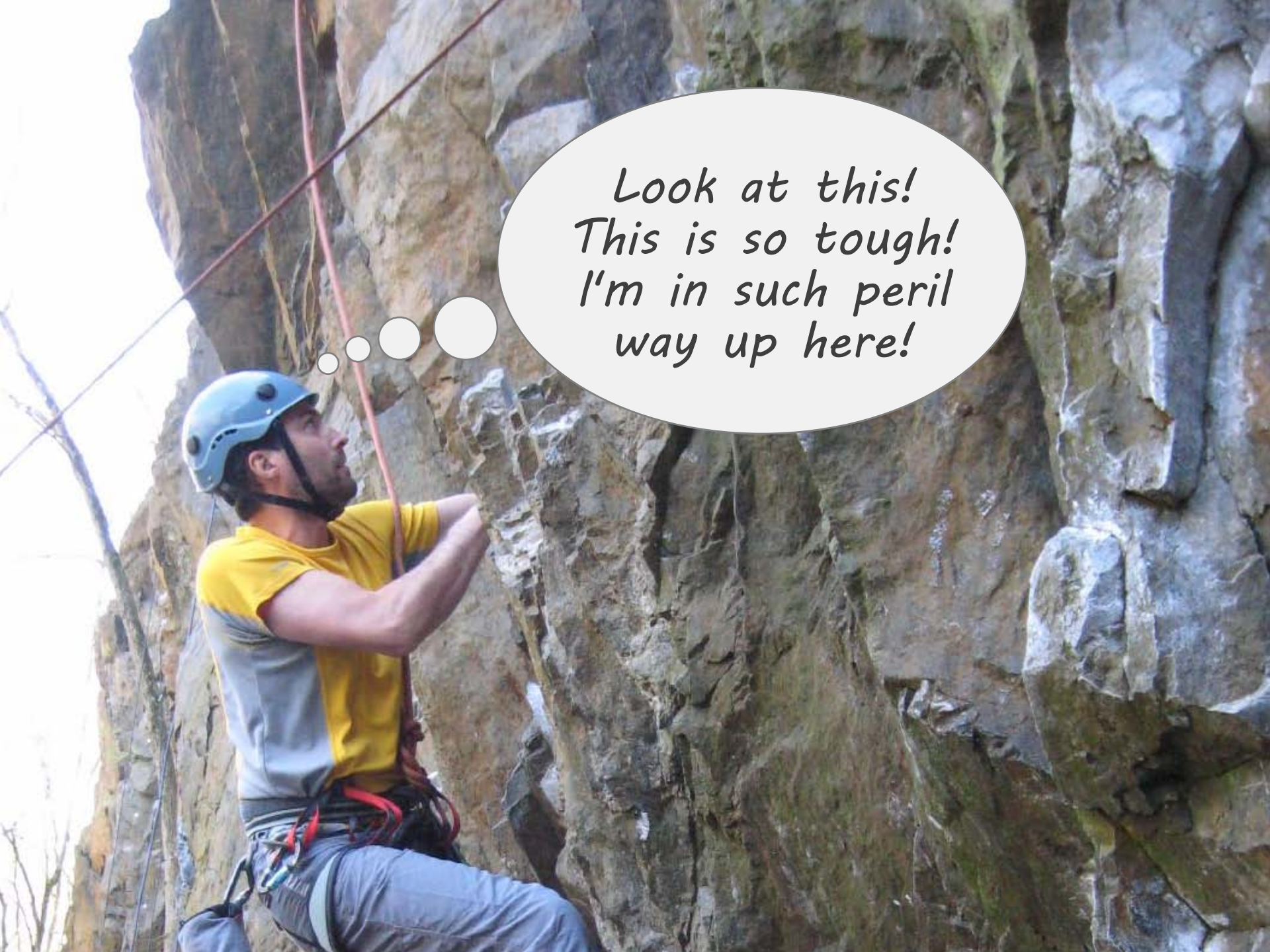
fluid layout and flexible images
adapted with media queries

www.alistapart.com/articles/responsive-web-design/

adaptive layouts

multiple fixed-width layouts
swapped with media queries

www.netmagazine.com/tutorials/adaptive-layouts-media-queries



*Look at this!
This is so tough!
I'm in such peril
way up here!*

A photograph of a person climbing a dark, layered rock face. The climber is wearing grey pants and red climbing shoes. A large white speech bubble is overlaid on the left side of the image, containing the text "Oh, wait...".

Oh, wait...

How do we make this fluid?

You deserve a sweet little treat every now and then.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien

ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.



Candies

TRUFFLES, BARS, CARAMELS, AND MORE

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.



Pastries

CROISSANTS, DANISHES, CREAM PUFFS, AND MORE

Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est.



Desserts

CAKES, PIES, TARTS, COOKIES, AND MORE

Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

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MOTHER'S DAY SPECIAL

Pellen tesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

NEWS

[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)

[Aliquam tincidunt mauris eu risus](#)

[Vestibulum auctor dapibus neque](#)

Read more at our [blog](#) and [follow us on Twitter](#).

About this Page

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Credits

WEB FONTS:
Nadia Serif from [Kernest](#)
ILLUSTRATIONS:
Yummy by [Icon Eden](#)

Start with fluid wrapper

6%

LITTLE
pea
BAKERY

wrapper


HOME ABOUT MENU LOCATION CATERING CONTACT US

Search:

6%

You deserve a sweet little treat every now and then.


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Candies

TRUFFLES, BARS, CARAMELS, AND MORE


Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.



Pastries

CROISSANTS, DANISHES, CREAM PUFFS, AND MORE

Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est.



Desserts

CAKES, PIES, TARTS, COOKIES, AND MORE

Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget,

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MOTHER'S DAY SPECIAL

SWEET DEALS

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

NEWS

[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)

[Aliquam tincidunt mauris eu risus](#)

[Vestibulum auctor dapibus neque](#)

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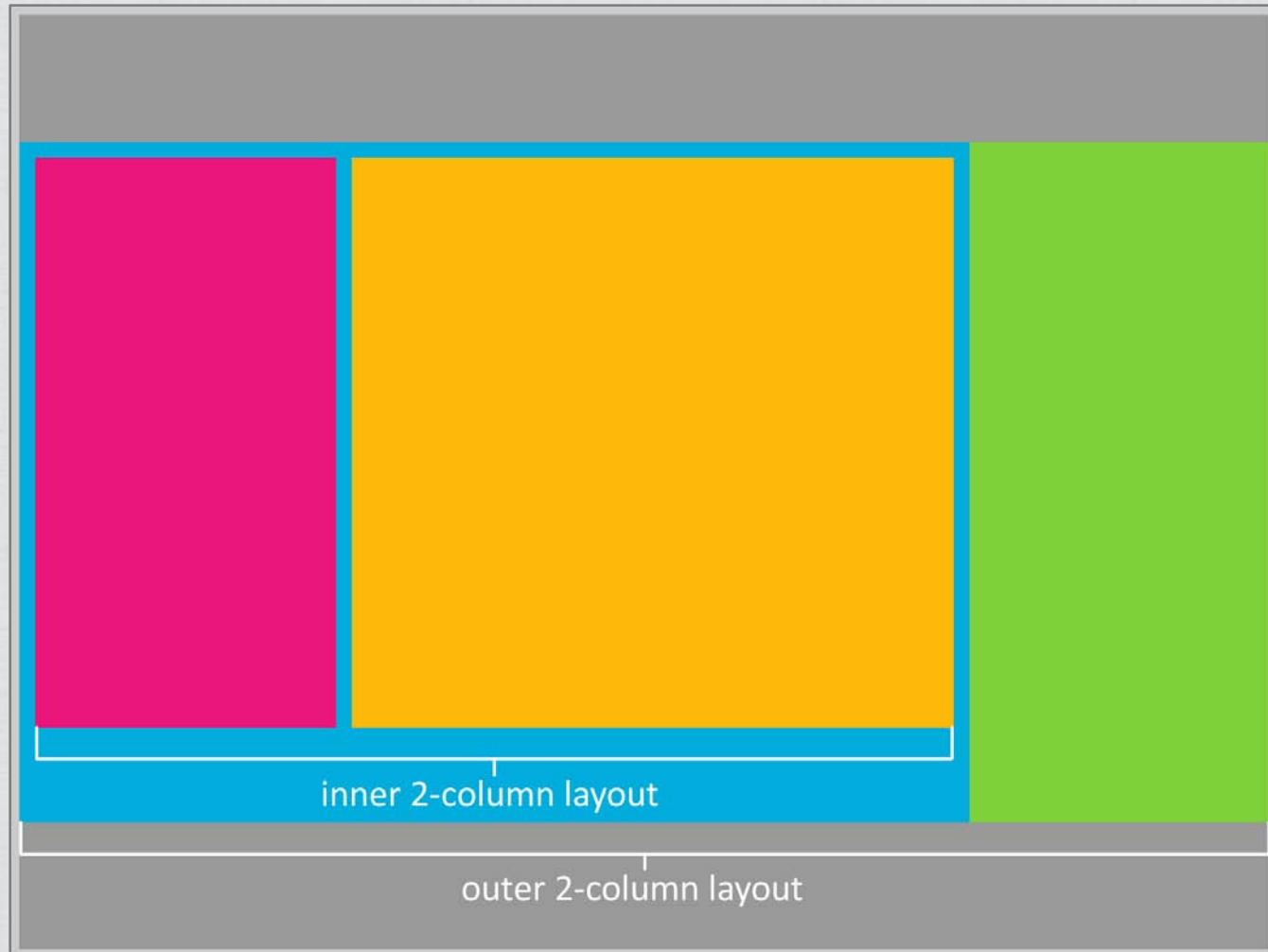
Add opposing floats inside

The image shows a screenshot of a bakery website with two CSS annotations. Annotation 1 is on the main content area, and annotation 2 is on the right sidebar. The website has a blue header with the logo 'LITTLE pea BAKERY' and navigation links: HOME, ABOUT, MENU, LOCATION, CATERING, CONTACT US. The main content area has a large heading 'You deserve a sweet little treat every now and then.' Below it are three columns: Candies, Pastries, and Desserts. The right sidebar has a search bar, an email newsletter sign-up form, a 'SWEET DEALS' section for Mother's Day, and a 'NEWS' section with links to blog and Twitter.

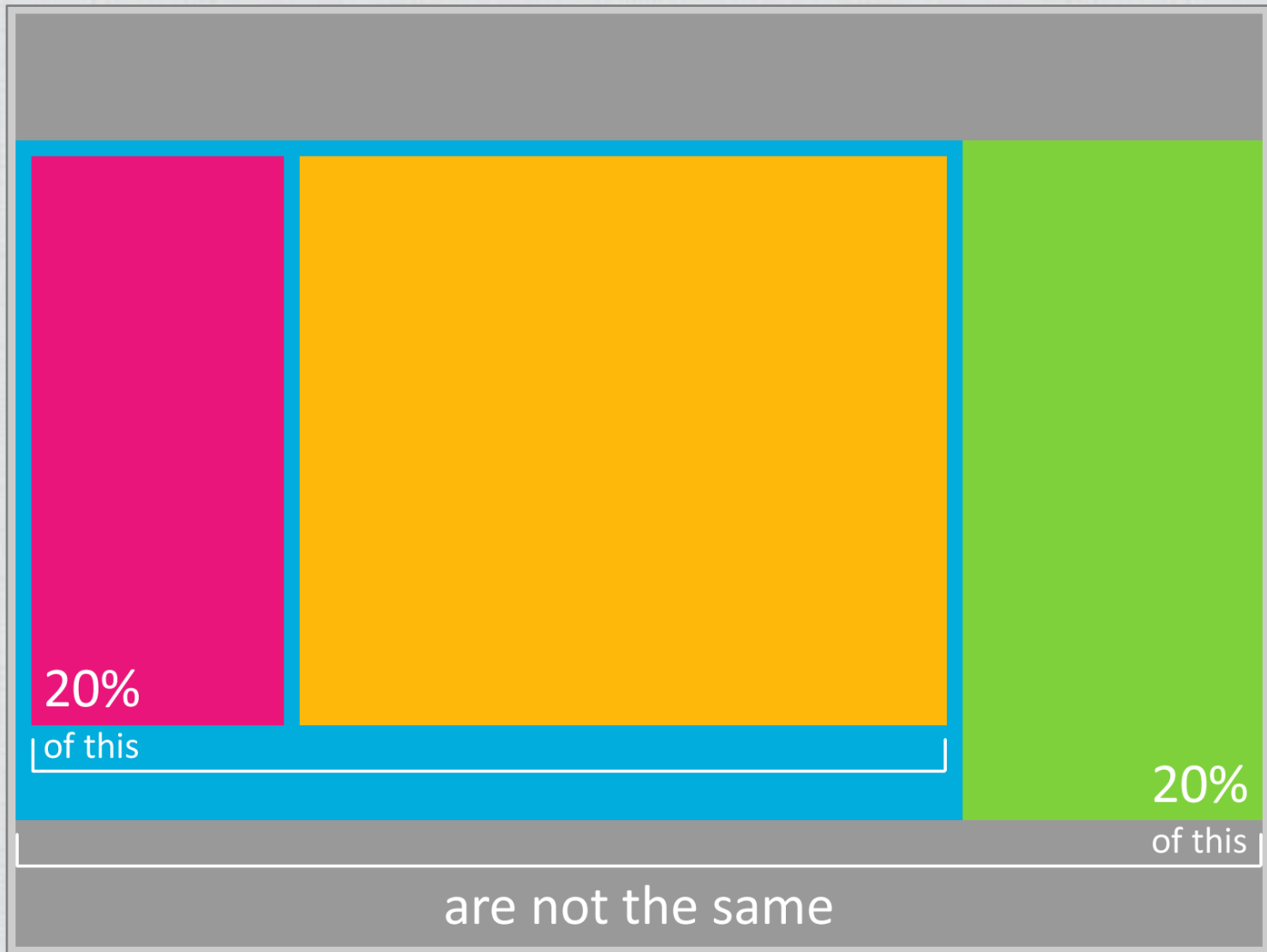
1 #content-main {
float: left;
width: 70%;

2 #content-secondary {
float: right;
width: 25%;

3-column layout: nest 2-column layout inside 2-column layout



Percentages are relative



Determining nested widths

$$\begin{array}{l} \text{width of column} \\ \text{you want to match} \end{array} \div \begin{array}{l} \text{width of} \\ \text{parent column} \end{array} = \begin{array}{l} \text{width of} \\ \text{nested column} \end{array}$$

Determining nested widths

width of column
you want to match \div width of
parent column $=$ width of
nested column

target \div context $=$ result

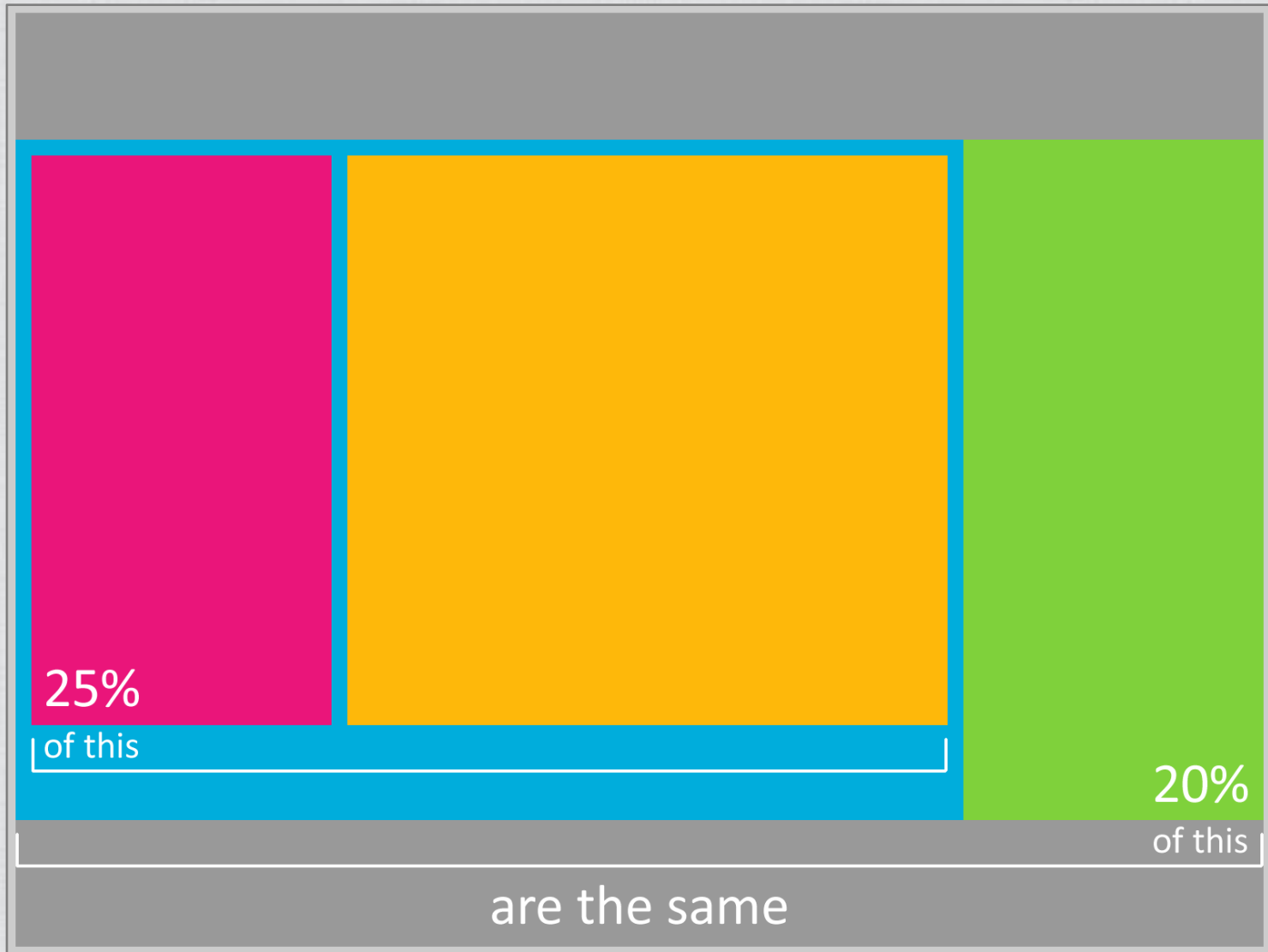
Determining nested widths

width of column
you want to match \div width of
parent column $=$ width of
nested column

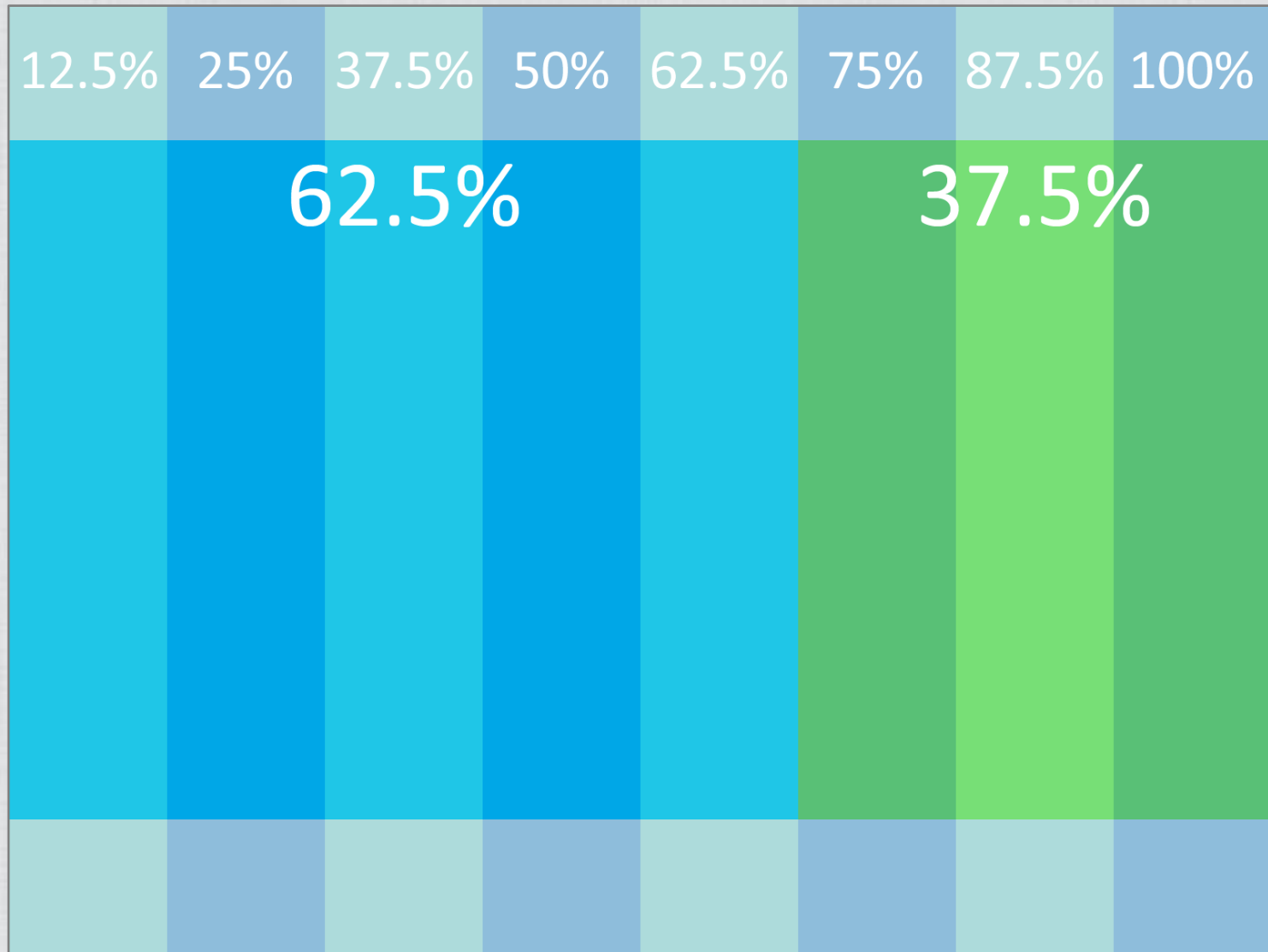
target \div context $=$ result

20 \div 80 $=$.25
which means
25%

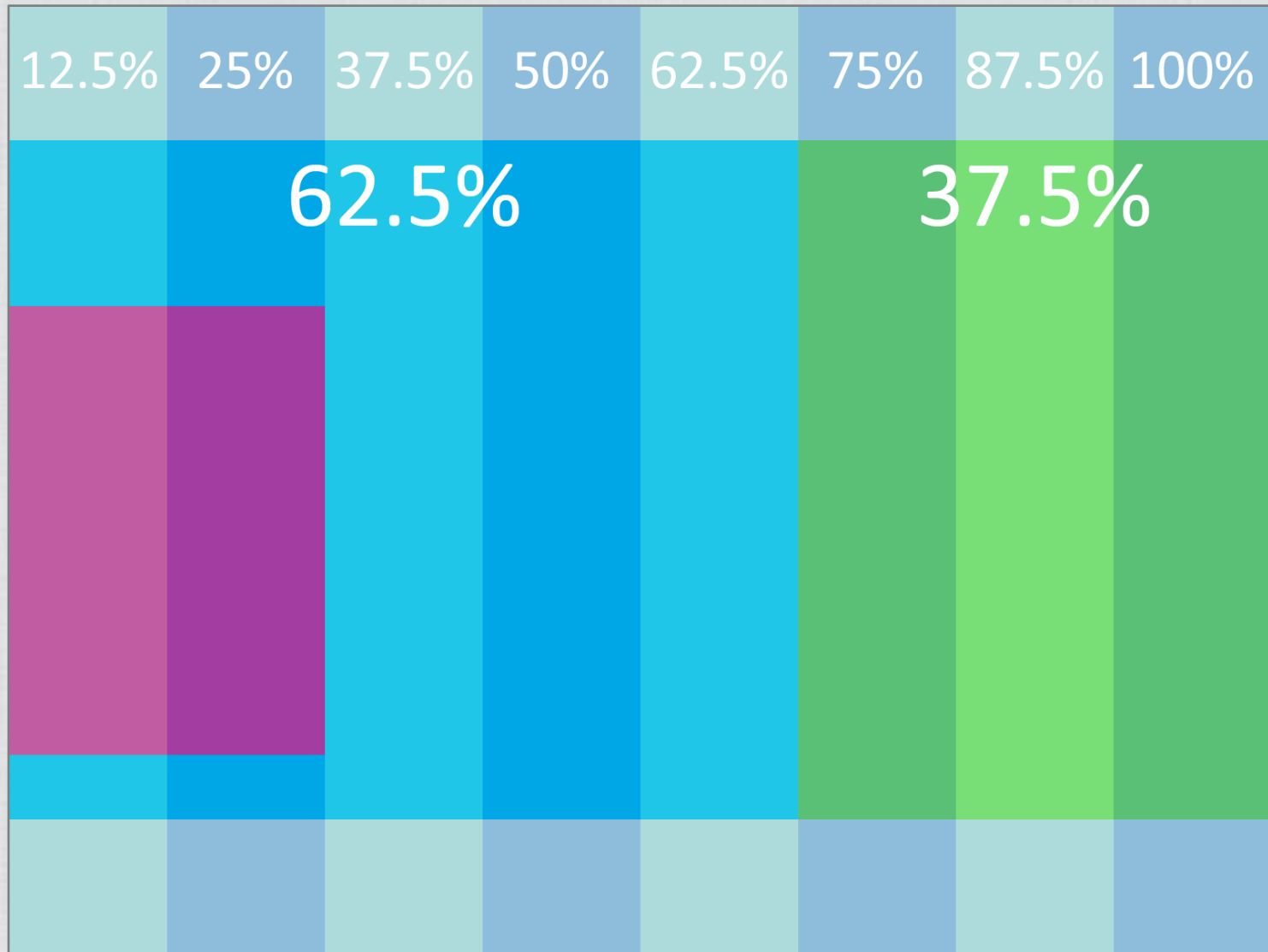
That's more like it



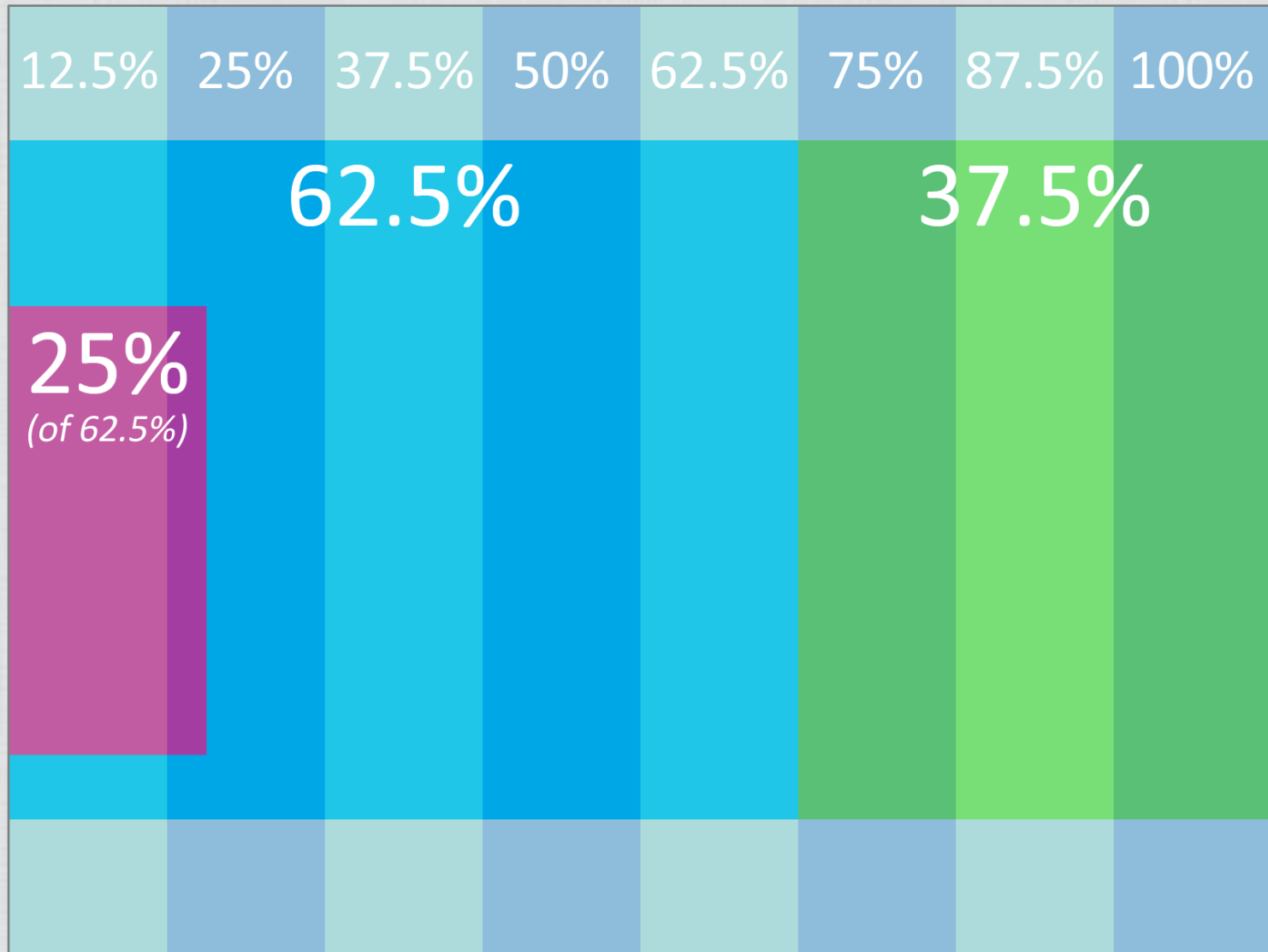
What about fluid grids?



Width of this nested block?



Well that's not right...



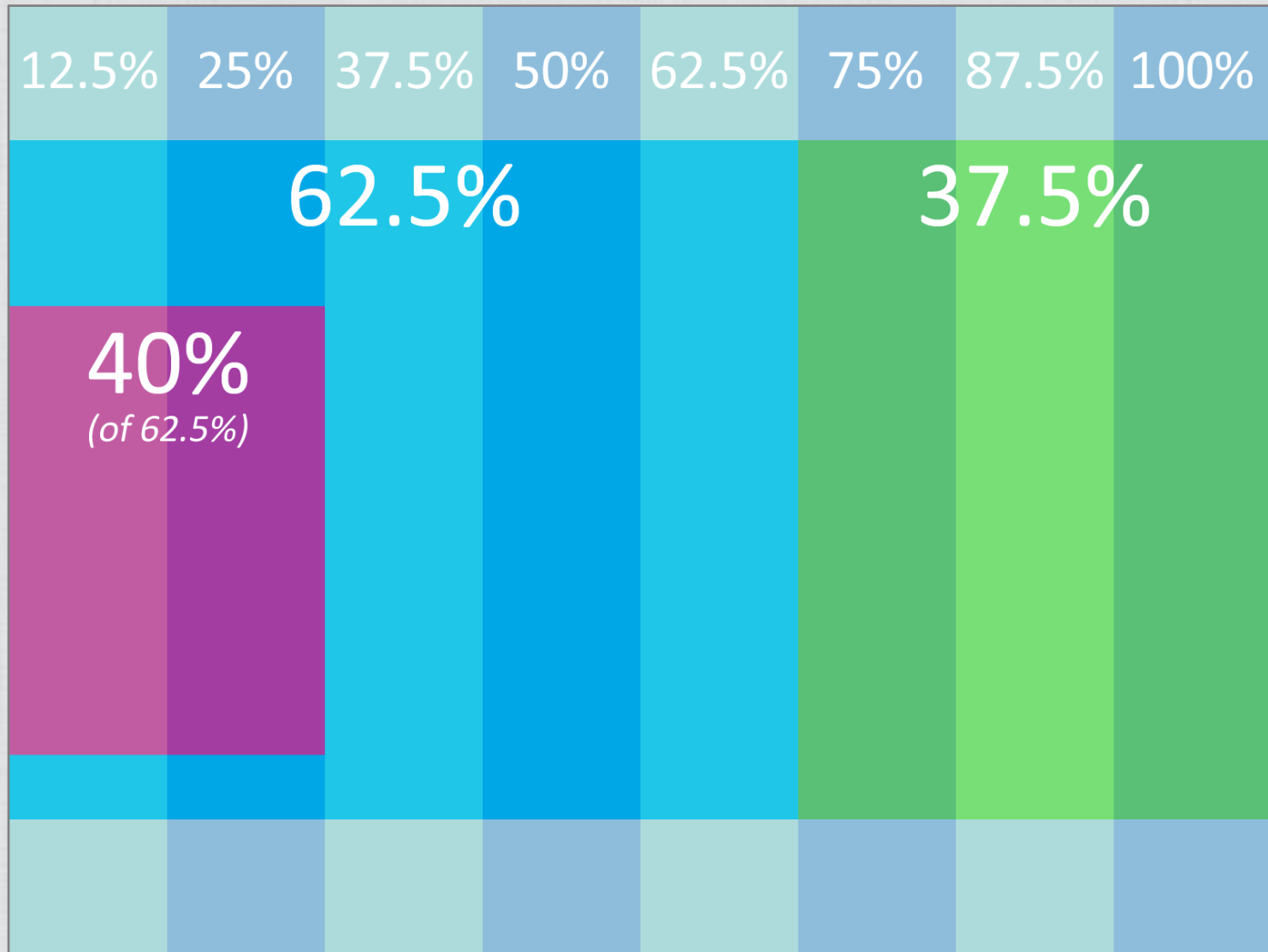
To the laboratory!

width of column
you want to match \div width of
parent column $=$ width of
nested column

target \div context $=$ result

25 \div 62.5 $=$.4
which means
40%

There we go





widths



spacing

between and in fluid columns

Leave a gap via widths

1 **2** **3**

100% - 70% - 25% = 5%
(plus or minus a pixel)

LITTLE pea BAKERY

HOME ABOUT MENU LOCATION CATERING CONTACT US

Search:

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SWEET DEALS
MOTHER'S DAY SPECIAL
Pellen tesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

NEWS
[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)
[Aliquam tincidunt mauris eu risus](#)
[Vestibulum auctor dapibus neque](#)
Read more at our [blog](#) and [follow us on Twitter](#)

Candies
TRUFFLES, BARS, CARAMELS, AND MORE
Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, ornare in ante, semper vitae, ornare. Aenean fermentum, elit eget tincidunt congue, eros eros susque sed in tellus per enim. Proin suscipit elit sit amet dui. Donec non enim in turpis tristique it quam. Lorem ipsum dolor sit amet.

Pastries
CROISSANTS, DANISHES, CREAM PUFFS, AND MORE
Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est.

Desserts
CAKES, PIES, TARTS, COOKIES, AND MORE
Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget,

Declaring fluid margin/padding

- Adjust widths so everything adds up to just under 100%
 - Avoids problems due to rounding % to px
- Nesting affects margin/padding values too
 - Use target/context formula to match outer spacing with inner spacing

Using box-sizing

- Makes fixed-width margin/padding on fluid layout **easy**
- Standard box model
 - `box-sizing: content-box`
 - Padding & border **added** on to width/height
- New box model
 - `box-sizing: border-box`
 - Padding & border **subtracted** from width/height

Fluid grid, fixed-width spacing

```
.column {  
  float: left;  
  -webkit-box-sizing: border-box;  
  -moz-box-sizing: border-box;  
  box-sizing: border-box;  
  padding: 0 20px;  
}
```

Use border as faux margin

```
.column {  
  float: left;  
  -webkit-box-sizing: border-box;  
  -moz-box-sizing: border-box;  
  box-sizing: border-box;  
  padding: 0 20px;  
  border-left: 10px solid rgba(0,0,0,0);  
  -moz-background-clip: padding-box;  
  -webkit-background-clip: padding-box;  
  background-clip: padding-box;  
}  
.row {  
  margin-left: -10px;  
}
```

Fix box-sizing in IE 7 and 6

- Feed different dimensions based on content-box-model, or
- Use Christian Schaefer's box-sizing polyfill
<https://github.com/Schepp/box-sizing-polyfill>

```
.column {  
    box-sizing: border-box;  
    *behavior: url(boxsizing.htc);  
}
```

I recommend gridpak.com

Gridpak BETA The Responsive grid generator
Created by Erskine Design

[Like](#) 1.1k [Tweet](#) 2,290 [Learn about Gridpak](#)

No. of columns: 6
Column padding: 1.5 % px
Gutter width: 2 % px

+ Add break point

960px

0 - ∞

0 100 200 300 400 500 600 700 800 900 1000 1100

[Download your Gridpak](#) Includes: 1 PNG(s), 1 CSS, 1 LESS, 1 SCSS, 1 JavaScript file & 1 Readme.

This site is licensed under a Creative Commons Attribution 3.0 License
Created by **Erskine Design**



fluid



hybrid

main column fluid, sidebar fixed

Hybrid layout options

- Easy: **sidebars first** in HTML
 - Float sidebars, main content moves up between floats
 - But usually not option in responsive design
- Tricky: **main content first** in HTML
 - Need to float it, but with what width?
 - One solution: **negative margins**

Fixed-width sidebar starting point

LITTLE
pea
BAKERY


Search:

[HOME](#) [ABOUT](#) [MENU](#) [LOCATION](#) [CATERING](#) [CONTACT US](#)

You deserve a sweet little treat every now and then.

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra.


Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.



Candies

TRUFFLES, BARS, CARAMELS, AND MORE


Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.



Pastries

CROISSANTS, DANISHES, CREAM PUFFS, AND MORE

Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est.



Desserts


CAKES, PIES, TARTS, COOKIES, AND MORE

Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

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MOTHER'S DAY SPECIAL

Pellen tesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

NEWS

[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)

[Aliquam tincidunt mauris eu risus](#)

[Vestibulum auctor dapibus neque](#)

Read more at our [blog](#) and [follow us on Twitter](#).

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Credits

WEB FONTS:
Nadia Serif from [Kernest](#)

ILLUSTRATIONS:
Yummy by [Icon Eden](#)

Add wrapper with padding

```
#content-wrapper {  
  padding-right: 290px;  
}
```

The screenshot shows a website for 'LITTLE pea BAKERY'. The header includes a search bar, navigation links (HOME, ABOUT, MENU, LOCATION, CATERING, CONTACT US), and a page number '09'. The main content area is a blue rectangle with a yellow sidebar on the right. The main content contains a headline, three columns of text with illustrations of pastries, an email newsletter sign-up, a 'MOTHER'S DAY SPECIAL' section, and a 'NEWS' section. The sidebar is empty. The footer contains 'About this Page' and 'Credits' information.

LITTLE pea BAKERY

Search: 09

HOME ABOUT MENU LOCATION CATERING CONTACT US

You deserve a sweet little treat every now and then.

Pellenesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.

Candies

TRUFFLES, BARS, CARAMELS AND MORE

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Pastries

CRISSENTS, DANISHES, CREAM PUFFS, AND MORE

Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam, egestas semper. Aenean ultricies mi vitae est.

Desserts

CAKES, PIE, TARTS, GROOMING, AND MORE

Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

EMAIL NEWSLETTER

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Email

SWEET TREATS

MOTHER'S DAY SPECIAL

Pellenesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas.

NEWS

Quam ipsum dolor sit amet, consectetur adipiscing elit.

Quisque tincidunt mauris eu risus.

Ut nulla veni auctor dapibus neque.

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ILLUSTRATIONS:
Yummy by [Icon Eden](#)

Lay out main content div

```
#content-main {  
    float: left;  
    width: 100%;  
}
```

The screenshot shows a bakery website with a light green background. At the top left is the logo for 'LITTLE pea BAKERY'. To the right is a search bar and a navigation menu with links for HOME, ABOUT, MENU, LOCATION, CATERING, and CONTACT US. The main content area features a large heading: 'You deserve a sweet little treat every now and then.' Below this are two columns of placeholder text. The left column starts with 'Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.'

Below the text are three columns of product categories, each with an image and a list of items:

- Candies**: TRUFFLES, BARS, CARAMELS, AND MORE. Image: Three chocolate truffles.
- Pastries**: CROISSANTS, DANISHES, CREAM PUFFS, AND MORE. Image: A cream puff.
- Desserts**: CAKES, PIES, TARTS, COOKIES, AND MORE. Image: A slice of cake with cherries.

At the bottom of the main content area is an 'EMAIL NEWSLETTER' sign-up form with a 'Subscribe' button. Below that is a 'MOTHER'S DAY SPECIAL' section with a 'SWEET DEALS' icon and placeholder text. A 'NEWS' section follows with a link to 'Lorem ipsum dolor sit amet, consectetur adipiscing elit' and another link to 'Aliquam tincidunt mauris eu risus'. Below the news section is a link to 'Vestibulum auctor dapibus neque' and a note to 'Read more at our [blog](#) and [follow us on Twitter](#)'.

The footer contains two columns: 'About this Page' with a disclaimer about the site being fictional and created by Zoe Micklethwait, and 'Credits' listing 'WEB FONTS: Nadia Serif from Kernest' and 'ILLUSTRATIONS: Yummy by Icon Fiden'.

Float sidebar

```
#content-secondary {  
    float: right;  
    width: 250px;  
}
```

The screenshot shows a bakery website with a light blue background. At the top left is the logo for 'LITTLE pea BAKERY'. To the right is a search bar and a navigation menu with links for HOME, ABOUT, MENU, LOCATION, CATERING, and CONTACT US. The main content area features a large heading: 'You deserve a sweet little treat every now and then.' Below this are two columns of placeholder text. The right column is floated to the right of the left column. Below the text are three dessert categories: 'Candies' (truffles, bars, caramels), 'Pastries' (croissants, danishes, cream puffs), and 'Desserts' (cakes, pies, tarts, cookies). Each category has a small image and a list of items. At the bottom right, there is an 'EMAIL NEWSLETTER' sign-up form and a 'MOTHER'S DAY SPECIAL' announcement. A 'NEWS' section at the bottom left contains placeholder text and links. The footer includes 'About this Page' information and 'Credits' for fonts and illustrations.

A positive right margin

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante. Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est.

Donec eu libero sit amet quam egestas semper. Aenean ultricies mi vitae est. Mauris placerat eleifend leo. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

EMAIL NEWSLETTER

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MOTHER'S DAY SPECIAL

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NEWS

[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)

[Aliquam tincidunt mauris eu risus](#)

[Vestibulum auctor dapibus neque](#)

A white arrow pointing to the left, with the text "150px" inside it. The arrow is positioned to the right of the newsletter sign-up box, indicating the width of the right margin.

A negative right margin

Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Vestibulum tortor quam, feugiat vitae, ultricies eget, tempor sit amet, ante.

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EMAIL NEWSLETTER

Sign up to get [exclusive offers](#), [special deals](#), and [more](#).

Email:

subscribe

-150px



MOTHER'S DAY SPECIAL

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malesuada fames ac turpis egestas.

NEWS

[Lorem ipsum dolor sit amet, consectetur adipiscing elit](#)

[Aliquam tincidunt mauris eu risus](#)

[Vestibulum auctor dapibus neque](#)

Add negative right margin matching wrapper's right padding

```
#content-secondary {  
    float: right;  
    width: 250px;  
    margin-right: -290px;  
}
```

Success!

You deserve a sweet little treat every now and then.

Pellentesque habitant morbi tristique senectus et netus et

Quisque sit amet est et sapien ullamcorper pharetra. Vestibulum

EMAIL NEWSLETTER

Sign up to get monthly recipes, exclusive offers and more.

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subscribe

SWEET DEALS

MOTHER'S DAY SPECIAL

Pellen tesque habitant

You deserve a sweet little treat every now and then.

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sit amet est et sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.

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To make sidebar show in IE 6

```
#content-wrapper {  
    zoom: 1;  
}  
#content-main,  
#content-secondary {  
    display: inline;  
}
```


3-column hybrid layout

- Nest one 2-column layout inside another
- Components of each layout:
 1. **Wrapper** with padding on one side
 2. **Fixed-width sidebar**
 - Same width as padding (or smaller)
 - Floated same direction as padding
 - Negative margin matching padding on same side
 3. **Fluid column**
 - Floated opposite direction
 - Width 100%



fluid layout



media queries

feed different styles based on
viewport size

Choosing default styles

- Start "**mobile**," layer on wider styles?
- Start "**desktop**," layer on narrower styles?
- Start **somewhere in between**, layer on both?
- Learn full pros/cons:
www.zomigi.com/blog/essential-considerations-crafting-quality-media-queries

Starting in the middle

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About this Page

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Credits

WEB FONTS:
Nadia Serif from [Kernest](#)
ILLUSTRATIONS:
Yummy by [Icon Eden](#)

Wide-screen media query

```
/*all the other styles up here*/
```

```
@media screen and (min-width: 1200px) {  
    /*styles for larger screens in here*/  
}
```


Add third column

```
@media screen and (min-width: 1200px) {  
    #nav-main {  
        position: fixed;  
        top: 136px;  
        width: 13%;  
        margin: 0;  
    }  
    #content-main {  
        width: 58%;  
        margin-left: 18%;  
    }  
    #content-secondary { width: 20%; }  
}
```

Style nav as vertical menu

```
@media screen and (min-width: 1200px) {  
    ...  
    #nav-main li {  
        float: none;  
        margin: 0;  
    }  
    #nav-main a {  
        -moz-border-radius: 0;  
        -webkit-border-radius: 0;  
        border-radius: 0;  
    }  
}
```


Wide-screen design



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sapien ullamcorper pharetra. Vestibulum erat wisi, condimentum sed, commodo vitae, ornare sit amet, wisi. Aenean fermentum, elit eget tincidunt condimentum, eros ipsum rutrum orci, sagittis tempus lacus enim ac dui. Donec non enim in turpis pulvinar facilisis. Ut felis.



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Nadia Serif from [Kernest](#)

ILLUSTRATIONS:

Yummy by [Icon Eden](#)

Small-screen media query

```
/*all the other styles up here*/
```

```
@media screen and (max-width: 760px) {  
    /*styles for smaller screens in here*/  
}
```

Things to fix

*too few words per line,
so make all one column*

*each too narrow,
so stack instead and
put pic on left*

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Narrow- screen design




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Desserts

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Donec eu libero sit amet quam egestas

Mobile media query

```
/*all the other styles up here*/
```

```
@media screen and (max-width: 550px) {  
    /*styles for tiny screens in here*/  
}
```

Non-overlapping version

```
@media screen and (min-width: 551px) and  
(max-width: 760px) {  
    /*styles for small screens in here*/  
}  
  
@media screen and (max-width: 550px) {  
    /*styles for tiny screens in here*/  
}
```

Changing to single column

```
@media screen and (max-width: 550px) {  
    #content-main, #content-secondary,  
    #about, #credits {  
        float: none;  
        width: 100%;  
    }  
}
```


Changing feature images

```
@media screen and (max-width: 550px) {  
    ...  
    .feature { padding-left: 70px; }  
    #feature-candy {  
        background-image: url(icon_candy_64.png);  
    }  
    #feature-pastry {  
        background-image: url(icon_pastry_64.png);  
    }  
    #feature-dessert {  
        background-image: url(icon_dessert_64.png);  
    }  
}
```

Mobile design



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Viewport meta tag

Forces mobile devices to scale viewport to actual device width

```
<meta name="viewport"  
      content="width=device-width" >
```

Zoom problem in iOS

- The **device-width** on iOS devices always matches **portrait width**
- This means design **doesn't reflow** when you switch to landscape, but instead just **zooms**

Fixing (and adding) zoom issues

- Option 1: add **maximum-scale=1**

- But disables user scaling

```
<meta name="viewport"  
      content="width=device-width, maximum-scale=1">
```

- Option 2: add **initial-scale=1**

- Allows user scaling

- But triggers over-zoom/crop bug when changing from portrait to landscape

```
<meta name="viewport"  
      content="width=device-width, initial-scale=1">
```


The best way to fix zoom issues

- Option 3: add `initial-scale=1` plus script to fix over-zoom bug
 - See http://filamentgroup.com/lab/a_fix_for_the_ios_orientationchange_zoom_bug/

```
<head>
  ...
  <meta name="viewport"
        content="width=device-width, initial-scale=1">
  <script src="ios-orientationchange-fix.js">
  ...
</head>
```

*conditional
comments*  *JavaScript*

to deal with IE 8 and earlier

Conditional comments

- Split styles into **separate sheets** and feed applicable sheet to IE based on whether it's IE on desktop or mobile
- Approach varies based on which set of styles are your default

Conditional comment when desktop styles are default

Feed IE Mobile 7 media query sheet:

```
<link rel="stylesheet" href="global.css" media="all">
```

```
<link rel="stylesheet" href="mobile.css" media="all  
and (max-width: 700px)">
```

```
<!--[if IEMobile 7]>
```

```
<link rel="stylesheet" href="mobile.css" media="all">
```

```
<![endif]-->
```

Source: <http://blogs.msdn.com/b/iemobile/archive/2010/12/08/targeting-mobile-optimized-css-at-windows-phone-7.aspx>

Conditional comment when mobile styles are default

Feed older IE media query sheet, hide from IE Mobile 7:

```
<link rel="stylesheet" href="global.css" media="all">
```

```
<link rel="stylesheet" href="desktop.css" media="all  
and (min-width: 700px)">
```

```
<!--[if (lt IE 9)&(!IEMobile 7)]>
```

```
<link rel="stylesheet" href="desktop.css" media="all">
```

```
<![endif]-->
```

Source: <http://adactio.com/journal/4494/>

Pre-fab JavaScript for non-supporting browsers

- Simply add one of these scripts:
 - Respond: <https://github.com/scottjehl/Respond>
 - css3-mediaqueries.js:
<http://code.google.com/p/css3-mediaqueries-js/>
- Avoid extra HTTP request for non-old-IE browsers using conditional comments:

```
<!--[if (lt IE 9)&(!IEMobile 7)]>  
<script src="respond.min.js"></script>  
<![endif]-->
```

View it live

<http://stunningcss3.com/code/bakery/>



Learn more

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<http://zomigi.com/blog/responsive-layouts-presentation>

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