# I360 Web Design

## Challenge Day : Day #1

*Box Model, Typography, Design Principles, Images*

Additional useful techniques:

# CSS vars / CSS functions

Won't validate, but ok to use

# CSS functions

Functions in CSS return a value that can then be used directly in your CSS.

Perhaps the best use at the moment is to use them to create variables within your CSS and to use them to calculate dimensions to improve how your responsive web design works.

- **calc()**
- **var()**

# CSS calc()

Gives us the ability to do math in CSS to calculate a length, frequency, angle, number, time, integer, etc…

- Uses addition **+**, subtraction **-**, multiplication **\***, or division **/**

*Example:* **width: calc(100% - 30px);**

https://caniuse.com/#feat=calc

https://developer.mozilla.org/en-US/docs/Web/CSS/calc

# Advantage of calc()

One advantage is that you can mix units when making a calculation, something that can not be done in SASS or SCSS. Because calc() can help us calculate box sizes or gutter sizes, it's great for setting up a grid system.

**.thing {**
    **width: 90%;   /* fallback if needed */**
    **width: calc(100% - 3em);**
**}**

https://css-tricks.com/a-couple-of-use-cases-for-calc/

# Advantages of calc()

Another advantage is that if we DO set up our own grid system, our math will be easier to understand.

```
.column-3-7 {
    width: 42.8571%;
}
```

```
.column-3-7 {
        width: calc(100% / 7 * 3);
}
```

Operators like + and - have to surrounded by whitespace, and it is suggested that you put space around * and / for consistency. Uses PEMDAS ordering. And nesting calc() is ok.

https://developer.mozilla.org/en-US/docs/Web/CSS/calc

# CSS custom properties (variables)

Similar to variables in programming, but quirky. First we declare the custom field, then we can use it.

```css
:root {
    --main-bg-color: #880000;
    --alt-text-color: #222;
    --bkg-img: url(../images/kitten.jpg);
    --center-margin: 0 auto;
}
```

```css
h2 {
    color: var(--alt-text-color);
}
```

https://caniuse.com/#feat=css-variables
https://developer.mozilla.org/en-US/docs/Web/CSS/Using_CSS_custom_properties

# Additional Technique: CSS Variables

**Custom CSS Properties**

**:root {**

   **--main-bg-color: #e6cea7;**

**}**


/* General */

body, html {

   background-color: **var(--main-bg-color);**

   …

}


https://developer.mozilla.org/en-US/docs/Web/CSS/Using_CSS_custom_properties

We'd like you to try this technique in Challenge #1 and have provided the set up within the starter code

Make sure you watch
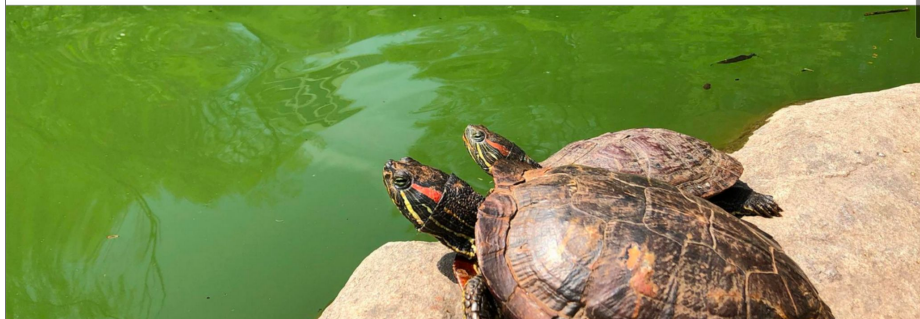09: HTML5 & Block Design
before proceeding

## GOAL: Style an article

- **Does include pseudo elements and position property**
  -- some of it added -- we just want you to see it used

- However the largest focus is on **box model CSS**
  - Pay attention to **color**, **typography** and the **principles of design** in order to mimic the completed design in your CSS

- *Included in starter:* the HTML and some CSS
  (detailed directions are in the CSS comments)

# Style an article

Do the best you can to recreate this article design from National Geographic

- Some style choices have been made for you -- *you don't need to work with the HTML unless you want to make a different choice than I did*

- **Screenshots** of finished version included

- Original article (we're going for a similar but not exactly the same look):
  *https://www.nationalgeographic.com/animals/2020/02/red-eared-sliders-new-york-invasive/*



NATIONAL GEOGRAPHIC

Two red-eared sliders — likely former pets — bask on the stones lining Morningside Pond in Manhattan's Upper West Side.

PHOTOGRAPH BY CAROLINE HOPKINS

ANIMALS | WILD CITIES

## New York City has a turtle problem

Abandoned pets are wreaking havoc on city parks.

BY CAROLINE HOPKINS

PUBLISHED FEBRUARY 21, 2020

NEW YORK CITY — Bright green and viscous, Morningside Pond looks like a vat of unappealing pea soup. Styrofoam cups and plastic bags cling to the pond's edge, bound in place by bubbles of green foam. This is, perhaps, what's to be expected of an artificial pond in the center of a New York City park.

Still, there is life here. A stream flows over the exposed bedrock opposite the pond's benches, and a few weeping willows bend toward the shore. And then there's the row of nearly a hundred turtles lined up along the pond's edge, glistening in the springtime sun.

These are red-eared sliders, the most popular turtle in the American pet trade. Native to Mississippi River and Gulf of Mexico, they're bred by turtle farmers on
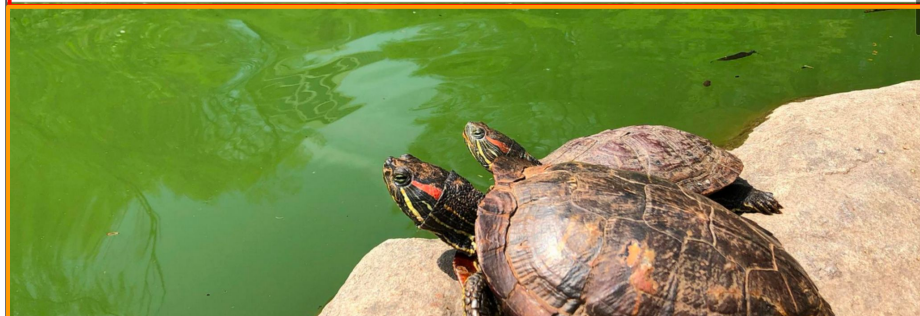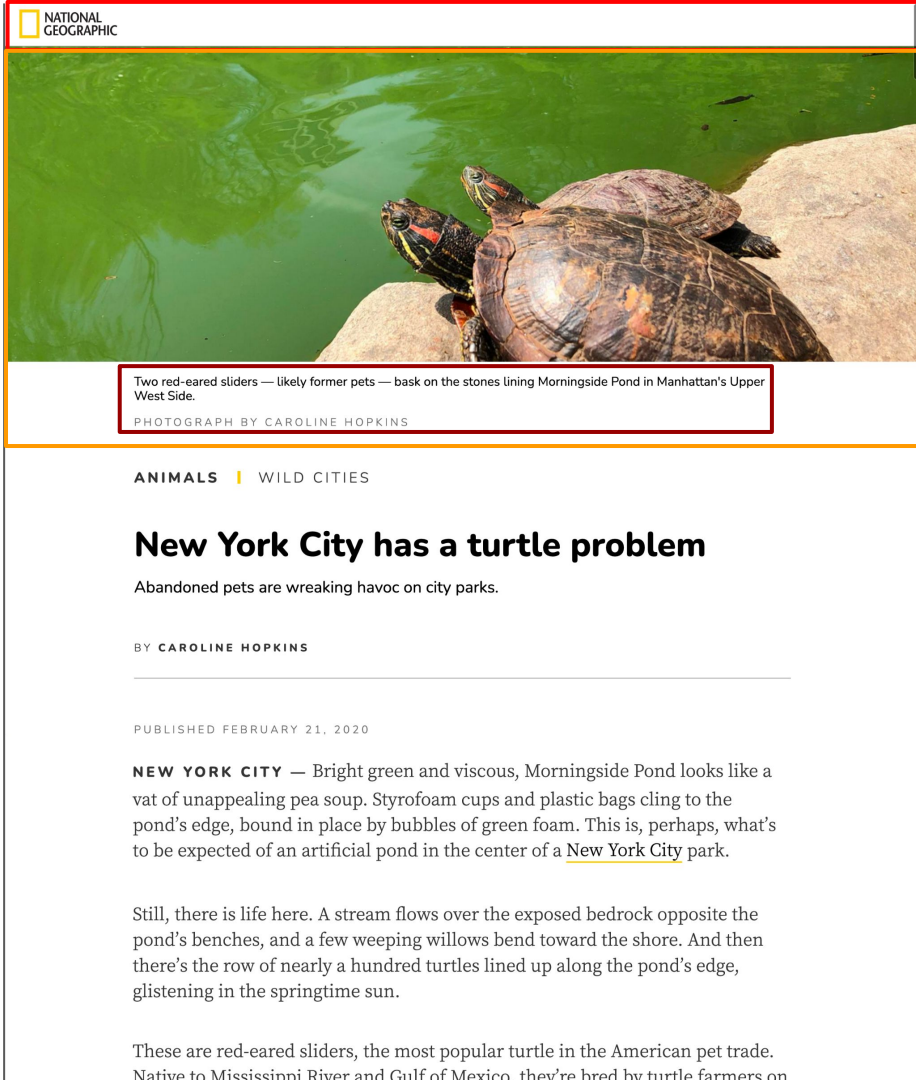
## STRUCTURE

### nav

- Make fixed or sticky
- Set coordinates (at least 'top')
- Set z-index
- White background
- Light grey border on bottom
- Adjust padding
- SVGs require setting width and height - this one is 109px wide by 32px tall

### feature

- Feature image:
  - width is 100%
  - Background image
  - Height of 350px
- Figcaption:
  - Requires setting a 730px width
  - Centered on the screen
  - Adjust margin to get the spacing right

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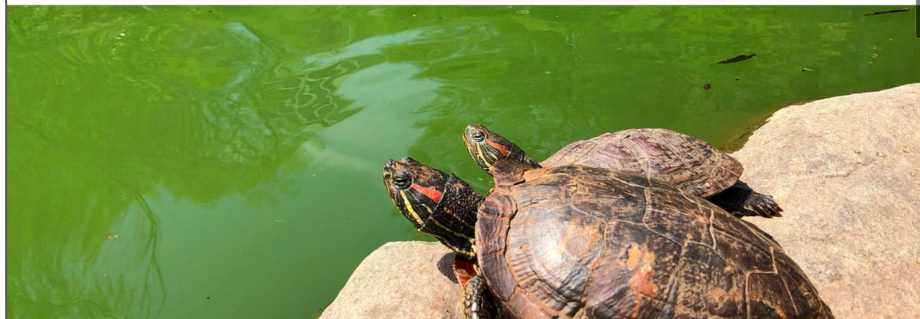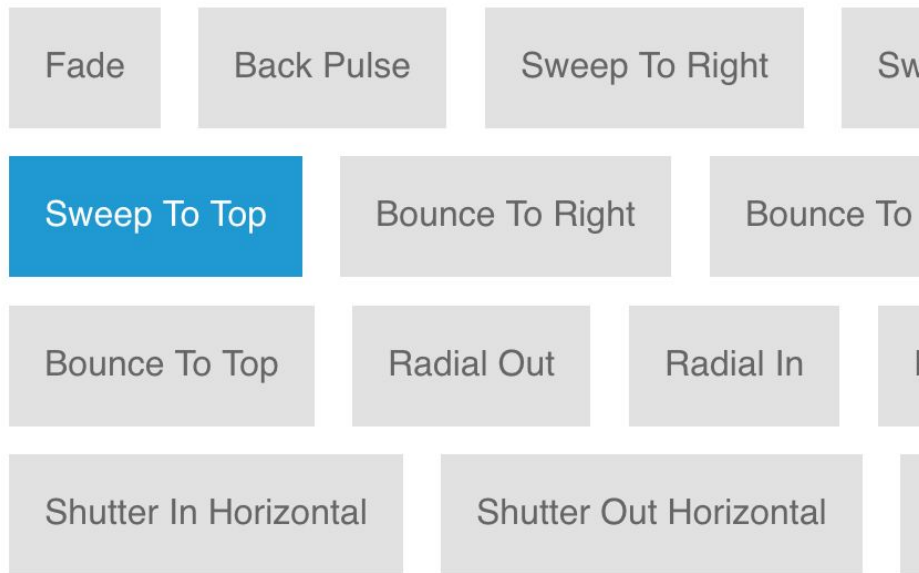
# STRUCTURE

## main
- 730px wide
  (set width for now - we will learn to handle flexible widths and layouts starting in the next unit)
- Center on screen

## header
- Border on bottom
- Adjust margin

## article
- Adjust margin



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# Hover.css

- Download resource
  -- look for file 'hover.css'

  - EITHER we include this resource then reference the classes we need
  - OR we just take the classes we need and insert into our code, then put a link referencing where we got that code snippet from

- For this exercise,
  we'll use *Sweep To Top*

## Background Transitions

| Fade | Back Pulse | Sweep To Right | Sw |
| Sweep To Top | Bounce To Right | Bounce To |
| Bounce To Top | Radial Out | Radial In |
| Shutter In Horizontal | Shutter Out Horizontal |

TO COMPLETE THE CHALLENGE:

1. **Begin with the** ==starter file==
2. **Style the article as shown** (work in the CSS)
   a. See video for a demo of the finished site

3. **ZIP your lab folder before submitting**
   a. Don't forget to use the naming convention, e.g. *Lee-Erika-Lab5-Challenge1.zip*