

Lab: Flexbox Deep Dive

Learning Objectives

By the end of this lab, students will:

- Understand how Flexbox aligns, distributes, and wraps items.
- Use justify-content, align-items, and flex-wrap effectively.
- Control item size and growth with flex shorthand.
- Reorder items and explore responsiveness.

Setup

Students will work in a single HTML file and **experiment by editing CSS values**.

The page has 4 interactive Flexbox sections, each focusing on one concept.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Flexbox Deep Dive</title>

  <style>
    body {
      font-family: Arial, sans-serif;
      margin: 0;
      padding: 20px;
      background: #ecf0f1;
      color: #2c3e50;
    }

    h1, h2 {
      text-align: center;
      color: #2c3e50;
    }

    section {
      background: white;
      padding: 20px;
      border-radius: 8px;
      margin-bottom: 30px;
      box-shadow: 0 2px 5px rgba(0,0,0,0.1);
    }

    /* Flex container base style */
    .container {
      display: flex;
      background: #dfe6e9;
      padding: 10px;
      border-radius: 6px;
      min-height: 120px;
    }

    .item {
      background: #0984e3;
      color: white;
      padding: 20px;
```

```

        text-align: center;
        border-radius: 4px;
        flex: 0 1 100px; /* default width 100px */
        font-weight: bold;
    }
</style>
</head>
<body>

    <h1>🔗 Flexbox Deep Dive Lab</h1>

    <!-- 1 Justify Content -->
    <section>
        <h2>1. Justify Content</h2>
        <p>
            Try changing <code>justify-content</code> to:
            <strong>flex-start</strong> | <strong>center</strong> | <strong>space-
between</strong> | <strong>space-around</strong> | <strong>space-evenly</strong>
        </p>

        <div class="container" style="justify-content: space-around;">
            <div class="item">1</div>
            <div class="item">2</div>
            <div class="item">3</div>
        </div>
    </section>

    <!-- 2 Align Items -->
    <section>
        <h2>2. Align Items</h2>
        <p>
            Try changing <code>align-items</code> to:
            <strong>flex-start</strong> | <strong>center</strong> | <strong>flex-
end</strong> | <strong>stretch</strong>
        </p>

        <div class="container" style="align-items: flex-end; height: 200px;">
            <div class="item" style="height: 50px;">A</div>
            <div class="item" style="height: 100px;">B</div>
            <div class="item" style="height: 150px;">C</div>
        </div>
    </section>

    <!-- 3 Flex Grow, Shrink, Basis -->
    <section>
        <h2>3. Flex Grow, Shrink, and Basis</h2>
        <p>
            Each item uses <code>flex: grow shrink basis</code>.
            Try <code>flex: 1</code> or <code>flex: 2</code> to see how they expand.
        </p>

        <div class="container">
            <div class="item" style="flex: 1;">1</div>
            <div class="item" style="flex: 2;">2</div>
            <div class="item" style="flex: 1;">3</div>
        </div>
    </section>

    <!-- 4 Flex Wrap and Order -->
    <section>
        <h2>4. Flex Wrap and Order</h2>
        <p>

```

Try resizing the browser. The container uses `flex-wrap: wrap`. One item has `order: -1`, moving it to the start.

```
<div class="container" style="flex-wrap: wrap; gap: 10px;">
  <div class="item" style="order: -1;">Moved First</div>
  <div class="item">2</div>
  <div class="item">3</div>
  <div class="item">4</div>
  <div class="item">5</div>
  <div class="item">6</div>
</div>
</section>
```

```
</body>
```

```
</html>
```