

# Step 8: CSS Animations and Transitions

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## Objective:

Students will learn how to add animations and transitions to elements on a web page using CSS.

## Key Concepts:

CSS Transitions: Gradual change of an element's properties over a specified duration.

CSS Animations: Keyframes-based animations for more complex effects.

## Teacher's Role:

1. Explain the difference between transitions and animations in CSS.
2. Demonstrate how to apply basic transitions to elements such as buttons, and use keyframes for more complex animations.

## Activity 1: Button Hover Transition

Goal: Students will create a button that changes color smoothly when hovered.

## Steps:

1. Create a button in HTML:
  - Explain how to style a button with CSS and add a hover effect using transition.
2. Apply Transition:
  - Add a transition that changes the background color smoothly over a period of time.

## Student Activity:

Create a new file `button_transition.html` and write the following code:

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

```
button {
  background-color: #4CAF50;
  color: white;
  padding: 15px 32px;
  font-size: 16px;
  border: none;
  transition: background-color 0.5s;
}
button:hover {
  background-color: #45a049;
}
</style>
</head>
<body>
  <button>Hover over me</button>
</body>
</html>
```

- Run it using Live Server and hover over the button to see the color transition.

### **Learning Outcome:**

Students will understand how to apply smooth transitions to web elements using CSS.