Welcome to today's lesson on JavaScript: DOM and Event Handling.

Lesson Objectives:

1. Understand the Document Object Model (DOM)
2. Learn how to access and manipulate DOM elements
3. Understand event handling and event listeners
4. Learn how to handle common events (click, submit, keyup, etc.)

DOM (Document Object Model)

The DOM represents the structure of an HTML document as a tree-like data structure.

DOM Methods:

1. document.getElementById()
2. document.getElementsByClassName()
3. document.getElementsByTagName()
4. document.querySelector()
5. document.querySelectorAll()

Example:

```
// Get an element by ID
const header = document.getElementById('header');

// Get elements by class name
const paragraphs = document.getElementsByClassName('paragraph');

// Get elements by tag name
const links = document.getElementsByTagName('a');
```

DOM Properties:

1. innerHTML
2. outerHTML
3. textContent
4. style
5. className

Example:

```
// Change the text content of an element
header.textContent = 'New Header Text';

// Add a CSS class to an element
header.className = 'header-active';
```

Event Handling

Event handling allows you to respond to user interactions (events) on your web page.

Event Types:

1. Mouse events (click, dblclick, mouseover, etc.)
2. Keyboard events (keyup, keydown, keypress, etc.)
3. Form events (submit, change, focus, etc.)
4. Document events (load, unload, etc.)

Event Listeners:

1. addEventListener()
2. removeEventListener()

Example:

```
// Add an event listener to a button
const button = document.getElementById('button');

button.addEventListener('click', function() {
  console.log('Button clicked!');
});
```

Common Events:

1. click
2. submit
3. keyup
4. change
5. focus

Example:

```
// Handle form submission
const form = document.getElementById('form');

form.addEventListener('submit', function(event) {
  event.preventDefault();
  console.log('Form submitted!');
});
```

Practice Time!

Try the following exercises:

1. Get an element by ID and change its text content.
2. Add an event listener to a button and log a message on click.
3. Handle form submission and prevent default behavior.

Homework:

1. Create a simple to-do list app using DOM manipulation and event handling.
2. Implement event delegation to handle multiple elements.