

Activity Title: Number Guessing Game

Objective: You will create a simple number guessing game using **JavaScript**, introducing you to **loops (for)**, **conditions (if)**, and **functions (function)** in JavaScript.

Step 1: Setup the HTML

We will first **create the structure** of our webpage using HTML.

Instructions:

Create a new file and save it as `guess_game.html`.

Write this HTML in `guess_game.html`

1. Start with the basic structure

Every HTML document starts with this **basic structure**:

✓ Explanation:

2. Add a Heading and Instructions

Inside the `<body>` tag, add

3. Add a Button to Start the Game

Next, we need a button that starts the game when clicked.

✓ Explanation:

`<button>` → Creates a clickable **button**.

`onclick="startGame()"` → Runs the **startGame()** function (which we will create in JavaScript) when clicked.

4. Link the JavaScript File

At the end of the `<body>`, **link** the JavaScript file so our webpage can use it

✓ Explanation:

`<script src="script.js"></script>` → Loads an **external JavaScript file** named `script.js`.

✓ What Happens So Far?

1. The page **displays a heading and instructions**.
2. A **button labeled "Start Game"** is visible.

3. Clicking the button **runs a function** called `startGame()` (which we will write in JavaScript next).
4. The script file `script.js` is **connected**, but it's empty for now.

Guess the Number Game

Try to guess the number between 1 and 10. You have 3 attempts!

Start Game

Step 2: Writing the JavaScript

Now that our webpage is set up, we will **write JavaScript** to make the game work.

Instructions:

1. **Create a new file** and save it as `script.js`.
2. **Write the following JavaScript code step by step.**

Understanding JavaScript for this Activity

JavaScript makes webpages **interactive**.

We will use it to:

- **Generate a random number** for the user to guess.
- **Take user input** and compare it with the correct answer.
- **Use loops (for)** to limit the number of attempts.
- **Use conditions (if)** to check if the answer is correct.

Step 2.1: Create a Function to Start the Game

In `script.js`, write:

Explanation:

- `function startGame() {}` → Creates a **function** to run the game.
- `Math.random()` generates a random number between **1 and 10**.
- `maxAttempts = 3;` sets **how many guesses the user gets**.

Step 2.2: Ask the User for Their Guess (Using a Loop)

Inside the function, add:

✅ Explanation:

- The **loop (for)** repeats **3 times** for each guess attempt.
- `prompt()` asks the user for a guess.
- `Number(userGuess)`; converts the input into a **number** (since `prompt` returns text).

Step 2.3: Check If the Guess Is Correct (Using if)

Inside the loop, add:

✅ Explanation:

- **If the guess is correct**, show "Congratulations!" and **end the game** (`return;`).
- If the guess is **too high**, show "Too high!".
- If the guess is **too low**, show "Too low!".

Step 2.4: Show Game Over Message If User Fails

After the loop:

- If the user **runs out of attempts**, reveal the correct answer.
- **Step 3: Test the Game**
- ✅ **Open `guess_game.html` in a browser**
- ✅ **Click "Start Game"**
- ✅ **Enter guesses**
- ✅ **Check if correct messages appear**

Guess the Number Game

Try to guess the number between 1 and 10. You have 3 attempts.

localhost:44306 says
Attempt 1: Guess a number between 1 and 10

Guess the Number Game

Try to guess the number between 1 and 10. You have 5 attempts.

Start Game

localhost:44306 says

Too low! Try again.

OK