Setting up your environment:

Step 1: Install Visual Studio

1. **Download and Install Visual Studio 2022 community**:
   - Download Visual Studio from the [official website](#).
   - During installation, ensure you select the "Desktop development with C++" workload.

Step 2: Download OpenGL, GLFW, and GLEW

1. **OpenGL**: OpenGL comes bundled with your graphics driver, so you don't need to install it separately. Make sure your graphics drivers are up to date.
2. **Download GLFW**:
   - Visit the GLFW website.
   - Download the Windows 64-bit precompiled binaries.
3. **Download GLEW**:
   - Visit the GLEW website.
   - Download the Windows 32-bit and 64-bit binaries.

Step 3: Extract the Libraries

1. **Extract GLFW**:
   - Extract the downloaded GLFW zip file to a directory on your computer, e.g., `C:\GLFW`.
2. **Extract GLEW**:
   - Extract the downloaded GLEW zip file to a directory on your computer, e.g., `C:\GLEW`.

Step 4: Create a New Project in Visual Studio

1. **Open Visual Studio** and create a new project:
   - Go to `File > New > Project....`
   - Select `Console App` under `C++` templates and name your project `OpenGLIntro`.

Step 5: Configure the Project

1. **Add Include and Library Directories**:
   - Right-click on your project in the `Solution Explorer` and select `Properties`.
   - Under `Configuration Properties > VC++ Directories`:
     - Add the paths to the `include` directories of both GLFW and GLEW in `Include Directories`.
       - Example: `C:\GLFW\include, C:\GLEW\include`.

- Add the paths to the `lib` directories of both GLFW and GLEW in `Library Directories`.
  - Example: `C:\GLFW\lib-vc2019`, `C:\GLEW\lib\Release\x64`.
2. **Link Libraries**:
   - Under `Configuration Properties > Linker > Input`, add the following to `Additional Dependencies`:
     - `glew32.lib`
     - `glfw3.lib`
     - `opengl32.lib`

Step 6: Adding GLM to Your Project

1. **Download GLM**:
   - You can download GLM from its [GitHub repository](#).
2. **Include GLM in Your Project**:
   - Extract the GLM library and add the `glm` folder to your project's include directories.
   - In Visual Studio, right-click on your project, go to `Properties`, then `Configuration Properties > VC++ Directories`, and add the path to the `glm` folder in `Include Directories`.

Make sure to copy the proper **glew32**.dll to the folder where the .exe file for your project will be created. Usually the folder is named "Debug". If you get an error message about not finding the dll, the error message will contain the full path where you should place the missing dll.