# World Setup

- VRChat's Layers

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What are Layers?

In Unity, a game developer can determine a set of collision layers in order to allow/disallow things from colliding with each other at runtime. VRChat uses this to it's advantage with 14 additional Layers, which helps determine what Meshes, Objects, and functions should collide with and where.

Below, you will find the Collision Layers that VRChat uses as of December 7th, 2022.

Varneon made a similar article about this here with similar information. The difference is that I've added my own research based on my own discoveries.

| No | Name | Description | Known Visual Elements | Notes |
|---|---|---|---|---|
| 0 | Default | Default Layer. | - Avatar Pedestals | |
| 1 | TransparentFX | | | |
| 2 | IgnoreRaycast | | | |
| 4 | Water | | - Portals<br>- Mirrors | |
| 5 | UI | | | Interactive objects on this Layer cannot be interacted with until the Quick Menu is opened. |
| 8 | Interactive | | | |
| 9 | Player | Remote Players. | - Any and all Remote Players in the current instance. | |

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|---|---|---|---|---|
| 10 | PlayerLocal | The Local Player's Avatar Body seen in First-Person View. | - Local Player without a Head. | `VRCMirrorReflection` refuses to render this Layer anymore (because it makes you look headless?) |
| 11 | Environment | Static World Meshes. | | Shares the same Collision Matrix as the Default Layer. |
| 12 | UiMenu | User Interface Elements, Part 1. | - Nameplates | |
| 13 | Pickup | Default Pickup Layer. | | This Layer is automatically assigned to any GameObject with a `VRCPickup` Component attached to it. |
| 14 | PickupNoEnvironment | Secondary Pickup Layer. Does not collide with the World. | | Avoid using Gravity on Pickups in this Layer as it will never collide with the World whatsoever. |
| 15 | StereoLeft | Left Eye of the Local Player's VR Headset. | | |
| 16 | StereoRight | Right Eye of the Local Player's VR Headset. | | |

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|---|---|---|---|---|
| 17 | Walkthrough | GameObjects and Meshes that should never collide with Players. | | This Layer can prove useful for Tabletop Games that should never collide with Players whatsoever (e.g. Billiards). |
| 18 | MirrorReflection | Used for Objects that should only be visible in Mirrors rendered by the `VRCMirrorReflection` Script. | - Complete Local Player (that's you!) is shown in Mirrors. | Only Layer that is never rendered by the Main Camera (Local Player's sees the headless copy of themselves on Layer 10).<br><br>Colliders on this layer never block VRChat Raycasts. |
| 19 | reserved2 | User Interface Elements, Part 2. | - HUD.<br>- Quick Menu and Main Menu.<br>- Camera UI.<br>- Camera Lens.<br>- Tooltips. | This Layer is immune to all Post Processing Volumes! |
| 20 | reserved3 | Currently not used. Reserved for future use in VRChat. | | |
| 21 | reserved4 | Currently not used. Reserved for future use in VRChat. | | |