

Pickupables and Physics

<https://www.youtube.com/embed/dfjIVe0XXTU>

Now what about things that you want to pick up or throw? This, unsurprisingly, requires physics. Don't worry, you won't have to do any calculus, this only requires a simple understanding of a few components.

Create a small cube. On that cube, click add component, search for pickup, and click VRCPickup. You should now see that there are two components added, a rigidbody and VRCPickup.

A pickup in VRChat requires 4 components:

- Rigidbody: this calculates physics
- Collider: for collisions
- VRCPickup: so you can grab/use the object in VRChat
- VRC Object Sync (optional): so the object can be synced between players. Note that each synced object must have an owner, which is why pickupables look fine in your hand but look laggy if they were last held by another player

If you enable Is Kinematic, your object will only be able to be moved by a player interacting with it. It will not collide with other objects (though other objects will collide with it), and will not have physical forces applied to it. This is a popular setting for pillows.

Physics materials give objects more realistic physical properties. You can add them to the colliders of your surfaces and pickupables to make them more believable.

You can use multiple colliders for more accurate collision; for example, for my glass bottles, I start with a box collider, then shrink it on the X and Z axes. Then I add a capsule collider and shrink it on the Y axis until it aligns with the bottle. This allows the bottle to roll but also stand up if placed on its top or bottom. Note that you will only be able to grab the first collider that appears in the inspector.

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