

# Collision Detection

When you have 2 cars in a game, you expect they should collide. But in your game how can you make sure they do collide?! In Unity we can give an object the property of collision by adding a 'Collider'. Colliders are geometric shapes that represent the collision shape of an object. For example: a 2d car's collider is represented as a square, and a 3d car's collider is represented with a cube.

Even in fighting games a fighter is made up of many different colliders.

**Note: Only a collider can only collide with another collider! Both objects must have colliders on them for a collision to happen**

## How do we attach a collider in Unity

To attach a collider go to 'Add component' and look for colliders. There are lots of different types of colliders, 3D colliders and 2D colliders and they come in many shapes: Box, Circle, Polygon. Choose the collider that makes the most sense for your object. Once you have added a collider you can edit its fields to change the size and properties of your collider.

## What did you collide with?!

How do we know what your object collided with. The object could have collided with a car, with a spiketrail, with a bullet etc. Different things

can happen depending on what it collides with. In unity there are many ways to differentiate what you collided with.

One popular way is to 'Tag' an object, and check its tag when colliding with it. The tag an object has tells us what type of object it is.

**For example:** if the 'Tag' is player we know we collided with a player, and if 'Tag' says Bullet. We know we collided with a bullet.

To add a 'Tag' select your GameObject and in the top of the Inspector click the Tag dropdown to choose a 'Tag'. If your 'Tag' is not in the list choose the 'Add Tag' option.

**Note: For the use of premade scripts involving collision you will have to choose the right Tags to differentiate object types**