

# UseParentSpace for Spawners using Relative Position and Scale

This is a follow-on from [UseParentSpace for Relative Object Positioning and Scaling](#).

In the same way that child Objects can use the UseParentSpace property to operate within a Parent's relative position and scale... spawners can benefit from the same functionality.

## Setting up a new project

To help you work through this tutorial, first [create a new blank project using the init script](#).

## Objects and Spawners

In general when specifying what object to spawn, the object is given co-ordinates in world space like:

```
Position = (35, 100, 0.0)
```

With relative positioning, the object that is spawned will be positioned relative to the Parent Object's Size (The Parent Object is one that has a spawner attached).

That can be confusing. Let's view it as a tree:

- Main Object
  - Spawner connected
    - Object to Spawn

It is the Object to Spawn, that will use the UseParentSpace property.

But before we get there, let's set up a spawner in the usual way using world coordinates.

## Making it rain

Start by making a rain cloud that spawns raindrops. Here's a cloud for you to use:



Define a Cloud object in config:

```
[Cloud]
Spawner = RainSpawner
Pivot   = center
Graphic = @
Texture = cloud.png
Position = (0.0, -200.0, -0.1)
```

Then change the Object to Cloud in the create line in the code:

```
orxObject_CreateFromConfig("Cloud");
```

This will create a cloud object a little up from the centre of the screen. We haven't provided a spawner yet so it doesn't do anything. So define both the spawner and object to spawn with:

```
[RainSpawner]
Object          = RainDrop
TotalObject     = 0
ActiveObject    = 1000
WaveSize        = 5
WaveDelay       = 0.016 ~ 0.03
ObjectSpeed     = (0, 800)
Rotation        = 22.5
UseRelativeSpeed = true

[RainDrop]
Graphic         = @
Texture         = pixel
Size            = (1,20) ~ (1,40)
Alpha           = 0.3 ~ 0.8
Color           = (255,255,255)
Pivot           = top
AutoScroll      = both
DepthScale      = true
LifeTime        = 1.0
Smoothing       = true
Position        = (-50.0, 00.0, 0.0) ~ (90.0, 00.0, 0.5)
```

In the spawner config above, we're making RainSpawner spawn RainDrop objects, lots of them, in a fast down direction, but rotating the spawner by 22 degrees (plus using relative speed) to get a nice down-left direction for the rain.

For the RainDrop objects themselves, we vary their alpha transparency, stretched size and their starting position on screen between X = -50.0 to 90.0.

There is no image for the raindrops, we're just using a stretched pixel. That will do nicely.



## Relative Spawner Positioning

The last step is to convert the positioning to be relative to the Cloud's size. This means changing the Position property of the RainDrop and setting UseParentSpace to position:

```
[RainDrop]
Graphic      = @
Texture     = pixel
Scale       = (1,20) ~ (1,40)
Alpha       = 0.3 ~ 0.8
Color       = (255,255,255)
Pivot       = top
AutoScroll  = both
DepthScale  = true
LifeTime    = 1.0
Smoothing   = true
Rotation    = 22.5
Position    = (-0.3, 0.0, 0.0) ~ (0.45, 0.0, 0.5)
UseParentSpace = position
```

Because the pivot of the Cloud is centred, the coordinate range is (-0.5, -0.5) to (0.5, 0.5). I've

adjusted the X positions to between -0.3 and 0.45 to bring the positions in a little to work nicer with the cloud itself.

The result should be the same:



## Further information

1. [Ordered List ItemUseParentSpace for Relative Object Positioning and Scaling](#)
2. [Object Configuration](#)

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