

# Tilemaps!



# Que es?

Sistema de Unity que se usa para prototipar y diseñar niveles 2D de una manera más simple y rápida.



Para que?

# Niveles Rectangulares



# Niveles Isométricos



# Niveles Hexagonales



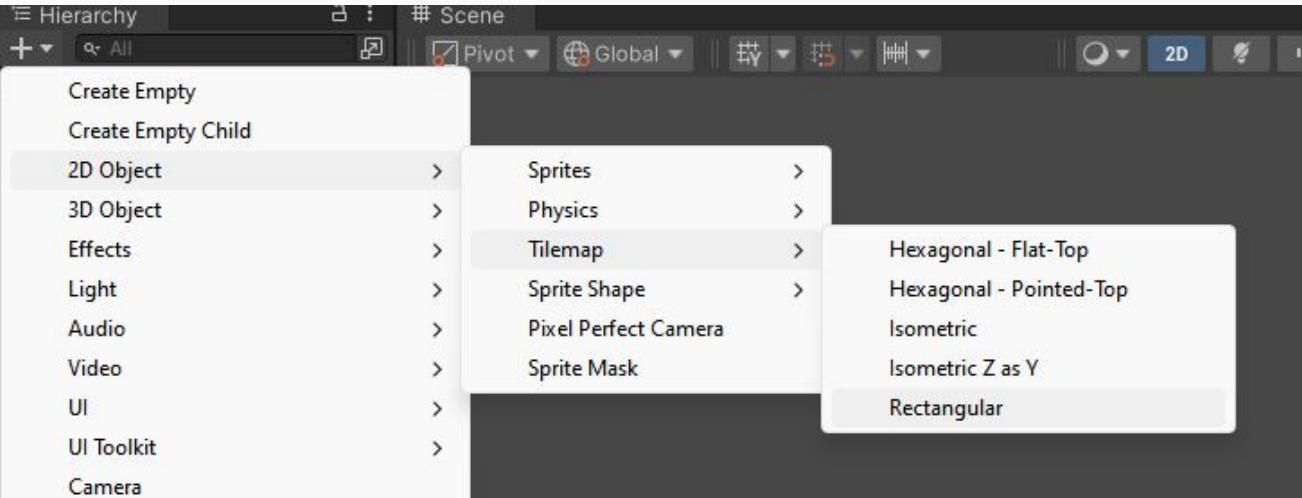
## Detección de Zonas



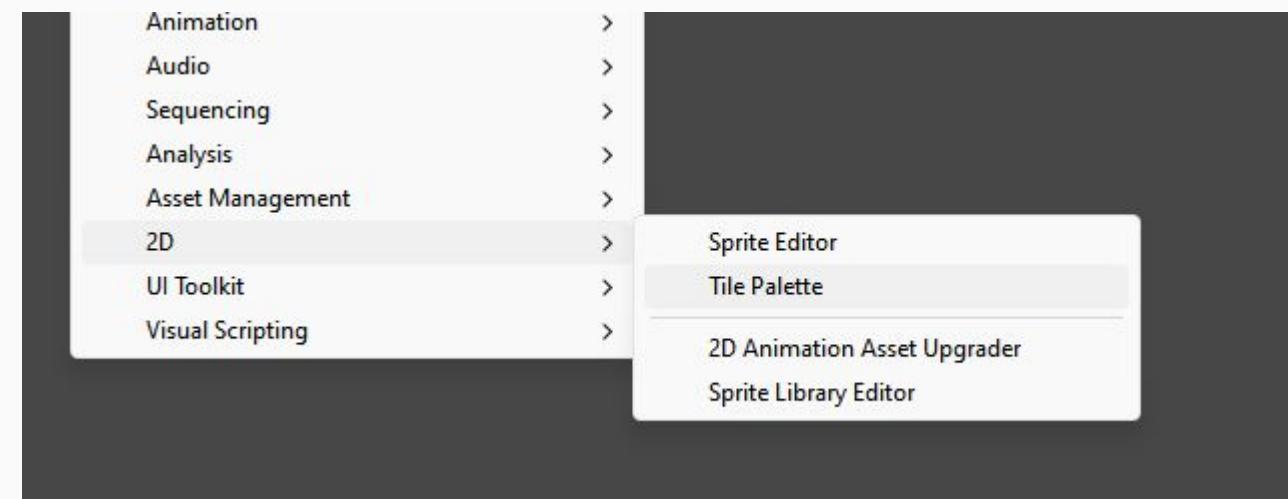
CYBORG  
IMMORTAL

# Como empezar con Tilemaps

[Saltar Explicación](#)



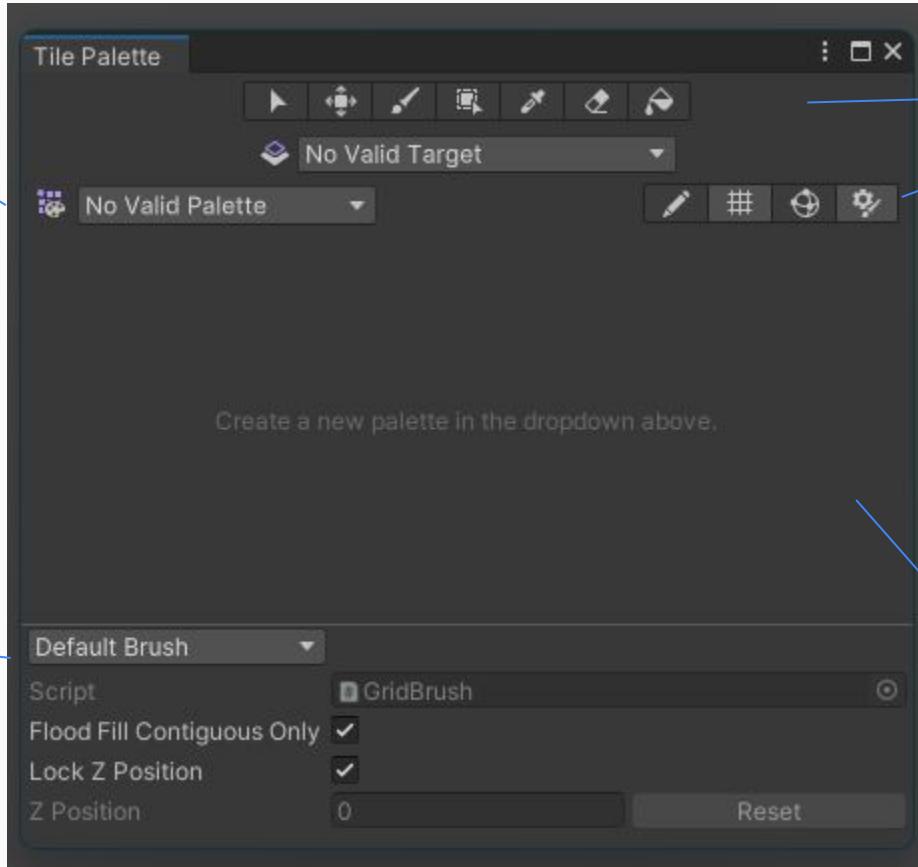
Primero se crea una Grid, en donde vamos a colocar nuestras tiles. Hay distintas opciones



Luego vamos a abrir la ventana de Tile Palette, en el menu de Window

# Esta es la ventana de Tile Palette

Palette actual.  
Aca se crean  
también



Opciones de  
pincel

Herramientas  
Opciones de  
visibilidad de  
la ventana

Área de trabajo.  
Aqui estarian las  
tiles

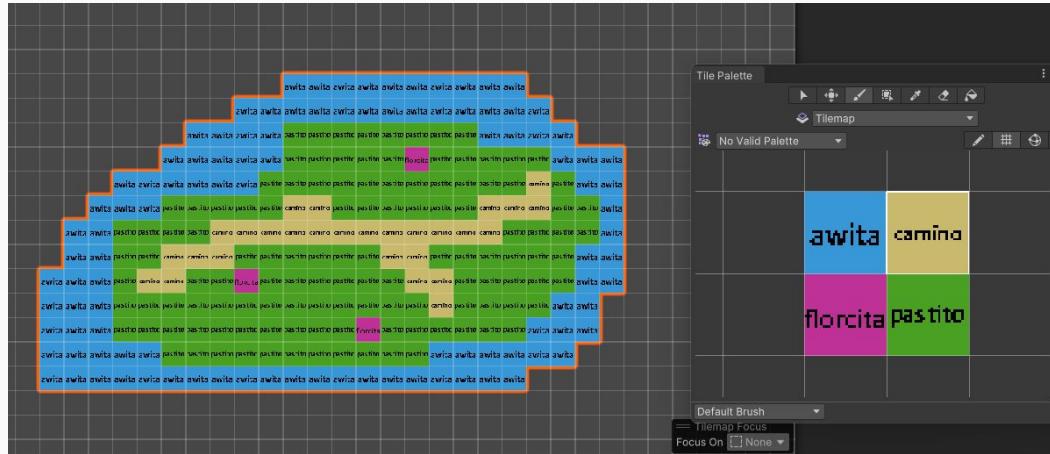
# Herramientas





Podemos usar nuestras tiles para pintar un nivel

Despues de agregar nuestras tiles y seleccionar donde guardarlas, la Palette se veria asi.



Como dibujar tu  
Tilemap?

# Que juego van a hacer?

Es importante definir cómo va a ser su juego, y de eso varia que enfoque va a tener su arte

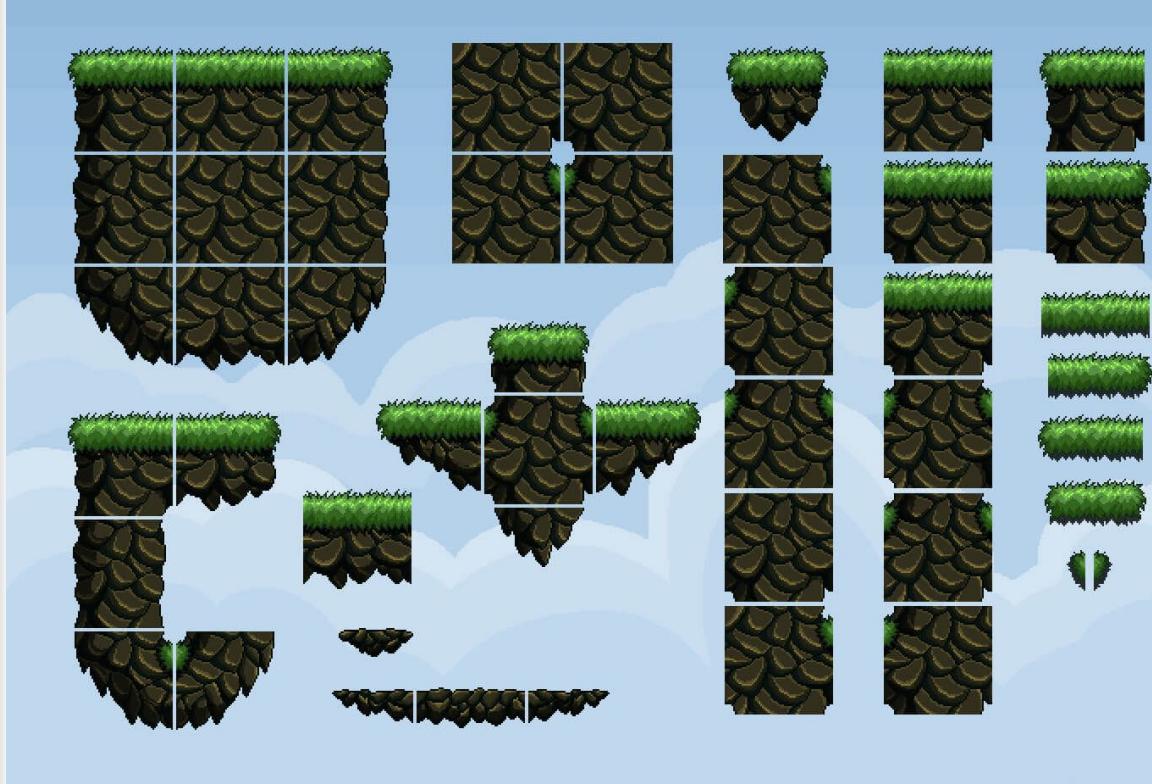


# REFERENCIAS!



# Reglas Generales

Para un Plataformero tiene que tomar en cuenta todos los ángulos y las uniones de las piezas, y dejar en claro que es caminable y que no



# Reglas Generales

Para un Top-Down tienen que dejar claro que es caminable y que no, y limitar las zonas de manera clara

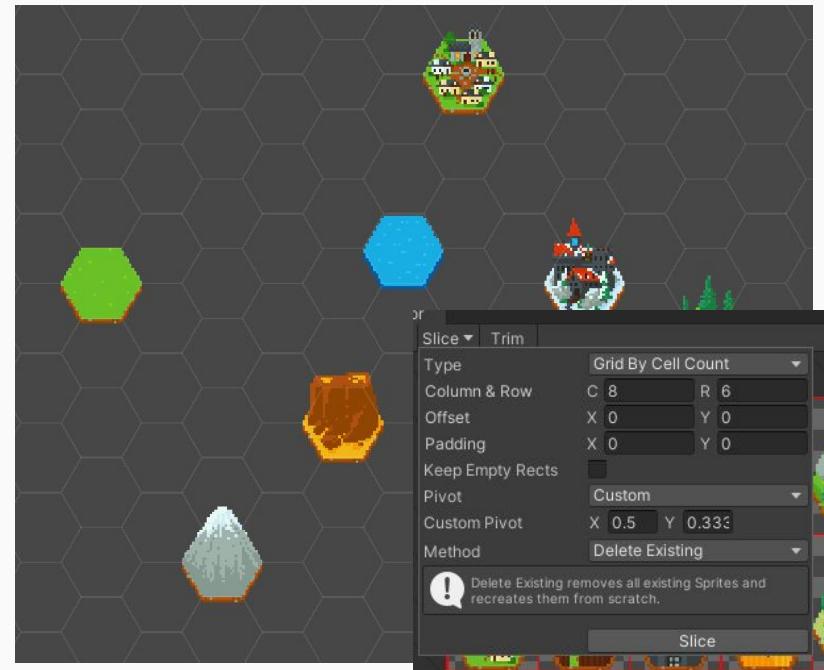
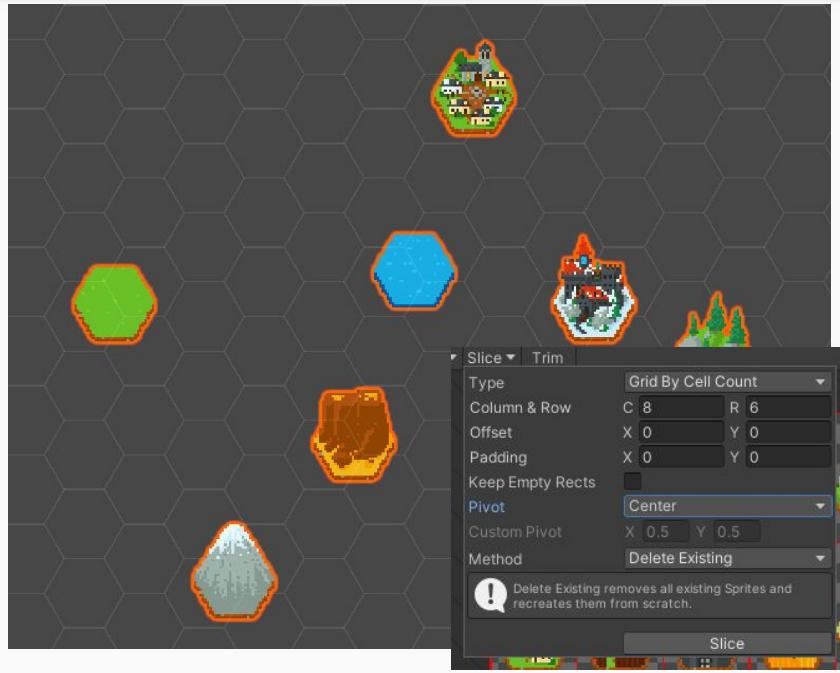


# Reglas Generales

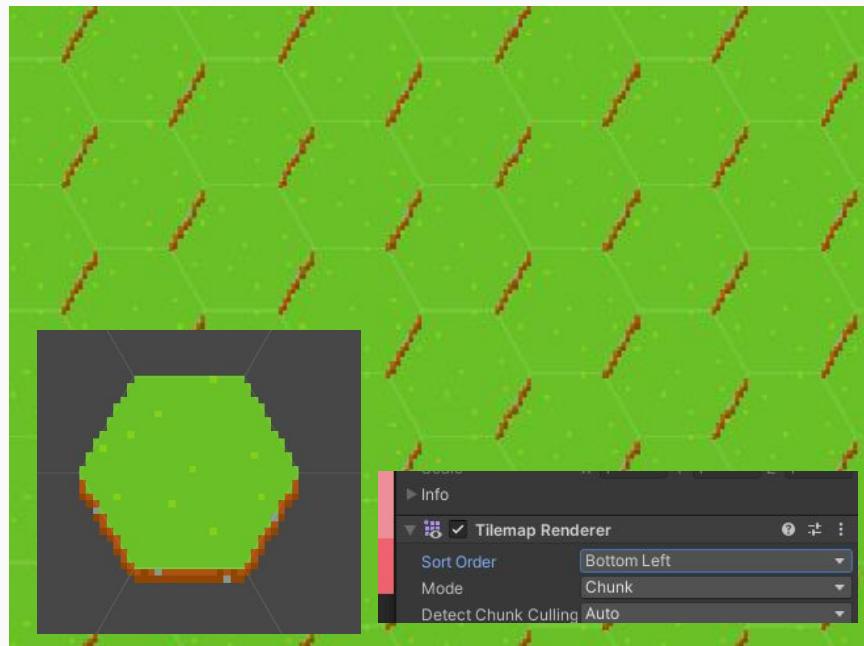
Tienen todas que respetar el area delimitada del hexagono. Pero dentro de esos limites, usar la altura para añadir detalle

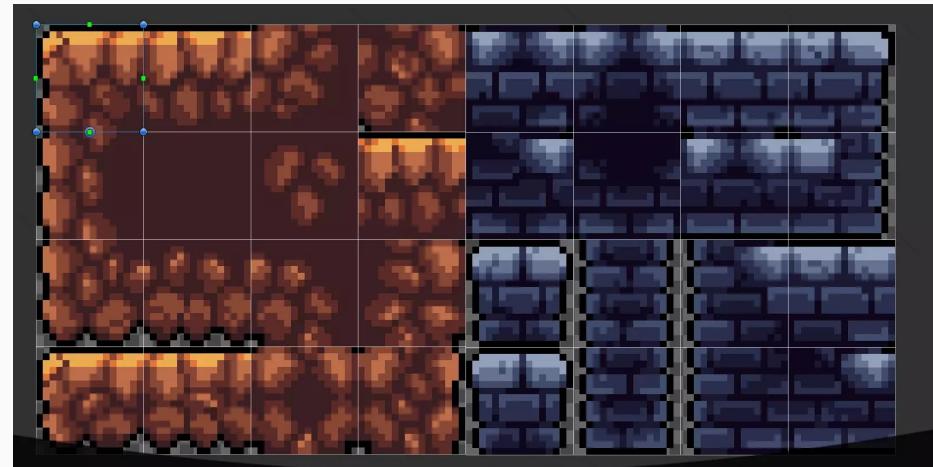


Ojo al poner el pivot! Si se lo coloca en el centro del sprite puede no ser exacto!

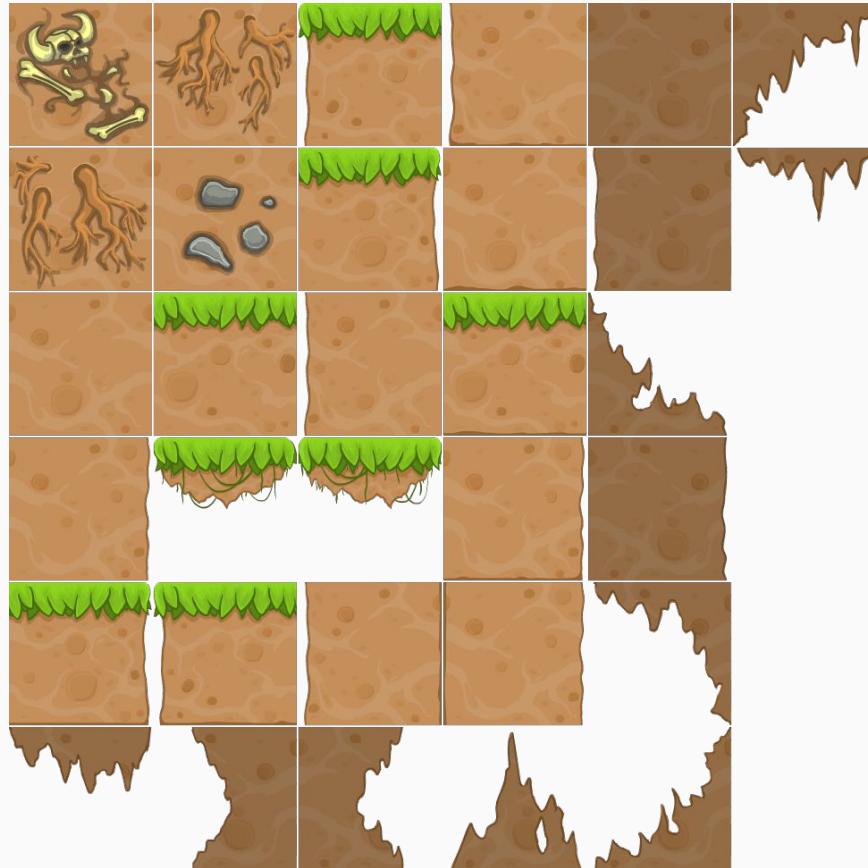


# Ojo con el orden y los bordes de las tiles!

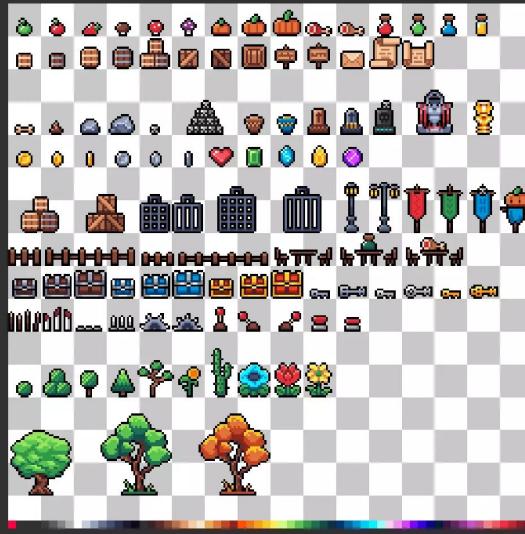




Tilemap básico para plataformero



Tilemap básico para platformero



No solo tienen que ser plataformas!



No tienen que ser pixel art!

# Situaciones y Soluciones

- Mismo fondo y distinta decoración
- Arte no interactuable
- Demasiadas tiles, mucho trabajo
- Tiles muy estáticas: Animación
- Tiles muy limitadas: Extended neighbours

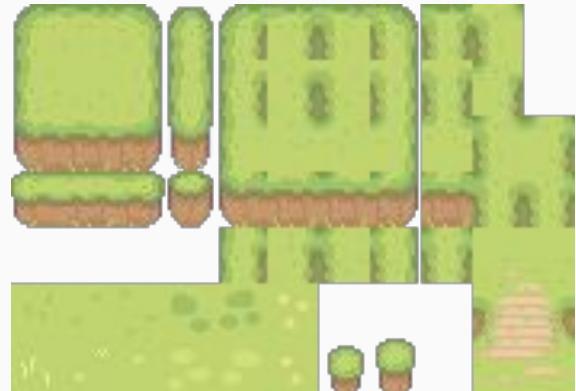
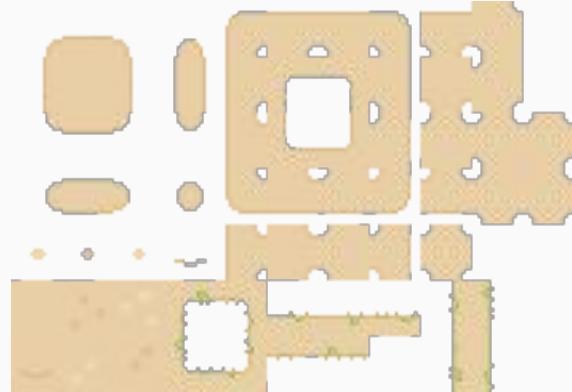
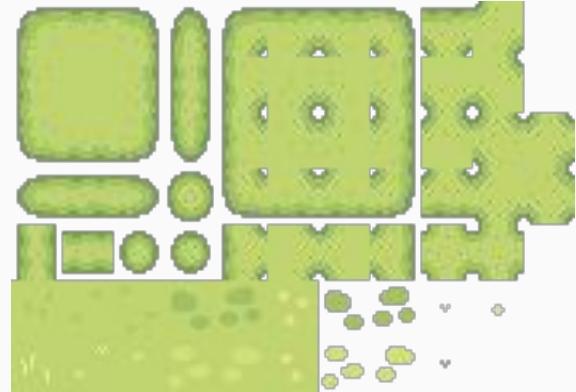
Mismo fondo,  
distinto decorado?



Mismo fondo,  
distinto decorado?

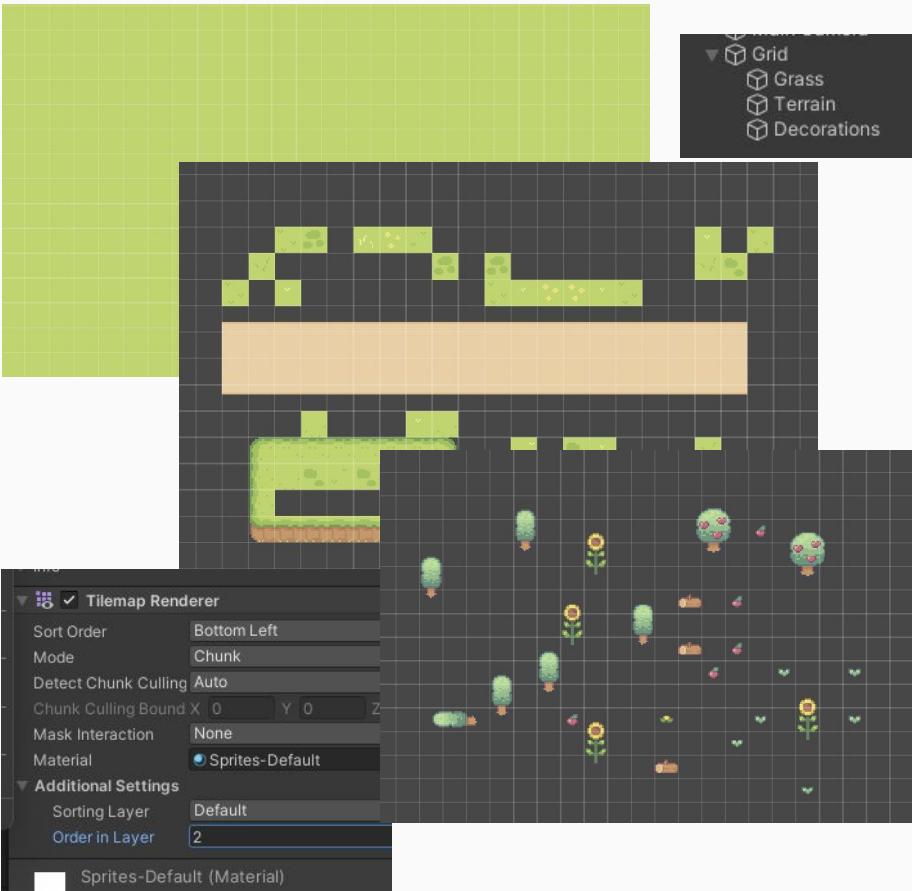
Arte modular!

En vez de repetir una imagen, se  
separan elementos y se usan distintos  
módulos más reusables



Cómo hacer Arte  
Modular?

# Usar capas!



Arte no  
Interactuable?



# Arte no Interactuable?

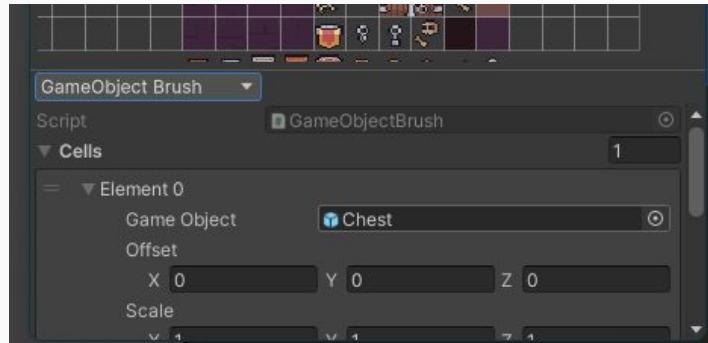
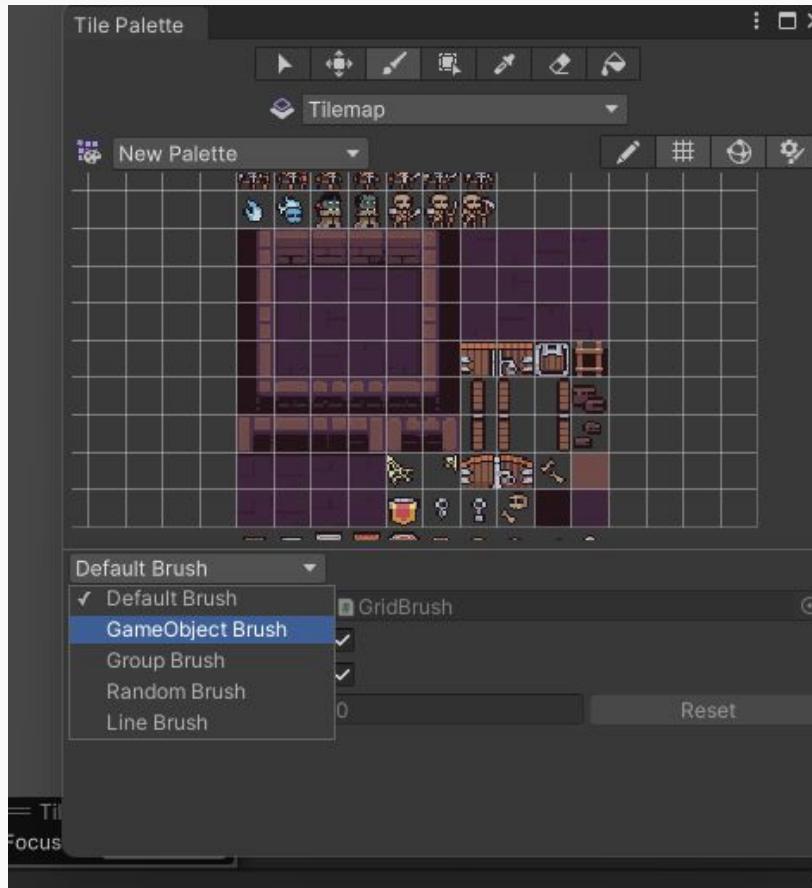
## Tiles de GameObjects!

En vez de usar una imagen, se colocan  
objetos interactuables!



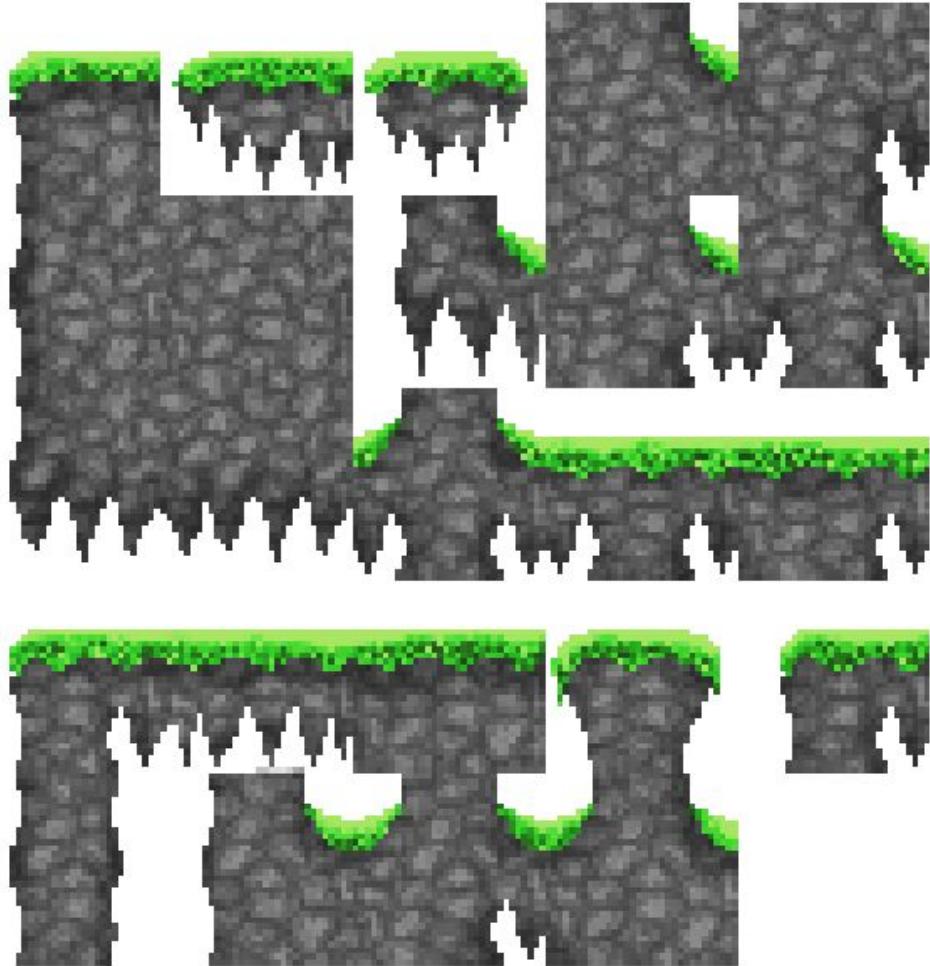
# Como crear Tiles con Objetos?

# Crear tu Prefab y asignarlo al pincel de GameObjects



Luego estos  
son childs  
del Tilemap!

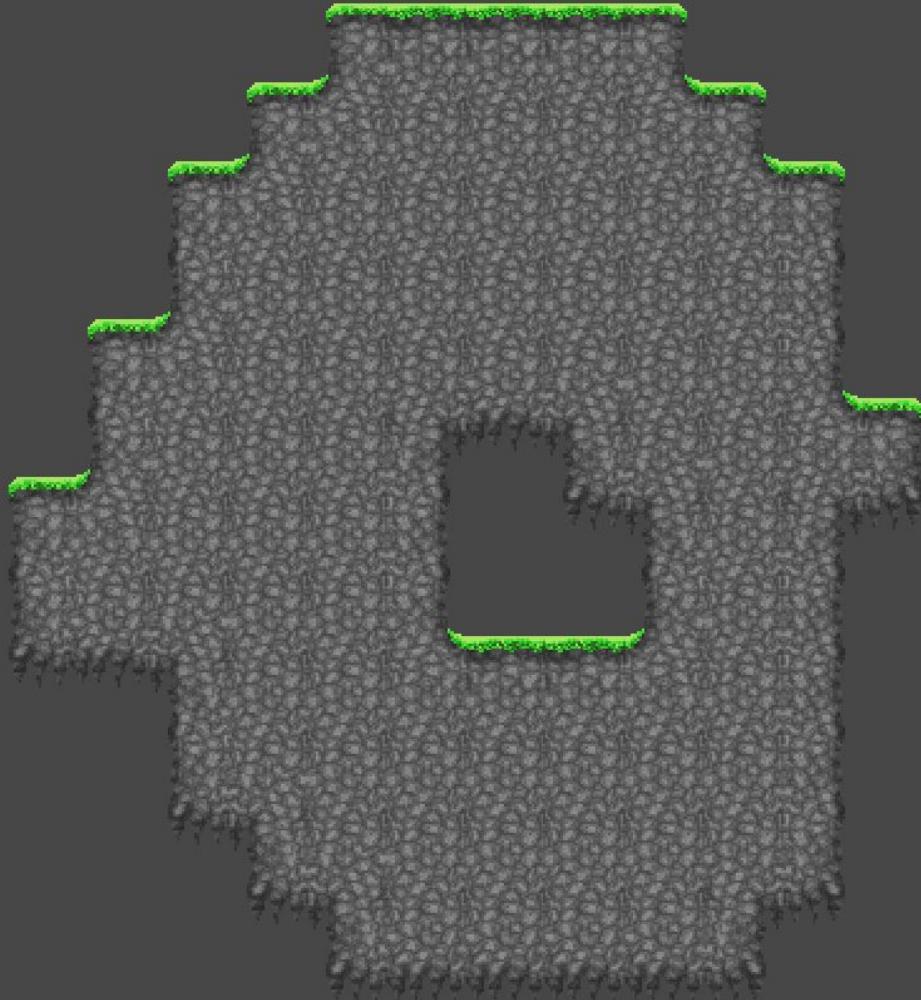
Demasiadas Tiles y  
Mucho Trabajo?



# Demasiadas Tiles y Mucho Trabajo?

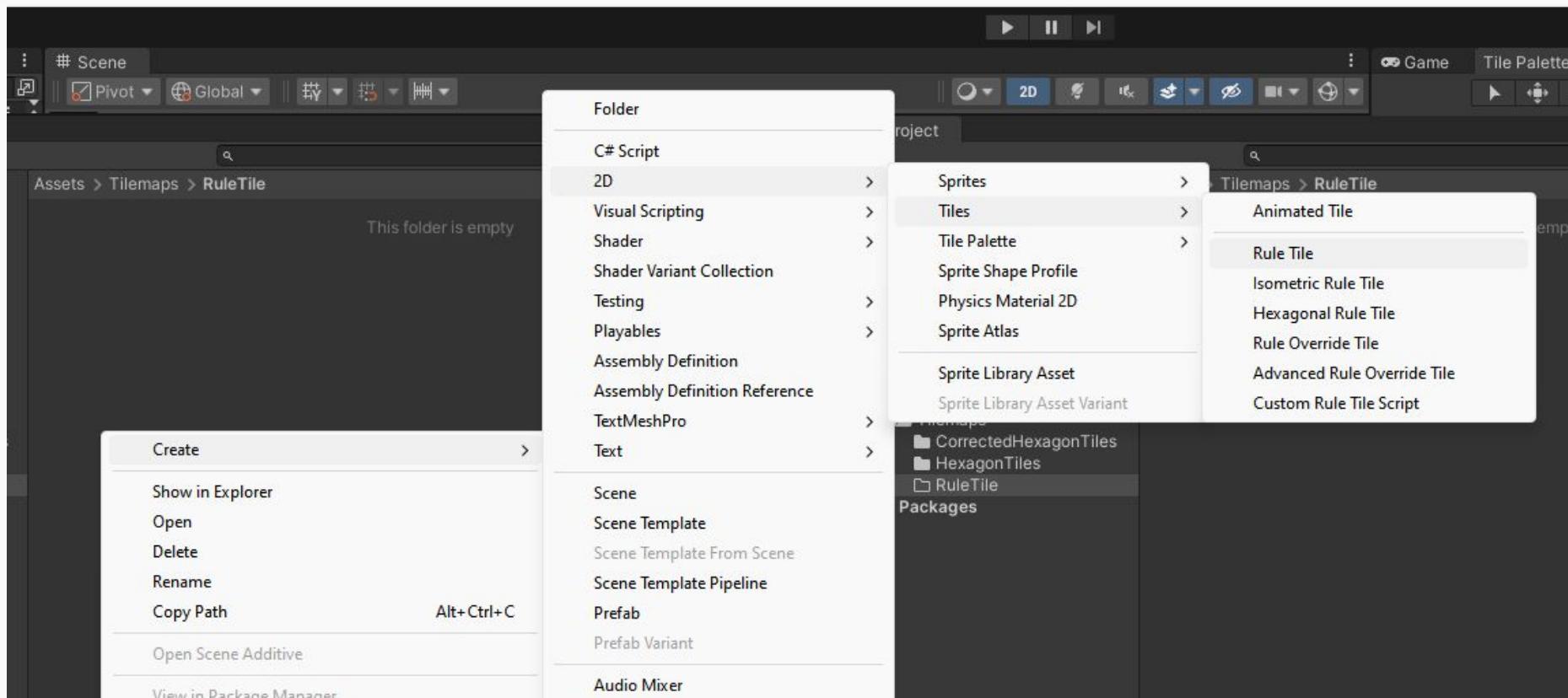
## RuleTiles!

Son Tiles con reglas específicas para que interactúen entre ellas, según Reglas establecidas

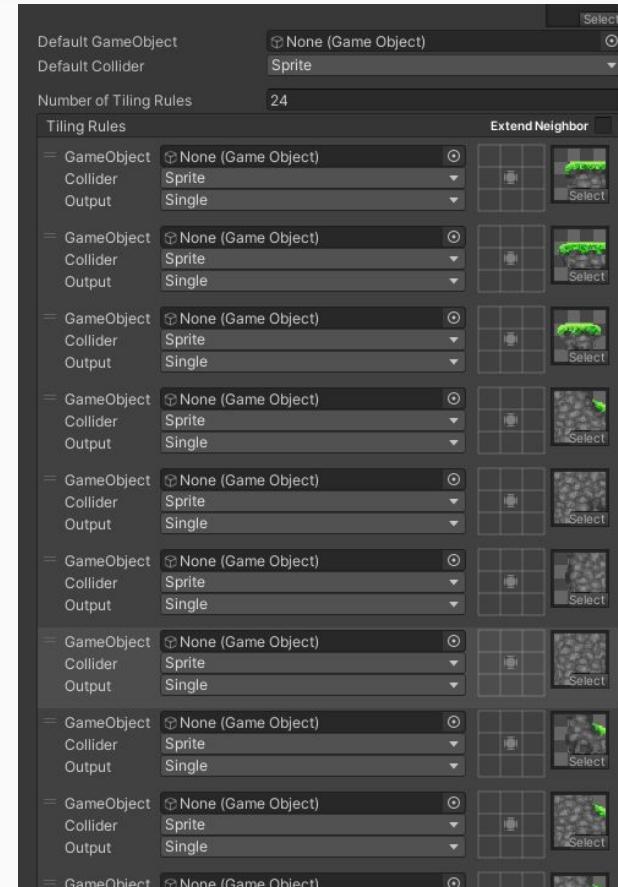
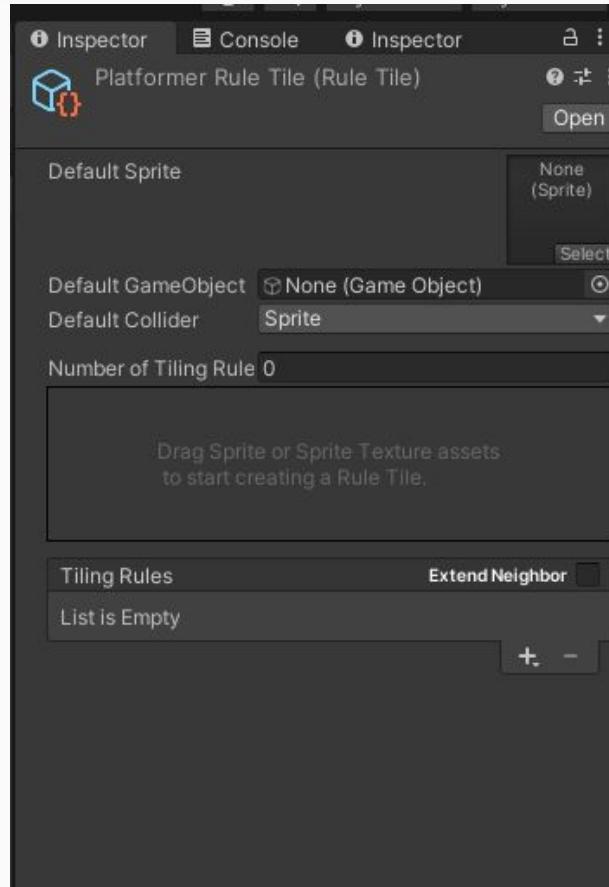


Como crear tu  
RuleTile?

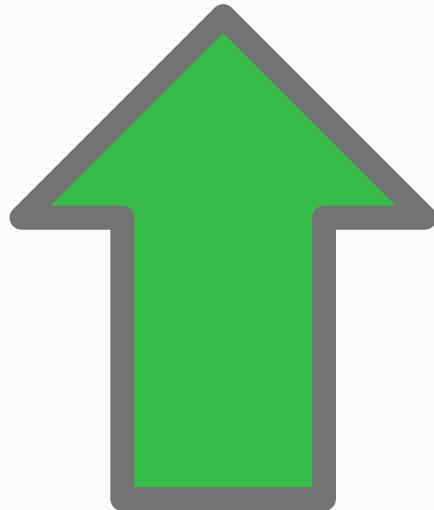
# Crear un archivo de RuleTile



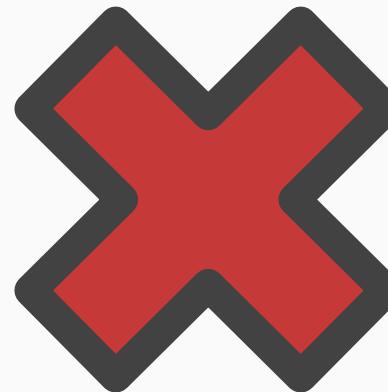
# Arrastrar los sprites!



# Significado de Relación entre vecinos



**This:** Esto.  
Implica que hay  
una tile de mi  
tipo en esa  
dirección

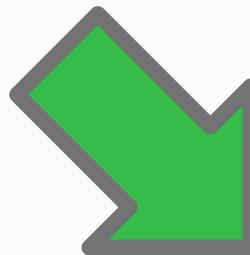
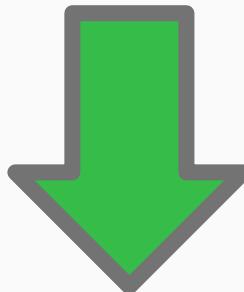
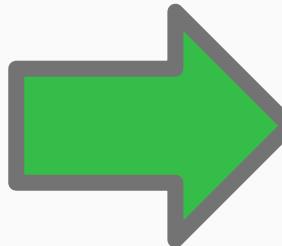
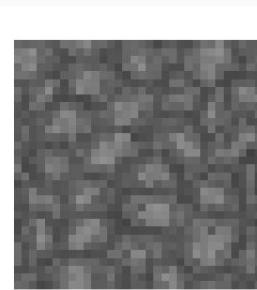
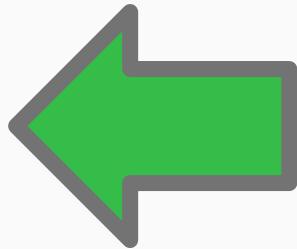
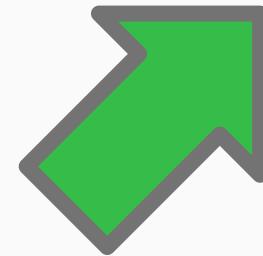


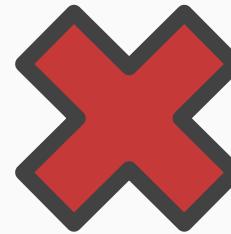
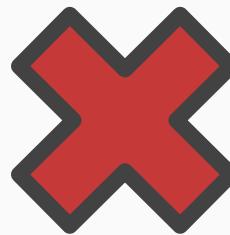
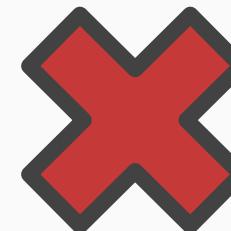
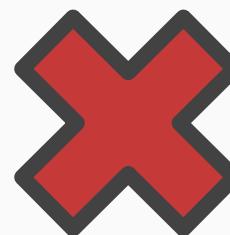
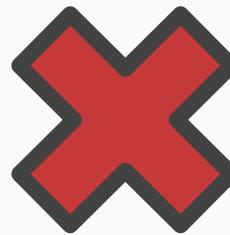
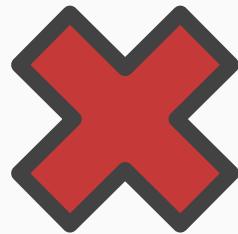
**Not This:** Esto.  
Implica que no  
hay una tile de  
mi tipo en esa  
dirección

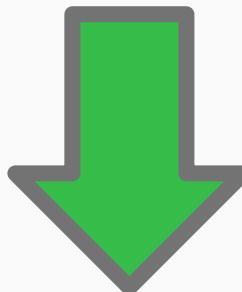
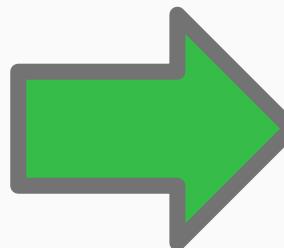
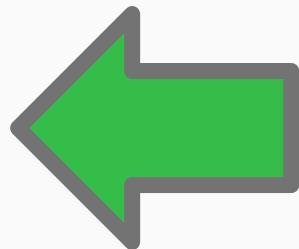
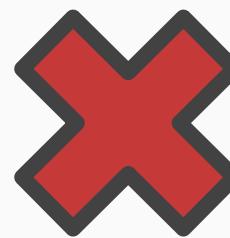


# Analizar cada caso!









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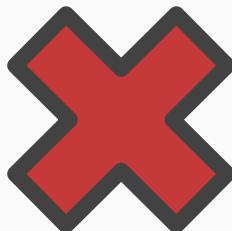
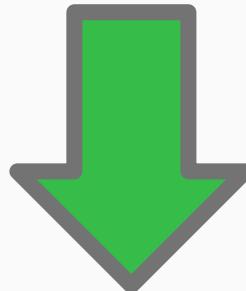
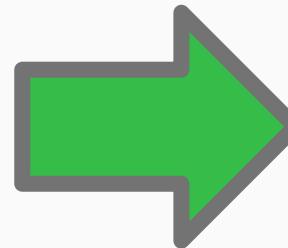
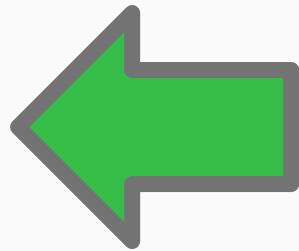
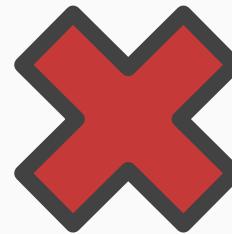


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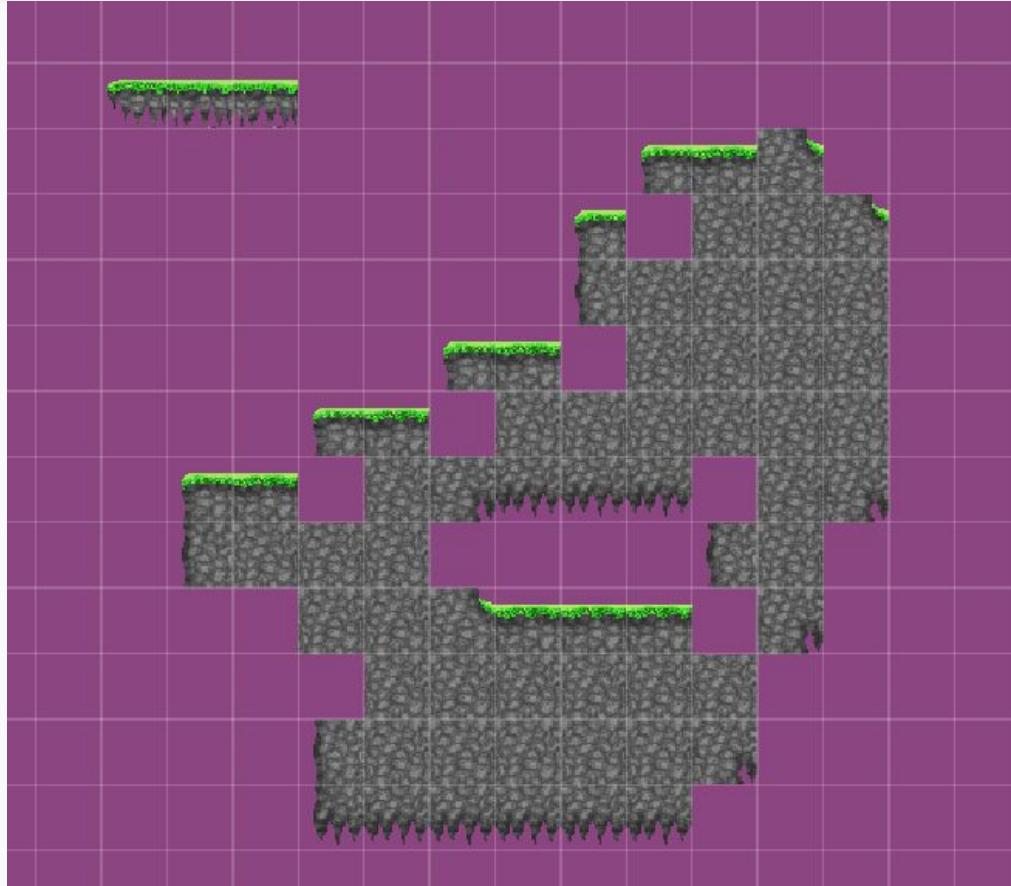
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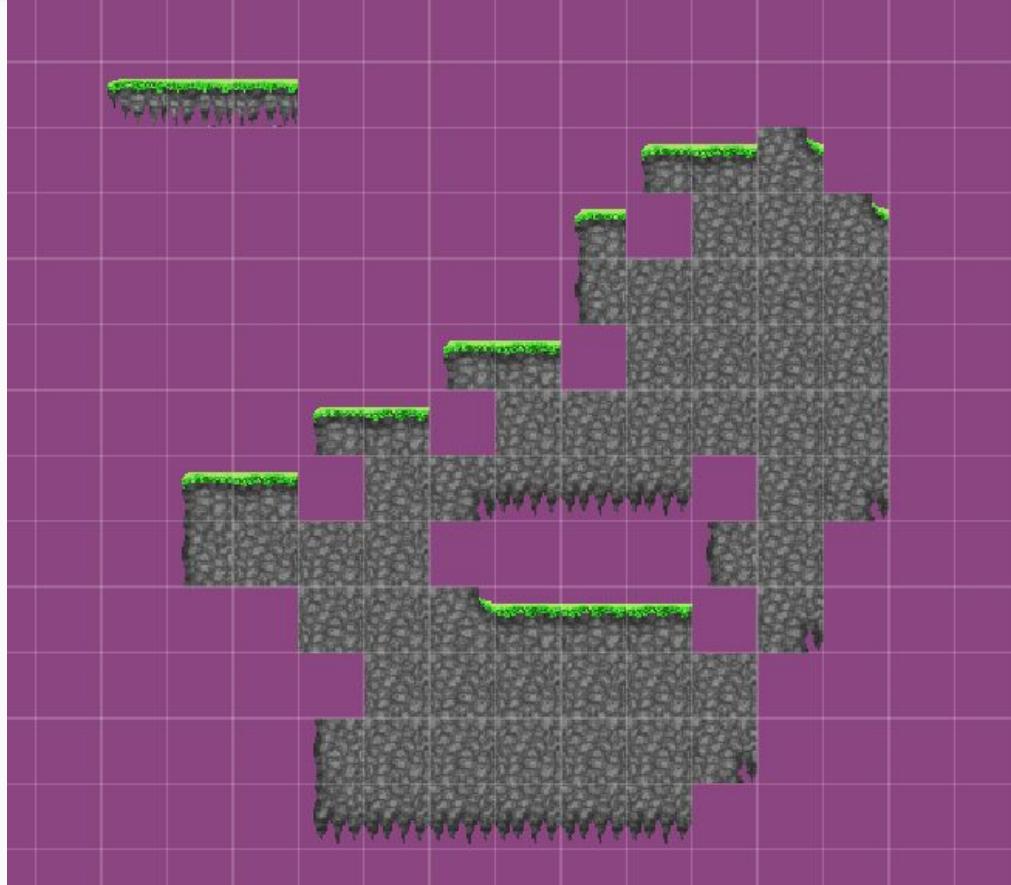
?



Arrastrar la tile a una Palette y usar!

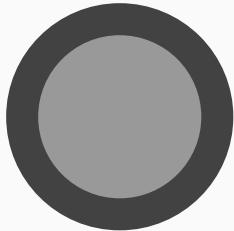


Esta raro..



Falta una configuracion!

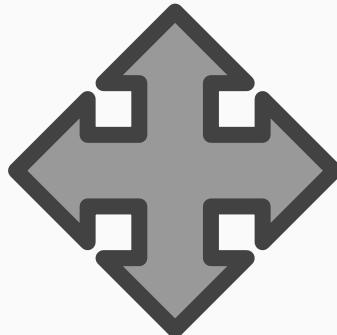
# Configuración de Orientación



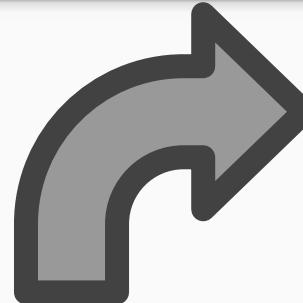
**Fixed:** Se usa el sprite como esta



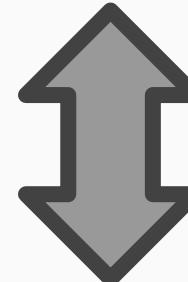
**Mirror X:** Hace un mirror cuando sea posible



**Mirror XY:** Hace un mirror cuando sea posible en todas direcciones



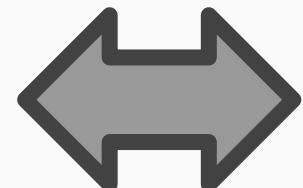
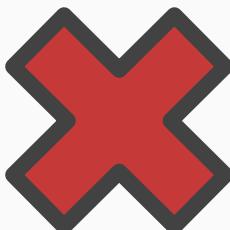
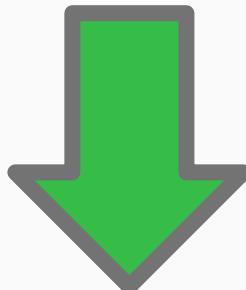
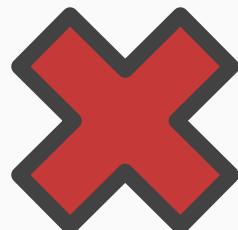
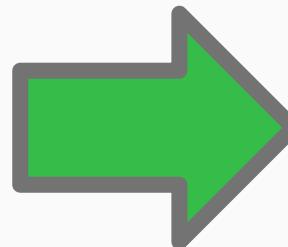
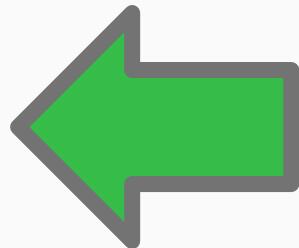
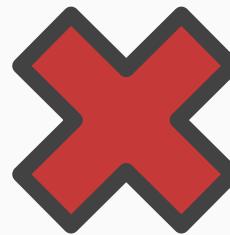
**Rotated:** Rota para la derecha cuando sea posible



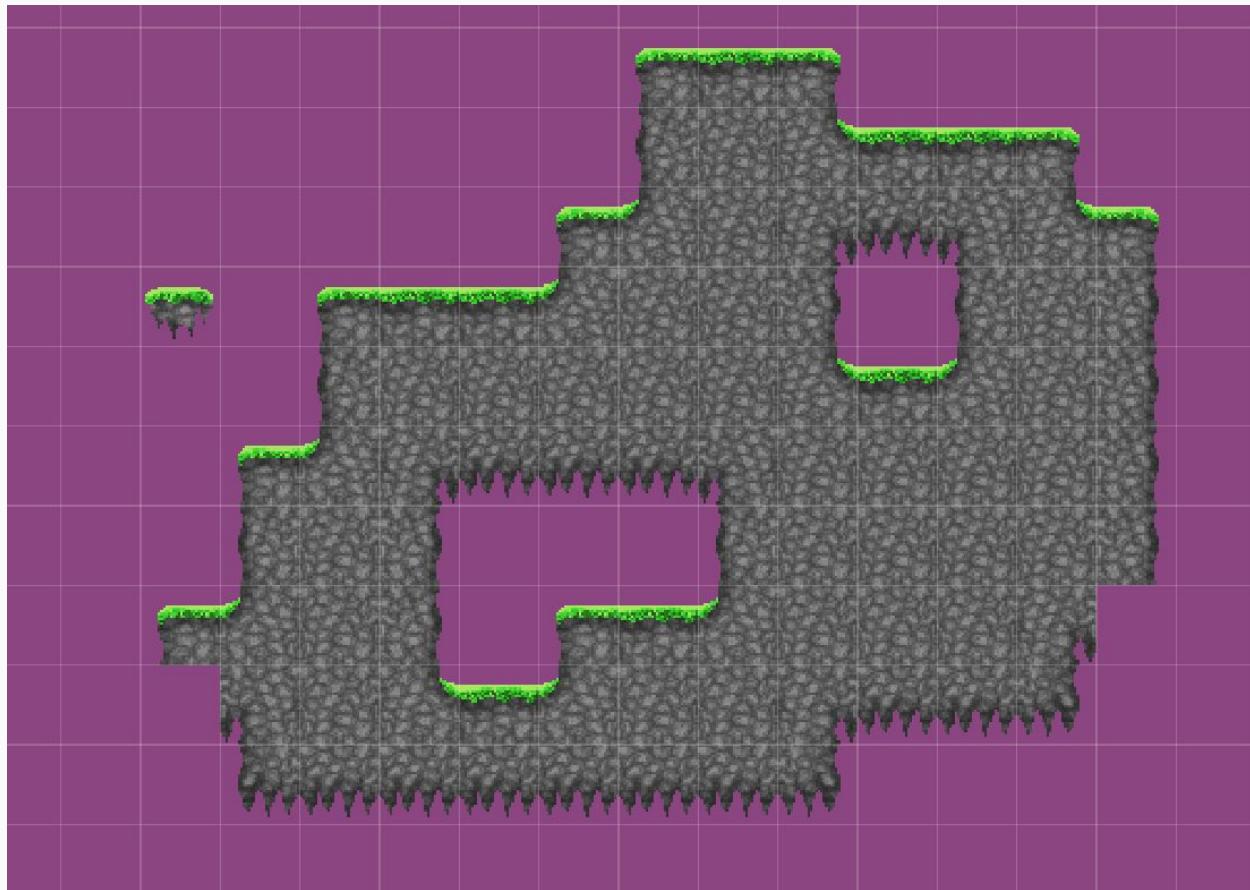
**Mirror Y:** Hace un mirror cuando sea posible



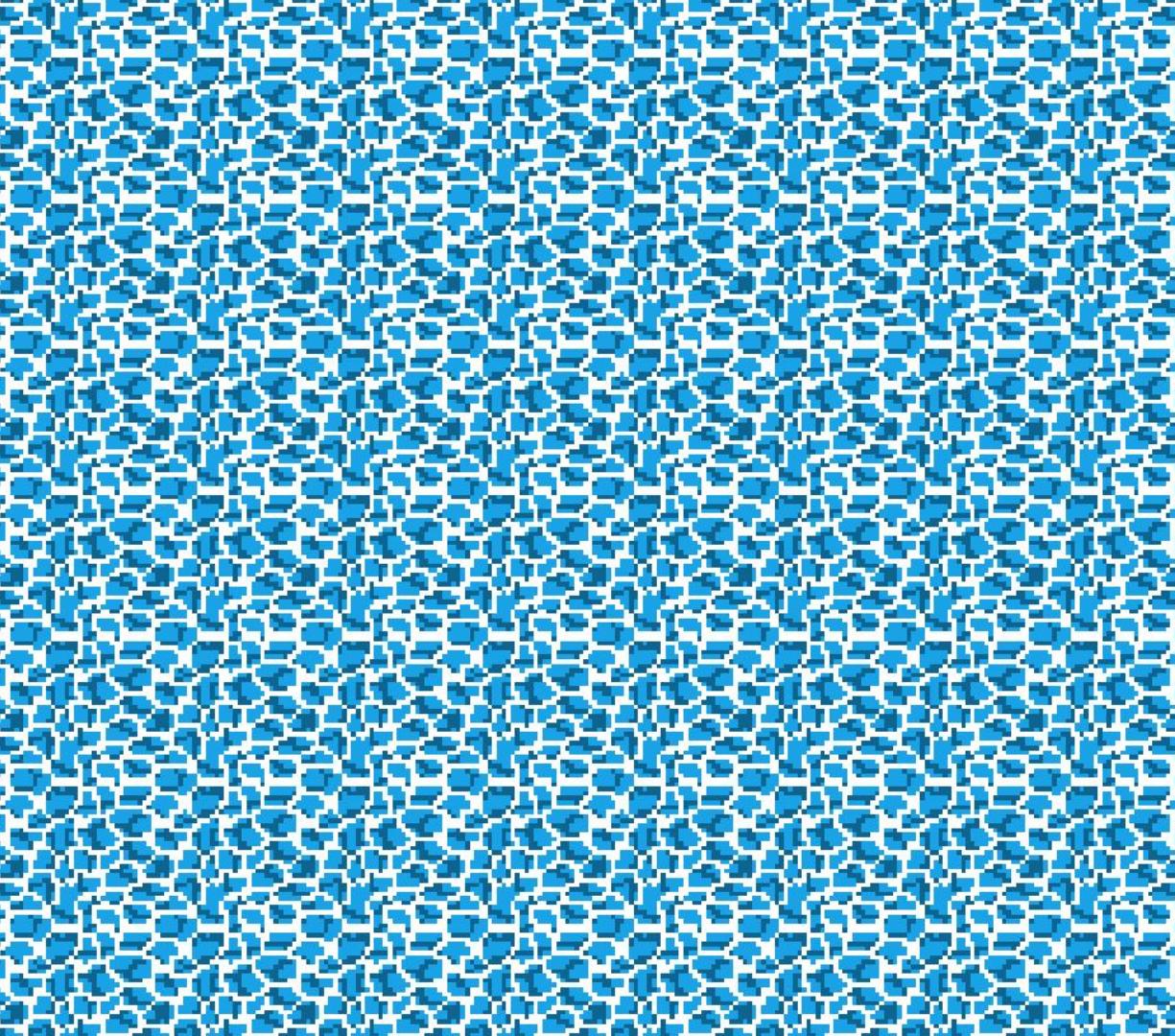
**Rotated Mirror:** Rota y se espeja cada vez que sea posible



Listo!



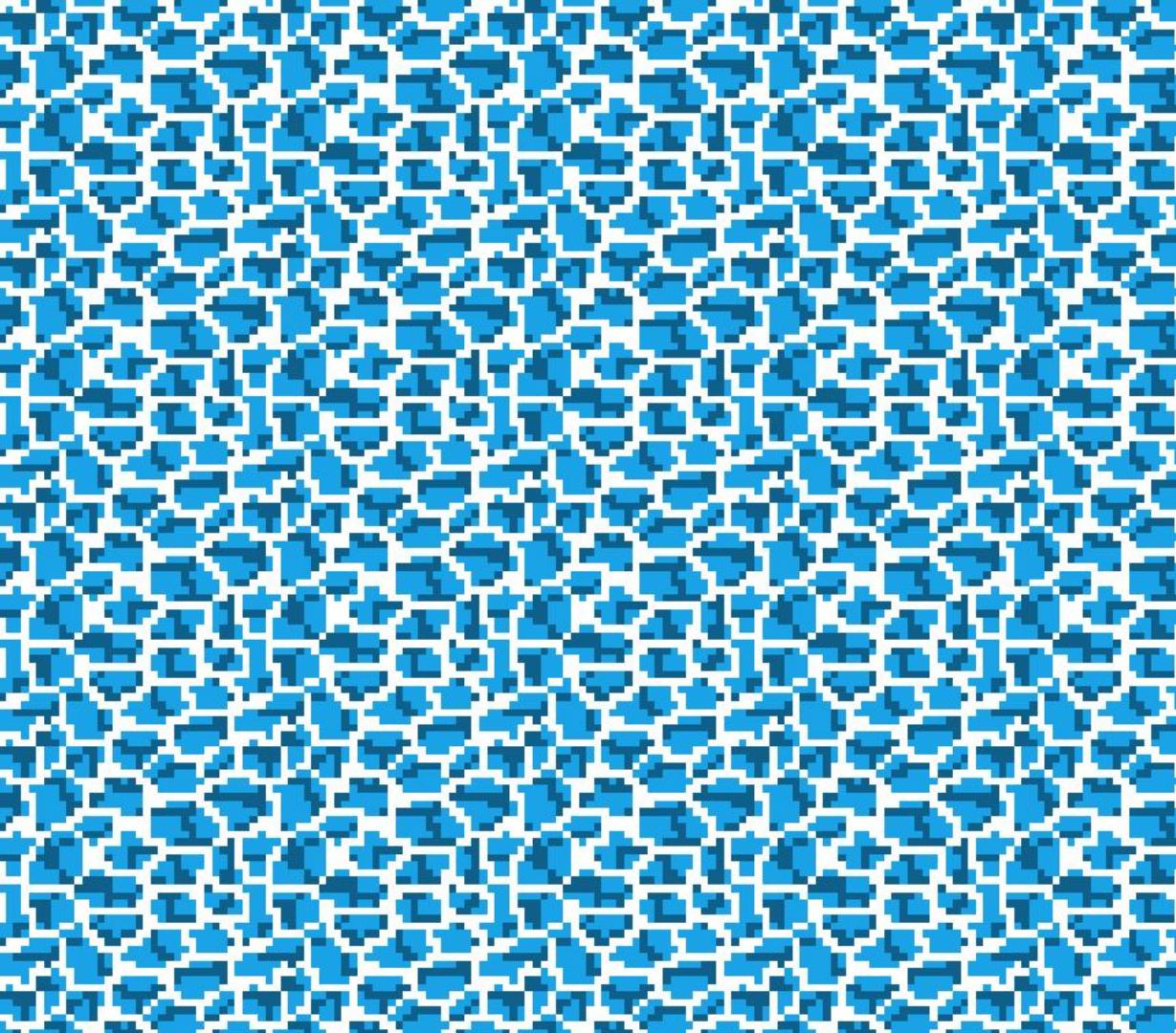
Tiles muy  
estáticas?



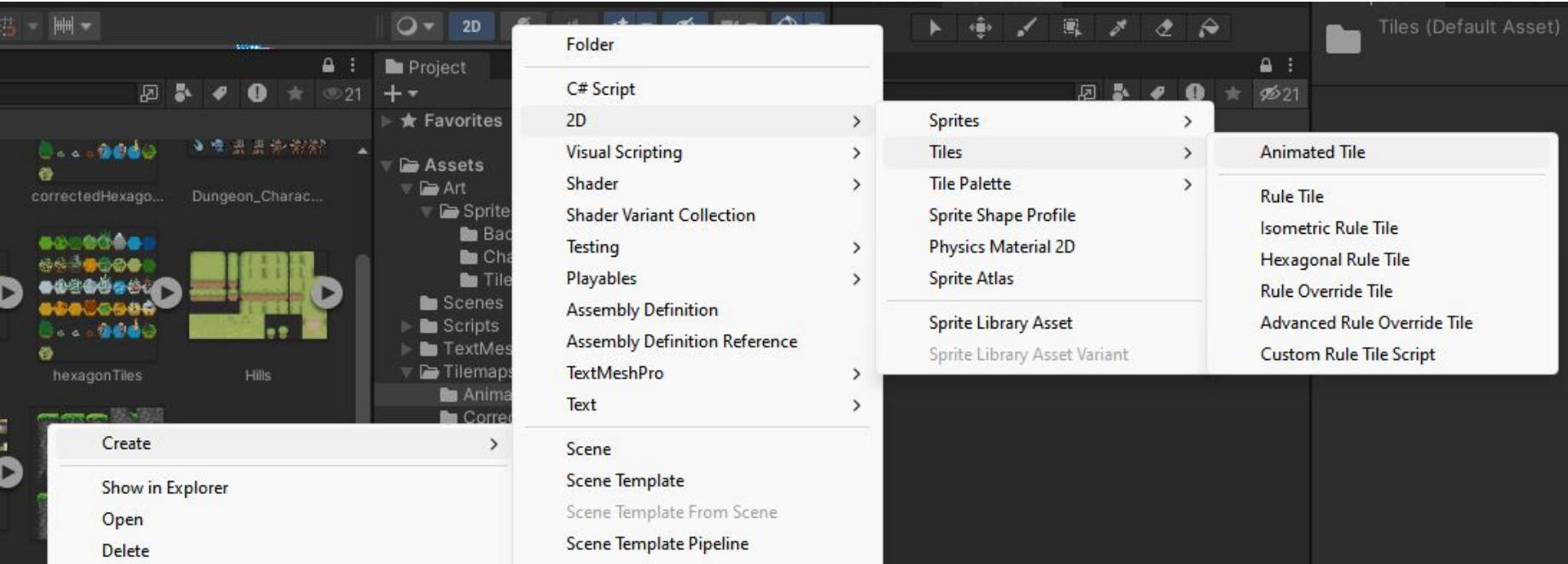
# Tiles muy estaticas?

## Animation Tiles!

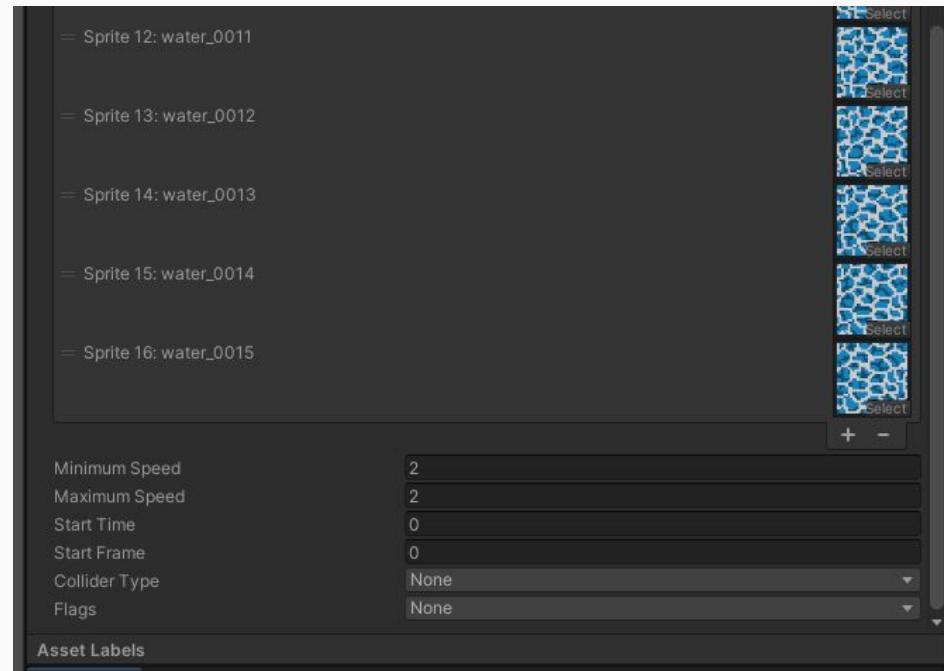
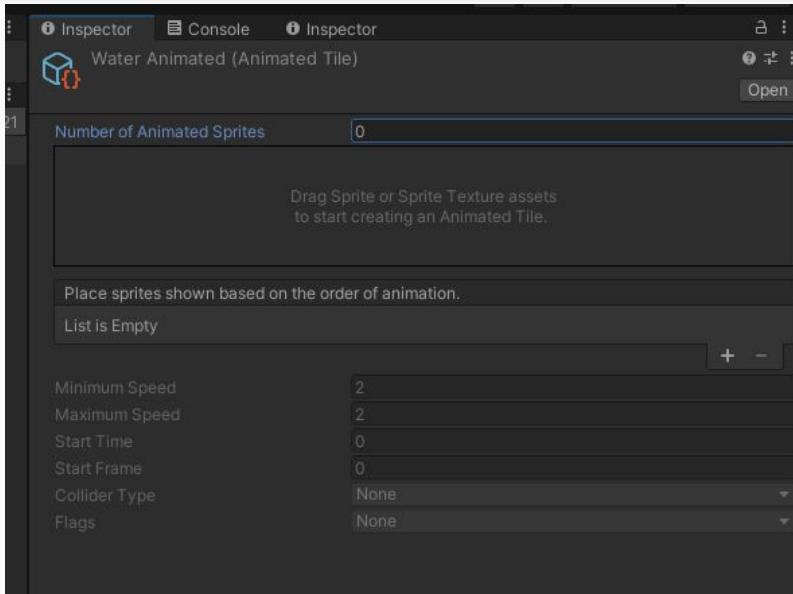
Son tiles que se configuran con animacion, y que funcionan como cualquier otra tile



# Crear la Animated Tile

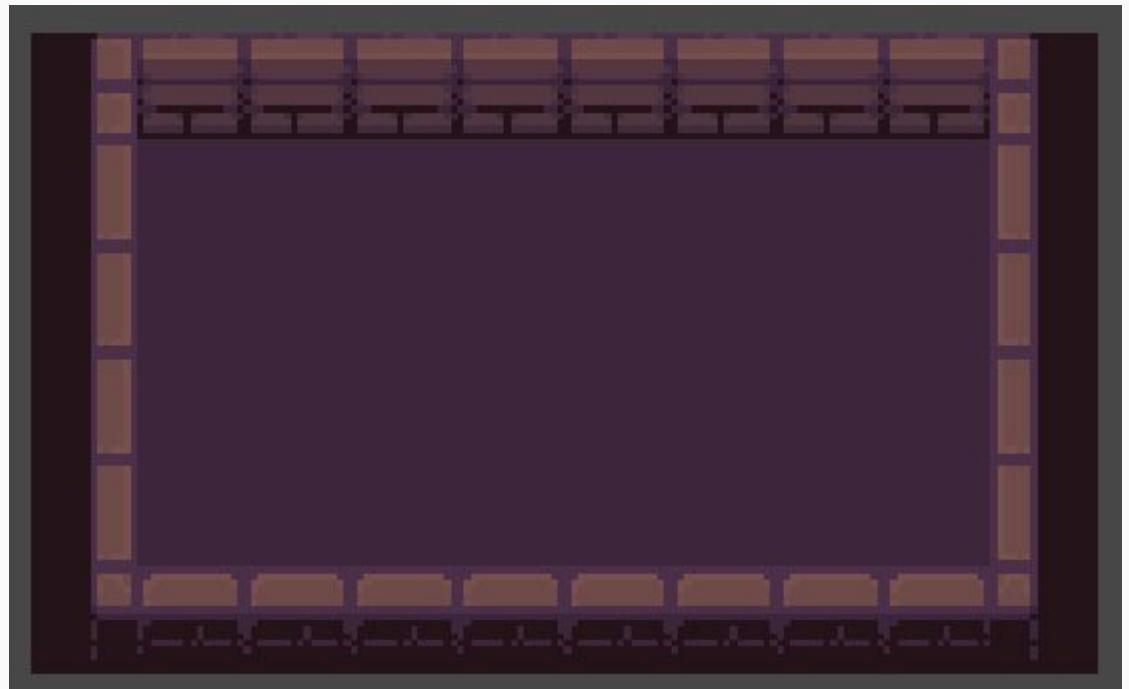


# Arrastrar Sprites y Ajustar velocidad de animacion!



No se olviden arrastrarlo a la  
Palette!

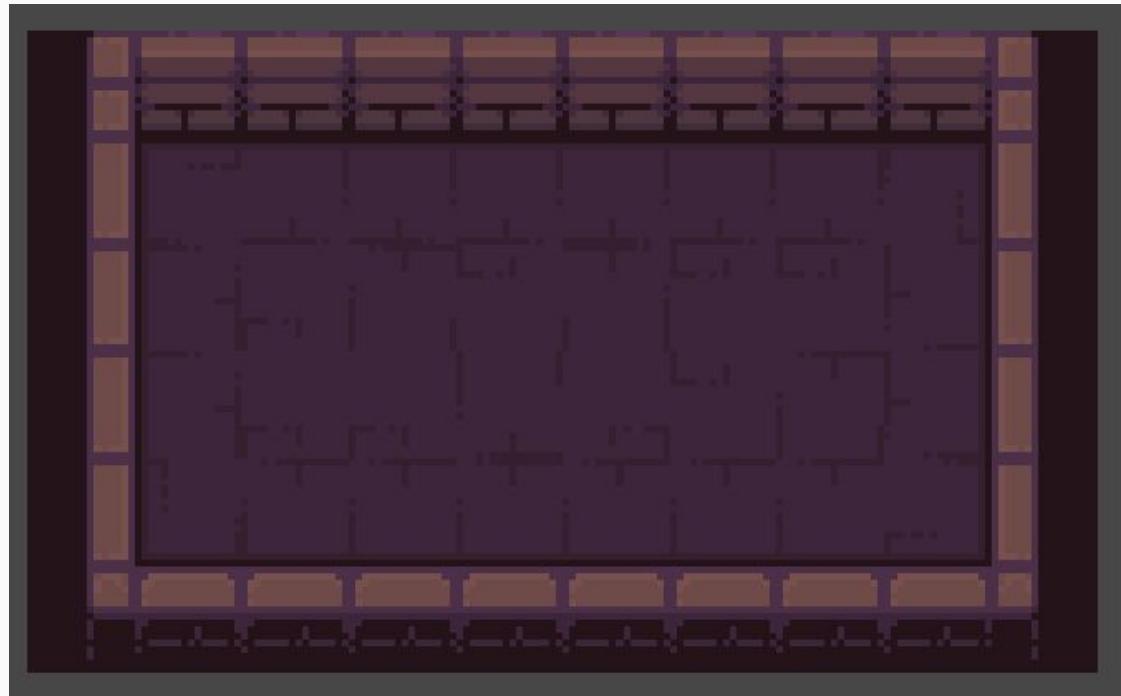
Tiles muy  
limitadas?



# Tiles muy limitadas?

## Extended Neighbours!

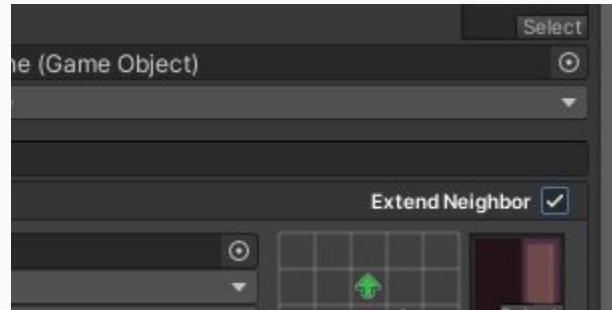
Son Ruletiles mas complejas, en donde se agregan más relaciones entre las tiles



# Cómo extender tus Neighbours?

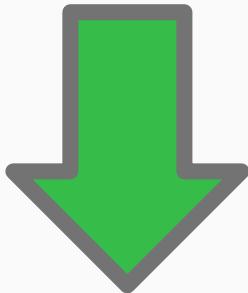
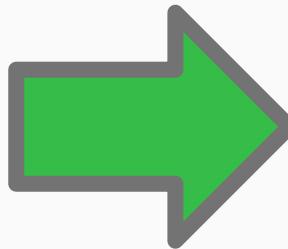
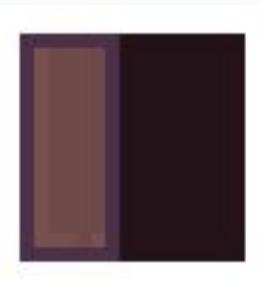
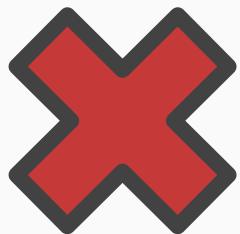
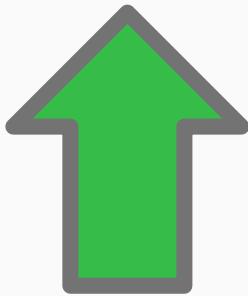
[Saltar Explicación](#)

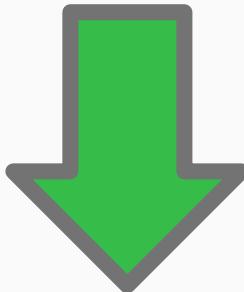
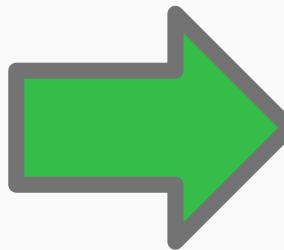
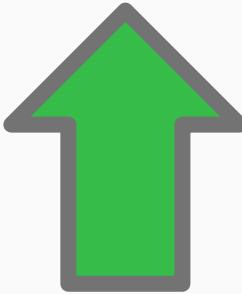
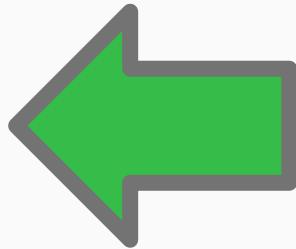
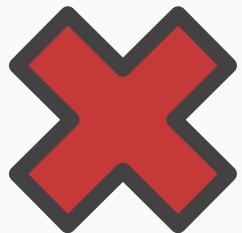
## Activarlas en un RuleTile!



Hacer esto hace que puedas expandir tus vecinos más allá de la grilla de 3x3 de siempre, y te permite agregar más reglas!







# Tips!

- Límite entre pasto y camino
- No se compliquen! La idea es simplificar
- Separar transparentes y sólidos en sheets distintas
- Pensar en capas, como agua, suelo y objetos

# Links Curiosos!

- [Tilemaps - Unity Manual](#)
- [Tilemap Unity Course](#)
- [Draw Fewer Tiles! - Youtube](#)
- [Tilemaps with Data! - Youtube](#)
- [Grids! - Youtube](#)
- [Procedural Tilemaps! - Youtube](#)
- [How to Make Custom Ruletiles - Youtube](#)
- [Custom Scripted Tiles - Youtube](#)

# Arte!

- [Sprout Lands - itch.io](#)
- [Fantasy Hex Tiles - itch.io](#)
- [2D Pixel Dungeon - itch.io](#)

# Belen Nava

Technical Artist

owo