

## GAME: SUPER MARIO WORLD

### MECHANIC + ENEMY + LEVEL

#### Requirements

#### Ally

##### Name:

- Free Chain Chomp (or **FCC**).

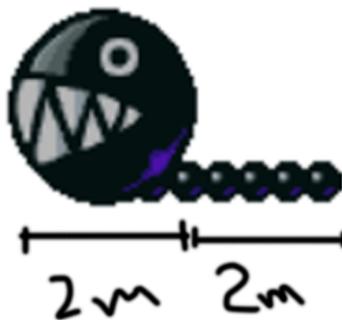
##### Description:

- An Free Chain Chomp's appearance is like a regular one but being **unanchored**, meaning it's free to move by its own will.



##### Size:

- **Head:** 1m radius.
- **Chain:** 2m long



##### Speed:

- 5m/s.

Jump: Free Chain Chomp **can't jump on its own**. It can only jump when Mario is attached to the chain and the player presses the jump button while the Chomp is on the floor.

- Max jump height: 1m.

Behaviour:

On spawn, the **FCC** will appear from the top of the **Chain Chomp spawn block** falling 3 meters after it. Then, it will remain still for 2 seconds on the surface where it landed.

**After 2 seconds**, the Free Chain Chomp will start moving, regardless if Mario has picked its chain or not. Every time a FCC starts moving, it will try to move to the right side of the screen.

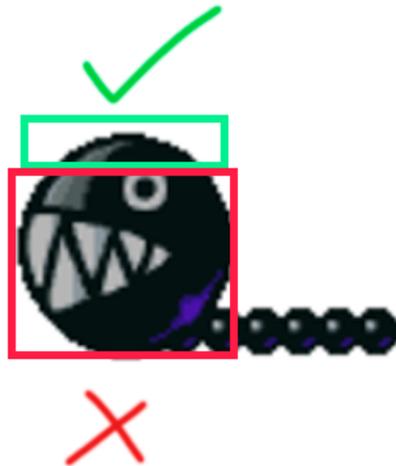
If it collides with a **block or static element** from a level, the following will happen depending on the type:

Block Name	Top Collision	Side Collision	Down Collision	Free Chain Chomp trajectory after a side collision.	Extra effects
Brick	No effect.	Brick destruction.	Brick destruction.	Unchanged.	No effects.
Unused '?'/Flying '?'	No effect.	Item release. No destruction.	Item release. No destruction.	180° turn.	After 'Item release', it will transform into an <b>Empty Block</b> .
Rotating	No effect.	Rotation activation.	Rotation activation.	Unchanged.	After 'Rotation activation', <b>deactivate the collider</b> .
Donut	After <b>1 second</b> , the block will <b>fall</b> .	No effect.	No effect.	180° turn.	No effects.
Note/Super note	Small <b>drop down</b> .	No effect.	No effect.	180° turn.	No effects.
Other blocks/Pipes/Terrain	No effect.	No effect.	No effect.	180° turn.	No effects.

If the FCC collides and makes a **180° turn**, it will move to the **opposite direction** it was moving previously to the collision.

If a Chain Chomp collides with **any non-boss enemy**, it will **instantly defeat it** without stopping its path.

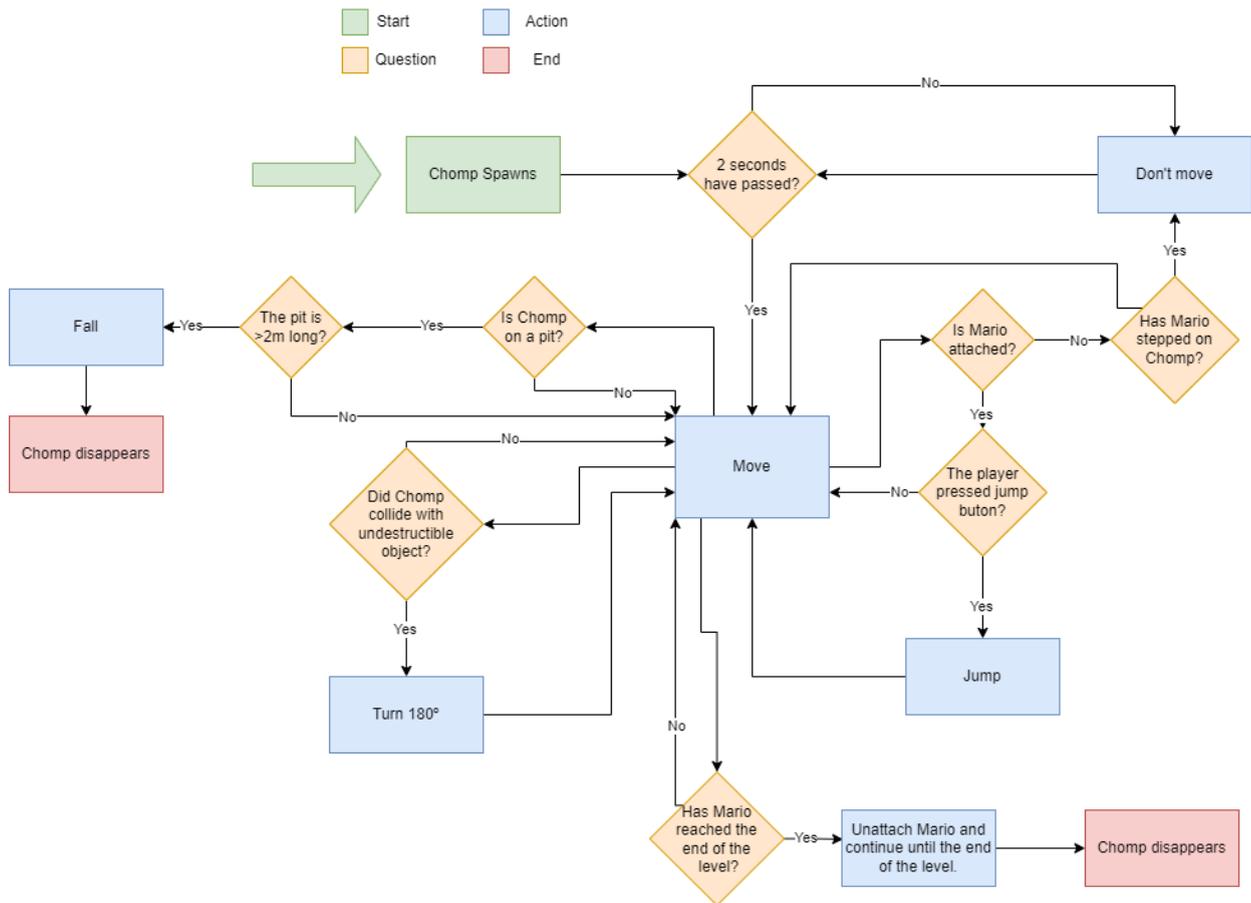
If any part of FCC's head (except for the top side) collides with Mario while he hasn't picked the chain, the FCC will deal damage to Mario (NOTE: If Mario is transformed, return him to Small Mario; if not, kill him). If Mario has **picked the chain**, him and Chain Omp **can't collide** between them. Either way, Chomp won't stop its path.



If a loose **FCC** is **stepped on** by Mario, it will **stop moving** for 2 seconds. After that, it will resume its movement and it will **move to the right side** of the screen. If it's facing the left side, it will make a 180° to face the right side before continuing moving.

A FCC can **continue moving over floor pits of up to 2m**. If that happens, it will run through it. If the hole is **>2m**, the FCC will **fall** inside it. If a Chomp falls into a pit, it will **disappear** from the rest of the level.

A FCC is **immune** to damage, regardless of the source.



Chomp Behaviour

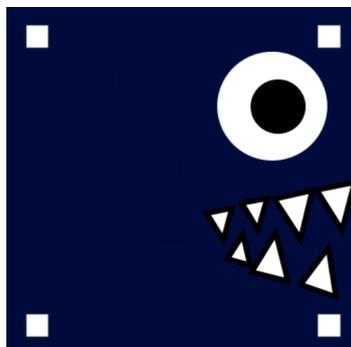
## Block

### Name:

- Chain Chomp spawn block.

### Description:

- It **spawns a Free Chain Chomp**. Its appearance is a dark blue tainted block with an eye and half a Chain Chomp's mouth drawn in it.



### Details:

Upon being **hit from below** by Mario, a FCC will **spawn** from the top of the block (it can only spawn 1 FCC). Once it has spawned it, the block will **transform into an Empty Block** for the rest of the level, even if the Free Chain Chomp it spawned disappears.

## Mechanic

### Name:

- Chain Chomp Ride

### Description:

- Mario can pick the chain from a Free Chain Chomp to ride it.

### Details:

If Mario **hits** a Chain Chomp **spawn block**, a **Free Chain Chomp** will spawn from the block's top, landing 2m after, always facing the right side of the screen. There can only be **1 FCC per level**. This also applies for the Chain Chomp spawn block.

The FCC will stay still for 2sec. If Mario is **beside the chain** from the FCC, he will **pick it up**. Once the 2sec have passed, the Chomp will fastly start moving towards the right side of the screen.

While Mario is attached to the FCC's chain, the player will **lose his movement control** and Mario will always follow its movement. Also, if the player presses the **jump button**, the FCC will do a **small jump** (up to 1m high).



Example in *Mario Kart: Double Dash!*

Mario can still receive damage from enemy attacks while in this state. If Mario receives **damage**, he will automatically **drop the FCC's chain**.

While Mario is attached to the Chomp, if the player presses the **B button**, Mario will **release the chain** and stop following the FCC's movement.

If a FCC falls into a pit while Mario is attached to it, he will follow the movement and fall in it too.

If Mario is still attached to a FCC when he gets to the **end of the level**, he will **release the chain** and the FCC will continue its path until **disappearing** when it gets to the limit of the level.

If the FCC collides with a non-destructible object and **turns 180°**, Mario will also **follow** the same movement. Mario and the FCC can't collide with each other while Mario is attached to the FCC.

If Mario **steps over** the FCC, it will **stop moving** for 2 seconds. If Mario is **beside the chain** during that time, he will automatically **pick it up**. After 2 seconds, the FCC will resume its movement regardless of whether Mario has picked the chain or not. When resuming the movement, the FCC will try to move to the right side of the screen if possible.

If **Mario collides** with any part of the head of a FCC (except for the top) while he is **not attached** to the chain, Mario will **receive damage**.

If the **FCC touches a coin** while Mario is attached, it will **pick up** the coin and **add it** to the coin counter.

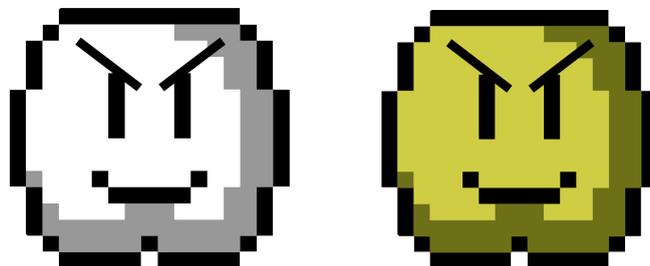
## ENEMY

### Name:

- Stormcloud.

### Description:

- A **cloud** controlled by a **Magikoopa**. It drops a **lightning** vertically under its position every 5 seconds.



### Behaviour:

Stormclouds appear on **top of the screen**, at 3m distance below the end of the screen and always move at that altitude.

As soon as it appears, it will **follow Mario** during the rest of the level until he either **finishes it** or **defeats the Magikoopa** that controls it.

Stormclouds **move between  $X+5m$  and  $X-5m$** , being  $X$  the current horizontal position of Mario if he's moving horizontally. If he is **not moving** horizontally, the Stormcloud's  **$X$  position will be the same as Mario's**.

Their movement speed is 3m/s between the points previously mentioned. While moving, their **color alternates** between white and yellow. The **lower the time** until the lightning is released, the **faster the color alternation**.

Every 6 seconds, the **cloud stops** for 0.5 seconds and, after that, it **throws a lightning** under its current position. Then, it continues in the same position for 0.25s before fastly returning to Mario's current  $X$  position.

The **lightning appears instantly** and will cover **all vertical space** between the Stormcloud and Mario, a hard surface, a Magikoopa or the bottom of a pit, whichever hits first.



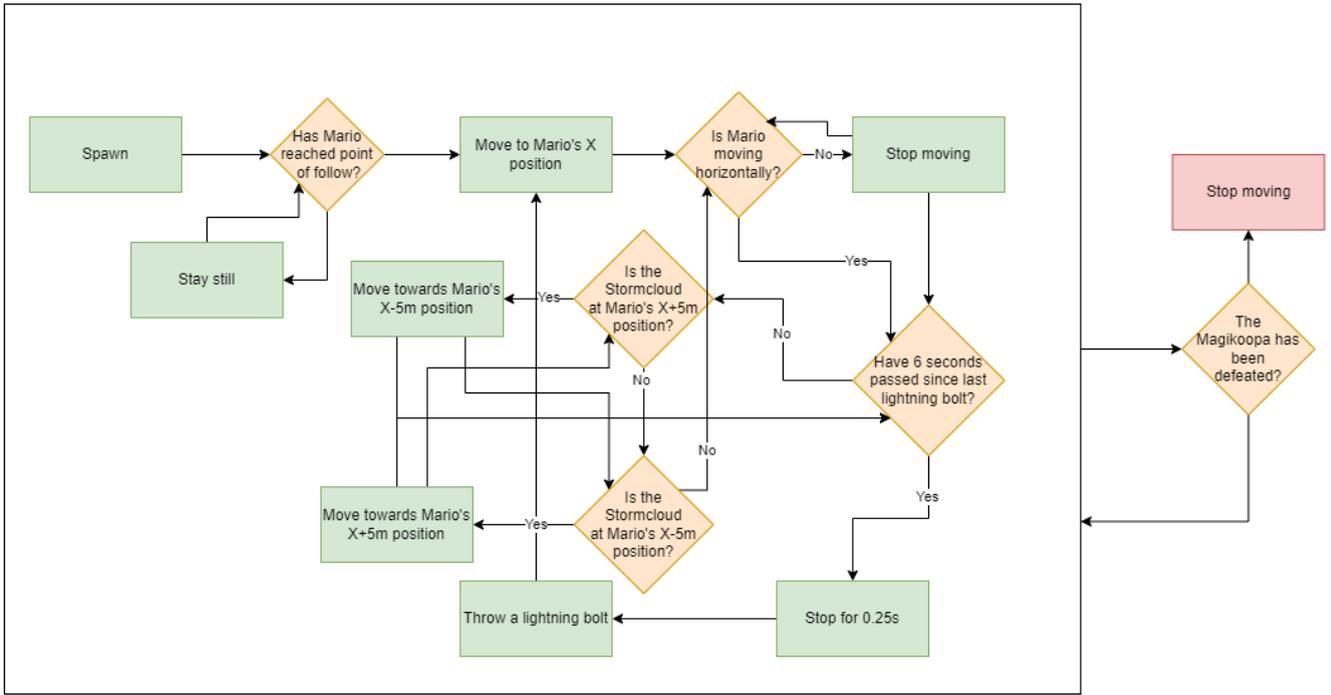
Example of the vertical lightning in *Super Smash Bros*.

If the **lightning** hits Mario, it will **damage** him. Also Mario will **become stunned** for 0.5s. While **stunned** by lightning, Mario will do an **animation** of getting electrocuted. Also, while Mario is **in that state**, he becomes **invulnerable** from enemy damage.

The lightning can't hit enemies or allies except for Magikoopas or Mario.

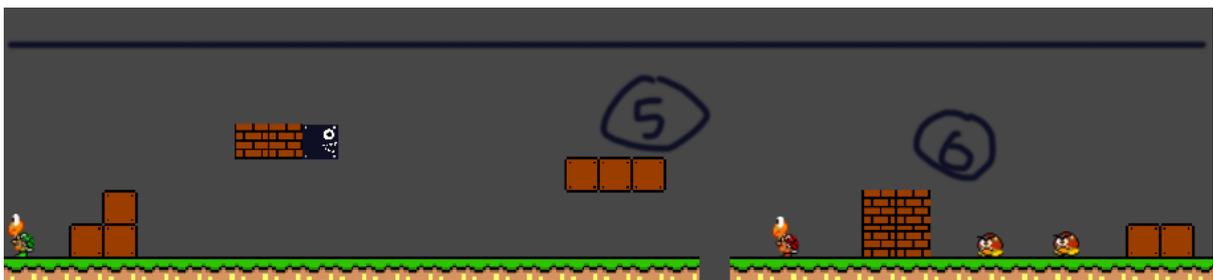
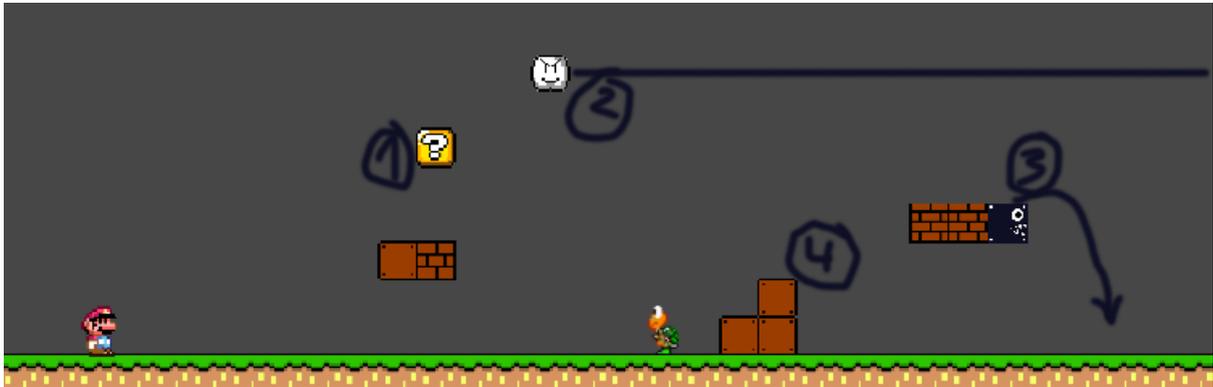
The Stormcloud will be '**controlled**' by a **Magikoopa** in the same level, who always will be standing over an elevated platform. If the **Magikoopa is defeated** (via stepped on by Mario, hit with the Stormcloud's lightning, hit by a shell, etc.), the following will happen:

- The cloud will **return to its white color**.
- The **facial expression** will change to a **happy** one.
- It will **stop moving** and following Mario.



Stormcloud behaviour

## LEVEL





This level is an introduction to both the Stormcloud enemy and the Chain Chomp Ride mechanic.

Mario starts on the first image. Here is an explanation/justification for every point signaled on the images:

1. On point 1, he will get a mushroom in the '?' block.
2. From point 2 onwards, the Stormcloud will follow Mario. The line is to show at which height it will be.
3. Here he will get the FCC, which will fall where the arrow is pointing. Next to the Chain Chomp spawn block he has 2 blocks to protect himself from the Stormcloud. This will also teach the player that Mario can hide under other blocks to avoid getting hit.
4. These blocks are to avoid the FCC from going back in the level.
5. Second possible protection from the Stormcloud.
6. Series of enemies and breakable blocks to show that the Free Chain Chomp can go through them all, but followed by an indestructible block to show that not all blocks are destructible. Mario has to jump over the indestructible ones.
7. The '?' block gives Mario another mushroom. The Green Koopa over the platform will fall after Mario has passed through it with the FCC: if Mario tries to run back after releasing the FCC or releases it earlier, he will have to avoid/defeat the Green Koopa.
8. Mario can't go through those blocks with the FCC, so the player has to release it. But they also have to be careful of the Stormcloud, so first they have to defeat the Magikoopa.
9. Mario has to go up to defeat the Magikoopa, but risking getting hit by the Stormcloud or staying under it and risking getting hit by the FCC released previously. The player also has a Koopa Coin as a reward if they try to go up to defeat the Magikoopa.
10. These blocks not only show the player that the FCC can't destroy them, but also makes the FCC go back once the player has released it. This means the FCC will be always moving between zones 8 and 10, turning into an additional enemy Mario will have to avoid.

After all this, the player gets to the end of the level and uses the platform on number 8 to try to get a higher score.