

# Dungeon Tiles Build Guidelines

## Size

The maximum build size is 48x48x48 blocks to conform with the generator algorithm. The builds absolutely cannot exceed this limit, but in the majority of cases the builds have averaged roughly 30x12x20 blocks.

Variety in tile size is going to become increasingly more important as we flush out the available tiles for the generator.

## Theme

Each theme must contain at least one Elevator, Start, Boss, Hallway, Gate, Totem, and Room tiles for a dungeon to be generated. (discussed later) The more tiles the better for the generation of the dungeon. All tiles in a theme should be similar in design to each other. This allows us to group tiles together for a cohesive dungeon and will be necessary for future biome integration.

## Floor Interval

The floors of the dungeon are very picky. They must all be uniform. We are currently using a floor interval of 12. This means a single floor is only 12 blocks high including both the floor and the roof. Two stories would be 24 blocks high, and so on. The Floor of the rooms must be only one block thick.

## Doors

These can be placed anywhere on the outer edge of the cuboid area. The door must be an odd number, and a jigsaw block must be placed in the middle of the doorway on the floor. All doors in the dungeon tiles must be the same size and it is recommended to have no more than two doors per floor per side. (We are using 5x5 doorways)

## Floor Design

Keep in mind that mobs cannot spawn on non-solid blocks. This includes stairs, half slabs, etc. (Note: Mobs also do not spawn in grass.) If a tile is not supposed to have mobs spawning, just add an extra layer of blocks on the floor. Keep in mind this would require a step down near doors to follow the doors rules.

## Tile Types

Elevator, Start, Boss, Hallway, Gate, Totem, and Room. Some of these tiles have sub types we will discuss later. At least one of each of these must be present for every theme created. A majority of the dungeon will consist of Elevators, Hallways, and Rooms therefore these tiles should each have multiple designs. The least important of these three are Elevators while Rooms are the most important tile in a theme. (Rooms are where fun things happen.)

### Elevators

These tiles are multi floor tiles that move players vertically through the dungeon. Not to be confused will double floor rooms though. An elevator's footprint should be rather small. We are currently using a footprint of 13x13 as being much smaller than other tiles gives them the best chance to be able to spawn properly.

### Start

The start tile to a dungeon theme can be any size with any number of doors. Keep in mind that the more doors the start tile has the higher the chance generation will fail as till from another doors path could generate and block another doorway. The floor of a Start tile should be raised by one block to prevent mob spawns. Make sure there are step downs near doors to maintain floor intervals.

### Boss

This is the tile that the boss fight will happen in. The design should make room for combat to happen without too many obstructions. There are no doors in a Boss tile because the player will be teleported in when they reach a Gate tile. There should be enough room for the boss and players to spawn in and still have space to prevent issues of players not being able to interact before the boss engages them.

### Hallway

These should be for the most part a rectangle without offshoots for best placement. While a Hallway can have offshoots it will consume a lot of empty space in the cuboid that will be unusable for tile generation. We are currently using hallways of 38x12x13

### Gate

This is a small tile that caps another tile's doorway. Gates only have one door in them because they are the end of the line and within three blocks of a selected location the player will be teleported to the boss room. Because of this they should be rather small. Our current gate tiles for example are only 3x7 block footprint. These tiles can be larger, but the teleporter location must be clearly defined as the trigger range for teleportation is

only 3 blocks. Remember the larger this tile is the greater the chance the tile will not be able to be placed which will fail dungeon generation.

## Totem

Totem tiles are used for players to interact with the dungeon menus which include things like the vault, going to spawn, teleporting to a party member, etc. These rooms should be a central location for a totem entity to be spawned. If the tile is large enough then the floor can be raised by one to prevent mob spawns. (Remember to follow floor rules for doors.)

## Room

These should be the most plentiful tile in any theme. They are not only placed during normal generation but there is also a pass over the tiles during generation to place Rooms in any available doorway to cap them off. Rooms have multiple sub types to them, and we will discuss those in the next section.

## Tile Sub-types

Treasure, Trap, Encounter, Puzzle, Trials, Extraction, and None. These are the five types of rooms we currently have. Each of them needs to be designed with the sub-type in mind because extra function is needed for them to work. While any tile could have a sub-type it will normally be a Room tile that has types other than None.

### Treasure

These are tiles that give treasure after it is discovered or the path to the chest is opened. Treasure tiles have three types of activators that are reach location, block interactions (punch a block), and redstone interaction (click a button for example). A chest must be placed in an unreachable location where blocks can be added or removed to allow access to the chest. It helps players to see the chest but is not necessary until after activation happens.

### Trap

Like treasures these have three activators that will perform a trap action. It is mainly used to spawn in mobs when an activator has been triggered. But can also add or remove blocks from the tile when triggered. For example, a wall is removed, and mobs are spawned behind it.

### Encounter

These tiles have one activator and that is to reach distance from location. This will spawn mobs that the player then must deal with or run away. Tiles should be built in a way that allows the mobs to have room to spawn and players be able to fight them.

## Puzzle

This is a tile that contains some type of puzzle that when completed will add or remove blocks to allow the player to gain access to the reward in a chest. These tiles must be planned out what puzzle they are or have a generic area that a puzzle could be inserted.

## Trials

This will be an area that the player will be trapped in while waves of mobs attack the player. When the last wave is complete the doors will open again, and the player can move on. There should be enough room for the fight to happen and the room should be of equal or close to it in length and width. (Necessary for room radius to be set) Rewards get thrown on the floor in the center of the room.

## Extraction

This is a tile that when a player presses a button several waves of mobs will be spawned, and the player must defend the drilling rig aka an entity from being killed. If successful a reward will be placed in the center of the room on the floor.

## None

This is a standard tile in which nothing special happens. Most tiles will use this option as they do not have room to perform action or already have another use.

## Activators

These are triggers for events in the dungeon. They are as stated above redstone, block interactions, and reach locations.

### Reach Location

This one is simple. Just get within so many blocks of the trigger location. Normally in the center of the tile.

### Block Interactions

This one is also simple, you just must click the trigger block. This is a representation of pushing a hidden button. The block used should stand out but still blend in so that players that are paying attention will find it, but it is easy to miss if players are not actively looking.

## Redstone

This can be pushing a button, flipping a lever, stepping on a pressure plate, powering a block like a redstone lamp. Basically, any change in redstone power level can trigger this.