Research on jumping mechanics

What makes a jumping mechanic any good?

Responsiveness and fairness to the player

Responsiveness

When the player presses the jump button, a timer starts which lasts however many frames. The closer the character gets to that final frame; the character slows down. When the time runs out, the player descends. This makes it feel like the button in pressure sensitive, even though it’s not.

Active problem solving required to progress through the level

Running speed – the slower you’re moving, the faster the timer runs out

Fairness

If the player can control the character while in mid-air, it gives the player more sense of control

The jump zone – the space between the earliest point you can jump to still clear the gap, and the edge. Give enough room in case the player jumps too early or need to avoid obstacles in mid-air

Consider the maximum length of the jump and how it responds to player input

There are subtle ways of making it easier for the player while they still think they’re using skill throughout the game. Such as the ghost jump – a small gap that the player can jump after the edge of a platform