

(Shitty drawing I made in 20 minutes to make the main page look nicer)

(ok, who am I kidding, this drawing is amazing)

Worm: The Video Game, My document

# **Phrases in orange** are comments that are not needed to the game but help explaining why I made some rule decisions, or what is possible with a power, or a good use for abilities.

# **Phrases in red** are things that are either subject to change because they probably aren’t balanced and I have to make some actual tests with them, or parts where I still have to come back and finish writing / parts that are still not written.

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\*I don’t own Worm, the one who own it is Wildbow AKA John Christmas McCrae I think? I don’t intend to profit from anything I do related to Worm without the explicit permission of the creator, yada yada yada.

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### Links to the other documents

### [Difference between elemental powers and uses](https://docs.google.com/spreadsheets/d/14DyF6FfWyt09ikgQsjxNCQ1jBtaFs7EsXumbo822C5s)

### [All of the Abilities (Powers)](https://docs.google.com/document/d/1Qn4M3nqWyG0keltD90LMy_V2AkFthZT30SNqNkg6QVg)

1. [Table of element combinations and abilities](https://docs.google.com/spreadsheets/d/1IoppOkDlEO9TtYz3EgBC4GPI4slSCs6-D1OEoZSdEQk)
2. [General rules, facts, stuff](https://docs.google.com/document/d/1L3nGMw_dKx-_KTVtWRC8zSRwRdbyTDyV7Fox-EcoqnA) (This document)

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### This document is pretty messy and does not have consistent formatting, and is also not really divided into parts/chapters/topics. I’ll deal with that later. Sorry.

**Some facts**

This is a Roguelike game, which at the beginning will be simplified to a tactical brawler. The fighting game is like Binding of Isaac, with superpowers as a theme, about seven times slower, and in a changing environment.

The game will be top down (or isometric) or something similar, with real time gameplay, keyboard for movement and mouse for aiming, hotkeys for access to powers, inventory, etc.

Main gameplay features are: Different random powers in every game (a LOT of replayability), hundreds of abilities (Many different tactical situations), a world that constantly changes because of your actions (will be implemented later, obviously) and fun graphics.

The game will be singleplayer at first and at the core, but designed with a definite possibility of multiplayer in mind.

I won’t be using or even mentioning the PRT classification system because it’s such a stupid idea! except for Tinkers.

Tinkers won’t exist, at least not as player characters, at least in the near future. Tinkers are hard.

The game will start as a “brawler” game in which two teams, or an enemy team and a lone player, fight to the death. Later it will be expanded into a city-sized game.

The player’s powers are randomly generated every time a new game is started.

There are tons of powers, and basically an infinite number of combinations.

So many powers that were in Worm do not appear here. Basically all precognition, problem-solving, tinkers of course, emotion control, simultaneous control of many things (Skitter, Parian), and darkness/light are the main ones. I mean, pretty much 80% of the Worm powers don’t appear here and another 15% appear in a different way with different numbers or methods.

### How NPCs will work, shortly

Three types of people: Neutrals, Enemies, Allies and Frenemies. Wait, four.

Neutrals are usually just ignored.

Enemies are people you attack until they are dead, or defeated, depending on how lethal you want to be.

Allies are friends: You will heal and buff them, and follow them.

Frenemies (temp nickname?) are allies-turned-enemies. You will attack them and fight them, but only in non-lethal attacks while trying to subdue or restrain them long enough for the effect to wear off.

**Terms and shortenings**

EP = Element Points. Elements are what powers are created from. Capes have 10 EPs. These are basically the DNA of the cape’s powers.

AR = Armor Rating.

FF = Force Field.

HP = Health Points = life.

S = Stamina.

C = Charge.

M = Mana.

m = meters.

s = sec = seconds

r, d, p = radius, damage, pushback. These are explosion parameters.

*Note: I might use “enemy” and “character” and “creature” interchangeably sometimes.*

**Power range and Levels**

Every power has a Level. The power’s Level is usually equal to the number of EPs the element that made it had. The Level affects how strong, fast, large, etc. a power is.

Unless a range is specifically stated in a power’s explanation, the range of all ranged powers (e.g. Nullify, Twitch, Slow Target, Teleport Other) is within 30 meters and is somewhere you can see. (This needs to be tested and balanced, probably)

**Walls and Pools**

Walls are 1x1 m square stationary objects that fill the area completely, and collide with everything (except for ghosts obviously). Every wall starts with 100 health and has a natural armor of 10. However, it is damaged by pushback instead of being pushed by it. That means that attacks that deal a lot of pushback+damage at once are best, such as Metal and Earth attacks. Walls can be used for a variety of actions with Reshape powers.

Pools are 1x1 m stationary objects on the floor, that collide with nothing but can be damaged by explosions and can affect creatures walking on them. They have a chance to cause a lot of damage to anyone who walks on them (lava, acid, spikes) or simply make them slip (water, ice, blood). Pools can be destroyed by creating any wall inside of them, or after their life becomes 0. A pool’s life starts at 100 and decreases by 1 every second.

**Health, Mana, Stamina and Charge Bars**

Normal characters have maximum values of 100 HP, 10 Mana, 10 Stamina, and 100 charge (everyone always has max 100 charge). Health is healed at 0.1 HP/s when out of battle, Mana is regained at 0.5 M/s, Stamina is regained at 0.6 S/s. Charge is regained depending on your powers and depletes at 1 C/s outside of combat.

Health, HP, or Life is a measure of how uninjured you are. Full health means no injuries. 10 or less health means that a character is unconscious. 0 health means that the character is unconscious and dying, and will lose 1 health every 10 seconds until it has -10 health at which point they die.

Mana is the amount of “magical energy” you can spend to use your powers.

Stamina is the amount of physical energy in your body. Low stamina means you’re tired. You spend stamina on physical actions such as attacks, movement, evasion.

Players have a Charge meter that is between 0-100 points. Charge is used for specific “charged” powers, that are usually very strong but take a lot of time to charge. Alternatively, it’s used for powers that become stronger the more you do X, and weaker as long as you don’t do it.

The charge meter is slowly filled as long as a condition is met, at the rate of 5 Charge points per second (5 C/s). This is the rate for everything unless stated otherwise.

(When a power says “Charge while in combat” it means that as long as you’re in combat, you gain 5 C/s.

**Explosions**

An explosion is a blast centered around a point. It has a center, a radius, a damage, a pushback. Creatures in the edge of the blast are dealt zero damage and pushback, at the center are dealt all damage and pushback, and anywhere else inside are dealt damage and pushback like this: dmg - dmg\*distance/radius. The same goes for pushback. Explosion damage is linear. An explosion 1 meter away is twice as strong as an explosion 2 meters away. Sometimes explosions are just written as r, d, p; short for radius, damage, pushback.

Elemental explosions look different, deal elemental damage instead of regular damage, and have a 15% chance of causing the element’s special effect when hitting an enemy.

**Damage and Armor**

Most of the time, when a source deals damage to an organic target, the damage is multiplied by a random number between 0.9 and 1.1.

Elemental Damage: Damage can be of these types: Normal, Fire, Electricity, Acid, Energy. Only Normal damage is not considered “Elemental Damage”.

Damage is absorbed by armor - the damage you’re supposed to be dealt is reduced by your armor rating. Piercing attacks from weapons like daggers, spears, bullets and arrows usually have 50% armor piercing, which means that only 50% of the armor rating is used. Whenever you take damage despite wearing armor, that armor’s Armor Rating is reduced by 3% of its maximum value. And, even if your armor negates all damage, there’s still a 10% chance it will still happen.

Natural armor AR can’t be decreased below the default (maximum) level.

If any armor has more AR than its maximum AR, it will lose 1% of its AR every second. This is to prevent unstoppable overpowered armor-stealers.

**Pushback and movement**

Creatures that are dealt pushback will gain speed in that direction equal to the pushback \* 100/(weight<kg>+10\*strength). Regular, 70-kg 3-strength humans will be pushed at 1 m/s for every 1 pushback.

Friction: Friction deceleration applies to creatures not in the air, and is equal to 5 m/s^2 for most things. It depends on what the person is standing on.

Drag: Drag deceleration is equal to 1.05^speed - 1 [m/s^2]. Obviously it’s at a direction opposite to the direction of speed.

Creatures that hit another creature usually pass 75% of their energy. Creatures that hit a wall are stopped, and dealt damage equal to something.

Because drag is not really taken into account on speeds lower than ~15 m/s, the distance the creature’s moved is roughly the pushback squared divided by ten. Here’s a handy pushback/distance table for average humans:

Pushback Distance

1 0.1

2 0.4

5 2.5

10 10.0

**Critical Hits**

Critical hits have a default of 5% chance, and deal 250% of the attack’s damage. If the attack has an additional effect, that additional effect is thrice as likely to affect the target.

**Evasion and Accuracy**

Evasion chance defaults at 5%, and accuracy depends on distance from target but is usually around 80% for a target at a distance of 5 m. Characters will automatically try to evade all attacks. Effects that cannot be evaded and will not miss include aura effects, automatic targeting effects and basically every immediate targeting effect the isn’t Beams.

**Types of powers**

Passive abilities are abilities such as fire resistance, bonus strength or life-sensing. Passive abilities are always active from the moment you get them, and if nullified they will return the moment the nullification stops.

Activated abilities are abilities such as fireball shooting, teleporting, or creating armor. They are used once. They have a cost (Mana cost, usually) and a cooldown between uses.

Activated abilities usually can’t be nullified - but their effects can be, sometimes.

On/Off abilities are abilities such as a nullifying aura, a ghost mode or a constant scream during combat. They default as Off, the character can usually be switch between the two states with or without paying a cost for it, and a passive-like effect happens in the On state. Sometimes there’s an ongoing cost for one of the modes, in which case when it can’t be paid anymore the power will switch states. When nullified, these abilities instantly switch off.

Maintained abilities are abilities like protecting yourself with a shield, standing and singing, or absorbing energy from something. They are abilities that need to be constantly maintained as a full action, and sometimes the user can’t do anything else while maintaining them. Maintained abilities usually have an ongoing cost, and sometimes an activation cost. When nullified, they stop.

Charge abilities are abilities of the other four categories that also use the Charge energy a character has. These abilities are split into a passive ability that makes the character gain Charge as long as a certain event is happening or whenever it’s happening, and a passive/activated/on-off/maintained ability that uses Charge, usually quickly draining it. Generally, most charge abilities charge during combat and at a rate of 5 C/s, which makes the player able to use an ability every 20 seconds.

**Status Effects**

Elemental attacks have a chance to cause the special effect.

Tangle stacks, each vine has a chance of tangling equal to 50%, and a chance of 10%\*(num of vines) of dropping another vine when it hits (refreshing the timer but not adding to the stack).

Tangled enemies suffer a speed decrease. Their speed is multiplied by 0.66^(num of vines). They also take 1\*(num of vines) damage per second. A tangled enemy will drop all vines when its tangleTimer is reduced to 0, but each additional vine resets the timer to 4 seconds when it hits.

Stunnedenemies are unable to do anything for a few seconds (depending on the power), and have a 5% chance every second of getting out of the stun. If they are damaged or getting pushed, they have a 50% chance.

Fallenenemies (enemies who slipped) are unable to do anything, and will get up in 4 seconds, but during that time they have 50% resistance to pushback and (1-evasion) \* 0.8.

Burningenemies take 10 damage per second, with a 20% chance per second to stop burning.

Frozenenemies are unable to do anything, and stop being frozen after 3 seconds, but if attacked the attack deals 200% damage and they stop being frozen.

Blindenemies can’t use evasion except for ghost evasion, have -70% accuracy, can’t target anything farther than 1 meter away from them and won’t use ranged attacks if they are NPCs.

Time-Frozen creatures are immovable objects. Nothing at all can affect them except for Ghost Weapons II. Everything else treats them as an unmovable wall. The time-frozen creatures stop regenerating or counting down any timer - charge meters, ability cooldown, etc. and they also can’t do any actions at all.

Ghost Mode: Creatures in Ghost Mode cannot be interacted with except by other creatures in ghost mode, or by elemental abilities that cause elemental damage (fire, energy, lava, acid, electricity) these abilities actually cause them more damage.

**Loop abilities**

Every second, the position (x, y and z coordinates) and state (life, stamina, buffs, debuffs, effects, NOT mana and charge) of every creature are stored in the game’s memory. Abilities such as Undo or Retrace can return a creature to the state or position they were in a few seconds ago.

**Force Fields and Shields**

Force fields (and Shields) become more cracked as they are damaged, eventually breaking into tiny pieces that fizzle out. Force fields have no armor, so piercing attacks are less effective against them.

**Summoned Creatures**

Avatars are humanoid beings that are being controlled by a cape. Avatars always look distinguishable from capes - skin color, extra muscles, animal parts, an aura, whatever. A cape’s avatar will always look the same.

Clones are not actually clones, but just humans that look like their creator. Mini-clones should probably look like clones with one random large difference - skin color, hair color, size, shirt color, whatever.

**STATS**

**STATS ARE LINEAR**

A regular person has **3 of every stat**. The best possible human has about 10, a disabled person has 0-2. Because it’s LINEAR, not EXPONENTIAL.

**Strength:** Strength of muscles in your body, and your endurance to physical hits. The damage of physical hits and the amount of pushback you give, the resistance to pushback you have, the weight you can carry, and the amount of “natural armor” your skin gives you.

The heaviest weight you can lift is roughly equal to STR\*20 kg. The best punch you make is STR\*700 N. The damage of a punch is equal to STR. The damage of a stab from a sharp weapon is X+0.6\*STR (piercing), and the damage of a slice with that weapon is usually X+3+0.5\*STR (X is that weapon’s damage - 3 for knives, 9 for swords, some weapons have bonuses for slicing/stabbing). The damage of a punch is STR. Only strong capes deal more damage with a punch than with a stab/slice.

**Fitness:** Athletics, hardness,and flexibility of your body. How fast you run, your stamina, your stamina regeneration, a bit of your natural armor. Your running speed during combat is FIT\*1.1 m/s. Your max stamina is FIT\*3.3, your stamina regain speed is FIT\*0.2

**Dexterity:** Fine physical tasks. Aiming, critical chance, speed of using items, and some of your reflex movements.

Your angle of inaccuracy with a ranged attack (beam/bow/gun) is 60/(DEX+1) degrees, because it makes sense in my head. Your critical chance is 1 - (0.98^DEX), and can’t drop below 5% ever. Note that critical hits only depend on dexterity when you are using a weapon you can control; you have a 5% critical hit chance if you use anything else.

**Wits**: Quick-thinking, Analyzing, Intuition.

**Knowledge**: Knowledge, memory, connecting information.

**Social**: Social interaction skills.

**Sub-stats**

Jump height is equal to 0.1\*STR+0.1\*FIT meters.

Evasion chance is equal to 1-(0.99^(DEX\*WITS)). Note that it’s DEX**\***WITS. The reasoning for that is that you need to both identify the danger quickly, and react to it quickly, and both are necessary.

Your natural armor rating is 0.7\*STR + 0.3\*FIT.

Life Regen is 1 HP/s.

Mana Regen is 0.5 M/s.

Stamina Regen is 0.2 + 0.1\*FIT S/s.

Accuracy (The largest angle difference possible between the intended direction and the result direction) is 60/(DEX+1) degrees. With the default accuracy of +-15 degrees, you can hit a person with an elemental ball 15% of the times from a distance of 10 meters, 50% of the times from a distance of 5 meters, and 95% of the time from a distance of 2 meters.

**Movement**

Most of the time, characters **run**. Running takes 0.6 S/s (0.1 more than the stamina regeneration rate for an average person)

Power Creation

Every cape has 10 points, divided between the Elements of that cape’s powers. Here’s how they’re created:

1. Add a random\* element, with 4-6 points.
2. 50% chance to add 1-3 points to your first element, else:  
    Add 1-3 points of a new element.
3. 33% chance to add 1-3 points to your first element, else:  
    33% chance to add 1-3 points to your second element, else:  
    Add 1-3 points of a new element.

Continue until more points are added than there is space for them (and remove the extra, of course).

\*Elements aren’t completely random - there is extra chance to get common elements like Strong, Flight, Regeneration and less chance to get rare elements like Power, Lava, Steal.

**Specific damage numbers, etc. are written in the spreadsheet doc!**

Powers are divided into subcategories:

* Elemental powers are powers that can be created from nothing and shot at enemies to deal damage to them. Each of them can be used by shooting an energy beam, spraying acid, creating an earth wall, etc. These are like Blaster powers (or shaker, sometimes).  
  As minor powers they apply an effect to the main power, or allow the power to be used only with this specific element. When they aren’t connected to a main power, they will grant resistance to the element’s damage type or be rerolled if that damage type is blunt/pierce.

**Elemental Powers - Elemental Combat**

|  |  |  |  |
| --- | --- | --- | --- |
| 1 | Fire | Good for damage, pretty fast. | Strong VS plant |
| 2 | Water | Fast, weak, push enemies away or towards something. | Strong VS fire, lava |
| 3 | Wind | Great for pushing enemies into walls or traps. | Strong when pushing into walls |
| 4 | Electricity | Fast, weak, great for stunning large groups. |  |
| 5 | Metal | Nice damage, pushes hard. | Strong VS covers |
| 6 | Ice | Nice damage, freeze pools/touch. | 70% chance Freeze for 5 seconds |
| 7 | "Energy" | Pure damage (and pushback). | Long range |
| 8 | Acid | Huge damage, slow. | Strong VS organic |
| 9 | Lava | Huge damage+DOT, slow, short range. | Strong VS plant |
| 10 | Flesh | Very versatile and balanced all-around. |  |
| 11 | Earth | Very normal. |  |
| 12 | Plant | Covers enemies in vines. | Strong VS water |

## What every element is about:

|  |  |  |
| --- | --- | --- |
| 1 | Fire | Control & create fire in combat.  Good for damage, pretty fast. |
| 2 | Water | Control & create water in combat.  Fast, weak, easy to push enemies away or towards something. |
| 3 | Wind | Control & create wind gusts in combat.  Great for pushing enemies into walls or traps. |
| 4 | Electricity | Control & create lightning bolts in combat.  Fast, weak, great for stunning large groups. |
| 5 | Metal | Control & create iron in combat.  Nice damage, pushes hard. |
| 6 | Ice | Control & create ice and snow in combat.  Throw snowballs, spray snow, and the rest is ice. Nice damage, freezes sometimes. |
| 7 | Energy | Control & create Energy, or “hard light”, in combat.  Energy is basically like a concentrated sort-of-forcefield-ish hard plasma substance, in the color of purple-pink-white. Pure damage (and pushback). |
| 8 | Acid | Control & create acid in combat.  acid = green evil bubbly water that melts flesh. Huge damage, slow. |
| 9 | Lava | Control & create lava in combat.  Huge damage+DOT, slow, short range. |
| 10 | Flesh | Control & create bodily stuff in combat.  Shoot a blood beam and create a blood pool, create bone walls and spray bone fragments, throw meat balls and create a meat shield. Very versatile and balanced all-around. |
| 11 | Earth | Control & create the ground you’re standing on in combat.  The type of “earth” you use depends on the floor, which is usually cement, ground or sand. Very normal. |
| 12 | Plant | Control & create vines in combat.  Quick attacks and low damage, but covers the enemy in vines that slow and deal damage. |
| 13 | Sense | Have additional senses, like the ability to sense how injured people are, or what power they have, or what’s behind walls. |
| 14 | Strong | Have increased strength. |
| 15 | Regenerate | Regenerate your injuries, or your stamina+mana. |
| 16 | Flight | Fly. |
| 17 | Dexterity | Be great at aiming or at evasion. |
| 18 | Armor | Be shielded by some kind of armor, or just be tougher. |
| 19 | Movement | Move quickly and have move-related effects. |
| 20 | Teleport | Instantly teleport from one place to another without passing between them, or create portals that allow the same. |
| 21 | Ghost | Make your body ethereal to move through matter, or make your weapons ethereal so that they pass through armor. |
| 22 | Force Field | Create energy barriers that function as temporary shields or walls. |
| 23 | Time | Be able to accelerate or decelerate creatures through time, making them act faster/slower but also changing how they react to the world. |
| 24 | Loop | Have time-loop-related powers, giving things properties or positions they had a few seconds ago. |
| 25 | Power | Have power-related-powers, either affecting powers of others or creating new powers for yourself. |
| 26 | Steal | Have powers related to copying or absorbing life/energy/powers from others. |
| 27 | Audiovisual | Have powers related to vision or hearing - mainly, powers about sound or light. |
| 28 | Summon | Create temporary minions that fight for you. |
| 29 | Explosion | Have explosion-related powers. |
| 30 | Control | Control the bodies and minds of other creatures. |
| 31 | Reshape | Change the shape of the environment |
| 32 | Buff | Have powers that give positive enhancements and abilities to creatures. |
| 33 | Charge | Your powers need to be charged, but they are stronger. |

Elemental (all elements have the same attacks but different stats/effects)

Passive (usually grants passive abilities)

Active (usually grants active abilities)

Special (usually paired with another power and alters it)

## PERKS and TAGS

Every ability has a list of tags, which are used to determine how it can be affected, which categories it fits into and which “perks” can be added to it.

Perks are small bonuses to an ability, that make it better in some way. Characters can gain perks when they level up.

[A list of all the perks and what tags they can apply to](https://docs.google.com/document/d/1Uba2t7zx1bDKseqgOWvFmPQNVqTwqwfLshUx8wbIMDM/edit), plus all tags