Enemy Stat Tables (v0.1)

Scope

This file defines **prototype-ready** enemy stats for the MicroWorld Defender 2D tower defense.

Design goals: - Stats are tuned for **readability and balance** in early prototyping. - Values are **unit-consistent** and easy to scale. - Enemies are defined by **tags** + **base stats** + **optional mechanics**.

Global Systems & Conventions

Time & Movement

- **Tick model:** continuous (dt-based) simulation
- **Enemy speed unit:** pixels/second (px/s)
- **Default path length assumption (Level 1 prototype):** 1000 px

Health & Damage

- **Health unit:** HP
- **Armor:** flat damage reduction (per hit) unless otherwise specified
- **Shield:** separate HP layer that must be removed first

Status Effects (Core)

- **Slow:** multiplies speed by *(1 - slow%)*
- **Marked:** increases damage taken by *+X%*

Difficulty Scaling

Use a simple scalar per level and per wave segment: - **LevelScalar L:** starts at 1.00 in Level 1; +0.12 per level by default - **WaveScalar W:** within a level, starts at 1.00; +0.05 every 3 waves

Final stats: - $HP\_final = HP\_base \times L \times W$ - $Speed\_final = Speed\_base \times (1 + 0.03 \times (LevelIndex-1))$
(speed scales lightly to preserve readability)

Enemy Taxonomy

Tag Glossary

- **FAST:** high speed, low HP
- **ARMORED:** flat DR per hit
- **SWARM:** low HP, large counts

- **STEALTH:** hidden unless revealed
- **SHIELDED:** extra shield HP
- **SPAWNER:** emits minions
- **ELITE:** increased resistances / mechanics
- **BOSS:** unique rules, phase behavior

Base Enemies (Core Set)

1) Basic Virus (FAST)

Role: onboarding enemy; teaches tracking and burst vs swarm.
- HP_base: 18 - Speed_base: 130 px/s - Armor: 0 - Shield: 0 - Leak damage (to player health): 1 - Bounty (currency): 4 - Tags: FAST

Notes: - Designed so 1–2 early towers can handle small batches.

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2) Bacterium (ARMORED)

Role: introduces armor and the need for sustained damage/support.
- HP_base: 60 - Speed_base: 85 px/s - Armor: 2 (flat damage reduction per hit) - Shield: 0 - Leak damage: 2 - Bounty: 8 - Tags: ARMORED

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3) Encapsulated Bacterium (ARMORED, SHIELDED)

Role: forces the player to invest in debuffs/synergy.
- HP_base: 75 - Speed_base: 75 px/s - Armor: 3 - Shield: 25 - Leak damage: 3 - Bounty: 11 - Tags: ARMORED, SHIELDED

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4) Protozoan Parasite (TANK)

Role: "mini-tank" that tests single-target damage.
- HP_base: 220 - Speed_base: 55 px/s - Armor: 1 - Shield: 0 - Leak damage: 5 - Bounty: 20 - Tags: ELITE

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5) Toxin Droplet (FAST, STEALTH)

Role: stealth intro; teaches detection towers.
- HP_base: 28 - Speed_base: 150 px/s - Armor: 0 - Shield: 0 - Leak damage: 2 - Bounty: 7 - Tags: FAST, STEALTH

Mechanic: - Invisible unless within reveal radius of Dendritic Cell or equivalent.

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6) Spore Cluster (SWARM, SPAWNER)

Role: punishes low AoE; creates urgency spikes.
- HP_base: 90 - Speed_base: 70 px/s - Armor: 0 - Shield: 0 - Leak damage: 3 - Bounty: 14 - Tags: SWARM, SPAWNER

Mechanic: - On death, spawns **3 Sporelings**.

Sporeling (SWARM)

- HP_base: 12
- Speed_base: 125 px/s
- Armor: 0
- Shield: 0
- Leak damage: 1
- Bounty: 2
- Tags: SWARM, FAST

Elite Variants (Optional for Later Levels)

Viral Swarm (SWARM)

- HP_base: 14
- Speed_base: 120 px/s
- Leak damage: 1
- Bounty: 3
- Tags: SWARM, FAST

Mutant Virus (FAST, ELITE)

- HP_base: 40
- Speed_base: 140 px/s
- Armor: 0
- Leak damage: 2
- Bounty: 9
- Tags: FAST, ELITE

Mechanic: - At 50% HP, gains **temporary resistance** (e.g., -25% damage taken) for 3 seconds.

Boss Templates (System-Level)

Boss A: Viral Load Surge (BOSS)

- HP_base: 1600
- Speed_base: 60 px/s

- Armor: 2
- Shield: 200
- Leak damage: 20
- Bounty: 120
- Tags: BOSS, SHIELDED

Phases: 1. Phase 1 (100–60%): normal 2. Phase 2 (60–30%): spawns 2 Basic Viruses every 4 seconds 3. Phase 3 (30–0%): speed +20%

Implementation Notes (for Code)

Represent each enemy as a JSON-like object: - id, name - baseStats (hp, speed, armor, shield) - leakDamage, bounty - tags[] - mechanics[] (optional)

Scaling is applied at spawn time: - apply levelScalar and waveScalar to hp (and optionally bounty) - apply gentle speed scaling

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Versioning

- v0.1: Prototype baseline stats for early testing and rapid iteration.

This file is meant to be attached alongside the GDD + Level files for implementation chats.