AVATAR · BALANCE NOTES

HOW THE FOUR NATIONS WERE BALANCED

I ran the world through an offline simulator: 200 games of 60 turns and 200 creator builds put through duels, then marked what felt right and what didn't. These are the numbers behind the changes, for players who want to know how a fight, a purse or a pick is tuned, and for creators who want the method.

Build 6a10075dbd00 · 2026-10-29 · reports batch-20261029-031204.json, builds-20261029-031130.json

WHAT CHANGED

Fix the levelling

`p-levels`

60-turn runs never reached level 5: no quest paid XP and the curve rose 400 a level; starts put a level-1 character where the ground asks 3 to 12 → **level 5 in 146 of 200 runs (median turn 0)**

Steady XP (500 +200 a level, a fight 200, a new place 25, a skill level 20, every quest 190-500 by its place's danger) and starts at their zone's level, told on turn one; the early days hold turns 1-30 to the band's bottom.

Armour to about a third

`e-armour`

best full set 102 armour = 10% less damage → **best full set +306 armour = 30.6% less damage**

Every armour value x3: the best full set 306 = 31%.

Bonus follows price

`e-dominated`

15 items a cheaper one in their slot beat → **0 dominated**

Each gained a fitting second bonus; every price kept.

Bonus follows price

`e-unpriced`

8 kit weapons with bonuses and no price → **0 unpriced gear**

Priced at the Field Kama's 6 Pieces, the shelf's piece with the same bonus.

Lift the weaker Bending picks

`b-bending`

Nonbender 0.427 against about 0.35 for the four benders and 0.302 for the Avatar → **Firebender 0.435 .. Avatar 0.403**

Each bending pick gains Health beside its chi (+30, the Avatar +45); Nonbender keeps what it had.

Held where they felt right

fight average even won share: **75% won, 32% health lost** (marked at 72%)

fight elite +5 or higher downed share: **100% downed** (marked at 100%)

narrator pays / asks a run: **pays 23.8, asks 8.4 Pieces a run (2.8x)** (marked at 2.8)

FIGHTS: RANK AND LEVEL GAP

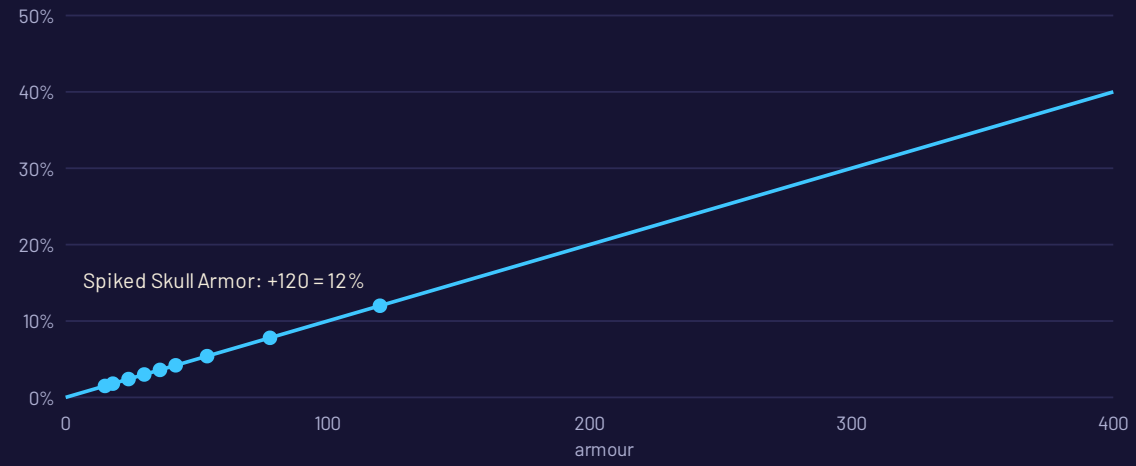
A foe's rank and how far it stands above you decide most of a fight. Each square is every simulated fight of that kind: how often the player went down, how often they won, and how many fights the number rests on. Plain squares had too few fights to say, and a foe rank the runs never met is left out.

	-5 or lower	-4..-1	even	+1..+4	+5 or higher
weak	no fights	no fights	1 fight	1 fight	no fights
average	no fights	no fights	**downed 20%** won 75% · 126	**downed 40%** won 58% · 50	**downed 97%** won 0% · 38
strong	no fights	1 fight	**downed 26%** won 72% · 47	**downed 80%** won 20% · 15	**downed 100%** won 0% · 12
elite	no fights	1 fight	**downed 23%** won 70% · 40	**downed 89%** won 11% · 19	**downed 100%** won 0% · 16

Downed share by foe rank (rows) and the foe's level minus yours (columns). Brighter red is deadlier. Bosses far above you can be escaped: flee or break away mid-fight and every foe in it is left behind.

ARMOUR

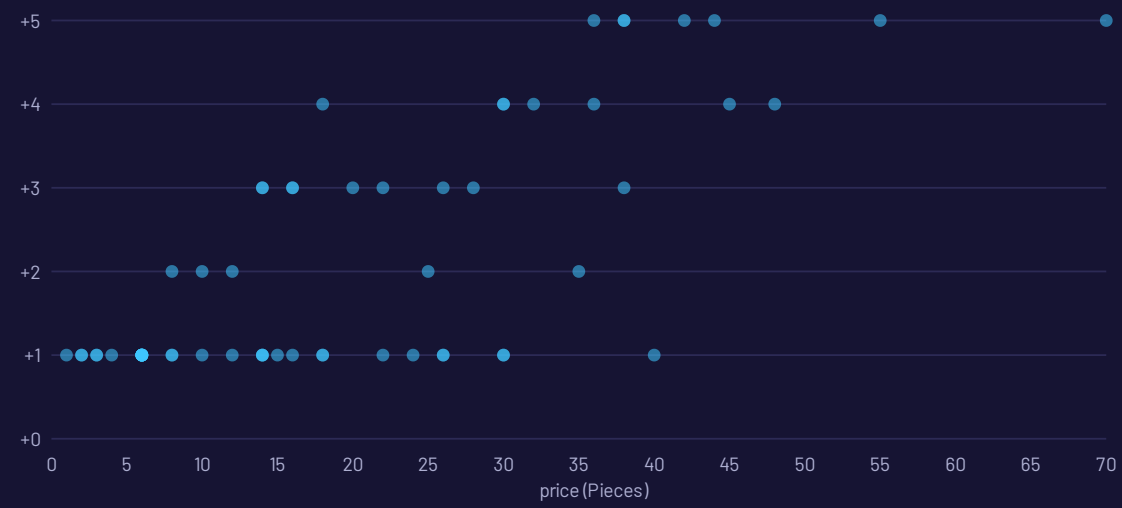
Every point of armour takes 0.1% off the damage you take, up to 90%. A full set of good armour now takes about a third off a blow: the best piece sold, Spiked Skull Armor, gives +120 for 90 Pieces.



Damage cut against armour; each dot is a priced armour value in the world's shops.

GEAR: PRICE AND BONUS

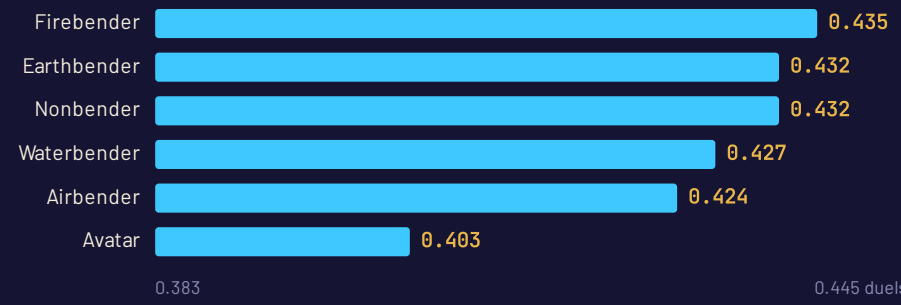
Every price I wrote stands. Where a dearer piece did no more than a cheaper one in its slot, it gained a second bonus that fits it, and the weapons the creator hands out now carry a price from the world's own shelf. Nothing on a shelf is beaten outright: 0 items are dominated now, 0 kit items unpriced.



Each dot is one priced piece of gear: its price against its skill, attribute and damage bonuses added up (armour is charted beside its own words).

BENDING

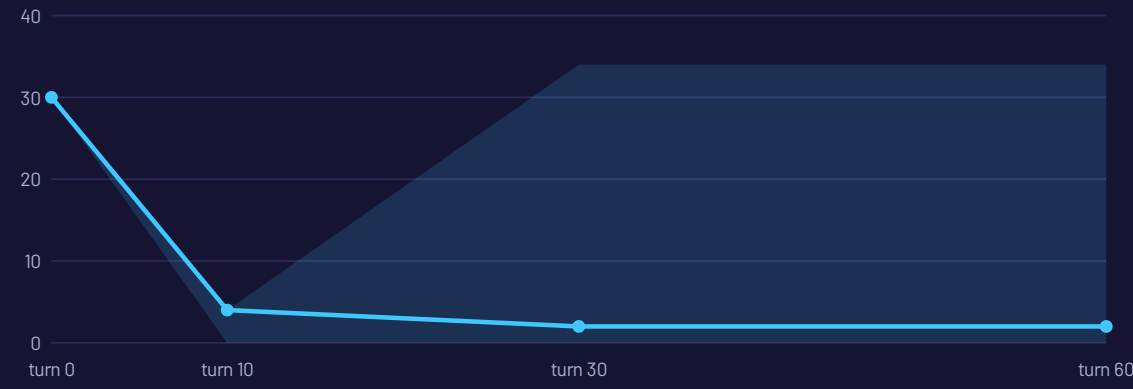
Every creator build was put through the same duels: three levels, every foe rank, four level gaps. A pick's score is the share of those duels its builds won. Nonbenders led: their Health and body count in every straight fight, while chi buys nothing there. Each bending pick gained Health beside its chi, and the Avatar a little more, so no one is behind for choosing to bend.



Mean duel win share of the builds that took each pick. The duels count the roll, the Health and the techniques' bonus, not what bending opens in the story.

MONEY

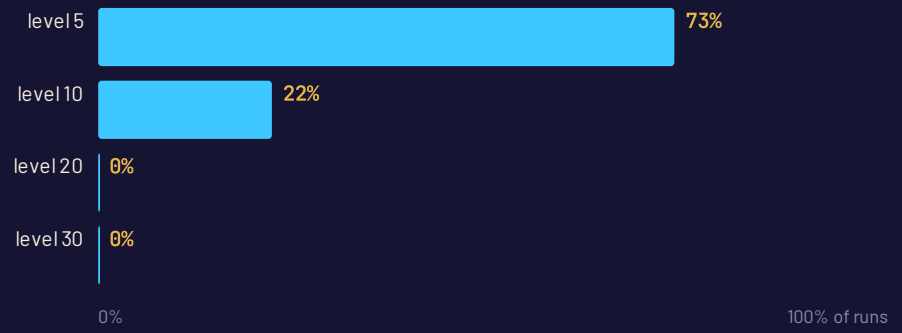
Pieces come slowly. A new character starts with 30, enough for a little kit. Over a 60-turn run the narrator pays about 23.8 Pieces and asks about 8.4 for fares, food and favours (2.8x), and half the runs come up short of a charge at least once (53%).



Pieces held across the simulated runs: the line is the median run, the band the middle 80%.

PACE

Most experience comes from quests and story beats, little from fighting, so wandering and killing does not level you. In the simulated runs a new character reached level 5 in 146 of 200 runs, around turn 0: levels come where quests are finished, and the simulator's stand-in player finishes few of them, so read this as the slowest a run can go.



Share of the simulated 60-turn runs in which a character reached each level.

FOR CREATORS: THE METHOD

The simulator plays the world's own JSON turn by turn with Voyage's trigger rules, a seeded stand-in narrator, and combat from the documented formulas. Numbers no document settles are named assumptions, each with its source (below); live play on a private copy of the world settles what the simulator cannot.

My marks (page one) are what I judged from these numbers: each change was made, re-measured, and held only where the new number read right.

WHERE IT CHANGED IN THE WORLD FILE

Every edit of the balance pass, by its place in the world JSON (sections, then records, then fields; * stands for each record listed under it), against the world before the pass (761579b4). A creator can make the same change by hand at the same place. Hidden fields are named, never quoted.

`skillSettings › charXPPerSkillLevel: 5 → 20`

`progressionSettings › startingCharacterLevelUpRequirement: 1000 → 500`

`progressionSettings › extraRequiredXPPerCharacterLevel: 400 → 200`

`progressionSettings › locationDiscoveryXP: 10 → 25`

`combatSettings › baseCombatXP: 100 → 200`

`46 itemTypes (itemTypes › * › bonuses › * › value): each changed 15-120`

Air Nomad Leg Drapes, Air Nomad Monk Robes, Air Nomad Red Boots, Air Nomad Shawl, Bone-Rimmed Tribal Shield, Conical Straw Hat, Dai Li Robe, Dai Li Stone Shoes, Desert Head Wrap, Earth Army Boots, Earth Kingdom Conical Helm, Earth Kingdom Lamellar, Earth Kingdom Shin Guards, Earth Kingdom Tower Shield, Fire Army Gauntlets, Fire Army Greaves, Fire Army Helm, Fire Army Plate, Fire Nation Buckler, Fire Navy Deck Armor, Fire Navy Deck Boots, Firebender's Skull Mask, Fur-Lined Mukluks, Fur-Trimmed Leggings, Iron Parrying Fan, Kyoshi Folding Shield, Kyoshi Metal Headdress, Kyoshi Warrior Kimono, Northern Fur Cloak, Officer's Shoulder Mantle, Omashu Bender's Tunic, Royal Armor, Scavenged Patchwork Armor, Si Wong Desert Robes, Southern Raider Helm, Spiked Skull Armor, Studded Bracers of Omashu, Swamp Bark Shield, Swamp Wood Chest Guard, Three-Finger Mittens, Traveller's Oilcloth Cloak, Tribal Bracers, Tribal Greaves, Water Tribe Parka, Water Tribe Wolf Armor, Yuyan Archer's Leathers

`8 itemTypes (itemTypes › * › description): each changed`

Bone Club and Boomerang, Earth Kingdom Jian, Hand Wraps, Hunting Bow, Long Spear, Sailer Pole, Steel War Fans, Throwing Knives

`15 itemTypes (itemTypes › * › bonuses › *): each added skill, 1`

Bone-Rimmed Tribal Shield, Fire Army Gauntlets, Fire Army Sword, Fire Nation Dadao, Gold Bangle, Hook Swords, Jade Ring, Naginata, Pu Dao, Red-Tufted Spear, Retracting Sai, Spring-Loaded Stilettos, Sun-and-Moon Blade, Tribal Greaves, Whale's Tooth Scimitar

`5 traits (traits › * › description): each changed`

Airbender, Avatar, Earthbender, Firebender, Waterbender

`5 traits (traits › * › resources › *): each added health, 30-45`

Airbender, Avatar, Earthbender, Firebender, Waterbender

108 triggers (triggers › *): each added (hidden field, values not shown)

224 questTriggers (questTriggers › * › effects › *): each added player-experience, 190-500

APPENDIX: THE ASSUMPTIONS

Every number the simulator could not read from a document or a live game, with the value it used and where that value comes from.

`conditions_read_phase_start_storage` `true`
R46-R47 (a typed write-boolean set in a pass is read by conditions from the NEXT turn) vs R17 (triggers see earlier writes in the same phase); parity settles it

`planning_script_starts` `12`
R46-R47 (planning held ~8 starts worst, 12-16 better)

`state_script_starts` `12`
R46-R47 (no state-phase measurement: planning's numbers)

`script_timeout_ms` `500`
triggers doc: 500 ms shared per phase

`script_trigger_delete_lands` `false`
R48 / R81: a `delete triggers[...]` never landed live

`ai_checks_per_turn` `15`
triggers doc Size Limits: ~15 per turn

`ai_checks_per_active_quest` `5`
triggers doc Size Limits: +5 per active quest

`objectives_start_hidden` `true`
unknown (plan Task 2 ruling)

`skills_start_at_zero` `true`
unknown

`text_contains_case_sensitive` `true`
unknown

`resource_clamped_to_max` `true`
unknown

`level_up_resource_rule` `by_gain`
OQ#13 open; live DEV canaries (gainPerLevel 0) stay 0 after a level set, so not 'fill' for those

`narrator_move_before_state_phase` `true`
unknown: R10 settles a planning trigger's move only; parity measures the narrator's

`ai_budget_file_order` `true`
unknown (OQ#6: the order AI checks spend the budget in)

`satisfying_players_intersection` `true`
unknown: the doc names the satisfying player(s), not how several player conditions combine

`quest_accept_completes_progressed` `true`
unknown: Q says hidden/planned quests accumulate progress silently, not what accept then does

`premade_start_full` `true`
unknown: resourceSettings.md gives initialValue for a NEW (level 1) character only

`premade_xp_at_level` `true`
unknown: whether a premade above level 1 starts with its level's XP or with 0

`location_move_area` `first`
triggers doc: party-location cascades the area; which one is unknown: the first authored

`quest_triggers_after_triggers` `true`
unknown

`success_level_weights` `{"critical failure": 3, "failure": 12, "`
unknown until sim_parity calibrates it

`attack_words` `["attack", "strike", "slash", "stab", "h`
unknown: when Voyage resolves an action as combat is the narrator's call (batch policy)

`roll_spread` `cap`
skillSettings.md caps a roll's contribution at maxSkillSuccessLevel; its distribution is unknown (uniform assumed)

`player_base_damage` `10`
unknown: npcs.md gives +2.5 per level, not the level-1 base

`npc_base_damage` `8`
unknown: npcs.md gives +2.0 per level, not the base

`band_damage_factor` `{"critical failure": 0.0, "failure": 0.0`
unknown until sim_calibrate fits the recorded hits

`combat_xp_scaling` `flat`
unknown: combatSettings.md calls baseCombatXP a base, not how NPC level or tier changes it

`combat_xp_split` `equal`
unknown: combatSettings.md gives the base, not the split

`narrator_xp_chance` `0.132`
calibrated: 3762 turns

`narrator_encounter_chance` `0.05`
unknown until sim_calibrate counts foes the world does not author, first met in combat, per recorded turn

`encounter_tier` `authored_mix`
unknown: the rank the narrator gives a foe it makes (recordings carry no rank); authored_mix = the region's authored ranks, bosses and mythics out

`narrator_xp_size` `177`
recordings 2026-10-27: median 177, p10 153, p90 192 over 66 awards

`fight_to_finish` `true`
batch policy: an engaged player keeps attacking, so a fight's length and cost are measured whole

`max_fight_turns` `20`
batch policy: a fight longer than this counts as unfinished

`attack_skill_types` `["combat", "magic"]`
batch policy: the committed player attacks with its best combat or magic skill (an Onmyoji's art, not a sword it never trained); the narrator picks the skill li

`attack_move_rule` `attack`
abilities.md: the bonus reaches the relevant check; 'attack' = the move's text names an attack skill or reads as an attack (Asagiri: 'Improves the next Blade ac

`ability_use` `best_ready`
batch policy: live the player picks; the committed player uses its best ready move on an attack

`bench_levels` `[1, 10, 20]`
build bench grid (design 2026-10-28, phase 3b)

`bench_gaps` `[0, 3, 6, 9]`
build bench grid: NPC level = player level + gap; Asagiri 2026-10-28: elite wins 1.0/0.95/0.40/0.04 at +0/+4/+6/+8, so +-2 told no build apart

`bench_reps` `20`
build bench grid: duels per cell

`build_band` `0.1`
his creator method: a measured band; a pick whose builds win this much more or less than its tab's median

`equip_policy` `best`
batch policy: live the player equips by hand; the committed player wears the best held gear

`gear_score_weights` `{"damage": 10, "armor": 0.1, "resource":`
batch policy: 1 damage point (+10%) ~ 100 armor (10%) ~ 100 resource max ~ 10 skill points

`kit_at_start` `true`
batch policy; Asagiri's outfitter section: the 35-Mon start buys one garb and one mask

`kit_reserve` `0.15`
batch policy; Asagiri's outfitter section: garb and mask 'with a coach fare left over'

`shop_chance` `0.05`
unknown (batch policy: a buy roll per turn)

`narrator_income_chance` `0.01`
calibrated: 3402 turns

`narrator_income_size` `1.14`
calibrated: 35 turns

`narrator_spend_chance` `0.035`
calibrated: 3402 turns

`narrator_spend_size` `0.15`
calibrated: 119 turns

`move_chance` `0.2`
unknown (batch policy)

`accept_chance` `0.5`
unknown (batch policy: the player's Accept click per turn)