

# Balancing your game!

Balancing your game progression is one of the many aspects to take in count while designing a game. Not balancing your video game can bring the player to a feeling of going excessively well and having an easy adventure or being on the opposite side, having a difficult journey with many and many difficulties provided due to an unbalanced game.

## *“How can I balance my game?”*

There are many ways to balance a game, but there is one way that is the most used by developers, and this is creating a balancing spreadsheet.

	1	2	3	4	5	6	7
1	Mercenary Kings - Distribution of Game Elements						
2	Rarity	1	2	3	4	5	6
3	Mission Ranks	Recruit & Private	Corporal	Sergeant	Lieutenant & Captain	Major	Lieutenant Colonel
4	Firearm Min. DPS	600	1000	1400	1800	2200	2600
5	Knife Max. DPS	1050/1250	1650	2050	2250/2450	2850	3250
6	Enemy Health	200 to 1500	290 to 2900	465 to 4660	675 to 6750	915 to 9160	1190 to 11900
7							
8	Handguns	Bolt 45, Klein P8, Jager, Peashooter, Shotgun, Bolt Six Shooter	Frazetta, K9 Pistol	Tracker, Frazetta 93S, Footstole	Spark, Pistol, SOCOM	Splinter, Mastrom, Violence Pistol	Golden Gun, Beehive
9	Magnums	Hand Cannon, Jackal	Reconack	Golden Vulture	Revolver, Clint 500	Thunderbolt	Horse, Hawkeye
10	Sub-Machine Guns	Artillery Jager, Flusher, Handcannon	Tommy Gun	Stinger	Ghost, Cobretti, Mach-20, Buzzard	Pulsar	Spike, Choppy
11	Assault Rifles	Sturm Rifle, Patrol Rifle, Steel Assault, Spiral Rifle	Freelancer, Scan Rifle, Freedom Fighter	Trax, Trencher, Spec Ops Rifle	Reyder-47, Mew Gray, Tribute, Magnastorm	M16	FA Commando, Polar Brigade
12	Shotguns	Dunk, Red Shot, Trombone	Black Thome	Stiker, Shockwave	Armado Shot, Iron, SWAT-12, Mew Orange, Munster Shot	War Hammer, Crusher Cannon, Violent Impact	Victor, Spreader
13	Sniper Rifles	Karabner, Recon Rifle	K9 Interceptor	M40	Lee Wire, Termination	Sabotage, Crimson Dragon	Atom Collider, Happy Birthday
14	Machine Guns	Grinder, Minigun	Bulldozer, Sentinel	Spartan	Reconker, Trencher, Python	See Hapard, Apocalypse	Power Gauntlet, Avalanche, Arc Blaster
15							
16	Ammunition	Soft-Point, Incendiary, Cryogenic, Cauter, Electric, Armor-Piercing, Ball, Magnum, Guided, Incand. Shot, Incand. Ball	Round, Magnum, Cryo, Magnum, Cauter, Ball, Elec. AP, Elec. Shot	Missile, Elec. Magnum, Cauter, Shot, Cryo, Ball, Incand. AP	Hollow Point, Buckshot, Shrapnel, Elec. Missile, Elec. Ball, Cauter, AP, Cryo, Cryo, Cryo, Cryo, Shrapnel, Incand. Missile, Incand. Shrapnel, Hot Hearts	Halstone Burst, Grapeshot, Vector Shot, Spark Shot, Elec. Shrapnel, Cauter, Shrapnel	Anti-Materiel, Dart Cluster, Missile Cluster, Super Missile, Frostbit Shot, Wire Shot
17							

*Balancing spreadsheet*

A balancing table is a document where all the elements implemented in your game will be introduced and they will be compared. The main points of this document are having clear what every element in the game will affect to the player, having all really easy to manipulate and find an unbalanced issue as fast as possible, and depending on if the spreadsheet is automatized with formulas or not, having a tool where changing one data can help coders to not introduce random values for the elements until one fits perfectly. The example above represents a balancing spreadsheet of guns implemented in the game

“Mercenary Kings”. In this example, we can see that the spreadsheet is divided in 3 parts, one for gun rarity, another one for how many guns there are of every type (handguns, assault rifles, shotguns...) and finally, a part for ammunition. At the top of the spreadsheet, we can see the types of guns there are, their rarity.

### ***“What do I get having a balancing spreadsheet?”***

Having all your elements united in one document where their stats are being compared with each one of them.

1	A	B	C	D	E	F	G	H	I	J	K
2	Cost	New Name	Action	Zoo Effect	Type	Monster Type	Card Strategy	Printed	# in The Wild Deck	# in Player Deck	# to Print (4 Players)
3	1	Dirty Socks	+1 Food		Food	Food		No	0	7	28
4	3	Cookies	+3 Food (Only for Zoogly Monsters)		Food	Food	Resource Advantage	No	3	0	3
5	3	Tennis Shoes	+3 Food (Only for Oogly Monsters)		Food	Food	Resource Advantage	No	3	0	3
6	3	Balloons	+3 Food (Only for Boogly Monsters)		Food	Food	Resource Advantage	No	3	0	3
7	4	Fumblee Boogly	+2 Food. Other players discard down to 3 cards.		Monster	Boogly	Card Advantage	No	4	0	4
8	4	Boo Boogly	Draw 3 Cards.		Monster	Boogly	Card Advantage	No	4	0	4
9	4	Meers Boogly	Pick any Zoo. Play a Monster card from that Zoo as if it was in your hand.		Monster	Boogly	Card Advantage	No	4	0	4
10	4	Whompo Boogly	+2 Food.	Zoo Effect: +1 Card this turn. Zoo Effect: Play a card from your Zoo as if it was in your hand this turn. Return it back to your Zoo at the end of your turn (do not discard it).	Monster	Boogly	Card Advantage	No	4	0	4
11	6	Boomer Boogly	+1 Card.		Monster	Boogly	Card Advantage	No	4	0	4
12	3	Flo Boogly		Zoo Effect: +1 Card this turn if there is at least one other Monster in the Zoo.	Monster	Boogly	Card Advantage	No	4	0	4
13	2	Koppl Boogly	Copy the effect of a Monster card played this turn.		Monster	Boogly	Card Advantage	No	4	0	4
14	5	Lanzo Boogly	Take a random card from other player's hand. Put it in your hand.		Monster	Boogly	Card Advantage	No	4	0	4
15	4	Lurti Boogly	Take the first card from other player's deck. Put it in your hand.		Monster	Boogly	Card Advantage	No	4	0	4
16	3	Porta Boogly	Swap a Monster card from your hand with a card in The Wild.		Monster	Boogly	Card Advantage	No	4	0	4
17	3	Chunky Oogly	+2 Food. +1 Card.		Monster	Oogly	Resource Advantage	No	4	0	4
18	5	Oto Oogly	+2 Food. Search any discard pile for a card. Put that card on top of your deck.		Monster	Oogly	Resource Advantage	No	4	0	4
19	4	Chompo Oogly	+2 Food.	Zoo Effect: +1 Food this turn. Zoo Effect: +1 Food this turn if there is at least one other Monster in the Zoo.	Monster	Oogly	Resource Advantage	No	4	0	4
20	3	Patsie Oogly			Monster	Oogly	Resource Advantage	No	4	0	4

*Balancing spreadsheet*

### ***“How do I create my balancing spreadsheet?”***

A balancing spreadsheet needs constant comparison between elements. What is necessary to have in mind is that balancing your game is mostly pure mathematic, having a weapon that deals tons of damage at the beginning of the game or having one that deals almost none damage at the end of the game, these are unbalanced elements that are not fitting in the correct game time, which leads to a wrong feeling for the player. This document is mostly created with Excel, due to this software capability of doing calculations, creating tables or having everything in developer's disposition.

	A	B	C	D	E	F	G	H	I
1									
2	Healing Item ID	Purchase Cost	Purchase Cost (Manual Override)	Health Restored	Health Restored (Normalized)	Health Restored (Adjusted)	Space Required	Space Required (Normalized)	Space Required (Adjusted)
3	Red Potion	50		20	0.00000	0.00000	3	0.50000	0.500
4	Orange Potion	611		50	0.03409	0.09883	2	0.25000	0.250
5	Green Potion	632		100	0.09091	0.24869	3	0.50000	0.500
6	Blue Potion	955		200	0.20455	0.49668	2	0.25000	0.250
7	Purple Potion	100	100	500	0.54545	0.90609	3	0.50000	0.500
8	Big Potion	630		200	0.20455	0.49668	5	1.00000	1.000
9	Rainbow Potion	1,500		900	1.00000	1.00000	1	0.00000	0.000
10	Brown Potion	200		20	0.00000	0.00000	5	1.00000	1.000
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*Balancing spreadsheet*

Useful links:

<https://learn.canvas.net/courses/3/pages/level-12-dot-0-game-balance>

<https://www.entrogames.com/2020/04/game-design-introduction-spreadsheets-for-game-designers-real-world-examples/>

[https://www.gamasutra.com/view/news/227737/Game Design Deep Dive The weaponcrafting system of Mercenary Kings.php](https://www.gamasutra.com/view/news/227737/Game_Design_Deep_Dive_The_weaponcrafting_system_of_Mercenary_Kings.php)