- **Moves**: They are all defined differently from PvE. In PvP, a move is defined by its power (the amount of damage it deals), its energy (the amount of energy it generates or uses) and its duration (the number of turns the move lasts, each turn lasts for 0.5s).

  Three measures can be defined:
  - DPT stands for Damage per turn. Equivalent to DPS in non-PvP scenarios. Higher is better. Only for fast moves.
  - EPT stands for Energy per turn. Equivalent to EPS in non-PvP scenarios. Higher is better. Only for fast moves.
  - DPE stands for Damage per energy. DPE describes how efficiently you deal damage in comparison to the energy spent. Higher is better. Only for charged moves.

  Examples of PvP stats for fast moves are:

Move	Power	Energy	Duration (s)	DPT	EPT
◉ Mud Shot	3	9	2	1.50	4.50
◉ Psycho Cut	3	9	2	1.50	4.50
◉ Thunder Shock	3	9	2	1.50	4.5

  Examples of PvP stats for charged moves are:

Move	Power	Energy	DPE
◉ Hydro Cannon	90	40	2.25
◉ Frenzy Plant	100	45	2.22
◉ Blast Burn	110	50	2.20
◉ Avalanche	90	45	2.00
◉ Draco Meteor	150	75	2.00

  For more details:

- The **Effective Health** (EH) measures the bulkiness of a Pokémon and is computed via the formula:

  $$EH = \tfrac{1}{900} \times (\text{DEF at considered level}) \times (\text{HP at considered level})$$

  where DEF at considered level = (Base DEF + IV DEF) × coeff_level
  and HP at considered level = (Base HP + IV HP) × coeff_level
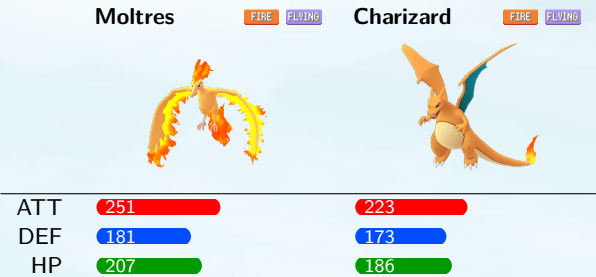 Example of coefficients are

Level	Level 20	Level 25	Level 30	Level 35	Level 40
coeff_level	0.5974	0.667934	0.7317	0.76156384	0.7903

  At level 40 (Master league),

  $$
  \begin{array}{ll}
  EH \leq 25 & \text{very fragile} \\
  25 < EH \leq 30 & \text{fragile but viable} \\
  30 < EH \leq 35 & \text{bulky} \\
  EH > 35 & \text{very bulky}
  \end{array}
  $$

Best Pokémon for PvP

- **Leagues**: Great league (CP $\leq$ 1500), Ultra league (CP $\leq$ 2500), Master league (no CP limit).
- **Optimal IV and level (only for Great and Ultra leagues)**
  We would like to compare Moltres and Charizard

Moltres `FIRE` `FLYING`   **Charizard** `FIRE` `FLYING`

	Moltres	Charizard
ATT	251	223
DEF	181	173
HP	207	186

For Moltres, the effective stats are

ATT IV	DEF IV	HP IV	LVL	CP	ATT	DEF	HP	SUM	EH
15	15	15	25	2475	177	130	148	455	19240
13	15	14	25.5	2500	178	132	149	459	19668
0	15	3	27.5	2499	175	137	147	459	20139
1	3	15	27.5	2499	176	128	155	459	19840

For Charizard, the effective stats are:

ATT IV	DEF IV	HP IV	LVL	CP	ATT	DEF	HP	SUM	EH
15	15	15	30.5	2497	174	138	147	459	20286
15	0	0	35.5	2495	181	132	142	455	18744
0	15	15	34.5	2494	169	142	152	463	21584
15	13	14	31	2498	175	137	147	459	20139

Moltres (13, 15, 14) has better statistics for Ultra league than Moltres (15, 15, 15). For each league, there is an optimal IV set and level that maximises attack, defence and HP statistics. For Master league, the optimal IV set is (15, 15, 15) and optimal level is 40. Furthermore, Charizard (15, 13, 14) at level 31 and Moltres (0, 15, 3) at level 27.5 have exactly same statistics. To determine which one is most interesting in PvP, we must look at their moves.
For more details:

▸ More details on optimal IV

- **PvP simulator**:

▸ Pokebattler   ▸ PvPoke

- Once you got your three medals, don't forget to steal their look:

▼ Example of Pokémon for Great league (CP ≤ 1500)

Altaria — DRAGON FLYING
Bastiodon — ROCK STEEL
Skarmory — STEEL FLYING

	Altaria	Bastiodon	Skarmory
Ideal moveset	Dragon Breath Dragon Pulse Sky Attack	Smack Down Stone Edge Flamethrower	Air Slash Sky Attack Flash Cannon
ATT	141	94	148
DEF	201	286	226
HP	181	155	163
Optimal IV / Level	(0,14,15), level 29	(8,15,15), level 40	(0,14,15), level 27.5
Weaknesses	ICE ROCK DRAGON FAIRY	FIGHT GROUND WATER	FIRE ELECTR

Medicham — FIGHT PSYCHC
Deoxys (D) — PSYCHC
Azumarill — WATER FAIRY

	Medicham	Deoxys (D)	Azumarill
Ideal moveset	Counter Power Up Punch Ice Punch	Counter Psycho Boost Rock Slide	Bubble Ice Beam Play Rough
ATT	121	144	112
DEF	152	330	152
HP	155	137	225
Optimal IV / Level	(15,15,15), level 40	(0,15,15), level 25.5	(8,15,15), level 40
Weaknesses	FAIRY GHOST FLYING	GHOST DARK BUG	ELECTR GRASS POISON

Venusaur — GRASS POISON
Umbreon — DARK
Lucario — FIGHT STEEL

	Venusaur	Umbreon	Lucario
Ideal moveset	Vine Whip Frenzy Plant Sludge Bomb	Snarl Foul Play Last Resort	Counter Power Up Punch Shadow Ball
ATT	198	126	236
DEF	189	240	144
HP	190	216	172
Optimal IV / Level	(0,14,15), level 21	(0,15,15), level 27.5	(1,15,15), level 20.5
Weaknesses	ICE FIRE PSYCHC GROUND	FIGHT FAIRY BUG	FIGHT GROUND FIRE

Example of Pokémon for Ultra league (CP ≤ 2500)

Giratina (A) `GHOST` `DRAGON`

Ideal moveset	Shadow Claw
	Dragon Claw
	Ancient Power
ATT	187
DEF	225
HP	284
Optimal IV / Level	(0,14,15), level 28
Weaknesses	`FAIRY` `GHOST` `DARK` `DRAGON` `ICE`

Cresselia `PSYCHC`

Ideal moveset	Psycho Cut
	Future Sight
	Moonblast
ATT	152
DEF	258
HP	260
Optimal IV / Level	(0,13,15), level 37.5
Weaknesses	`GHOST` `DARK` `BUG`

Blastoise `WATER`

Ideal moveset	Water Gun
	Ice Beam
	Hydro Cannon
ATT	171
DEF	207
HP	188
Optimal IV / Level	(15,15,15), level 40
Weaknesses	`ELECTR` `GRASS`

Giratina (O) `GHOST` `DRAGON`

Ideal moveset	Shadow Claw
	Shadow Ball
	Dragon Pulse
ATT	225
DEF	187
HP	284
Optimal IV / Level	(0,13,14), level 25.5
Weaknesses	`FAIRY` `GHOST` `DARK` `DRAGON` `ICE`

Lucario `FIGHT` `STEEL`

Ideal moveset	Counter
	Power Up Punch
	Shadow Ball
ATT	236
DEF	144
HP	172
Optimal IV / Level	(1,15,15), level 38.5
Weaknesses	`FIGHT` `FIRE` `GROUND`

Steelix `STEEL` `GROUND`

Ideal moveset	Dragon Tail
	Earthquake
	Crunch
ATT	148
DEF	272
HP	181
Optimal IV / Level	(15,15,15), level 40
Weaknesses	`FIRE` `GROUND` `WATER` `FIGHT`

Venusaur `GRASS` `POISON`

Ideal moveset	Vine Whip
	Frenzy Plant
	Sludge Bomb
ATT	198
DEF	189
HP	190
Optimal IV / Level	(1,15,14), level 39
Weaknesses	`ICE` `FIRE` `PSYCHC` `GROUND`

Lapras `WATER` `ICE`

Ideal moveset	Ice Shard
	Ice Beam
	Surf
ATT	165
DEF	174
HP	277
Optimal IV / Level	(6,15,13), level 40
Weaknesses	`ELECTR` `ROCK` `GRASS` `FIGHT`

Snorlax `NORMAL`

Ideal moveset	Lick
	Body Slam
	Outrage
ATT	190
DEF	169
HP	330
Optimal IV / Level	(0,12,15), level 29.5
Weaknesses	`FIGHT`

⚡ Example of Pokémon for Master league (no CP limit)

Giratina (O) `GHOST` `DRAGON` | Dialga `STEEL` `DRAGON` | Lugia `PSYCHC` `FLYING`

	Giratina (O)	Dialga	Lugia
Ideal moveset	● Shadow Claw ● Shadow Ball ● Dragon Pulse	● Dragon Breath ● Iron Head ● Thunder	● Dragon Tail ● Sky Attack ● Hydropump
ATT	225	275	193
DEF	187	211	310
HP	284	205	235
Weaknesses	`FAIRY` `GHOST` `DARK` `DRAGON` `ICE`	`FIGHT` `GROUND`	`ELECTR` `ROCK` `ICE` `GHOST` `DARK`

Garchomp `DRAGON` `GROUND` | Metagross `STEEL` `PSYCHC` | Melmetal `STEEL`

	Garchomp	Metagross	Melmetal
Ideal moveset	● Mud Shot ● Earthquake ● Outrage	● Bullet Punch ● Meteor Mash ● Earthquake	● Thunder Shock ● Rock Slide ● Thunderbolt
ATT	261	257	226
DEF	193	228	190
HP	239	190	264
Weaknesses	`ICE` `DRAGON` `FAIRY`	`FIGHT` `GROUND` `FIRE`	`GHOST` `DARK` `FIRE` `GROUND`

Giratina (A) `GHOST` `DRAGON` | Mewtwo `PSYCHC` | Tyranitar `ROCK` `DARK`

	Giratina (A)	Mewtwo	Tyranitar
Ideal moveset	● Shadow Claw ● Dragon Claw ● Ancient Power	● Psycho Cut ● Shadow Ball ● Focus Blast	● Smack Down ● Stone Edge ● Crunch
ATT	187	300	251
DEF	225	182	207
HP	284	214	225
Weaknesses	`FAIRY` `GHOST` `DARK` `DRAGON` `ICE`	`GHOST` `DARK` `BUG`	`FIGHT` `BUG` `FAIRY` `GROUND` `STEEL` `WATER` `GRASS`