

## What are EVs?

**EVs** stands for **Effort Values** which are invisible values associated with each Pokémon stats that can increase the total value.

Everytime you defeat a Pokémon in battle, all Pokémon who are awarded **Experience** are also awarded an **Effort Value (EV)** ranging in value from **1-3** in the appropriate **stat** (HP, Atk, Def, Sp.Atk, Sp.Def, Spe) depending on the Pokémon you defeated.

For example, *Machop* is a Pokémon that's known for being a *physical attacker*. It's a fighting type and has a higher Atk stat than his other stats. *Defeating Machop* awards **1 Atk EV**, defeating his evolution (Machoke) would award **2 Atk EVs**, and then defeating his final evolution (Machamp) would award **3 Atk EVs**.

The maximum value allowed per stat is **255** and a Pokémon may have up to **510** Effort Values total. **4 EVs = 1 point** increased in that stat at level 100.

Because **255** does not divide by **4** evenly, you would have wasted Effort Values if you just trained 255. **252** is the maximum optimized amount per stat. **(252 / 4 = 63)**

So typically, you can have **252 EVs** in **2 stats** (HP, Atk, Def, Sp.Atk, Sp.Def, Spe) and then **6 EVs** remaining to add an additional point to a **3rd stat**.

## Picking a Spread:

It's best to plan how you're going to train a Pokémon before you actually begin doing it.

I recommend using some resources such as Pokémon Showdown, Serebii, or Bulbapedia. **Pokémon Showdown** has a team builder function so you can experiment with different movesets and EV spreads before committing to one in-game. **Serebii** and **Bulbapedia** are excellent information resources providing in-depth explanations for different mechanics or how to obtain certain moves, items, etc.

Typically, you are going to train 2 stats to 252 EVs. The remainder will go into a random stat or go into your speed stat if you aren't running max (252) speed investment already. This will allow you to break speed ties with other Pokémon running minimum investment. More complex spreads come later.

## **EV Training Items:**

Items:

**Vitamins** : (increase a stat by 10 EVs, prior to Sword & Shield it was only up to 100 EVs.

After SwSh, you can use Vitamins all the way up to 252)

**HP Up** : Raises HP by 10

**Protein** : Raises Atk by 10

**Iron** : Raises Def by 10

**Calcium** : Raises Sp.Atk by 10

**Zinc** : Raises Sp.Def by 10

**Carbos** : Raises Speed by 10

**Macho Brace** : (Doubles the amount of EVs earned from a battle.)

**Power Items** : (In all versions except Sun & Moon and Ultra Sun & Ultra Moon, gives a +4 EV bonus to the respective stat. In SM & USUM and all games after, this bonus is +8.)

**Power Weight** : +4 or +8 EVs in HP after a knockout

**Power Bracer** : +4 or +8 EVs in Atk after a knockout

**Power Belt** : +4 or +8 EVs in Def after a knockout

**Power Lens** : +4 or +8 EVs in Sp.Atk after a knockout

**Power Band** : +4 or +8 EVs in Sp.Def after a knockout

**Power Anklet** : +4 or +8 EVs in Speed after a knockout

**Berries** : (Lowers EVs in their respective stat by 10.)

**Pomeg Berry** : -10 HP EVs

**Kelpsy Berry** : -10 Atk EVs

**Qualot Berry** : -10 Def EVs

**Hondew Berry** : -10 Sp.Atk EVs

**Grepa Berry** : -10 Sp.Def EVs

**Tamato Berry** : -10 Speed EVs

**Pokérus** : Pokérus or “**PKRS**” is a Pokémon Virus that has a **3 / 65,536** chance of being contracted after every battle with either a trainer or a wild Pokémon. Pokérus **doubles** the **Effort Values** gained after a battle and will randomly spread to your party. *It will cure itself after 1-4 days.* After a Pokémon is cured, they still receive double Effort Values although they will no longer be able to spread it to other team members.

I would recommend spreading it to a Pokémon you don't intend to use and then storing it in your box until you want to spread it to a new Pokémon you're training. If a Pokémon with PKRS is stored in the box, it will not cure itself.

## **Where to buy Items?**

### **Vitamins:**

Kanto : Celadon Department Store & Safari Zone Gate (9800p)

Johto : Goldenrod Department Store (9800p)

Hoenn : Lilycove Department Store & Slateport Market (9800p)

Sinnoh : Veilstone Department Store (9800p)

Unova : Shopping Mall Nine (9800p)

Kalos : Laverre City Poké Mart (9800p)

Alola : Mount Hokulani Pokémon Center (10,000p)

Galar : Isle of Armor Vending Machine

1 Drink	10 EVs	(10,000p)	10,000p/drink
5 Drinks	50 EVs	(40,000p)	8,000p/drink
10 Drinks	100 EVs	(70,000p)	7,000p/drink
25 Drinks	250 EVs	(125,000p)	5,000p/drink

Wyndon Poké Mart (10,000p)

### **Macho Brace:**

Ruby/Sapphire/Emerald :

Route 111

Firered/Leafgreen :

Viridian Gym

Diamond/Pearl/Platinum :

Pastoria City

Heart Gold/Soul Silver :

Goldenrod Department Store

Black/White/Black 2/White 2 :

Nimbasa City (Eastern Gate)

XY :

Route 15

Omega Ruby/Alpha Sapphire :

Route 111

Sword/Shield :

Hammerlocke (10 BP)

### **Power Items:**

Can be purchased with Battle Points in each region's respective Battle Facility.  
(Battle Tower, Battle Frontier, Battle Royal Dome, Hammerlocke BP Shop)

## **EV Training Strategies:**

**XY** : Horde Battles (Battle 5 Pokémon at once)

You can force a Horde Battle encounter by using Sweet Scent in an area. Use a Pokémon with Surf or Earthquake for example to take out all of them at once. The Pokémon you're training should sit in the back of your party and gain Exp while holding the Power Item.

HP: **Whismur** (Connecting Cave) **1 HP EV per Whismur**

**Gulpin** (Route 6) **1 HP EV per Gulpin**

**Foongus** (Route 20) **1 HP EV per Foongus**

Atk: **Weepinbell** (Route 20) **2 Atk EVs per Weepinbell**

(You have a chance of encountering hordes of Arbok, which also give 2 Atk EVs)

**Bellsprout** (Route 14) **1 Atk EV per Bellsprout**

Def: **Durant** (Terminus Cave) **2 Def EVs per Durant**

Sp.A: **Vanillite** (Frost Cavern) **1 Sp.A EV per Vanillite**

(You have a chance of encountering hordes of Smoochum, which also give Sp.A)

**Spinda** (Route 21) **1 Sp.A EV per Spinda**

Sp.D: **Hoppip** (Route 7) **1 Sp.D EV per Hoppip**

**Mime Jr.** (Reflection Cave) **1 Sp.D EV per Mime Jr.**

Spe: **Wingull** (Route 8) **1 Speed EV per Wingull**

5 EVs per battle + Power Item (+4x5) + Pokéus

(5 [1 EV yield] + 20) x 2 = 50 EVs per Horde Battle

If 2 EV yield = 60 EVs per Horde Battle

**ORAS** :

HP : **Whismur** (Rusturf Tunnel) **1 HP EV per**

Atk : **Shuppet** (Mt. Pyre Inside) **1 Atk EV per**

Def : **Sandshrew** (Route 111) **1 Def EV per**

Sp.A : **Oddish** (Route 119) **1 Sp.A EV per**

Sp.D : **Swablu** (Route 115) **1 Sp.D EV per**

Spe : **Zigagoon** (Route 104) **1 Speed EV per**

(You have a chance of encountering Wingull, which also grants Speed EVs)

**SM / USUM** : SOS Encounters (Pokémon calls for help)

Power Items give +8 in these games instead of the previous +4. If a Pokémon calls for help during a battle, *all EVs gained for the rest of the battle are doubled*. This multiplier takes place after the Power Items too so after a Pokémon has been called for help, you will gain 36 EVs per Pokémon that would otherwise yield 1 base EV.

In order to get a Pokémon to call for help, you'll need a good amount of Adrenaline Orbs as well as a Pokémon with the ability Intimidate, Pressure, or Unnerve. The lower HP a Pokémon has, the more likely it will call for help.

Pokémon such as Absol, Mawile, or Weavile are incredible because they all have access to these abilities as well as the move False Swipe. The Pokémon you're EV training should just sit in the back of your party holding the Power Item, gaining Exp while your False Swiper defeats the Pokémon you're facing.

HP : Caterpie (Route 1) 1 HP base yield (SOS call rate 15)

Atk : Pikippek (Route 1) 1 Atk base yield (SOS call rate 15)

Def : Exeggcute (Exeggutor Island) 1 Def base yield (SOS call rate 15)

Sp.A : Psyduck (Malie Garden) 1 Sp.Atk base yield (SOS call rate 15)

Sp.D : Tentacool (Surfing literally everywhere) 1 Sp.Def base yield (SOS call rate 15)

Spe : Zubat (Various caves) 1 Speed base yield (SOS call rate 15)

**SwSh** : Vitamins are the most efficient way to EV train in SwSh although they require a huge time investment upfront.

Options for making money:

I would highly recommend using a lv 100 Zacian, Zamazenta, or Eternatus.

Wild area, run around to uninhabited dens (200 W) or inhabited dens (2,000 W).

Find item traders (main entrance, Motostoke entrance, Nursery in the Bridge Field, Hammerlocke entrance. These ones are easy to Fly to and check)

You're looking to buy Luxury Balls. They can be purchased for 100 W each and sold for 1,500p in shops. This translates to every single uninhabited den is 3,000p and every inhabited den is 30,000p. Once every den has been caught or defeated, they all reset and you can start this again.

You will also earn a ton of Exp. Candies from defeating dens.

Fighting in the Champion's Cup is also a good way to make money if you have access to a lv 100 Gigantamax Meowth. Hold Amulet Coin or Luck Incense, use G-Max Gold Rush 3 times per battle and you'll earn 99,999p + whatever the trainer would typically earn.

Vitamins are available in the Wyndon Poké Mart (10,000p) or in the Isle of Armor for cheaper.

It requires 500,000 W to make all Vitamins fully available in the Isle of Armor vending machine, which translates to 7,500,000p if you were to convert into Luxury Balls which is enough to fully EV train 15 Pokémon. You won't actually start saving any money through this method until after you've trained 30 Pokémon.

**BDSP** : The old-fashioned way. LOL.

HP : **Gastrodon** (Route 218) **2 HP EVs**  
Atk : **Bibarel** (Route 209 & 212) **2 Atk EVs**  
**Kricketune** (Route 201 & 212) **2 Atk EVs**  
Def : **Silcoon / Cascoon** (Eterna Forest) **2 Def EVs**  
Sp.Atk : **Roselia** (Northern Route 212) **2 Sp.Atk EVs**  
**Golduck** (Sendoff Spring) **2 Sp.Atk EVs**  
**Girafarig** (Valor Lakefront) **2 Sp.Atk EVs**  
Sp.Def : **Tentacruel** (Route 223) **2 Sp.Def EVs**  
Speed : **Floatzel** (Route 218) **2 Speed EVs**

## **Optimization:**

**(Optional)**

### **HP**

If you are going to train a Pokémon's HP stat and use the item Leftovers or Black Sludge, here is a formula for optimizing your HP EVs:

Maximum possible HP value [252 EVs] / 16 = x

Round x down to the nearest whole number, then multiply by 16. Add 1 point, that would be your optimized HP value.

For example: Blissey's maximum HP value at level 100 is 714

$714 / 16 = 44.625$

We round DOWN to 44

$44 * 16 = 704$

$704 + 1 = 705$

705 is the optimized HP value, which translates to 216 HP EVs.

This is because: Leftovers restores 1/16th of your HP every turn,

$714 / 16 = 44.625$  (you restore 45 per turn)

705 / 16 = 44.0625 (you STILL restore 45 per turn)

This also frees up 40 extra EVs (10 stat points) to put somewhere else, which can make a huge difference.

### **Speed**

There are certain “speed tiers” which are important to hit when optimizing your Pokémon’s speed stat. These are basically other common Pokémon that you want to be faster than if possible.

Some common speed tiers are:

394 : Maximum speed, positive nature base 130s. (Tapu Koko, Crobat, Aerodactyl)

383 : Maximum speed, positive nature base 125s. (Weavile)

372 : Maximum speed, positive nature base 120s. (Alakazam)

361 : Maximum speed, positive nature base 115s. (Starmie, Azelf, etc)

350 : All Pokémon with base 110 speed that are running maximum investment and a positive speed nature. (Latos, Latias, Gengar, etc). For example, Starmie, a Pokémon with 115 base speed could run 216 speed EVs with a positive nature and hit 352 speed. Still being faster than base 110s but would lose the speed tie to other Starmie. This frees up another 40 EVs that could be put towards another stat, on some bulky sets it may be beneficial to run less speed and more bulk.

333 : Max speed Garchomp lol. This is worth it’s own tier because of how strong this Pokémon is in every meta it’s played.

328 : All Pokémon with base 100 speed running max investment and positive nature. This includes Mew, Jirachi, Celebii, Shaymin, Victini, Charizard, Zapdos, Salamence, Flygon, Entei, Ninetales, etc.

306 : Maximum speed, positive nature base 90s.

284 : Maximum speed, positive nature base 80s.

279 : Maximum speed, neutral nature base 90s.

259 : Maximum speed, neutral base 80s.

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