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# Pokémon Experience Group Classifier

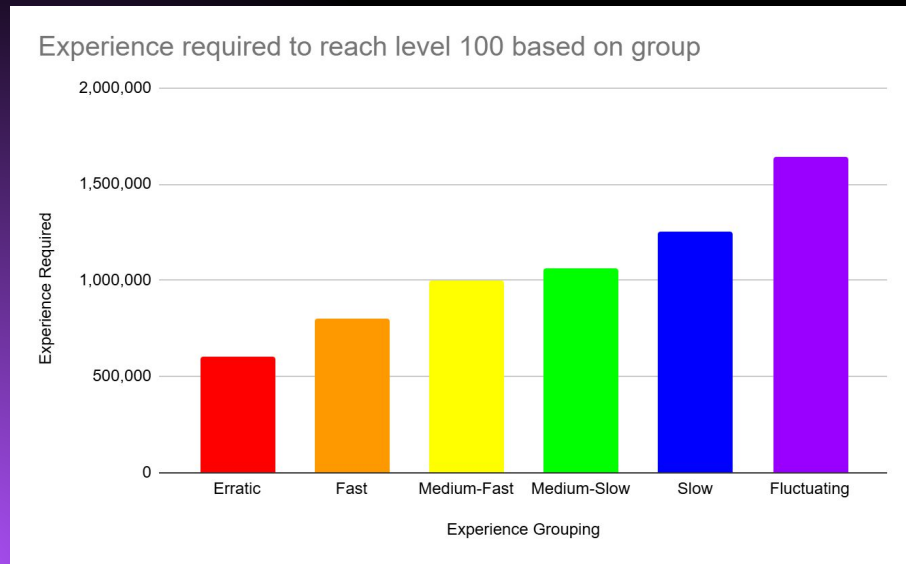
## Why Should You Care?

- Every good Pokémon Trainer should want to create a balanced team!
- Some Pokémon excel in
  - Early-Game
  - Mid-Game
  - Late-Game
- Good idea to have Pokémon strong in every section.
- Experience Groups can measure how strong a Pokémon is at a point in the game.



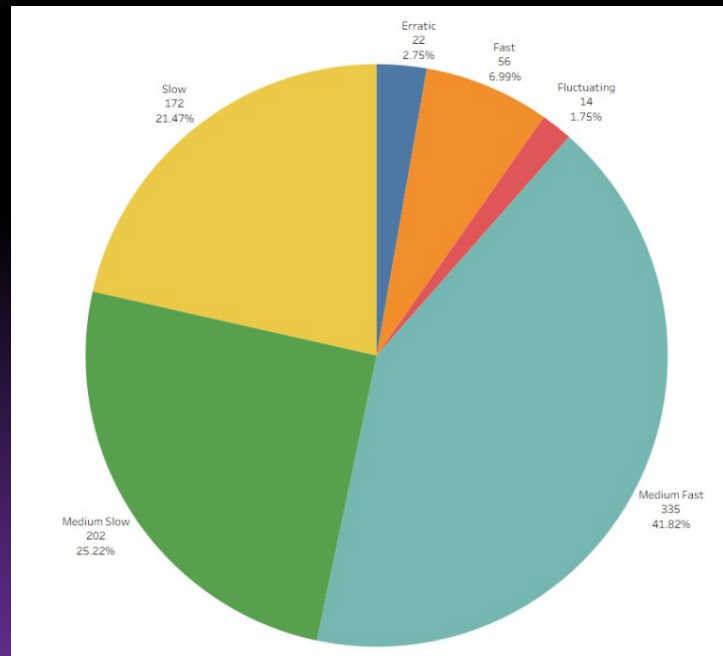
## What is an Experience Group?

- Amount of EXP to reach level 100
- Determines how fast a Pokémon grows
- Usually tied to Pokémon's overall power
  - Ex. Pokémon in the Slow group generally are stronger than those in the fast group



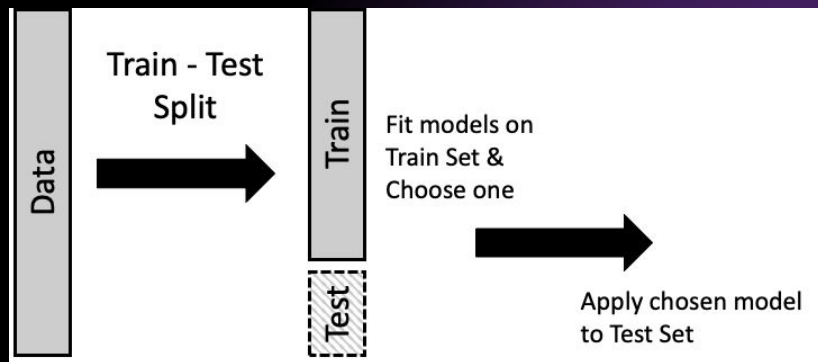
## The Data

- Overall, only have 801 Pokémon (aka 801 data points)
- Some Experience Groups have much less data than others
- Major three groups will be focused (88.51% of all data)



## The Process

- Dataset has 7 generations of Pokémon
- Train on 6 generations, test on 1, repeat for every generation.
- Compile all testing back together to get overall accuracy.



# The Classifier

- Random Foresting Model
- Uses Parameters
  - "base\_total"
  - "evolution\_stages"
  - "capture\_rate"
  - "percentage\_male"
  - "base\_experience"
  - "base\_egg\_steps"
  - "no\_in\_generation"
  - "color"
  - "is\_legendary"
  - "height\_m"
  - "weight\_kg"
  - "attack"
  - "speed"
- Overall Accuracy: 72.3%

Experience Group	Support	Correct	Incorrect	Accuracy
Erratic	22	0	22	0.000
Fast	56	9	47	0.161
Fluctuating	14	0	14	0.000
Medium Fast	335	297	38	0.887
Medium Slow	202	160	42	0.792
Slow	172	113	59	0.657

## **\*\*Totals\*\***

- **\*\*Total Pokémon:\*\*** 801
- **\*\*Overall Correct:\*\*** 579
- **\*\*Overall Incorrect:\*\*** 222
- **\*\*Overall Accuracy:\*\*** 0.723



## Conclusion

- 72.3% accuracy is really solid!
- Hard to predict experience groups with less than 100 data points.
- Data is ultimately at the will of Japanese game developers.

Why Arceus  
have you  
betrayed me?

**Nincada**  
(Fluctuating Group)



**Arceus**  
(Slow Group)

The LITERAL god of all  
Pokemon who requires LESS  
experience than Nincada to  
reach level 100

