Plants are Friends!

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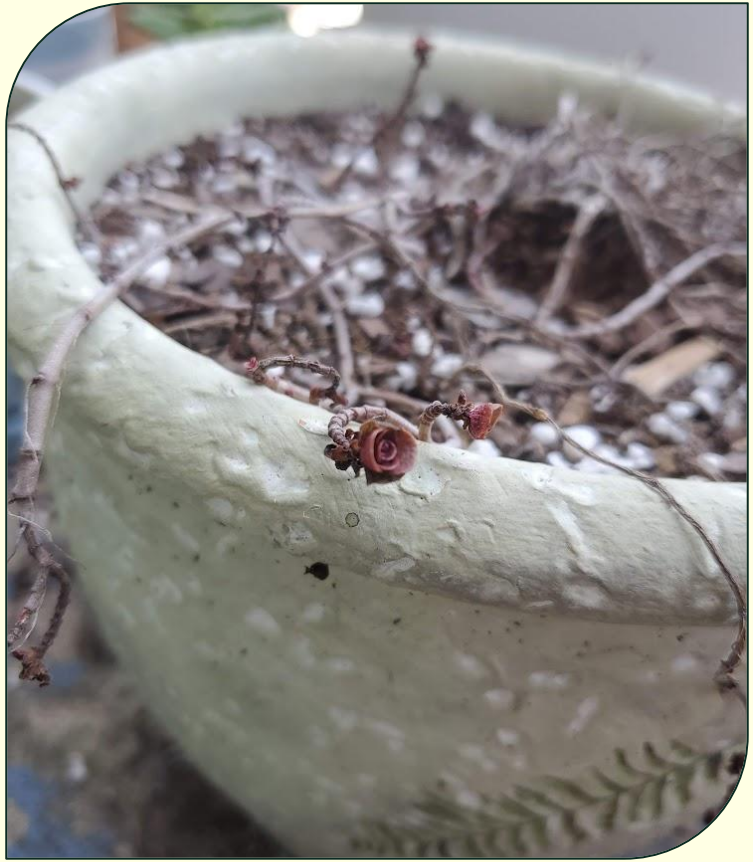
DDA13 Aug 2024

Increased Happiness

Horticultural therapy has shown to improve mental health conditions such as anxiety, loneliness, and depression [1]

Increased Productivity

A review of studies between 1996 and 2017 found between 6-38% increase in productivity when an office had plants [2]



Rosencrantz the Red Dragon's Blood Succulent (deceased)

The Burden of Choice

Few people do not know the disappointment of adopting a houseplant only to have it die.

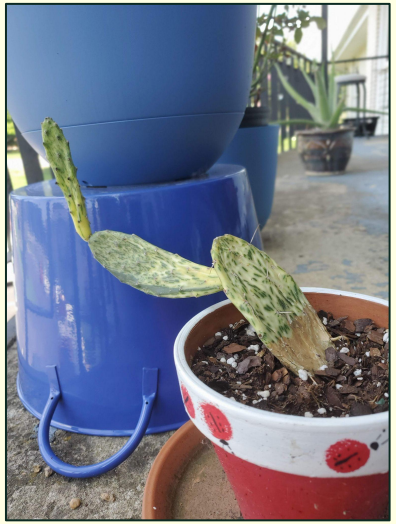
Water, light, and soil conditions can all affect your new friend.

Maybe you just need to choose the right plant, but how? There are so many to choose from!

Plants have needs

Soil, Light, and Water Needs

Soil	Light	High	Low	Low to Moderate	Moderate
Chalk, Clay, Loamy, Sandy	Bright, Indirect Light			4	
	Full Sun		1		
	Full Sun to Full Shade				1
	Full Sun to Part Shade				1
	Part Shade				1
	Part Shade to Full Shade				1
Chalk, Loamy, Sandy	Full Sun to Part Shade		1		
	Part Shade to Full Shade				1
Loamy	Bright, Indirect Light		1	42	
	Full Sun		2	13	1
	Full Sun to Full Shade			1	
	Full Sun to Part Shade	1	2		1
	Part Shade	1	1		2
	Part Shade to Full Shade	1			1
Loamy, Sandy	Bright, Indirect Light		1		
	Full Sun		50	3	3
	Full Sun to Light Shade		9		
	Full Sun to Part Shade		55	10	2
	Part Shade		3		1
	Part Shade to Full Shade				2
Orchid or Bark Mix	Full Sun to Part Shade	1	1		
	Light Shade to Part Shade		1		
	Part Shade				4
Sandy	Full Sun		1		
	Full Sun to Part Shade		3		1
	Part Shade		1		1
	Part Shade to Full Shade				1



Pickles the cactus

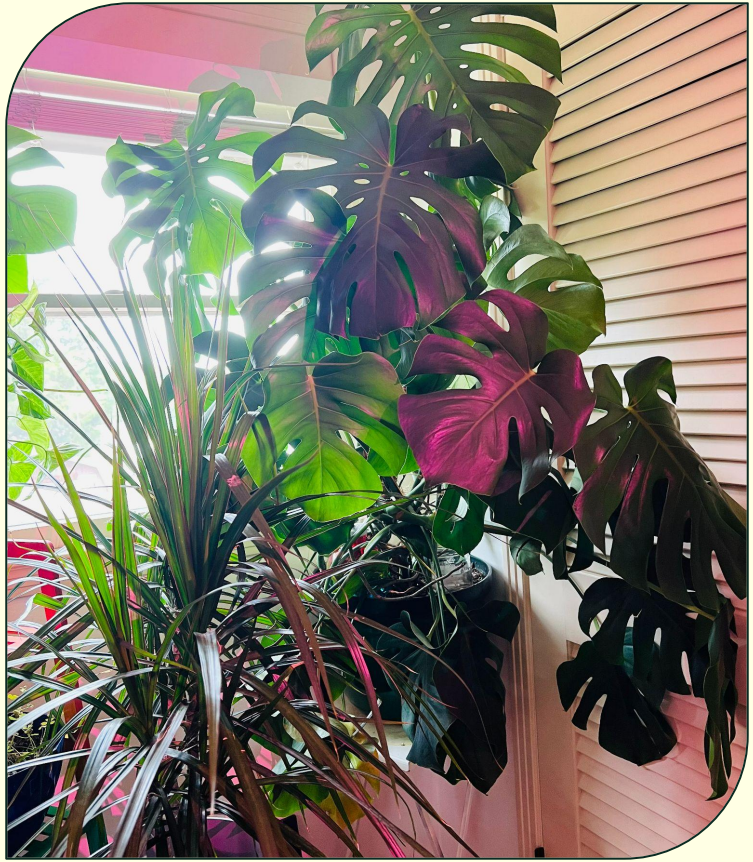
Cactuses need a lot of light, right?
Well yes, but not direct light!

Violet's House of Plants

Violet is opening a plant shop staged as a house with different levels of light in each "room" so that her customers can choose a plant based on the room it will be placed in their own house

- **Patio/Balcony** - Full sun
- **Living Room** - 50-75% minimum light, low to moderate watering
- **Office** - 50-75% minimum light, neglect tolerant
- **Kitchen** - 50-100% minimum light, high maintenance, high water
- **Bedroom** - Low light, neglect tolerant

Minerva



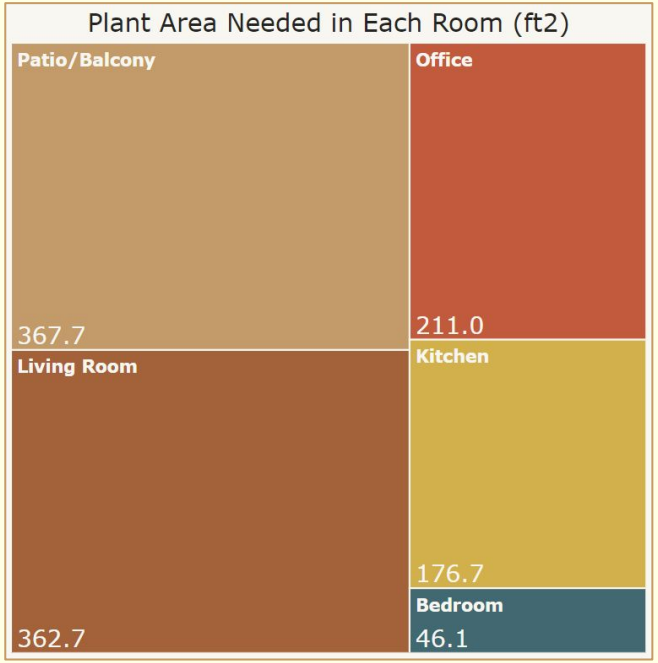
June the Monstera

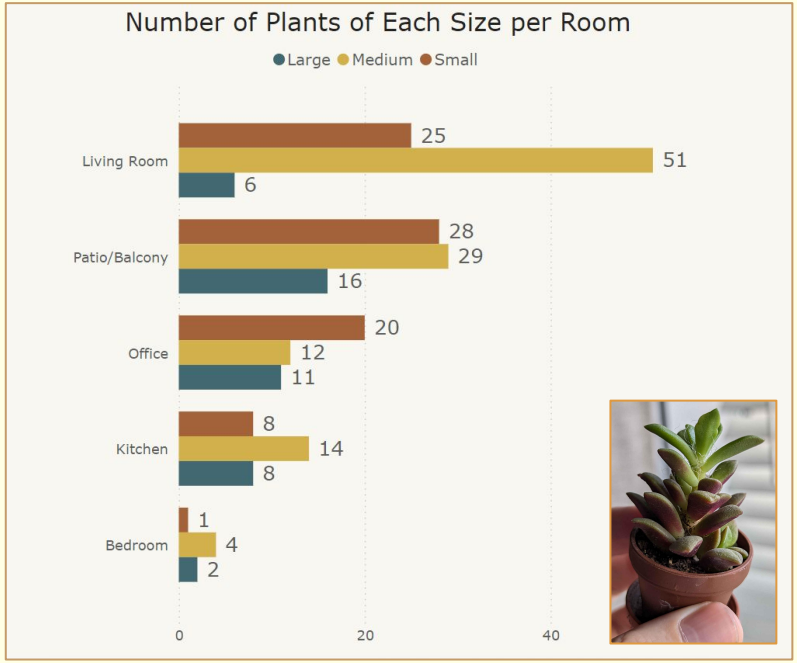
Analysis

Violet would like the following:

- How much room is needed for each room
- How much of each soil type to order
- How much of each soil mix to make
- How many “Toxic”, “High Maintenance”, and “Tolerates Neglect” signs to order
- How many of each pot size to order
- A tool to help customers search for plants

Plant Area Needed





Soil

Luffy

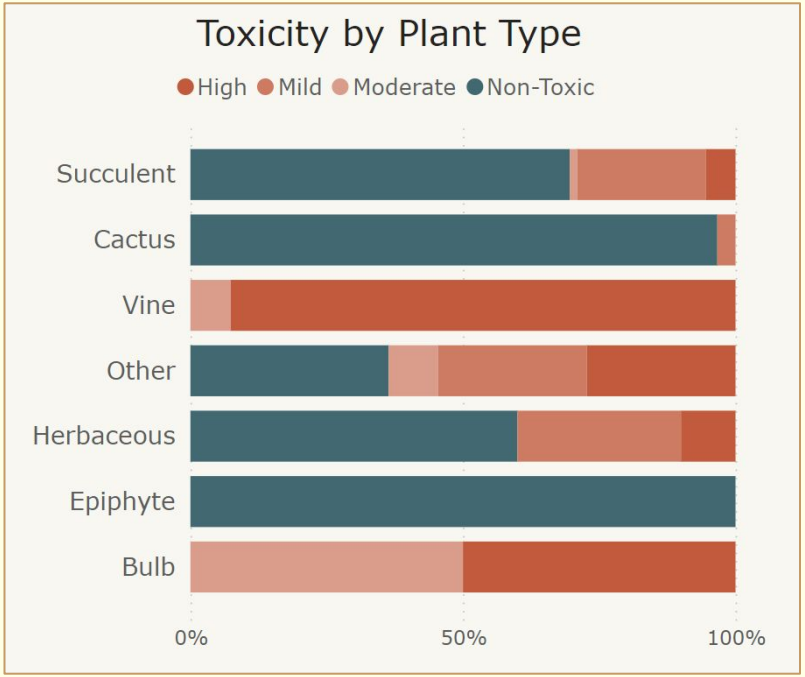
Stacy

All plants need well-drained soil

Well-drained does not mean dry, some soils hold water better than others and will remain moist but not soggy. Some plants will need soil that not only drains well but also dries out. Epiphytic plants prefer practically no soil at all!

Soil Recipe	Loam	Sand	Chalk	Clay	Bark	**Total to Mix**
Loam	24					**24**
Sand		2				**2**
Loam, Sand	21	21				**42**
Chalk, Loam, Sand	0.5	0.5	0.5			**1.5**
Chalk, Clay, Loam, Sand	2	2	2	2		**8**
Orchid or Bark Mix					1.5	**1.5**
Total to Purchase	**47.5**	**25.5**	**2.5**	**2**	**1.5**	**79**

Total Toxic Plants: 86

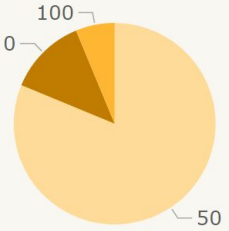


June the Pothos (Toxic)

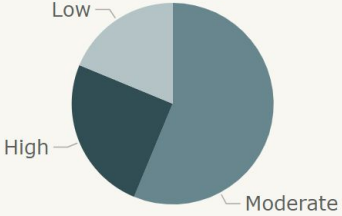
High Maintenance Plants: 16

High Maintenance Plant Requirements

Minimum Light (%)



Water Needs



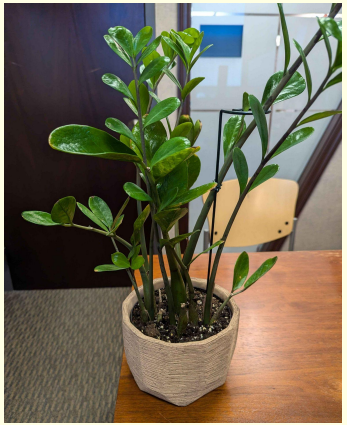
Botanical Name	Common Name(s)	Light	Water needs
Neoregelia carolinae	Blushing Bromeliad	Part Shade to Full Shade	High
Guzmania lingulata	Droophead Tufted Airplant, Orange Star plant, Scarlet Star, Vase Plant	Part Shade	High
Guzmania musaica	Mosaic Vase, Guzmania	Full Sun to Part Shade	High
Ananas comosus	Pineapple, bananas, pina	Full Sun to Part Shade	High
Lithops	Living Stone, Pebble Plants	Full Sun to Part Shade	Low
Wallisia Cyanea	Pink Quill	Light Shade to Part Shade	Low
Lithops pseudotruncatella	Truncate Living Stone	Full Sun to Part Shade	Low
Saintpaulia ionantha	African Violet	Part Shade	Moderate
Kalanchoe delagoensis	Chandelier Plant, Mother of Millions	Full Sun to Part Shade	Moderate
Vriesea splendens	Flaming Sword Bromeliad, Vriesea	Part Shade	Moderate
Ananas comosus var. variegatus	Ivory Pineapple, Variegated Pineapple	Full Sun	Moderate
Phalaenopsis amabilis	Moon Orchid, Moth Orchid, Phalaenopsis Orchid	Part Shade	Moderate
Disocactus ackermannii	Orchid Cactus, Pond Lily Cactus	Part Shade	Moderate
Neoregelia spectabilis	Painted Fingernail Plant, Fingernail Bromeliad, Fingernail Plant, Marbled Fingernail, Miniature Marble Plant, Painted Fingernail Bromeliad	Part Shade	Moderate
Platycerium bifurcatum	Staghorn Fern, Common Staghorn Fern, Elkhorn Fern	Part Shade to Full Shade	Moderate
Peperomia argyreia	Watermelon Peperomia, Watermelon Begonia	Part Shade	Moderate

Vernon "Verny" the Fern

Neglect Tolerant: 196

Drought tolerant and low maintenance plants make for great office and beginner plants.

Steve



Aaron

Dashboard: find some plants!

Plant Finder Dashboard

From left to right: Morticia, Hai, Pickle, Unnamed, Dumbo, Nessie, Sheldon, Rapunzel

Thank You!

Technology

- Python - web scraping, data cleanup
- PowerBI - visualization and interactive dashboard

Data Sources

- https://www.gardenia.net/
- https://houseplantsexpert.com
- https://brainygardener.com/

Articles

1. de Seixas M, Williamson D, Barker G, Vickerstaff R. **Horticultural therapy in a psychiatric in-patient setting**. BJPsych Int. 2017 Nov 1;14(4):87-89. doi:10.1192/s2056474000002087. PMID: 29093958; PMCID: PMC5663021.
2. Ostner, S. W. (2021). **Biophilia hypothesis: The benefits of nature in the workplace**. In R. Appel-Meulenbroek & V. Danivska (Eds.), A handbook of theories on designing alignment between people and the office environment (pp. 169–180). Routledge/Taylor & Francis Group. https://doi.org/10.1201/9781003128830-15

Harry the Aloe that Lived