

Tableau Installation

Product Options



	Cost	Saved Files	Notes
Tableau Public	Free	Public	Anyone can view files
Tableau Desktop	\$	Private	Files can be saved on computer
Tableau Server / Tableau Cloud	\$	Private	Files can be shared with team

Tableau Discussion

1. Data



MySQL



Oracle



Amazon Redshift



PostgreSQL



Microsoft SQL Server



Google BigQuery



SQLite



Snowflake

SQL

Relational Database Management Systems

Cloud-Based

2. Analysis



Excel



Python



R

Python / R

Data Science & Analytics

3. Visuals



Looker



Microsoft PowerBI



Qlik



SAP Business Objects



Tableau

Exploration + Storytelling

Business Intelligence Tools

1. Tableau Walk Through

House Hunting Dashboard

Goal

Create a Tableau dashboard that will help you with your home search in Chicago and Evanston.

Extra Credit

Create an indicator that will tell you whether each home is a good deal or bad deal.

Tableau Exercises.docx
redfin_listings_chicago.csv
redfin_listings_evanston.csv

Halloween Candy Recommendation

Goal

You are tasked with ordering candy for the annual MLDS Halloween party. You want to make sure you purchase a good **variety of candies** for everyone to enjoy.

Use Tableau to come up with a **data-driven** approach to present to Diego so that he will approve your candy choices.

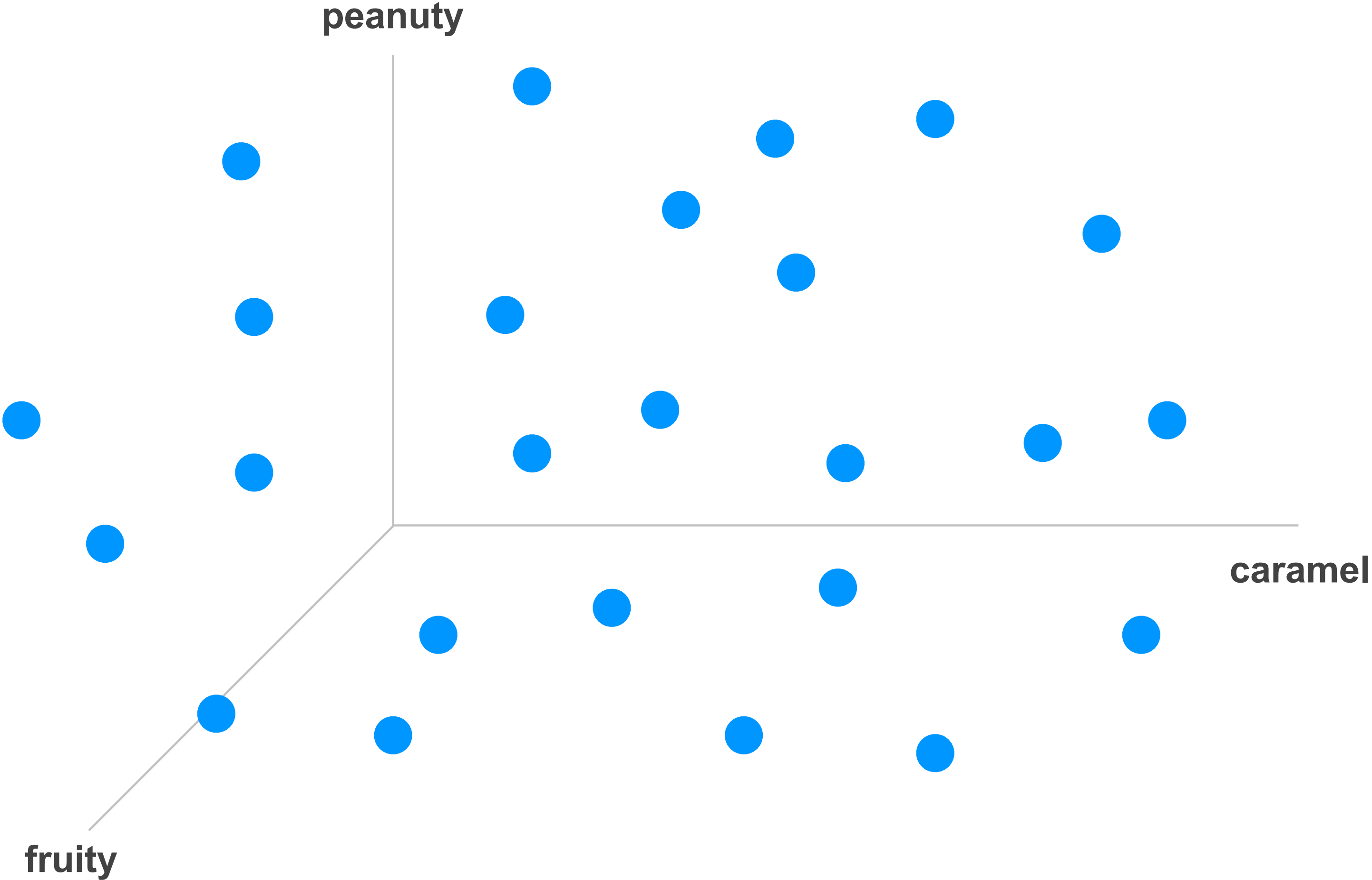
Tableau Exercises.docx
candy_data.csv

Solution

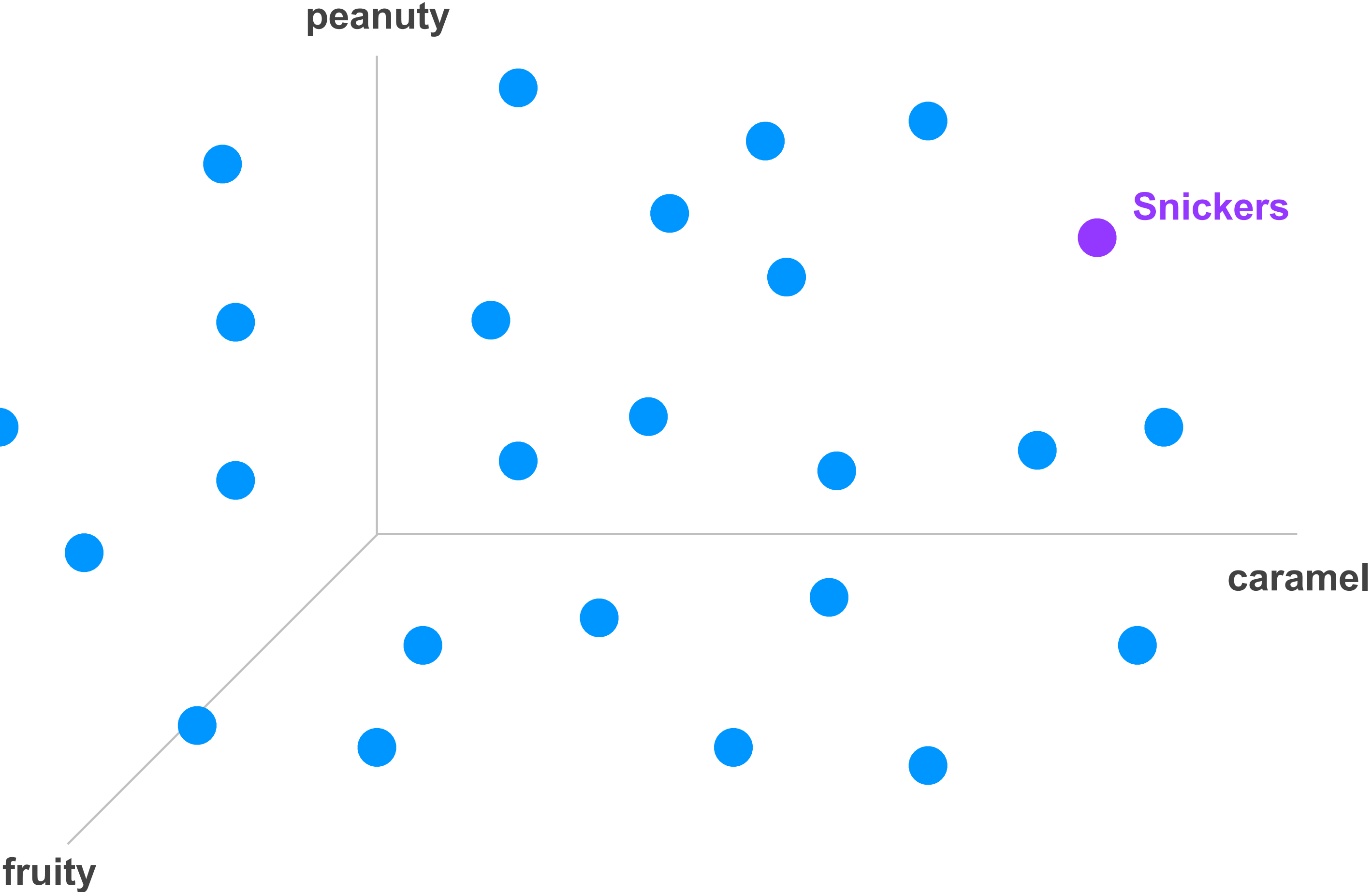
Principal Component Analysis

Dimensionality Reduction Algorithm

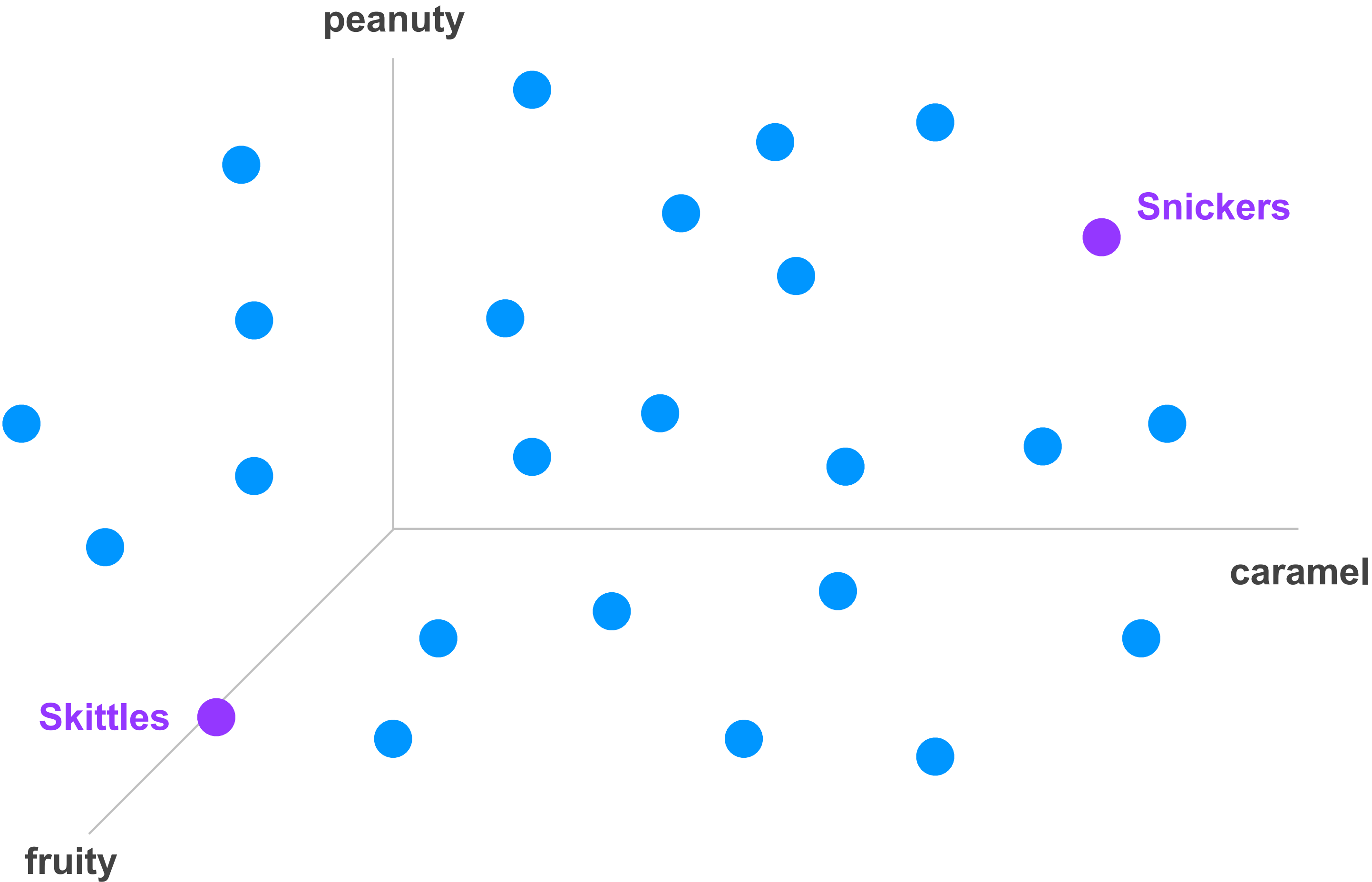
3-dimensional space



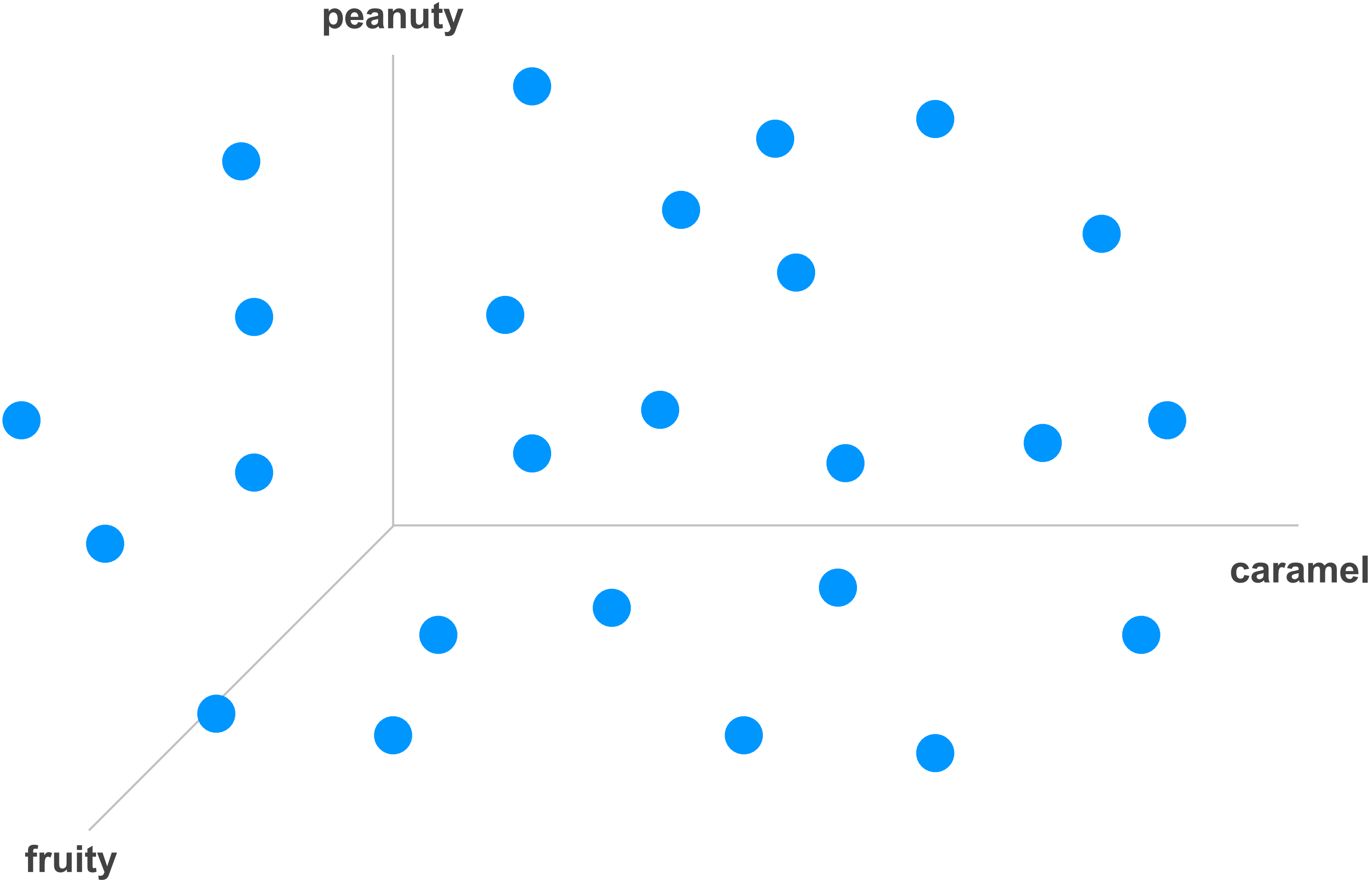
3-dimensional space



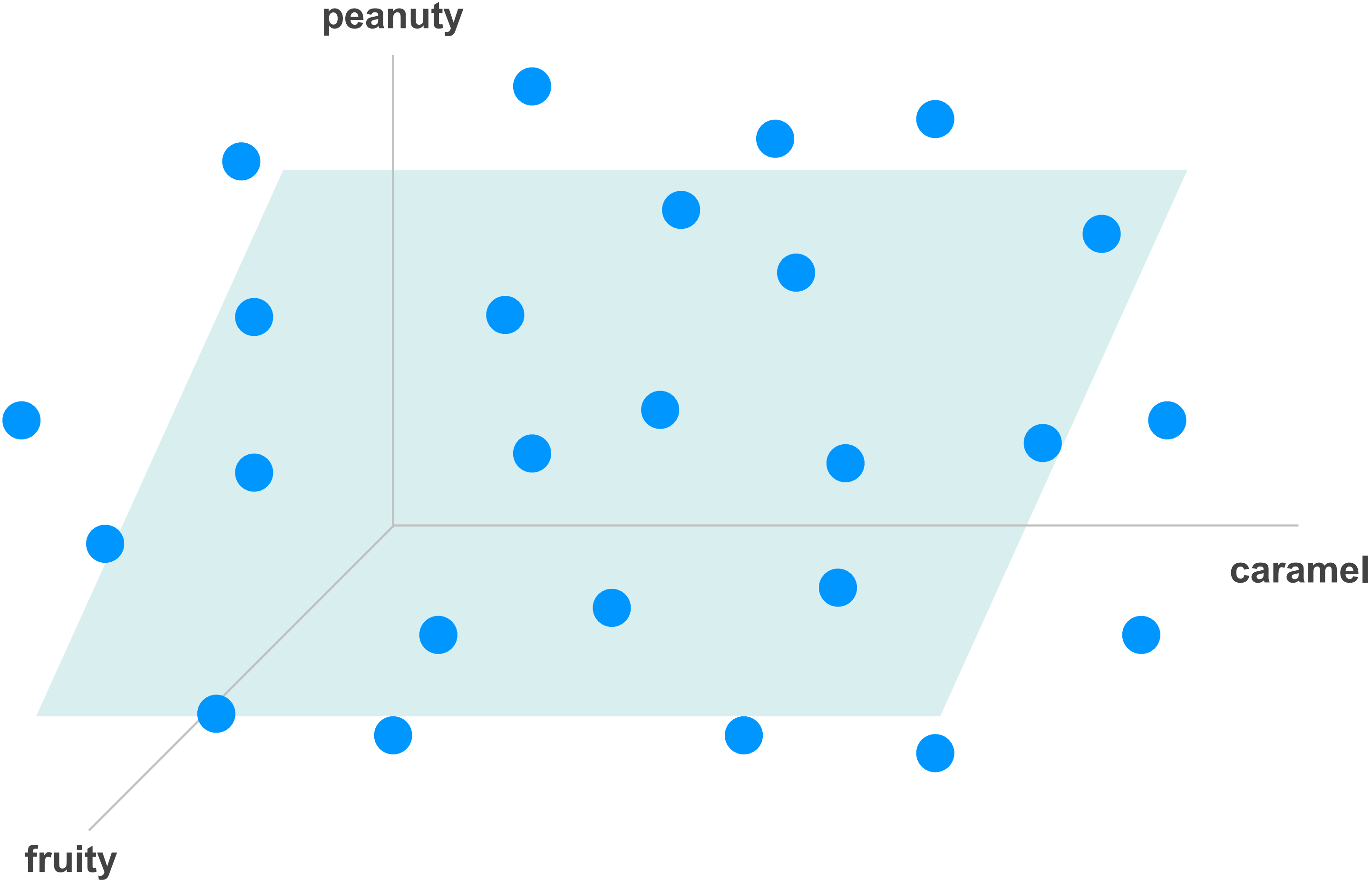
3-dimensional space



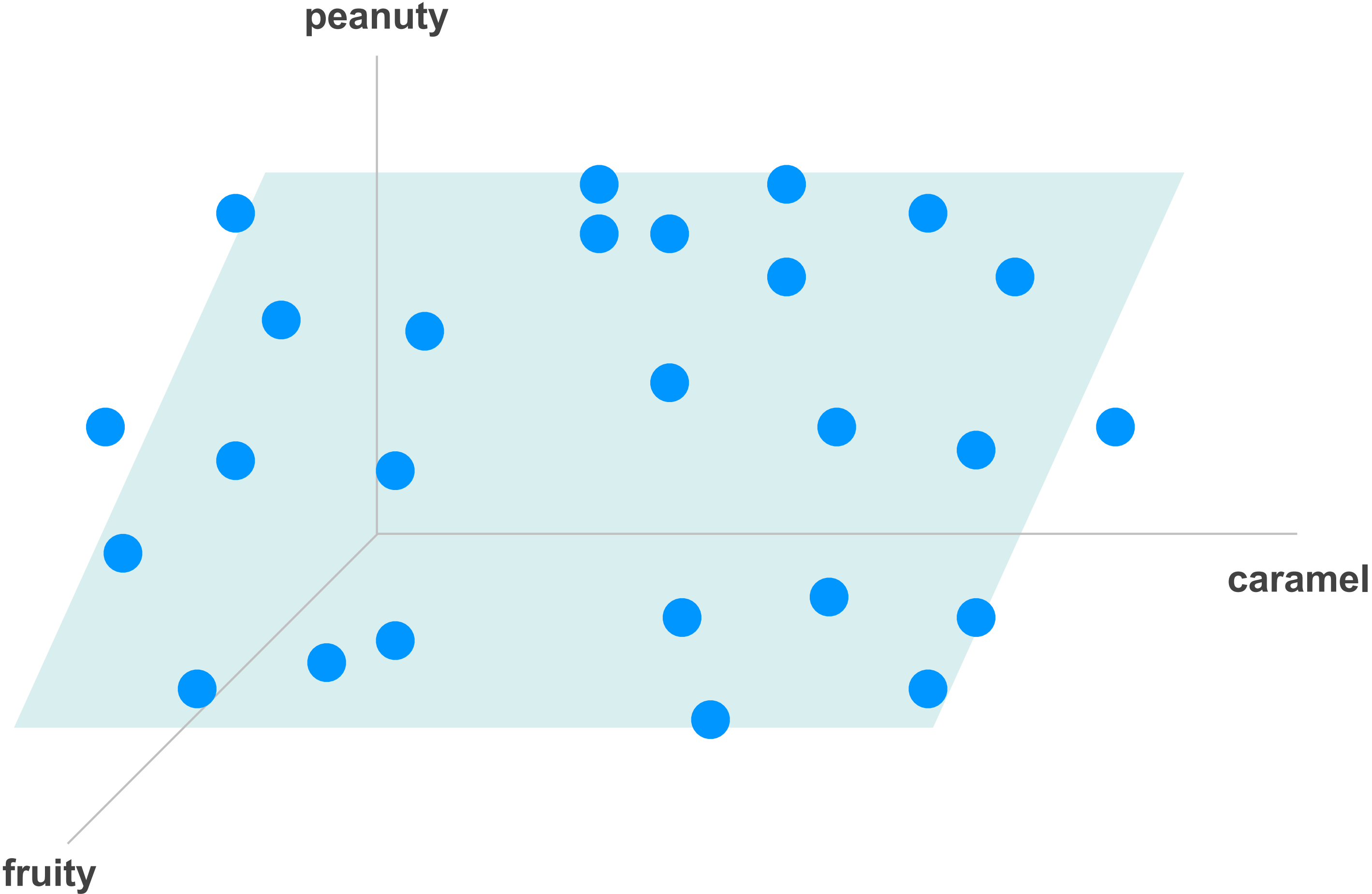
3-dimensional space



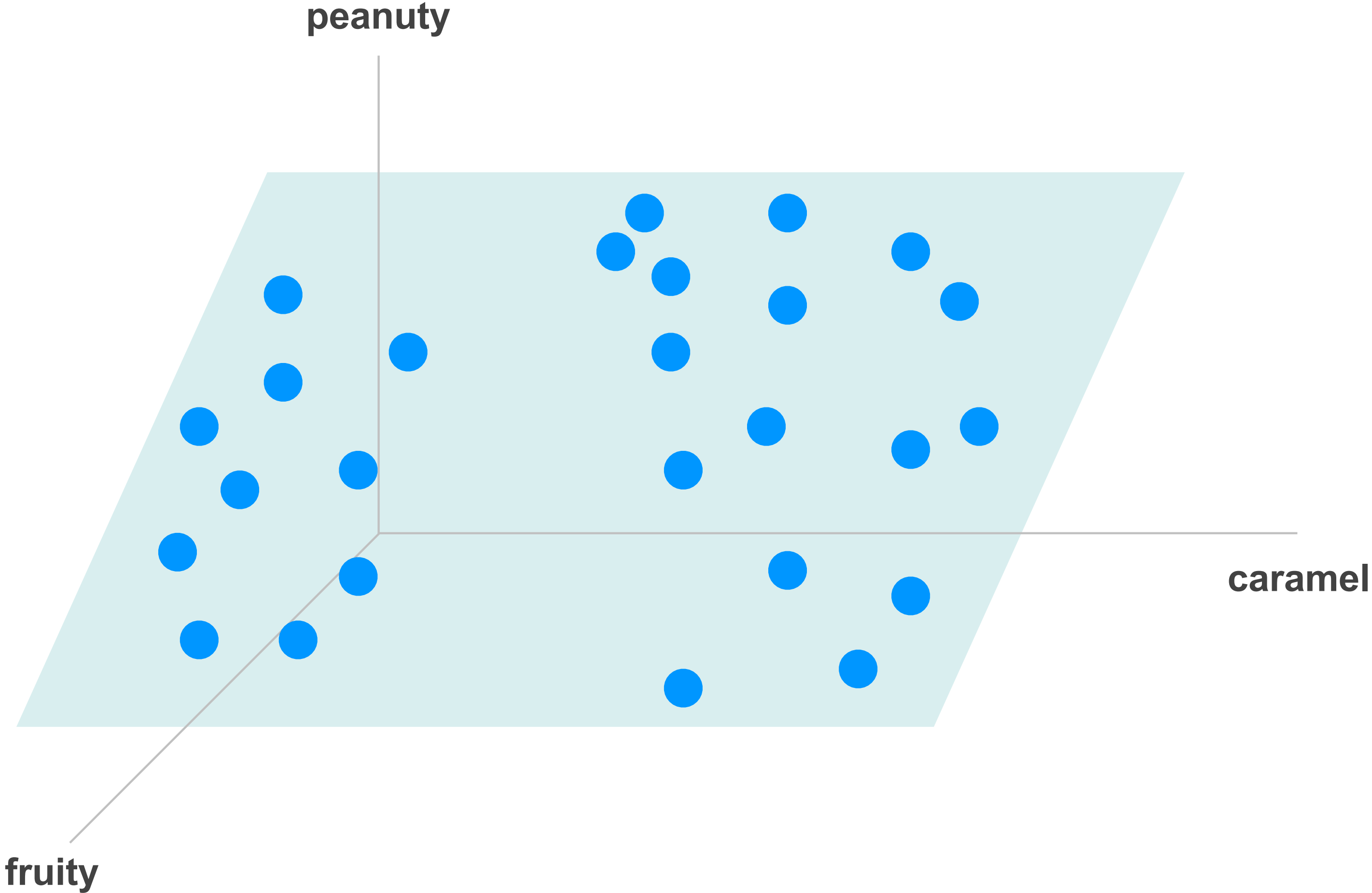
2-dimensional space



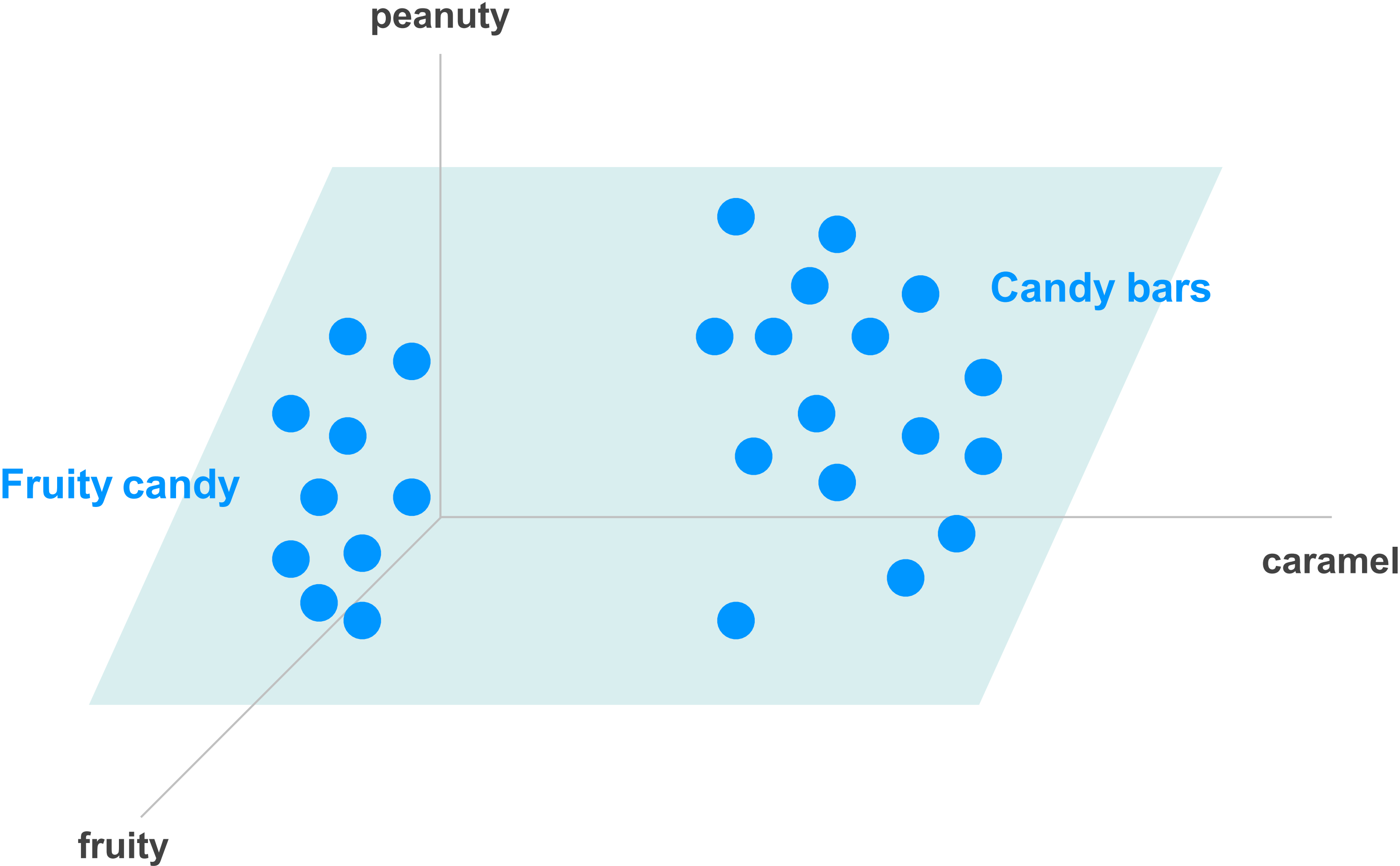
2-dimensional space



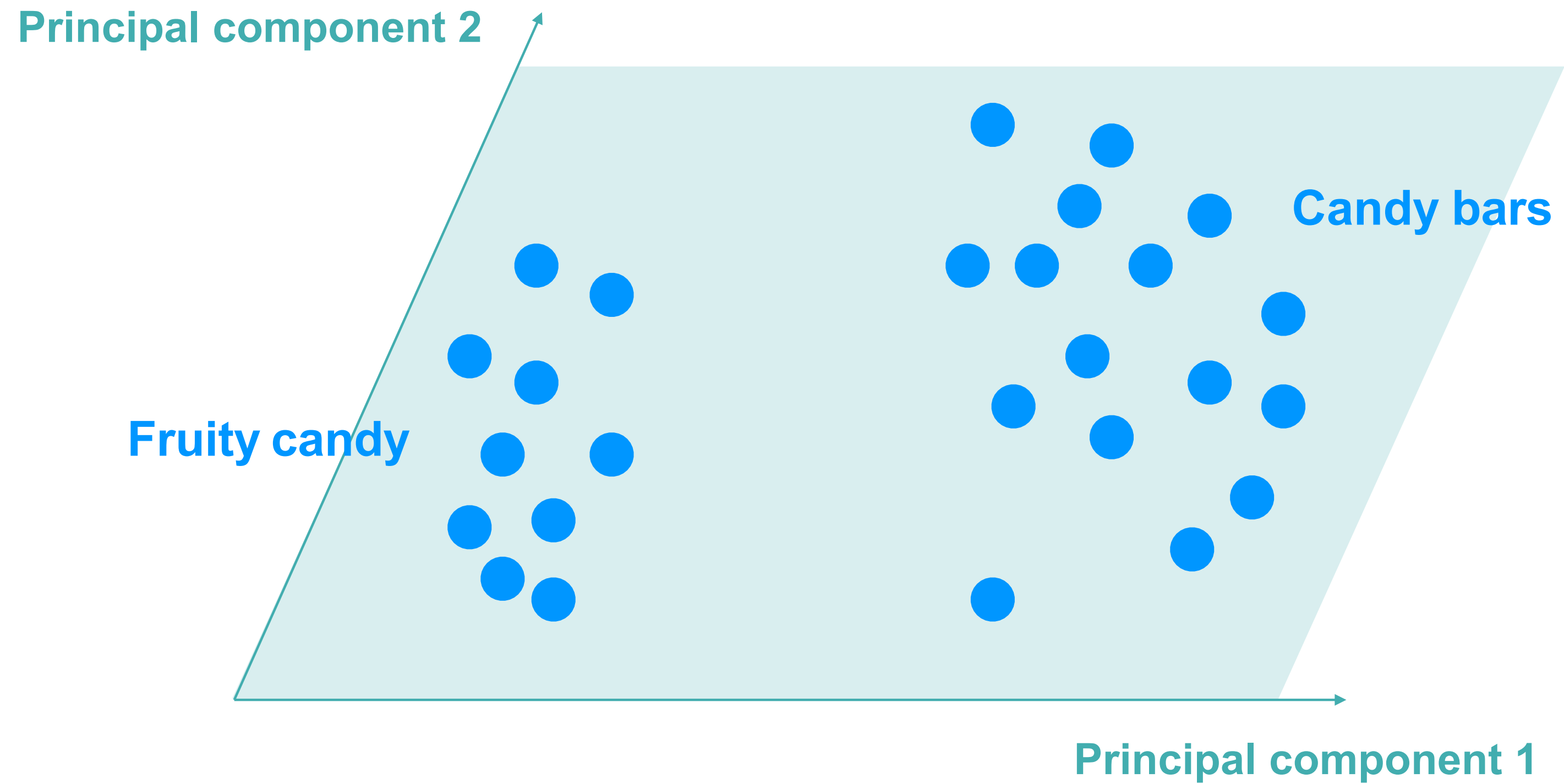
2-dimensional space



2-dimensional space



2-dimensional space



Principal Component Analysis

Dimensionality Reduction Algorithm

1. Go from many dimensions to fewer dimensions

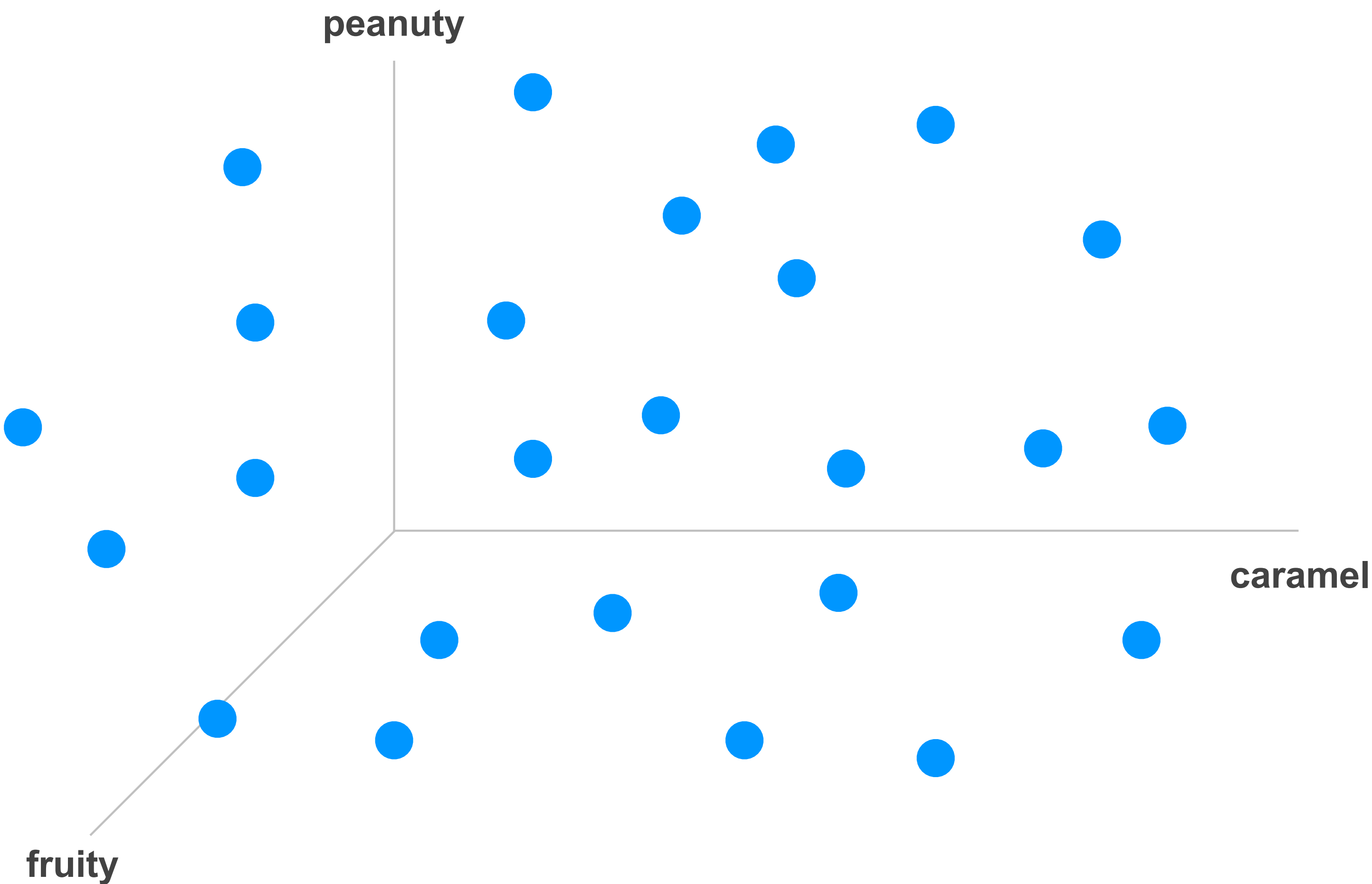
Caramel | peanuty | fruity (3D) —> principal components 1 & 2 (2D)

2. In a smaller dimensional space, points may be easier to differentiate

Many scattered points —> candy bars & fruity candy

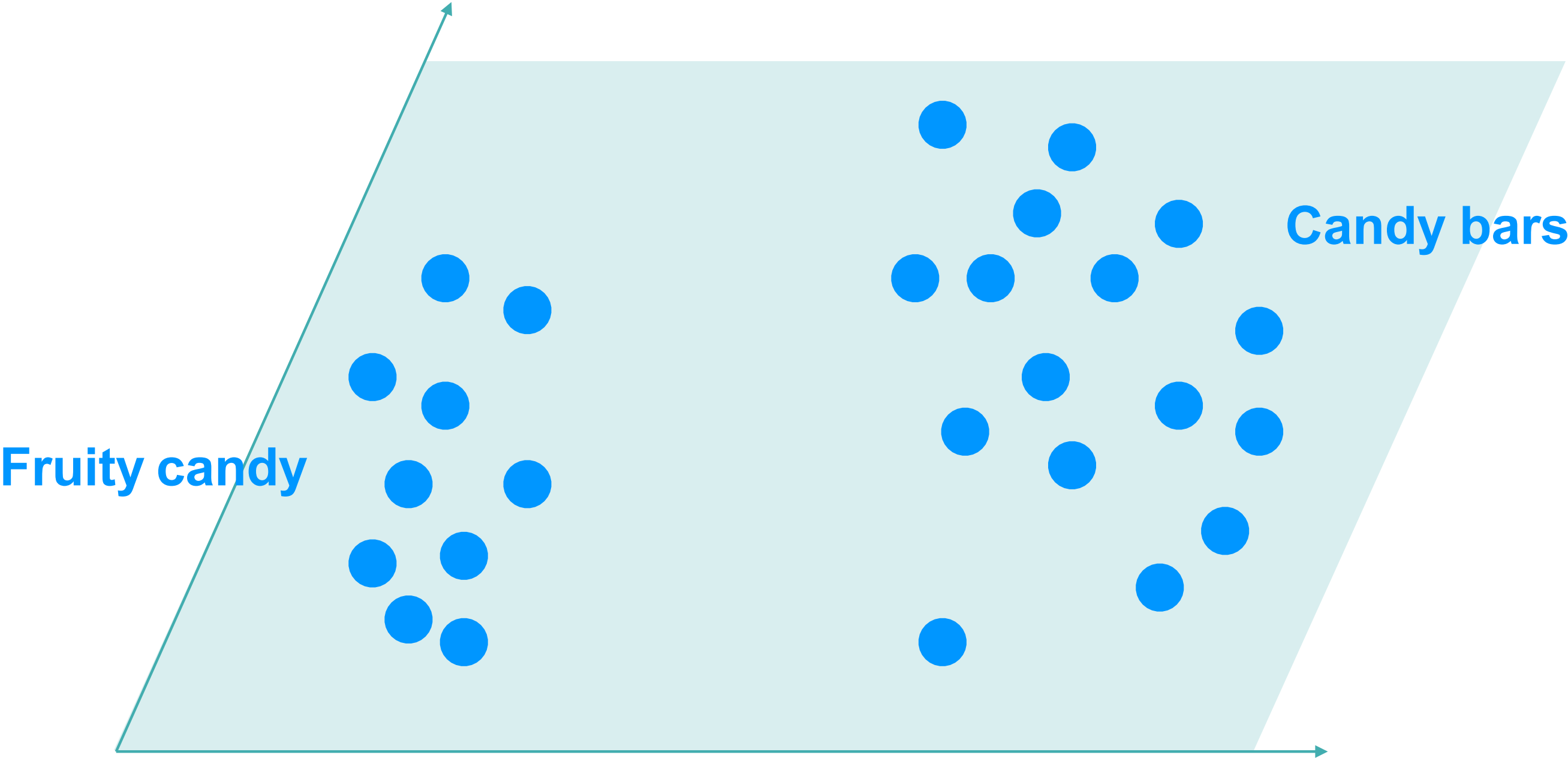
Before

3-dimensional space



After

2-dimensional space



Alice's Recommendation



Fruity



Reese's



Chocolate

Takeaways

Tableau Workshop

- Tableau is one of many tools in your data science toolbox
- Tableau can be used not only for data visualization, but for exploration
- Data science is both a science and an art