

Major Axis – The Longest Space Path!



The Oval Path

Planets fly around the Sun in a big, oval-shaped circle. We call this their orbit!



The Longest Line

The **Major Axis** is the longest line you can draw across that oval orbit. It's like the biggest racetrack in space!

Semi-Major Axis – Half the Space Path!

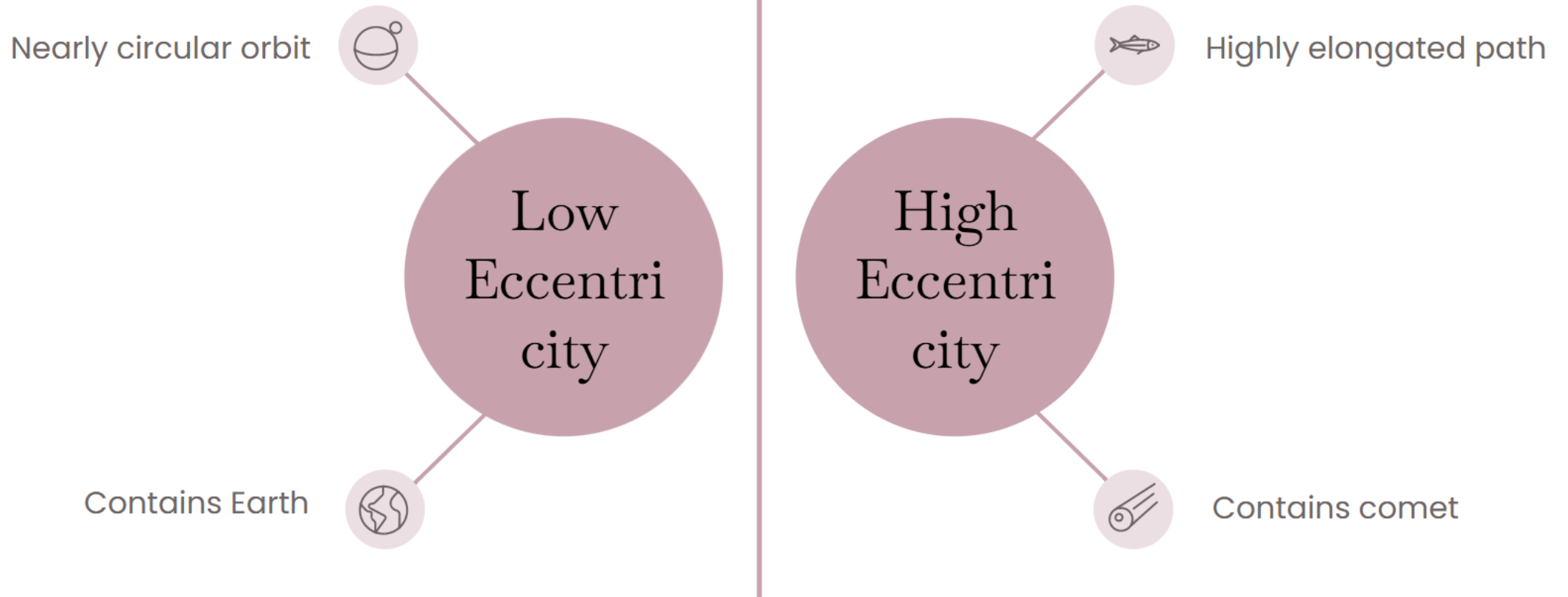
If the Major Axis is the whole racetrack, the **Semi-Major Axis** is exactly half of it!

Think of it as finding the middle of the longest line.
It tells scientists how far a planet is, on average, from the Sun.

It's an important number for knowing where a planet should be!

Astro is zooming halfway across the orbit to mark the spot!

Eccentricity



Eccentricity is a big word that just means: Is the planet's path a perfect circle or is it squished like an egg?

Close to Zero

If the number is very small (like **zero**), the orbit is a perfect, happy circle!

Close to One

If the number is bigger (close to **one**), the orbit is very squished and oval-shaped!

Megatons – Super Big Boom Power!

A **Megaton** is a way to measure how much power is in a huge explosion or burst of energy!

- One megaton is like a **billion** super loud firecrackers going off all at once!
- Scientists use this number to talk about very powerful things, like energy released by the Sun or giant space events.
- It helps us understand the biggest forces in the universe, safely from here on Earth!

Regional Focus – Zooming In on a Place!

When scientists talk about a **Regional Focus**, it means they are studying one special area very, very closely.



Magnifying Glass

They zoom in, like using a big magnifying glass, to learn all the tiny details.



Special Spot

This could be one country, one city, or even just one special forest!



Deep Learning

By focusing on a region, we can understand it much better than looking at the whole world at once.

Impact Points – Where Space Rocks Land!

Sometimes, small rocks from space (like meteors) zoom toward Earth. The spot where they hit the ground is called the **Impact Point!**

It's the target spot for any falling space object! Scientists track these spots to see where the space visitors have landed.

01

Space Rock Flies

A little rock travels through space and comes close to Earth.

02

It Falls Down

The rock starts falling toward the ground very, very fast.

03

The Impact Point

The place on Earth where it lands is the official impact point!

Population Density – How Many People Live Here?

Population Density is a fancy way to ask: How crowded is this place?

Crowded City

In a big city, lots and lots of people live close together. The density is **HIGH!**



Open Countryside

In the countryside, there are fewer people and lots of open space. The density is **LOW!**



Augmented Reality – Space in Your Room!

Augmented Reality (AR) is super cool technology that mixes real life with computer pictures!



Look Through a Screen

You look at your phone or tablet to see the magic happen.



Digital Magic

Computer pictures pop out and look like they are right in your room!



Real Life + Space

You can see a big planet floating next to your favorite toy box!