Crater Counting

Why are there so few observed impact craters on the Earth, relative to the Moon?

- Erosion is faster on Earth, since it has more atmosphere.
- Earth's atmosphere blocks large impactors.
- The moon's gravity attracts more asteroids & comets to it.
- The Earth's magnetic field repels iron-rich asteroids.
- They are there, but we've bulldozed them all away.

Storms on Microplanets?

If a planet is particularly small (low mass), what could typically happen with wind & rain erosional processes?

- Have less erosion.
- Have more plate tectonics.
- Have more impact craters.
- Have more volcanoes.

Megaplanets!

If we had a huge planet, similar to but several times the mass of the Earth, it might...

- have fewer craters; atmosphere would block or erode them.
- have more craters since it would attract more gravitationally.
- have active mantle, volcanoes spewing gases into atmosphere.
- be warmer, because of ongoing differentiation or radioactivity.
- All of the above.

Planetary surface: Comparisons & Constrasts

In groups of 3-4, look at the following two images, and explore the processes at work:

How big might each planet be (large or small?)

Do they have atmospheres currently? In the past?

Which looks more geologically active today?

Could one or both support life? Why?

If you could send a spacecraft to each object,

what would you examine? Gravity? Atmosphere? Size of the planet? Temperature? Why?