We often think of the Earth as large — and it is compared to things on the human scale. Yet, a million Earths can fit inside our Sun, which is very small compared to many other objects in space. Likewise, we generally think of grains of sand as being incredibly small in contrast to experiences in our everyday lives. However, the realm of cellular and molecular biology and its constituents, for example, are much smaller than that sand grain and impossible for the unaided eye to see.

The simple question of “how big is this?” may not be so simple to answer. We can explore this idea of scale through the imagery that different disciplines of science generate. In these images of both the large and the very small, we can find patterns, identify color (which is open applied during the image-making process), and examine texture. Despite their disparate subject matters, these images possess many similarities, offering us an opportunity to explore the wonders and beauty of science from “micro” to “macro.”

**Micro to Macro**

1. **Our Sun**
   - The Sun gives off many kinds of light from radio waves to gamma rays, some of which can be seen in this image. The diameter of our Sun is about 864,000 miles (mi) or 1.4 million kilometers (km). Credit: Alan Friedman

2. **Raj Cells**
   - A population of Raj cells descended from a single cell can lead to a strain of cancer. The Raj cells are about 0.000000007 meters in length. Credit: Anastasia, CC BY-SA 4.0

3. **Sunspot**
   - A dark central region shows a planet-sized sunspot on our Sun’s surface. Sunspots come in a range of sizes but the one in this image is about 14,000 mi/23,000 km across. Credit: SST, Royal Swedish Academy of Sciences

4. **Human Progenitor Cells**
   - Progenitor cells are biological cells that have a tendency to differentiate into a more specific type of cell. Unlike stem cells, progenitor cells (around 0.000000007 meters in length) can only divide a limited number of times. Credit: Ronald W. Smithwick, USCDCP

5. **Mouse Eye**
   - Researchers can study the roles of cells in metabolism by tagging and studying certain molecules by color. This image contains just a tiny slice of a common mouse’s eye that spans 0.000032 meters in diameter. Credit: Bryan William Jones and Robert E. Marx, University of Utah

6. **Membrane Fission**
   - Some cells can be divided into parts through fission — a process that may be limited to certain cells, etc. a split into two distinct membranes. In this image, the process resembles “beads on a string.” When one of the beads is cut off, membrane fission has occurred. Scale is between 0.00000005-0.00000001 meters. The Scripps Research Institute/R.Ramachandran, et al

7. **Jupiter**
   - Jupiter, a gas giant, is the most massive planet in our Solar System and has over 50 known moons. At its equator the diameter of Jupiter is about 89,000 mi/144,000 km. Credit: NASA/JPL

8. **Rabbit Tongue Cells**
   - An optical microscope with a magnification power of forty was used to image muscle fibers, collagen fibers, the keratin layer, and the outer layer of cells in a rabbit’s tongue. Credit: Mishal Salmen, CC BY-SA 4.0

9. **Saturn’s North Pole**
   - Saturn is a giant gaseous planet. At the center of its northern pole, we find a hexagon-shaped very jet stream of 200-mile-per-hour winds (about 322 km per hour) and a large rotating storm at its center. The stream is about 20,000 mi/32,000 km across. Credit: NASA/JPL

10. **SN1006**
    - This X-ray image shows a supernova remnant, the remains of an exploded star. Image is about 70 light years or about 400 trillion mi/644 trillion km across. Credit: NASA/CXC/Middlebury College/F.Winkler

11. **NGC 521**
    - This X-ray image shows an extremely powerful jet originating from gas flowing toward a supermassive black hole. The jet is enormous, stretching across more than 100,000 light years (600,000 trillion mi/955,606 trillion km) of space, a size comparable to our own Milky Way galaxy. Credit: Anastasia, CC BY-SA 4.0