Lesson 13: Multicellular Life Begins

For billions of years, every living thing on Earth was a single cell doing everything alone, gathering food, reproducing, surviving. Then some cells began to do something new. They started sticking together. And when cells began to cooperate, the possibilities for life expanded in ways that no single cell could ever achieve on its own.

The key step was **cell specialization**. In a colony of identical cells, every cell does everything. But when some cells begin to specialize, with some gathering food, others holding the group together, and others sensing the environment, the whole group becomes far more capable than any individual cell. It can grow large. It can develop different parts for different tasks. These groups of specialized cells working together are called **tissues**, and organisms built from many cooperating cells with specialized tissues are called **multicellular** organisms. Every plant, every animal, every fungus alive today is multicellular, and that includes you.

The earliest multicellular life appeared about 600 to 800 million years ago, during a time called the **Ediacaran** Period. These first multicellular creatures were soft and strange, flat organisms drifting through warm, shallow seas. Some looked like quilted mats. Some like fronds. Some like discs. They left almost no hard parts to preserve as fossils, so we know them only from rare impressions pressed into ancient seafloor mud, found in places like the Ediacaran Hills of Australia. They are ghostly and mysterious, but they were real, and they were the first multicellular life Earth had ever seen.

From those quiet, soft Ediacaran creatures, something extraordinary was building. The cooperation of cells was opening a door that could never be closed again. More complexity was coming, more diversity, more competition, more predators and prey, more bodies with more shapes than anything the world had ever seen. The age of animals was about to begin.