

What is a Spiral Galaxy?

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About Spiral Galaxy:

- Spiral galaxies are **twisted collections of stars and gas** that often have beautiful shapes and are **made up of hot, young stars**.
- In a spiral galaxy, the **stars, gas, and dust** are **gathered in spiral arms** that spread outward from the galaxy's center.
- **Most of the galaxies** that scientists have discovered so far **are spiral galaxies**, as opposed to the other two main categories of galaxy shapes—elliptical and irregular.
- Approximately **60% of all galaxies** are thought to be spiral galaxies.
- The **Milky Way**, the galaxy that includes Earth and our solar system, **is an example** of a spiral galaxy.
- **Structure:**
 - Most spiral galaxies contain a **central bulge surrounded by a flat, rotating disk of stars**.

- The **bulge** in the center is **made up of older, dimmer stars** and is thought to **contain a supermassive black hole**.
 - Approximately **two-thirds of spiral galaxies** also contain a bar structure through their center, as does the Milky Way.
 - The disk of stars orbiting the bulge separates into arms that circle the galaxy.
 - These spiral arms contain a wealth of gas and dust and younger stars that shine brightly before their quick demise.
 - The **majority of spiral galaxies rotate** in the sense that the arms trail the direction of the spin.
 - The **visible portion** of spiral galaxies **contains only a small fraction of the total mass** of the galaxy, and that spiral galaxies are **surrounded by an extensive halo** consisting mostly of **dark matter**.
 - Spiral galaxies are thought to **evolve into elliptical galaxies as the spirals get older**.
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Q1: What is a Black Hole?

A black hole is a region in space where gravity pulls so much that even light cannot get out. The gravity is so strong because matter has been squeezed into a tiny space. This can happen when a star is dying. Because no light can get out, it is difficult to detect a black hole. The largest black holes are called “supermassive.” These black holes have masses that are more than 1 million suns together.

Source: [Spiral galaxy 59 million light-years away looks like this: NASA shares stunning video of 'young, hot stars'](#)

Source: <https://vajiramandravi.com/current-affairs/spiral-galaxy/>
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