

Name \_\_\_\_\_

## The Life of a Star

**Directions:** Stars change as they age. Read the chain of events below, then **fill in the missing effects** (what happens next) or **causes** (what started the change). Use your knowledge of the star life cycle to complete each chain.

### Chain 1 - A Small/Medium Star

**Cause:** A cloud of gas and dust (nebula) begins to collapse under gravity.

**Effect:** \_\_\_\_\_ (1)

→ The young star becomes stable and spends most of its life as a **Main Sequence Star**.

**Effect:** \_\_\_\_\_ (2)

→ The star sheds outer layers and becomes a **Planetary Nebula**.

**Effect:** \_\_\_\_\_ (3)

### Chain 2 - A Massive Star

**Cause:** A huge nebula collapses and forms a massive protostar.

**Effect:** \_\_\_\_\_ (4)

→ The star shines as a **Massive Main Sequence Star**.

**Effect:** \_\_\_\_\_ (5)

→ The star collapses and explodes as a **Supernova**.

**Effect:** \_\_\_\_\_ (6)



### Challenge Question

Why do massive stars have shorter lives than smaller stars, even though they start with more material? Write 2-3 sentences.

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