# Benchmark SC.5.E.5.1

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| **Reporting Category** | Earth and Space Science |
| **Standard** | **Big Idea 5** Earth in Space and Time |
| **Benchmark** | **SC.5.E.5.1 Recognize that a galaxy consists of gas, dust, and many stars, including any objects orbiting the stars. Identify our home galaxy as the Milky Way. (Also assesses SC.3.E.5.1, SC.3.E.5.2, and SC.3.E.5.3.)** |
| **Also Assesses** | **SC.3.E.5.1** Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.<br><br>**SC.3.E.5.2** Identify the Sun as a star that emits energy; some of it in the form of light.<br><br>**SC.3.E.5.3** Recognize that the Sun appears large and bright because it is the closest star to Earth. |
| **Benchmark Clarifications** | Students will identify the basic components of a galaxy.<br><br>Students will explain how stars can be different.<br><br>Students will identify the Sun as a star that emits energy.<br><br>Students will identify that the Sun's appearance is due to its proximity to Earth. |
| **Content Limits** | Items will only assess a conceptual understanding of a galaxy.<br><br>Items will not assess the name of our galaxy in isolation.<br><br>Items will not assess objects orbiting stars.<br><br>Items that assess stars are limited to brightness, size, or appearance in relation to distance, and that stars emit energy.<br><br>Items that address energy emitted by a star are limited to visible light.<br><br>Items will not assess the effects of the Sun's energy on Earth.<br><br>Items will not assess numeric values for distance or number of stars.<br><br>Items may assess that stars are made of gases but not the specific chemical composition of stars. |
| **Stimulus Attributes** | None specified |
| **Response Attributes** | None specified |

**Prior Knowledge** Items may require the student to apply science knowledge described in the NGSSS from lower grades. This benchmark requires prerequisite knowledge from SC.K.E.5.5, SC.K.E.5.6, SC.1.E.5.1, and SC.1.E.5.4.

**Sample Item 4** **SC.3.E.5.1**

A star named Sirius appears as the brightest star in the nighttime sky, even though a star named Pollux actually gives off more light. Which of the following **best** explains why Sirius appears brighter than Pollux in our nighttime sky?

**A.** Sirius has a different color than Pollux has.
**B.** Sirius has different gases than Pollux has.
★ **C.** Sirius is closer to Earth than Pollux is.
**D.** Sirius is larger than Pollux is.