

Observing Messier Objects in the Winter Sky - Educator's Guide (Ages 8-11)



At the end of these Night Sky activities students will understand:

- How to find some of the Messier objects that are visible in winter
- The Messier catalogue includes various types of celestial objects
- Messier 42 is the most famous example of a stellar nursery
- Messier 41 and 45 are open clusters of young stars
- Messier 1 is a supernova remnant left from a dying star

Astronomy background information

Messier 42 is a star-forming region around 1300 light-years away. It's the closest stellar nursery to Earth and the only one we can easily see with the unaided eye. There are several hundred young stars in Messier 42. Eventually the gas and dust around them will dissipate, leaving the stars behind. Groups of young stars like these are called open clusters.

Messier 41 and 42 are both examples of open clusters. The stars in Messier 45 are especially young by cosmic standards. They formed together about 50-100 million years ago. The stars of Messier 45 are gradually spreading out and eventually will be scattered across the sky. The Sun must once have been part of a similar open cluster.

The Crab Nebula (Messier 1) in Taurus is about 7,700 light-years away. The Crab is a giant expanding cloud of debris. In July 1054 a Chinese astronomer spotted a brilliant new star. Within hours it was bright enough to be seen in the daytime sky and it stayed this way for three weeks. We now know that this mystery star was a "supernova", the explosion of an old and giant star.

Night Sky App Essential Settings

Go to Night Sky Settings  and make sure the following Preferences are set.

Turn On these Effects:

Real Sky Representation
Show Constellation Lines
Enable Messier Objects

Turn Off these Effects:

Show Satellites
Daytime Effect
Show Trajectories and Orbits
Show Ecliptic Line
Show Glass Mythology

Accessible Learning:

- Text size can be increased in the Preferences section
- Star numbers can be reduced by sliding two fingers down the screen

