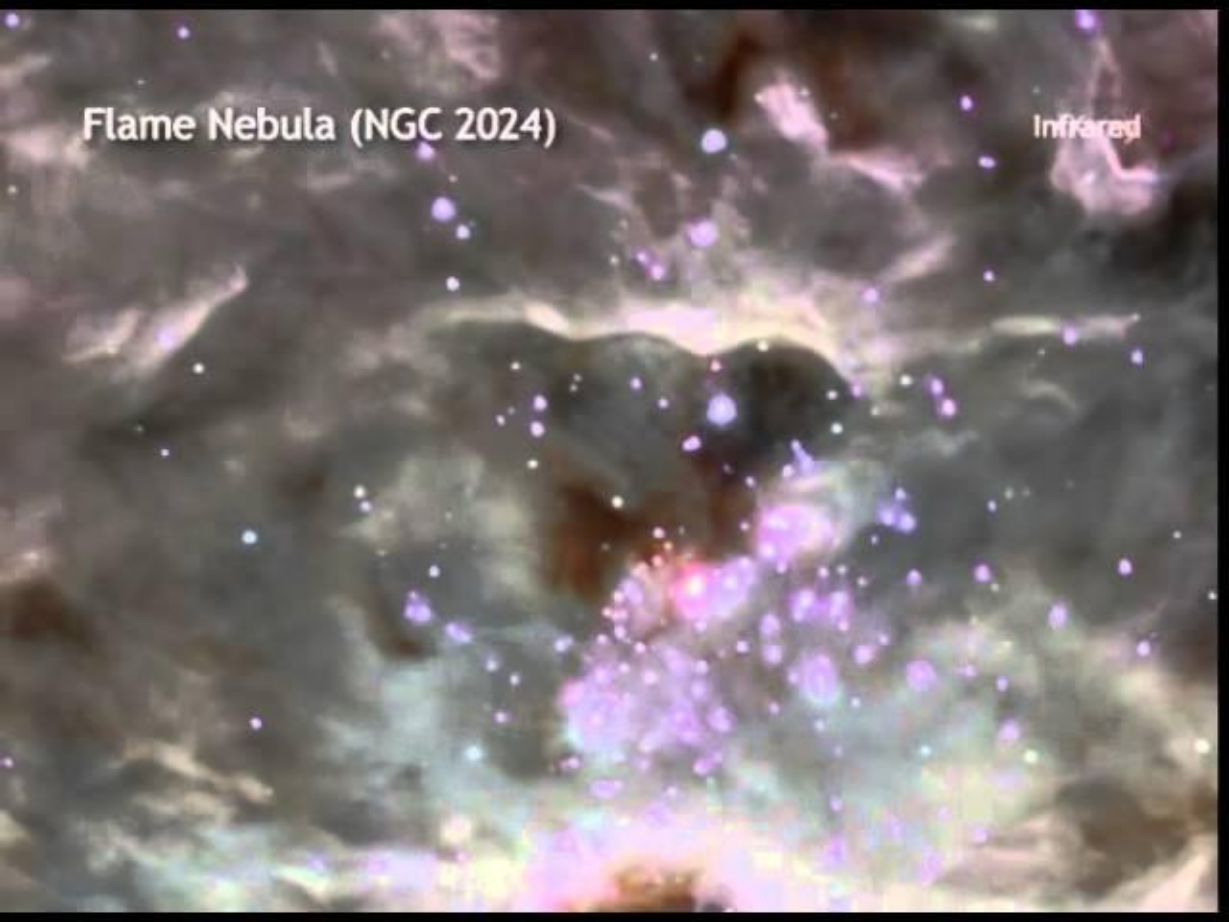
Flame Nebula (NGC 2024)
Infrared

1
00:00:00,450 --> 00:00:04,370
Astronomers have made an important
advance

2
00:00:04,370 --> 00:00:07,990
in the understanding how clusters of
stars like our sun

3
00:00:07,990 --> 00:00:12,210
form, using data from NASA's Chandra X-ray Observatory

4
00:00:12,210 --> 00:00:16,209
and infrared telescopes. The data show

5
00:00:16,209 --> 00:00:19,910
early notions of how star clusters are
formed cannot be correct.

6
00:00:19,910 --> 00:00:23,439
The simplest idea is stars form

7
00:00:23,439 --> 00:00:27,390
into clusters when a giant cloud of gas
and dust condenses.

8
00:00:27,390 --> 00:00:31,340
The center of the cloud pulls in
material from its surroundings

9
00:00:31,340 --> 00:00:36,110
until it becomes dense enough to trigger
star formation.

10
00:00:36,110 --> 00:00:39,280
This process occurs in the center the
cloud first,

11
00:00:39,280 --> 00:00:43,210
implying that the stars in the middle of

the cluster form first,

12
00:00:43,210 --> 00:00:49,469
and, therefore, are the oldest. These new
results suggest something else is

13
00:00:49,469 --> 00:00:50,070
happening.

14
00:00:50,070 --> 00:00:54,750
By studying two clusters where sun-like stars are forming --

15
00:00:54,750 --> 00:00:58,809
NGC 2024, located in the center

16
00:00:58,809 --> 00:01:02,340
the Flame Nebula, and the Orion Nebula
Cluster --

17
00:01:02,340 --> 00:01:07,130
researchers have discovered the stars on
the outskirts of the clusters

18
00:01:07,130 --> 00:01:10,380
are actually the oldest.

19
00:01:10,380 --> 00:01:13,790
The researchers will use this same
technique of combining X-rays

20
00:01:13,790 --> 00:01:17,770
and infrared data to study the age range in
other clusters.

21
00:01:17,770 --> 00:01:21,689
In the meantime, scientists will be hard
at work