

A vibrant, multi-colored nebula with a central pillar of gas and dust, set against a starry background. The colors range from deep blues and purples to bright yellows and oranges. The text is overlaid on the image in a bold, white, sans-serif font with a black outline.

**HUBBLE SCIENCE**

**STARBIRTH NEBULAE**  
Cosmic Cradles

1  
00:00:09,450 --> 00:00:12,789

[Music]

2  
00:00:20,230 --> 00:00:15,110

these beautiful colorful images that

3  
00:00:24,390 --> 00:00:21,750

i love them they're colorful they're

4  
00:00:30,550 --> 00:00:24,400

beautiful but they're signposts of star

5  
00:00:34,150 --> 00:00:32,709

the reason these gas clouds are so

6  
00:00:36,150 --> 00:00:34,160

colorful

7  
00:00:38,630 --> 00:00:36,160

is that there are massive stars bigger

8  
00:00:41,830 --> 00:00:38,640

than our sun that have recently formed

9  
00:00:44,470 --> 00:00:41,840

recently in a in a cosmic sense

10  
00:00:47,029 --> 00:00:44,480

but perhaps within the last million

11  
00:00:49,350 --> 00:00:47,039

years or so these stars have coalesced

12  
00:00:51,510 --> 00:00:49,360

and their radiation is so powerful that

13  
00:00:59,110 --> 00:00:51,520

it goes out and ionizes the surrounding

14

00:01:03,430 --> 00:01:00,950

so astronomers see these colorful

15

00:01:05,350 --> 00:01:03,440

nebulae such that hubble reveals in

16

00:01:07,590 --> 00:01:05,360

great detail and we say oh that's

17

00:01:09,670 --> 00:01:07,600

beautiful but we also say aha that's a

18

00:01:11,750 --> 00:01:09,680

sign that star formation is still active

19

00:01:14,469 --> 00:01:11,760

in this region we can hone in with

20

00:01:16,149 --> 00:01:14,479

hubble and other telescopes and see

21

00:01:18,550 --> 00:01:16,159

exactly what's going on in the

22

00:01:19,749 --> 00:01:18,560

continuation of star formation in these

23

00:01:21,590 --> 00:01:19,759

regions

24

00:01:23,749 --> 00:01:21,600

we didn't really realize when hubble was

25

00:01:25,830 --> 00:01:23,759

launched that we could see such details

26

00:01:28,149 --> 00:01:25,840

about the dynamics of continuing star

27

00:01:29,670 --> 00:01:28,159

formation and that's something that now

28

00:01:31,590 --> 00:01:29,680

people love hubble for are these

29

00:01:41,310 --> 00:01:31,600

beautiful images of activity in our