



**5 THINGS ABOUT**

**INTERSTELLAR SPACE**

1  
00:00:07,749 --> 00:00:04,789

[Music]

2  
00:00:08,950 --> 00:00:07,759

interstellar space is the space between

3  
00:00:11,509 --> 00:00:08,960

the stars

4  
00:00:13,749 --> 00:00:11,519

but that doesn't mean that all space is

5  
00:00:15,190 --> 00:00:13,759

interstellar it's a bit more complicated

6  
00:00:17,830 --> 00:00:15,200

than that

7  
00:00:20,870 --> 00:00:17,840

at the center of the solar system is our

8  
00:00:22,710 --> 00:00:20,880

very own star the sun

9  
00:00:24,630 --> 00:00:22,720

that has eight planets orbiting around

10  
00:00:26,870 --> 00:00:24,640

it including our own

11  
00:00:29,349 --> 00:00:26,880

and the sun is also constantly spewing

12  
00:00:31,750 --> 00:00:29,359

out a stream of high-energy particles

13  
00:00:33,910 --> 00:00:31,760

which we call the solar wind

14

00:00:36,630 --> 00:00:33,920

this wind forms a giant bubble around

15

00:00:38,709 --> 00:00:36,640

our entire solar system other stars have

16

00:00:41,510 --> 00:00:38,719

similar shells around them

17

00:00:43,590 --> 00:00:41,520

interstellar space begins at the edge

18

00:00:47,670 --> 00:00:43,600

of those star bubbles

19

00:00:50,069 --> 00:00:47,680

which are much bigger than these bubbles

20

00:00:51,430 --> 00:00:50,079

interstellar space is hot and cold at

21

00:00:54,790 --> 00:00:51,440

the same time

22

00:00:57,189 --> 00:00:54,800

the particles are moving really fast

23

00:00:58,470 --> 00:00:57,199

fast moving particles means high

24

00:00:59,830 --> 00:00:58,480

temperatures

25

00:01:02,229 --> 00:00:59,840

but get this

26

00:01:05,350 --> 00:01:02,239

you can still freeze to death

27

00:01:08,310 --> 00:01:05,360

the particles are so spread out that

28

00:01:10,950 --> 00:01:08,320

they're not very good at transferring

29

00:01:13,750 --> 00:01:10,960

heat to your body

30

00:01:15,190 --> 00:01:13,760

inside the solar system all the wind

31

00:01:17,030 --> 00:01:15,200

comes from the sun

32

00:01:19,030 --> 00:01:17,040

and the sun's bubble actually blocks out

33

00:01:21,030 --> 00:01:19,040

the wind from other stars

34

00:01:22,950 --> 00:01:21,040

but out in interstellar space there's

35

00:01:25,030 --> 00:01:22,960

wind blowing from many different stars

36

00:01:27,350 --> 00:01:25,040

and it all swirls together it's a

37

00:01:30,069 --> 00:01:27,360

glorious mix of particles energy and

38

00:01:33,109 --> 00:01:30,079

magnetic fields totally unlike the kind

39

00:01:36,230 --> 00:01:33,119

of environment we experience on earth

40

00:01:38,390 --> 00:01:36,240

in the 1970s nasa launched two space

41

00:01:41,190 --> 00:01:38,400

probes that are now speeding through

42

00:01:43,030 --> 00:01:41,200

interstellar space beyond the bubble of

43

00:01:45,270 --> 00:01:43,040

our solar system

44

00:01:47,990 --> 00:01:45,280

after a tour of our neighbor planets

45

00:01:50,950 --> 00:01:48,000

voyager 1 and voyager 2

46

00:01:53,270 --> 00:01:50,960

are now the first human-made objects on

47

00:01:55,749 --> 00:01:53,280

an interstellar adventure

48

00:01:57,910 --> 00:01:55,759

another out of this world thing about

49

00:02:00,950 --> 00:01:57,920

interstellar space is that each of the

50

00:02:04,149 --> 00:02:00,960

voyagers is carrying a golden record on

51  
00:02:06,709 --> 00:02:04,159  
its journey with songs sounds and

52  
00:02:09,510 --> 00:02:06,719  
greetings from our home on planet earth

53  
00:02:12,150 --> 00:02:09,520  
so maybe one day they'll tell the story

54  
00:02:14,150 --> 00:02:12,160  
of our world to extraterrestrial

55  
00:02:16,470 --> 00:02:14,160  
it's pretty cool that we humans now have

56  
00:02:18,630 --> 00:02:16,480  
a message in a bottle all the way out

57  
00:02:20,470 --> 00:02:18,640  
there in interstellar space

58  
00:02:23,190 --> 00:02:20,480  
thanks for joining us with five things

59  
00:02:25,350 --> 00:02:23,200  
about interstellar space and tune in to