



1  
00:00:14,870 --> 00:00:32,709

[Music]

2  
00:00:36,389 --> 00:00:34,470

when i was a little girl

3  
00:00:38,470 --> 00:00:36,399

i remember standing in my yard almost

4  
00:00:42,389 --> 00:00:38,480

every night staring into the sky at a

5  
00:00:45,510 --> 00:00:43,590

i thought about what i learned in

6  
00:00:48,470 --> 00:00:45,520

science class about the robots that

7  
00:00:50,069 --> 00:00:48,480

humans sent to study and explore mars

8  
00:00:51,910 --> 00:00:50,079

they were pretty limited in how far they

9  
00:00:53,430 --> 00:00:51,920

could travel along its surface

10  
00:00:56,310 --> 00:00:53,440

but the information they sent back

11  
00:00:58,470 --> 00:00:56,320

transformed that red dot into an entire

12  
00:01:00,389 --> 00:00:58,480

world

13  
00:01:02,470 --> 00:01:00,399

they revealed evidence of water on mars

14

00:01:03,750 --> 00:01:02,480

from long ago and found organic

15

00:01:05,910 --> 00:01:03,760

compounds

16

00:01:07,590 --> 00:01:05,920

the chemical building blocks of life

17

00:01:11,350 --> 00:01:07,600

which suggested that it had possibly

18

00:01:13,109 --> 00:01:11,360

once been the home of tiny creatures

19

00:01:15,109 --> 00:01:13,119

the most recent robot they sent in the

20

00:01:17,590 --> 00:01:15,119

2020s continued in the search for

21

00:01:19,990 --> 00:01:17,600

evidence of past life on mars

22

00:01:21,910 --> 00:01:20,000

but it also had another goal

23

00:01:24,580 --> 00:01:21,920

to help pave the way for the first

24

00:01:25,749 --> 00:01:24,590

generation of humans to land on mars

25

00:01:38,710 --> 00:01:25,759

[Music]

26  
00:01:42,870 --> 00:01:41,190  
as we approach mars the idea of landing

27  
00:01:45,030 --> 00:01:42,880  
on its surface still feels like a

28  
00:01:46,630 --> 00:01:45,040  
distant dream

29  
00:01:48,389 --> 00:01:46,640  
the orbits of earth and mars around the

30  
00:01:50,469 --> 00:01:48,399  
sun allow for a trek to the planet about

31  
00:01:52,230 --> 00:01:50,479  
every 26 months or so

32  
00:01:55,350 --> 00:01:52,240  
which means round-trip missions can take

33  
00:01:57,030 --> 00:01:55,360  
anywhere from one to three years

34  
00:01:58,789 --> 00:01:57,040  
for this mission we will arrive back to

35  
00:02:00,469 --> 00:01:58,799  
earth just after a year and a half from

36  
00:02:02,230 --> 00:02:00,479  
launch

37  
00:02:04,789 --> 00:02:02,240  
it's surreal to know we will be the

38  
00:02:06,469 --> 00:02:04,799

first humans to arrive to this world

39

00:02:08,630 --> 00:02:06,479

and that we will lay the foundation for

40

00:02:10,389 --> 00:02:08,640

future explorers

41

00:02:12,020 --> 00:02:10,399

a few of us might even return back to

42

00:02:13,430 --> 00:02:12,030

mars

43

00:02:14,869 --> 00:02:13,440

[Music]

44

00:02:16,229 --> 00:02:14,879

i've never really liked the colonial

45

00:02:19,190 --> 00:02:16,239

language that often clutters

46

00:02:21,510 --> 00:02:19,200

conversations about space exploration

47

00:02:23,190 --> 00:02:21,520

this is not manifest destiny

48

00:02:25,910 --> 00:02:23,200

this is the universe

49

00:02:29,110 --> 00:02:25,920

stretching its limbs a little further

50

00:02:31,110 --> 00:02:29,120

we are knocking on our neighbor's door

51

00:02:33,910 --> 00:02:31,120

one of the biggest questions is

52

00:02:35,910 --> 00:02:33,920

if there will be anyone there to answer

53

00:02:37,509 --> 00:02:35,920

the atmosphere of mars is 100 times

54

00:02:40,070 --> 00:02:37,519

thinner than earth's

55

00:02:41,830 --> 00:02:40,080

what's left of that atmosphere is 95

56

00:02:43,589 --> 00:02:41,840

carbon dioxide

57

00:02:47,990 --> 00:02:43,599

the average temperature of the planet is

58

00:02:50,630 --> 00:02:48,000

a frigid negative 55 degrees celsius

59

00:02:52,550 --> 00:02:50,640

if i let my imagination run wild

60

00:02:54,949 --> 00:02:52,560

i can dream of encountering ancient

61

00:02:56,710 --> 00:02:54,959

fossils from another epic that offers a

62

00:02:59,670 --> 00:02:56,720

glimpse into what life was like on mars

63

00:03:02,070 --> 00:02:59,680

when the lakes and rivers were abundant

64

00:03:03,750 --> 00:03:02,080

if life does exist on mars today it's

65

00:03:06,149 --> 00:03:03,760

likely in the form of microbes that the

66

00:03:08,309 --> 00:03:06,159

previous missions have suggested

67

00:03:10,949 --> 00:03:08,319

tiny martians scattered across the clay

68

00:03:12,949 --> 00:03:10,959

and soil on its surface

69

00:03:14,790 --> 00:03:12,959

if we do discover life

70

00:03:17,589 --> 00:03:14,800

we will know that the red point of light

71

00:03:19,350 --> 00:03:17,599

in our sky is living

72

00:03:21,589 --> 00:03:19,360

how many other points of light might

73

00:03:23,910 --> 00:03:21,599

illuminate a kaleidoscope of life hidden

74

00:03:26,149 --> 00:03:23,920

in the sky

75

00:03:27,910 --> 00:03:26,159

if there's life on mars

76

00:03:30,229 --> 00:03:27,920

i believe we should do nothing to

77

00:03:32,390 --> 00:03:30,239

disturb that life

78

00:03:34,470 --> 00:03:32,400

but if we arrive at a barren world

79

00:03:35,750 --> 00:03:34,480

we ourselves might learn to become its

80

00:03:38,229 --> 00:03:35,760

creatures

81

00:03:40,550 --> 00:03:38,239

slowly breathing life into the planet

82

00:03:42,550 --> 00:03:40,560

until that breath becomes its very

83

00:03:44,149 --> 00:03:42,560

atmosphere

84

00:03:47,270 --> 00:03:44,159

what we have learned from the harm we've

85

00:03:49,589 --> 00:03:47,280

caused the earth

86

00:03:52,309 --> 00:03:49,599

sometime soon i will find myself in a

87

00:03:55,030 --> 00:03:52,319

strange position

88

00:03:57,110 --> 00:03:55,040

i will look into the night sky but

89

00:03:58,830 --> 00:03:57,120

that red point of light that i love so

90

00:04:01,429 --> 00:03:58,840

much will have

91

00:04:03,270 --> 00:04:01,439

vanished instead

92

00:04:04,470 --> 00:04:03,280

a blue point of light will glimmer above

93

00:04:06,789 --> 00:04:04,480

me

94

00:04:10,229 --> 00:04:06,799

delicately suspended among countless

95

00:04:12,120 --> 00:04:11,670

and as i look at that blue point of

96

00:04:13,270 --> 00:04:12,130

light

97

00:04:15,429 --> 00:04:13,280

[Music]

98

00:04:18,710 --> 00:04:15,439

i will be looking at the home of every

99

00:04:21,110 --> 00:04:18,720

human being in the universe

100

00:04:23,830 --> 00:04:21,120

and i will hope that someone

101

00:04:25,749 --> 00:04:23,840

perhaps even a few people

102

00:04:29,030 --> 00:04:25,759

will be looking up at that red point of

103

00:04:31,270 --> 00:04:29,040

light in their sky

104

00:04:33,510 --> 00:04:31,280

and in that moment

105

00:04:35,270 --> 00:04:33,520

we will see each other across the solar

106

00:04:37,430 --> 00:04:35,280

system

107

00:04:48,820 --> 00:04:37,440

and i will say