



1
00:00:11,430 --> 00:00:21,590

[Music]

2
00:00:27,429 --> 00:00:24,870

my name is precious hypatia and my dream

3
00:00:29,509 --> 00:00:27,439

is to become an astronaut

4
00:00:31,420 --> 00:00:29,519

i love to explore

5
00:00:37,590 --> 00:00:31,430

and i love to dance

6
00:00:41,110 --> 00:00:37,600

[Music]

7
00:00:42,310 --> 00:00:41,120

i want to explore more soil seas or even

8
00:00:44,709 --> 00:00:42,320

planets

9
00:00:47,430 --> 00:00:44,719

it's in our very dna to explore more

10
00:00:50,069 --> 00:00:47,440

about our world and the unknown

11
00:00:52,310 --> 00:00:50,079

we are a curious species

12
00:00:53,670 --> 00:00:52,320

that's why i always wonder

13
00:00:56,069 --> 00:00:53,680

what's out there

14

00:00:58,470 --> 00:00:56,079

beyond space

15

00:01:01,270 --> 00:00:58,480

though some time ago the dinosaurs were

16

00:01:03,270 --> 00:01:01,280

vanished by an asteroid from the space

17

00:01:05,670 --> 00:01:03,280

what if that happens again

18

00:01:06,950 --> 00:01:05,680

that's going to end my dream

19

00:01:08,550 --> 00:01:06,960

my friends

20

00:01:11,190 --> 00:01:08,560

and my family

21

00:01:12,630 --> 00:01:11,200

a large asteroid could wipe us out

22

00:01:15,030 --> 00:01:12,640

forever

23

00:01:17,590 --> 00:01:15,040

but it won't happen because we are going

24

00:01:19,749 --> 00:01:17,600

to venture to mars

25

00:01:23,030 --> 00:01:19,759

but why mars

26
00:01:26,149 --> 00:01:23,040
to survive we have to reach beyond earth

27
00:01:28,469 --> 00:01:26,159
mars often described as the red planet

28
00:01:30,870 --> 00:01:28,479
is the fourth planet from the sun named

29
00:01:33,510 --> 00:01:30,880
after the roman god of war

30
00:01:35,990 --> 00:01:33,520
mars isn't exactly earth-like but it's

31
00:01:38,469 --> 00:01:36,000
by far the most livable other place in

32
00:01:41,030 --> 00:01:38,479
our entire solar system

33
00:01:42,950 --> 00:01:41,040
though we can't live there yet

34
00:01:44,789 --> 00:01:42,960
even more challenging is

35
00:01:45,910 --> 00:01:44,799
how do we get there

36
00:01:48,870 --> 00:01:45,920
well

37
00:01:51,670 --> 00:01:48,880
we have the orion spacecraft

38
00:01:54,550 --> 00:01:51,680

the orion multi-purpose crew vehicle is

39

00:01:57,190 --> 00:01:54,560

an interplanetary spacecraft intended to

40

00:02:01,190 --> 00:01:57,200

facilitate human exploration of the moon

41

00:02:03,350 --> 00:02:01,200

asteroids and of mars mars is 250

42

00:02:05,590 --> 00:02:03,360

million miles away and it will take us

43

00:02:08,229 --> 00:02:05,600

nine months to get there if we launch on

44

00:02:10,070 --> 00:02:08,239

a very specific day and time once every

45

00:02:12,309 --> 00:02:10,080

two years when mars and earth are

46

00:02:14,710 --> 00:02:12,319

perfectly aligned just so the distance

47

00:02:17,990 --> 00:02:14,720

will be the shortest once we get there

48

00:02:20,790 --> 00:02:18,000

we need water oxygen food shelter and

49

00:02:24,150 --> 00:02:20,800

clothing this device is a dehumidifier

50

00:02:26,309 --> 00:02:24,160

mars's atmosphere is often 100 humid so

51
00:02:28,790 --> 00:02:26,319
this device can extract water simply

52
00:02:31,990 --> 00:02:28,800
from mars atmosphere now how do we

53
00:02:34,390 --> 00:02:32,000
breathe michael hecht a scientist at mit

54
00:02:36,470 --> 00:02:34,400
developed a reverse fuel cell that sucks

55
00:02:39,509 --> 00:02:36,480
in the martian atmosphere and pumps out

56
00:02:41,589 --> 00:02:39,519
oxygen next what will we eat once we get

57
00:02:44,070 --> 00:02:41,599
enough water we'll use hydroponics to

58
00:02:46,470 --> 00:02:44,080
grow food and then we need some shelter

59
00:02:48,630 --> 00:02:46,480
at first we can use inflatable

60
00:02:50,869 --> 00:02:48,640
pressurized buildings as well as our

61
00:02:53,670 --> 00:02:50,879
landers later on we have to go

62
00:02:55,830 --> 00:02:53,680
underground lava tubes caves or build

63
00:02:57,990 --> 00:02:55,840

buildings with really thick walls for

64

00:03:00,790 --> 00:02:58,000

our protection against radiation and

65

00:03:03,030 --> 00:03:00,800

cosmic rays and finally our clothing on

66

00:03:05,910 --> 00:03:03,040

mars there's hardly any atmospheric

67

00:03:08,390 --> 00:03:05,920

pressure so dava newman a scientist at

68

00:03:10,949 --> 00:03:08,400

mit has created a spacesuit that will

69

00:03:12,790 --> 00:03:10,959

keep us together block harmful radiation

70

00:03:15,509 --> 00:03:12,800

and keep us warm

71

00:03:16,710 --> 00:03:15,519

overall it's still very complicated and

72

00:03:19,110 --> 00:03:16,720

difficult

73

00:03:21,509 --> 00:03:19,120

so that leads to the next big step and

74

00:03:23,990 --> 00:03:21,519

that's terraforming the planet

75

00:03:27,190 --> 00:03:24,000

making it earth-like we can now be a

76

00:03:29,830 --> 00:03:27,200

multi-planet species

77

00:03:31,270 --> 00:03:29,840

going to mars is the realization of an

78

00:03:33,670 --> 00:03:31,280

awesome dream

79

00:03:36,070 --> 00:03:33,680

we've all been curious all this time

80

00:03:39,030 --> 00:03:36,080

what happened to mars is there life on

81

00:03:41,990 --> 00:03:39,040

mars sending people to mars is the next

82

00:03:43,350 --> 00:03:42,000

giant leap for mankind

83

00:03:46,789 --> 00:03:43,360

while it's true that there are

84

00:03:49,430 --> 00:03:46,799

challenges to face anything is possible

85

00:03:52,390 --> 00:03:49,440

the human race is a species of explorers

86

00:03:53,910 --> 00:03:52,400

and pioneers that forge bravely into the

87

00:03:55,750 --> 00:03:53,920

unknown

88

00:03:57,589 --> 00:03:55,760

where would we be if we hadn't learned

89

00:04:00,550 --> 00:03:57,599

to navigate the seas and spread our

90

00:04:02,229 --> 00:04:00,560

descendants throughout the globe we are

91

00:04:05,110 --> 00:04:02,239

the only species that has the

92

00:04:08,869 --> 00:04:05,120

instinctive need to travel expand

93

00:04:12,229 --> 00:04:08,879

explore regardless of the consequences

94

00:04:14,710 --> 00:04:12,239

and that makes us who we are

95

00:04:16,710 --> 00:04:14,720

all this is just the next step in our

96

00:04:18,949 --> 00:04:16,720

journey as a species

97

00:04:21,909 --> 00:04:18,959

and it's an important one

98

00:04:25,990 --> 00:04:21,919

yes there will be some challenges

99

00:04:30,950 --> 00:04:28,550

i am going to be an astronaut and i will

100

00:04:36,830 --> 00:04:30,960

be the first dancer to step on martian

101

00:04:47,990 --> 00:04:43,890

[Music]