MISSION IMAGINATION

HABITAT

1
00:00:11,669 --> 00:00:09,910
hi i'm dr robert howard i manage the

2
00:00:14,910 --> 00:00:11,679
habitability design center at the nasa

3
00:00:17,269 --> 00:00:14,920
johnson space center welcome to mission

4
00:00:18,870 --> 00:00:17,279
imagination how do astronauts manage

5
00:00:21,510 --> 00:00:18,880
their work and free time on the

6
00:00:23,189 --> 00:00:21,520
international space station

7
00:00:25,109 --> 00:00:23,199
what free time

8
00:00:26,870 --> 00:00:25,119
astronauts stay pretty busy on the space

9
00:00:29,269 --> 00:00:26,880
station so you might wonder if they

10
00:00:30,550 --> 00:00:29,279
actually have any free time available

11
00:00:32,389 --> 00:00:30,560
there are flight controllers on the

12
00:00:34,470 --> 00:00:32,399
ground to schedule every minute of their

13
00:00:36,630 --> 00:00:34,480

day and they manage all the different

14
00:00:38,630 --> 00:00:36,640
scientific research the engineering

15
00:00:40,549 --> 00:00:38,640
tests activities operating the space

16
00:00:42,389 --> 00:00:40,559
station and scheduling interviews to

17
00:00:43,830 --> 00:00:42,399
talk to people on the ground

18
00:00:46,069 --> 00:00:43,840
but they do allocate a little bit of

19
00:00:47,990 --> 00:00:46,079
time every day and larger chunks of time

20
00:00:50,389 --> 00:00:48,000
on the weekend so they can enjoy their

21
00:00:53,189 --> 00:00:50,399
time in zero gravity just like you do we

22
00:00:55,350 --> 00:00:53,199
need a little bit of time off

23
00:00:58,069 --> 00:00:55,360
do astronauts have customizable private

24
00:01:00,790 --> 00:00:58,079
space aboard the space station

25
00:01:02,150 --> 00:01:00,800
even in space you need your own space

26
00:01:03,670 --> 00:01:02,160
so aboard the international space

27
00:01:06,070 --> 00:01:03,680
station we have crew quarters for the

28
00:01:07,670 --> 00:01:06,080
astronauts they're fairly small

29
00:01:10,070 --> 00:01:07,680
they're in fact even smaller than the

30
00:01:11,750 --> 00:01:10,080
space in your closet in your bedrooms

31
00:01:13,030 --> 00:01:11,760
but in microgravity we don't need to

32
00:01:14,870 --> 00:01:13,040
deal with the same constraints that you

33
00:01:16,950 --> 00:01:14,880
deal with on earth they don't have to

34
00:01:18,870 --> 00:01:16,960
lie down horizontally like we would have

35
00:01:20,630 --> 00:01:18,880
to lie down to go to sleep

36
00:01:22,149 --> 00:01:20,640
they can float up and strap themselves

37
00:01:24,550 --> 00:01:22,159
against the wall and zip their sleeping

38
00:01:26,230 --> 00:01:24,560

bag closed and they can sleep just fine

39
00:01:28,390 --> 00:01:26,240
while they're in this sleeping position

40
00:01:30,149 --> 00:01:28,400
they can also wake up and use a computer

41
00:01:32,469 --> 00:01:30,159
right in front of them they can activate

42
00:01:33,990 --> 00:01:32,479
video games they can watch movies they

43
00:01:35,749 --> 00:01:34,000
can do all sorts of things that you want

44
00:01:37,990 --> 00:01:35,759
to do in your own space

45
00:01:40,310 --> 00:01:38,000
and they do customize it just like you

46
00:01:41,990 --> 00:01:40,320
would in your private bedrooms they'll

47
00:01:43,429 --> 00:01:42,000
bring little articles or items from

48
00:01:45,109 --> 00:01:43,439
earth that they enjoy

49
00:01:46,789 --> 00:01:45,119
each one will reflect the character of

50
00:01:48,310 --> 00:01:46,799
the astronaut who calls that room their

51
00:01:49,830 --> 00:01:48,320
home

52
00:01:52,149 --> 00:01:49,840
how will astronauts prepare for the

53
00:01:54,230 --> 00:01:52,159
future journey to mars

54
00:01:55,670 --> 00:01:54,240
mars is going to be an exciting journey

55
00:01:58,069 --> 00:01:55,680
unlike anything in the history of

56
00:01:59,670 --> 00:01:58,079
humanity one of the biggest issues is we

57
00:02:00,870 --> 00:01:59,680
need to increase our ability to make

58
00:02:02,550 --> 00:02:00,880
repairs

59
00:02:04,709 --> 00:02:02,560
if we break down on the way to mars

60
00:02:07,030 --> 00:02:04,719
there's no roadside assistance

61
00:02:08,790 --> 00:02:07,040
also mars is so far from earth that it

62
00:02:10,389 --> 00:02:08,800
takes light several minutes to travel

63
00:02:12,470 --> 00:02:10,399

between the two planets

64
00:02:14,710 --> 00:02:12,480
so a video message or audio message

65
00:02:15,910 --> 00:02:14,720
could take 4 minutes to 25 minutes just

66
00:02:17,510 --> 00:02:15,920
one way

67
00:02:19,270 --> 00:02:17,520
it will take several launches to put

68
00:02:21,190 --> 00:02:19,280
together the different elements that we

69
00:02:23,270 --> 00:02:21,200
need for the mars base as well as for

70
00:02:25,030 --> 00:02:23,280
the mars transportation vehicle

71
00:02:26,710 --> 00:02:25,040
so it's going to take several years of

72
00:02:28,630 --> 00:02:26,720
flights of the space launch system to

73
00:02:30,630 --> 00:02:28,640
assemble all of those elements and get

74
00:02:33,110 --> 00:02:30,640
the crew ready to go and we can't wait

75
00:02:37,670 --> 00:02:34,630
now it's time for you

76
00:02:39,589 --> 00:02:37,680
to put science technology engineering

77
00:02:42,150 --> 00:02:39,599
and mathematics to work

78
00:02:44,869 --> 00:02:42,160
something we do at nasa every day

79
00:02:48,229 --> 00:02:44,879
good luck on challenge number three