



1
00:00:00,000 --> 00:00:52,480

I
2
00:00:59,120 --> 00:00:56,540
okay we're with you Franklin hello

3
00:01:02,810 --> 00:00:59,130
welcome to the space shuttle Columbia on

4
00:01:05,000 --> 00:01:02,820
this mission fts 75 we have spent the

5
00:01:07,700 --> 00:01:05,010
last several days conducting research in

6
00:01:09,620 --> 00:01:07,710
microgravity science one particular

7
00:01:11,900 --> 00:01:09,630
experiment which I wanted to mention to

8
00:01:14,440 --> 00:01:11,910
you distant world involved in the

9
00:01:18,469 --> 00:01:14,450
crystallization of proteins in

10
00:01:20,330 --> 00:01:18,479
weightlessness in the proteins are some

11
00:01:24,680 --> 00:01:20,340
of the most fundamental building blocks

12
00:01:27,710 --> 00:01:24,690
for lives on our planet Earth they also

13
00:01:31,249 --> 00:01:27,720

play a key role in the life cycle of

14

00:01:33,440 --> 00:01:31,259

disease they control for example

15

00:01:38,330 --> 00:01:33,450

critical functions like reproduction

16

00:01:41,690 --> 00:01:38,340

like growth and of course that now with

17

00:01:44,960 --> 00:01:41,700

this in mind and in their continuous war

18

00:01:48,200 --> 00:01:44,970

against these modern medicine and

19

00:01:51,280 --> 00:01:48,210

pharmacology have focused more on the

20

00:01:55,280 --> 00:01:51,290

microscopic than the macroscopic world

21

00:01:58,430 --> 00:01:55,290

it is in fact in this rearm that we can

22

00:02:03,380 --> 00:01:58,440

better understand and hence defeat the

23

00:02:05,870 --> 00:02:03,390

enemy in fact the more precisely we know

24

00:02:09,650 --> 00:02:05,880

the protein structure of of a disease or

25

00:02:11,750 --> 00:02:09,660

a parasite the more effectively the

26
00:02:18,500 --> 00:02:11,760
weekend engineer drugs and medications

27
00:02:21,020 --> 00:02:18,510
or vaccines to counteract them if we

28
00:02:24,470 --> 00:02:21,030
were able to transport ourselves to the

29
00:02:27,800 --> 00:02:24,480
microscopic world we would find that

30
00:02:36,890 --> 00:02:27,810
this proteins look very much like this

31
00:02:36,900 --> 00:02:43,179
who are in fact three-dimensional

32
00:02:51,080 --> 00:02:46,780
arranged in very specific patterns

33
00:02:53,899 --> 00:02:51,090
booking structures present very specific

34
00:02:57,140 --> 00:02:53,909
notes and crannies to which other

35
00:03:00,649 --> 00:02:57,150
proteins bind and relate to their

36
00:03:04,250 --> 00:03:00,659
surroundings these lands are binding

37
00:03:05,839 --> 00:03:04,260
sides hold the key to many of the

38
00:03:09,289 --> 00:03:05,849

critical functions of the living

39

00:03:14,030 --> 00:03:09,299

organisms inhibiting some of the sides

40

00:03:16,940 --> 00:03:14,040

can alter can arrest can neutralize or

41

00:05:51,740 --> 00:03:16,950

in fact in the case of a disease can

42

00:05:51,750 --> 00:05:55,399

hello folks

43

00:07:56,020 --> 00:05:57,619

Oh Jeff hi Claude we're looking in the

44

00:07:56,030 --> 00:08:02,830

columbia were handed over to Goldstone a

45

00:08:15,110 --> 00:08:06,920

lot of the same columbia through

46

00:08:18,610 --> 00:08:15,120

gallstones okay and i got the big

47

00:08:24,440 --> 00:08:18,620

picture from rich when you ready to copy

48

00:08:29,000 --> 00:08:24,450

okay stories i have a picnic okay we

49

00:08:32,680 --> 00:08:29,010

will bring up edwards for tomorrow we

50

00:08:39,230 --> 00:08:32,690

will not attempt the first rev at KSC

51
00:08:42,140 --> 00:08:39,240
that's on orbit 234 we will take aim at

52
00:08:47,540 --> 00:08:42,150
the second opportunity at KSC which is

53
00:08:52,880 --> 00:08:47,550
235 if we waive off on that one we will

54
00:08:58,730 --> 00:08:52,890
evaluate 236 at KSC we will also

55
00:09:01,270 --> 00:08:58,740
evaluate 236 at edwards if we waive off

56
00:09:05,810 --> 00:09:01,280
of KSC will take a hard look at

57
00:09:08,960 --> 00:09:05,820
Saturday's weather at KSC and we will

58
00:09:13,130 --> 00:09:08,970
keep that option open for a Saturday

59
00:09:16,670 --> 00:09:13,140
landing at KSC so the first one we'll

60
00:09:19,100 --> 00:09:16,680
try is a second opportunity at KSC if we

61
00:09:21,980 --> 00:09:19,110
waive off there we'll look at the third

62
00:09:24,410 --> 00:09:21,990
opportunity at KSC and also look at

63
00:09:27,950 --> 00:09:24,420

edwards but we will keep our options

64

00:09:35,170 --> 00:09:27,960

open if it is optimistic for Saturday

65

00:09:37,970 --> 00:09:35,180

landing at KSC will try that also okay

66

00:09:42,550 --> 00:09:37,980

forecaster Saturday they had to pick

67

00:09:48,130 --> 00:09:44,900

yes sir the second or the third

68

00:09:52,580 --> 00:09:48,140

opportunity at Edwards that's to 36 or

69

00:09:55,670 --> 00:09:52,590

237 so if this saturday forecast is

70

00:10:07,320 --> 00:09:55,680

really poor for KSC the chances are you

71

00:10:18,610 --> 00:10:11,019

and I've got some proposed sleep times

72

00:10:20,440 --> 00:10:18,620

for you have a copy if the blue is a the

73

00:10:24,850 --> 00:10:20,450

blue team's not in bed they can be a

74

00:10:28,120 --> 00:10:24,860

hidden that way about now we're

75

00:10:32,260 --> 00:10:28,130

proposing your sleep read sleep at 14

76

00:10:36,940 --> 00:10:32,270

days two hours and 45 minutes proposing

77

00:10:40,810 --> 00:10:36,950

blue to be up at 14 days two hours in a