



Spaceto**Ground**

1

00:00:03,006 --> 00:00:05,296

WELCOME TO SPACE TO
GROUND, I AM KAYLA LAFRANCE.

2

00:00:05,656 --> 00:00:08,496

THIS WEEK ASTRONAUTS ONBOARD
THE SPACE STATION RESEARCHED

3

00:00:08,496 --> 00:00:10,276

DAMAGED DNA.

4

00:00:11,680 --> 00:00:15,340

NASA ASTRONAUT NICK HAGUE SPENT
TIME WORKING INSIDE THE COLUMBUS

5

00:00:15,360 --> 00:00:18,840

LABORATORY MODULE WITH THE
GENES IN SPACE-6 EXPERIMENT,

6

00:00:19,096 --> 00:00:22,086

WHICH IS EXPLORING HOW
SPACE RADIATION DAMAGES DNA

7

00:00:22,086 --> 00:00:25,896

AND HOW THE CELL REPAIR
MECHANISM WORKS IN MICROGRAVITY.

8

00:00:26,756 --> 00:00:29,926

INCREASED EXPOSURE TO RADIATION
CAN AFFECT THE LONG-TERM HEALTH,

9

00:00:30,596 --> 00:00:33,786

WITH DNA DAMAGE LINKED TO
INCREASED RISK OF CANCER

10

00:00:33,786 --> 00:00:35,546

AND OTHER DEGENERATIVE DISEASES.

11

00:00:36,136 --> 00:00:39,496

GENES IN SPACE-6 WILL STUDY
THE DNA REPAIR MECHANISMS

12

00:00:39,766 --> 00:00:44,056
THAT CELLS USE BY INDUCING DNA
DAMAGE AND ASSESSING MUTATION

13

00:00:44,056 --> 00:00:45,786
AND REPAIR AT THE
MOLECULAR LEVEL.

14

00:00:46,276 --> 00:00:47,756
AN INCREASED UNDERSTANDING

15

00:00:47,756 --> 00:00:50,056
OF HOW CELLS REPAIR
DNA DAMAGE WHILE

16

00:00:50,056 --> 00:00:52,766
IN MICROGRAVITY CAN
CONTRIBUTE TO FUTURE METHODS

17

00:00:52,926 --> 00:00:55,146
TO PROTECT ASTRONAUTS
ON THE SPACE STATION

18

00:00:55,206 --> 00:00:57,576
AND FUTURE MISSIONS TO
THE MOON AND BEYOND.

19

00:00:58,276 --> 00:01:02,086
GENES-IN-SPACE IS A COMPETITION
FOR STUDENTS IN GRADES 7-12

20

00:01:02,506 --> 00:01:05,686
TO DESIGN A DNA EXPERIMENT
THAT ADDRESSES CHALLENGES

21

00:01:05,806 --> 00:01:08,136
IN SPACE TRAVEL AND

DEEP SPACE EXPLORATION.

22

00:01:08,656 --> 00:01:11,456

IT'S JUST ONE OF MANY WAYS THAT
STUDENTS CAN DIRECTLY BENEFIT

23

00:01:11,456 --> 00:01:13,736

FROM THE INTERNATIONAL
SPACE STATION.

24

00:01:14,306 --> 00:01:17,516

FOR MORE INFORMATION GO TO
GENESINSPACE.ORG OR HEAD

25

00:01:17,576 --> 00:01:22,196

OVER TO NASA.GOV/STEMONSTATION
TO LOOK FOR MORE OPPORTUNITIES!

26

00:01:22,436 --> 00:01:26,926

THIS WEEK'S QUESTION COMES FROM
MATTHEW DEFRANCESCO WHO WANTS

27

00:01:26,976 --> 00:01:29,016

TO KNOW IF ASTRONAUTS
GET MEDICAL CARE

28

00:01:29,166 --> 00:01:30,126

WHEN THEY RETURN TO EARTH?

29

00:01:30,266 --> 00:01:32,196

THE ANSWER IS YES.

30

00:01:32,720 --> 00:01:34,840

ALL ASTRONAUTS HAVE A
FLIGHT SURGEON ASSIGNED TO THEM.

31

00:01:35,540 --> 00:01:38,080

THESE FLIGHT SURGEONS
SUPPORT THEM PRE-FLIGHT,

32

00:01:38,080 --> 00:01:39,920

DURING THE MISSION,
AND POST-FLIGHT.

33

00:01:40,820 --> 00:01:43,800

AT THE LANDING SITE, FLIGHT
SURGEONS TAKE THE CREWMEMBERS

34

00:01:43,800 --> 00:01:46,000

TO THE MEDICAL TENT TO
CHECK THEIR VITAL SIGNS

35

00:01:46,320 --> 00:01:48,000

AND PROVIDE ANY NEEDED
TREATMENT.

36

00:01:48,740 --> 00:01:51,516

THE NASA ASTRONAUTS START
THE JOURNEY BACK TO HOUSTON

37

00:01:51,516 --> 00:01:54,126

THAT SAME DAY, ACCOMPANIED
BY THEIR FLIGHT SURGEONS,

38

00:01:54,126 --> 00:01:57,826

WHO WILL SUPPORT ANY MEDICAL
TESTS AND RECOVERY PROGRAMS

39

00:01:57,996 --> 00:02:00,346

TO ENSURE THAT THE
CREWMEMBERS ARE READAPTING

40

00:02:00,380 --> 00:02:02,020

TO EARTH'S GRAVITY.