



**SPACE**  
TO  
**GROUND**

1  
00:00:00,919 --> 00:00:02,440  
Houston, station on space to ground.

2  
00:00:02,440 --> 00:00:03,712  
JOSH BYERLY: Welcome to Space to Ground.

3  
00:00:03,712 --> 00:00:06,730  
Your weekly look at what's happening on  
board the International Space Station.

4  
00:00:06,730 --> 00:00:07,970  
I'm Josh Byerly.

5  
00:00:07,970 --> 00:00:09,030  
Hi, Dan Rather.

6  
00:00:09,030 --> 00:00:12,190  
DAN RATHER: Josh, why don't you let me take  
this one?

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00:00:12,190 --> 00:00:13,190  
JOSH: (laughs) Okay...

8  
00:00:13,190 --> 00:00:15,180  
I'll just go stand over here...

9  
00:00:15,180 --> 00:00:19,230  
Houston, station on space to ground.

10  
00:00:19,230 --> 00:00:22,100  
DAN: Welcome to Space To Ground.

11  
00:00:22,100 --> 00:00:26,350  
Your weekly look at what's happening on  
board the International Space Station.

12  
00:00:26,350 --> 00:00:29,470  
I am not Josh Byerly.

13  
00:00:29,470 --> 00:00:33,929  
This week, one Progress cargo craft departed while another arrived.

14  
00:00:33,929 --> 00:00:40,870  
On Monday, the Progress 52 undocked from the space station, carrying with it trash and

15  
00:00:40,870 --> 00:00:43,690  
other items the crew no longer needs.

16  
00:00:43,690 --> 00:00:47,420  
It had been attached to the Pirs docking compartment since July.

17  
00:00:47,420 --> 00:00:50,309  
But Pirs wasn't empty for long.

18  
00:00:50,309 --> 00:00:55,800  
On Wednesday, Progress 54 lifted off from Kazakhstan and took a six hour trip to the

19  
00:00:55,800 --> 00:00:57,019  
outpost.

20  
00:00:57,019 --> 00:01:02,850  
It is loaded with two-point-eight tons of food, fuel and supplies for the station crew.

21  
00:01:02,850 --> 00:01:06,500  
They'll spend the next several weeks unloading it.

22  
00:01:06,500 --> 00:01:11,729  
As the world gears up for the winter Olympics in Russia, Flight Engineers Mike Hopkins and

23  
00:01:11,729 --> 00:01:18,590

Rick Mastracchio joined team USA bobsledder  
Curt Tomasevicz and others in a Google plus

24

00:01:18,590 --> 00:01:23,539  
hangout.

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00:01:23,539 --> 00:01:27,259  
They talked about the importance of fitness  
both in space and on earth.

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00:01:27,259 --> 00:01:32,119  
Of course, the ISS played an important role  
in the opening ceremonies.

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00:01:32,119 --> 00:01:37,799  
The torch used to light the Olympic cauldron  
made a visit to the space station and was

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00:01:37,799 --> 00:01:39,880  
taken out on a spacewalk.

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00:01:39,880 --> 00:01:44,799  
It returned to Earth in November with the  
Expedition 36 crew.

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00:01:44,799 --> 00:01:51,499  
In station science, the crew worked on a blood  
pressure experiment called BP Reg.

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00:01:51,499 --> 00:01:56,219  
Coming back to Earth after six months in space  
isn't for the faint of heart – but it

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00:01:56,219 --> 00:02:00,939  
can still cause the astronauts and cosmonauts  
to get a little light-headed.

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00:02:00,939 --> 00:02:05,890  
The cardiovascular system doesn't have to  
work as hard in space since it doesn't have

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00:02:05,890 --> 00:02:08,789

to battle gravity to pump blood.

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00:02:08,789 --> 00:02:14,400

Once the space-fliers are back on Earth, their blood gets pulled down and away from the head,

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00:02:14,400 --> 00:02:16,440

and their blood pressure drops.

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00:02:16,440 --> 00:02:21,870

with BP Reg, the crew monitors their blood pressure before, during and after their time

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00:02:21,870 --> 00:02:23,480

on board the station.

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00:02:23,480 --> 00:02:29,790

Scientists hope to use the data to better predict how each crew member will be affected.

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00:02:29,790 --> 00:02:36,290

This week, Chuck asks us "How much water is recycled on ISS?"

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00:02:36,290 --> 00:02:43,069

About 80 liters of water is purified and recycled each week on board from both sweat and urine.

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00:02:43,069 --> 00:02:48,970

This eliminates the need to launch a lot of water into space, which is heavy and expensive.

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00:02:48,970 --> 00:02:54,830

And recycling will be essential for future space missions to an asteroid or mars.

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00:02:54,830 --> 00:02:59,189

This technology is actually being used right now to provide clean drinking water to some

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00:02:59,189 --> 00:03:02,260

of the most remote areas of our planet.

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00:03:02,260 --> 00:03:08,409

This is just one of the ways the space station is benefitting humanity.

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00:03:08,409 --> 00:03:13,689

Make sure you send us your questions and comments using the hashtag #spacetoground.