SpacetoGround

1
00:00:03,180 --> 00:00:05,620
Welcome to Space to Ground, I'm Leah Cheshier.

2
00:00:05,629 --> 00:00:08,870
Summer time might be coming to an end,
but astronauts on the space station

3
00:00:08,870 --> 00:00:12,580
still have palm trees on their mind, and
in the lab.

4
00:00:14,000 --> 00:00:15,720
As we look to go forward to the moon

5
00:00:15,740 --> 00:00:18,980
and on to Mars with Artemis,
researchers are interested in learning

6
00:00:18,980 --> 00:00:22,300
more about how plants germinate in a
microgravity environment.

7
00:00:22,700 --> 00:00:27,140
The United Arab Emirates Palm Tree Growth Experiment observes and documents root development

8
00:00:27,140 --> 00:00:31,790
of the Date Palm while in space. Evidence
of healthy plant tissue grown in

9
00:00:31,790 --> 00:00:37,140
microgravity may support possibility of
future explorers growing plants for consumption and other purposes.

10
00:00:38,060 --> 00:00:40,840
Meanwhile
on terra firma, three crew members are

11
00:00:40,840 --> 00:00:43,200
finishing up final preparations prior to

launch.

12
00:00:45,000 --> 00:00:49,220
After completing ceremonial activities
and mission briefings the Expedition 61

13
00:00:49,220 --> 00:00:53,810
crew of Jessica Meir, Oleg Skripochka, and
Hazzaa Ali Almansoori departed the

14
00:00:53,810 --> 00:00:57,590
Gagarin Cosmonaut Training Center in
Star City Russia and arrived at the

15
00:00:57,590 --> 00:01:02,000
Baikonur Cosmodrome in Kazakhstan. Here
they'll finalise pre-launch training

16
00:01:02,000 --> 00:01:05,479
before beginning their journey to the
space station, with a liftoff on the

17
00:01:05,480 --> 00:01:09,420
Soyuz MS-15 spacecraft scheduled for
September 25th.

18
00:01:10,720 --> 00:01:16,380
This week's question is from Sohan, who asks how the space station is protected against radiation and debris.

19
00:01:17,520 --> 00:01:20,680
Space Station modules are
made from an outer layer of aluminum,

20
00:01:20,690 --> 00:01:25,790
an insulation layer, a debris shield layer
similar to Kevlar, and a second debris

21
00:01:25,790 --> 00:01:29,520
shield layer of aluminum. This amounts to
protection against debris,

22
00:01:29,540 --> 00:01:35,100
micrometeoroids and radiation as well as it
reflects the intense sunlight.