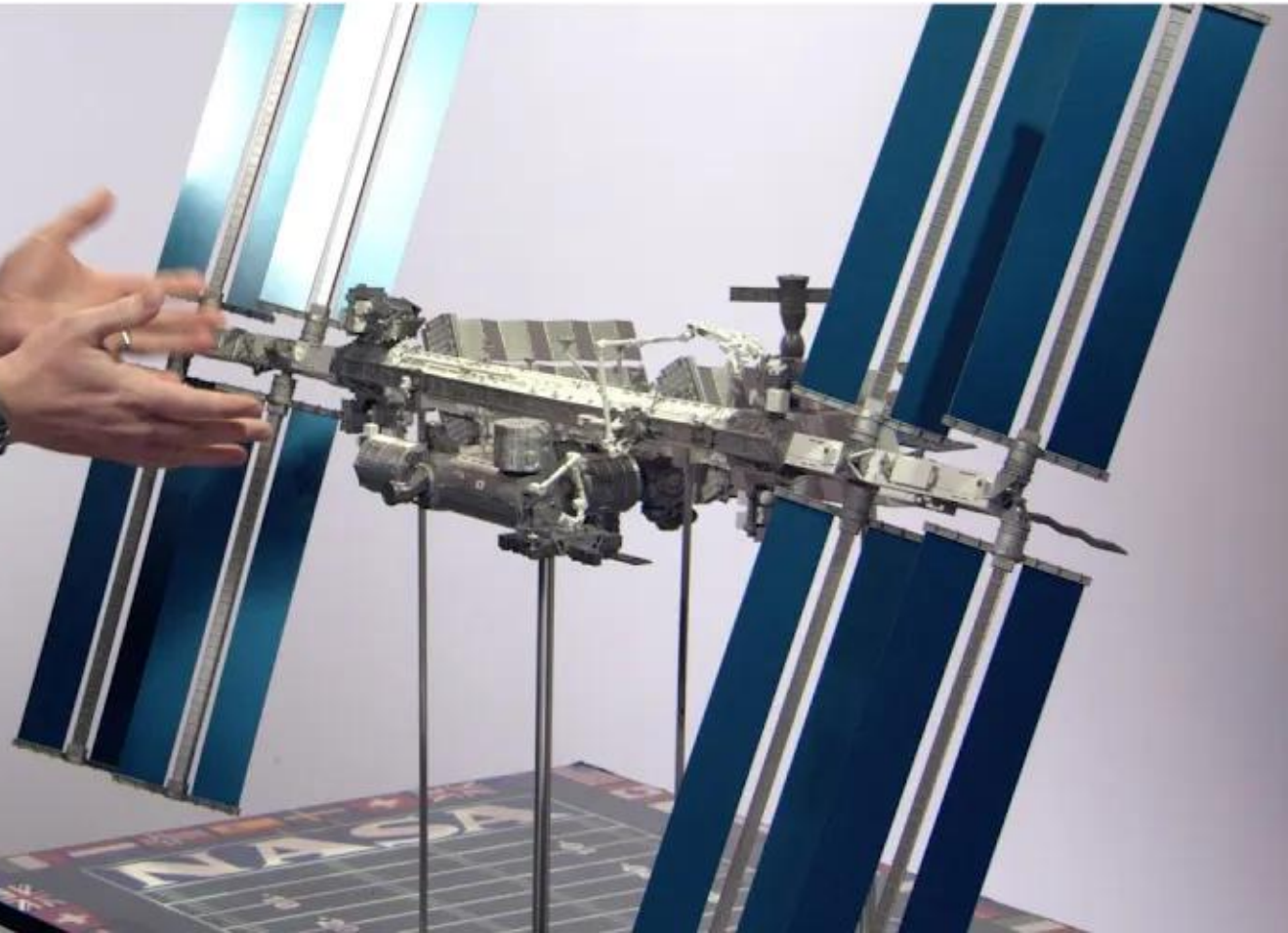


#AskNASA

WHAT IS THE INTERNATIONAL
SPACE STATION?



1
00:00:00,233 --> 00:00:01,901
Hi, I'm Jacob Keaton
this is #AskNASA.

2
00:00:01,968 --> 00:00:03,303
I'm here to answer your
questions about the

3
00:00:03,370 --> 00:00:05,305
International
Space Station.

4
00:00:05,372 --> 00:00:12,045
[Music]

5
00:00:12,112 --> 00:00:13,713
What is the International
Space Station?

6
00:00:13,780 --> 00:00:16,716
This is the International
Space Station.

7
00:00:16,783 --> 00:00:19,052
This is an orbiting
outpost that is humanities

8
00:00:19,119 --> 00:00:20,854
first permanent
home away from home.

9
00:00:20,920 --> 00:00:23,390
It was built over the
course of a decade by

10
00:00:23,456 --> 00:00:25,291
fifteen different
countries and five space

11

00:00:25,358 --> 00:00:26,226
agencies.

12

00:00:26,292 --> 00:00:28,328
Onboard the crew lives in
these cylindrical sections

13

00:00:28,395 --> 00:00:30,563
together they are about
the size of a five-bedroom

14

00:00:30,630 --> 00:00:32,198
house that houses
six people.

15

00:00:32,265 --> 00:00:34,067
This right here is the
Canadaarm which is a

16

00:00:34,134 --> 00:00:36,603
robotic arm that lives
outside its about fifty

17

00:00:36,669 --> 00:00:38,171
feet long, maybe
a little more.

18

00:00:38,238 --> 00:00:40,607
And it's capable of moving
all of these pieces of

19

00:00:40,673 --> 00:00:42,642
space station around like
a construction site.

20

00:00:42,709 --> 00:00:44,978
This is the Japanese laboratory
complex, right here.

21

00:00:45,044 --> 00:00:47,614

We've got a little astronaut
right there for scale.

22

00:00:47,680 --> 00:00:51,084

Each one of these boxes
is an external experiment

23

00:00:51,151 --> 00:00:53,386

that is exposed to
the vacuum of space.

24

00:00:53,453 --> 00:00:55,321

Over here we have
the European lab.

25

00:00:55,388 --> 00:00:57,724

None of these components
ever met on the ground.

26

00:00:57,791 --> 00:00:59,759

The first time they ever
touched each other was in

27

00:00:59,826 --> 00:01:02,061

space and they all worked
perfectly because our

28

00:01:02,128 --> 00:01:04,230

engineers and teams have
worked together so closely

29

00:01:04,297 --> 00:01:05,799

before we launched them.

30

00:01:05,865 --> 00:01:07,901

Moving back here is the
United States lab, that's

31

00:01:07,967 --> 00:01:09,969

where everything

meets and joins up.

32

00:01:10,036 --> 00:01:11,504

This is the airlock
right here, thats where

33

00:01:11,571 --> 00:01:12,939

astronauts do
spacewalks from.

34

00:01:13,006 --> 00:01:14,674

They put on their spacesuits
and they can go outside.

35

00:01:14,741 --> 00:01:16,075

These are the solar
arrays, there are eight of

36

00:01:16,142 --> 00:01:17,777

them and this is what
powers the space station.

37

00:01:17,844 --> 00:01:20,146

Its an entirely solar
powered vehicle.

38

00:01:20,213 --> 00:01:21,514

And thats the
International Space

39

00:01:21,581 --> 00:01:23,583

Station, our orbiting
home in space.

40

00:01:29,722 --> 00:01:31,791

Can I see the space
station from Earth?

41

00:01:31,858 --> 00:01:32,459

Yes you can.

42

00:01:32,525 --> 00:01:34,027

The space station's
actually the third

43

00:01:34,093 --> 00:01:36,529

brightest object in the
sky after the Sun and Moon.

44

00:01:36,596 --> 00:01:39,132

It orbits the Earth once
every ninety minutes, but

45

00:01:39,199 --> 00:01:41,568

it needs the Sun's light to
shine on these arrays so

46

00:01:41,634 --> 00:01:42,335

that we can see it.

47

00:01:42,402 --> 00:01:44,103

If you have a pair of
binoculars you can

48

00:01:44,170 --> 00:01:46,372

actually make out pieces
of the space station from

49

00:01:46,439 --> 00:01:48,007

the ground, but you
don't need a telescope.

50

00:01:48,074 --> 00:01:51,244

A telescope zooms in too
much and it moves far too fast.

51

00:01:51,311 --> 00:01:53,646

NASA has a website called
SpotTheStation which tells

52

00:01:53,713 --> 00:01:54,581

you when to go look.

53

00:01:54,647 --> 00:01:56,616

You can walk outside and
it looks just like an

54

00:01:56,683 --> 00:01:58,485

airplane moving through
the sky except it doesn't

55

00:01:58,551 --> 00:02:00,053

flash and its
very, very bright.

56

00:02:01,488 --> 00:02:03,256

The space station weighs
about nine hundred

57

00:02:03,323 --> 00:02:05,492

thousand pounds and took
more than forty rocket

58

00:02:05,558 --> 00:02:06,493

launches to get
it into space.

59

00:02:06,559 --> 00:02:08,695

The space station runs
on Greenwich Mean Time

60

00:02:08,761 --> 00:02:10,997

because the space station
partnership spreads around

61

00:02:11,064 --> 00:02:13,199

the entire world so we had
to pick one time zone that

62

00:02:13,266 --> 00:02:14,868
everybody could
reference off of.

63
00:02:14,934 --> 00:02:16,903
The space station
does have Wi-Fi.

64
00:02:16,970 --> 00:02:19,372
A lot of the external
payloads communicate with

65
00:02:19,439 --> 00:02:21,941
the inside of the space
station via Wi-Fi.

66
00:02:22,008 --> 00:02:24,744
The space stations about
the size of a football

67
00:02:24,811 --> 00:02:27,146
field including the
endzones from end-to-end

68
00:02:27,213 --> 00:02:29,015
and from front-to-back
is about the size of a

69
00:02:29,082 --> 00:02:31,084
football field
to the sidelines.

70
00:02:33,186 --> 00:02:35,989
How fast does the
space station move?

71
00:02:36,055 --> 00:02:37,857
Space station travels
about seventeen thousand

72

00:02:37,924 --> 00:02:39,659

five hundred miles an
hour, which is what's

73

00:02:39,726 --> 00:02:41,995

called orbital velocity
for low Earth orbit.

74

00:02:42,061 --> 00:02:43,863

This means it circles the
Earth once every ninety

75

00:02:43,930 --> 00:02:44,731

minutes.

76

00:02:44,797 --> 00:02:46,599

That means the crew gets
to see sixteen sunrises

77

00:02:46,666 --> 00:02:48,668

and sixteen

sunsets every day.

78

00:02:50,637 --> 00:02:52,472

What do the astronauts on
space station work on?

79

00:02:52,539 --> 00:02:54,340

The crew on the space
station is there to do

80

00:02:54,407 --> 00:02:57,076

research into all kinds
of scientific disciplines

81

00:02:57,143 --> 00:02:59,379

from Earth science
to space science to

82

00:02:59,445 --> 00:03:02,115

microgravity research to
biology to just what it's

83

00:03:02,181 --> 00:03:04,017

like to live and
work in space.

84

00:03:04,083 --> 00:03:05,618

When the crew isn't
maintaining the space

85

00:03:05,685 --> 00:03:07,420

station, they are
exploring the effects of

86

00:03:07,487 --> 00:03:09,556

microgravity on their own
bodies as well as on the

87

00:03:09,622 --> 00:03:11,691

systems we will need to go
further into the universe.

88

00:03:11,758 --> 00:03:15,161

[Music]

89

00:03:15,228 --> 00:03:16,596

NASA's working with its
partners in commercial

90

00:03:16,663 --> 00:03:18,431

industry to transfer the
lessons of the space

91

00:03:18,498 --> 00:03:20,633

station on to them so they
can learn operate in low

92

00:03:20,700 --> 00:03:23,036

Earth orbit potentially

building more platforms

93

00:03:23,102 --> 00:03:25,104

there to conduct all
sorts of new and exciting

94

00:03:25,171 --> 00:03:25,972

research.

95

00:03:26,039 --> 00:03:28,241

NASA will be moving on to
build an outpost around

96

00:03:28,308 --> 00:03:30,543

the Moon called the
Gateway which is going to

97

00:03:30,610 --> 00:03:31,544

enable lunar exploration.

98

00:03:31,611 --> 00:03:33,780

[Music]

99

00:03:33,846 --> 00:03:37,617

How will the space station
help us go farther into space?

100

00:03:37,684 --> 00:03:39,986

The space station, as our
first permanent home in

101

00:03:40,053 --> 00:03:41,921

space has taught us what
we really need to live and

102

00:03:41,988 --> 00:03:44,390

work and be productive in
the space environment.

103

00:03:44,457 --> 00:03:47,026

The space station is about
three hours from home if

104

00:03:47,093 --> 00:03:48,461

we ever need to get home.

105

00:03:48,528 --> 00:03:49,996

As we go to the Moon under
the Artemis program the

106

00:03:50,063 --> 00:03:52,565

crews will be about
three days from home.

107

00:03:52,632 --> 00:03:54,968

After we learn how to work
and live on the Moon we

108

00:03:55,034 --> 00:03:56,102

are going to
go on to Mars.

109

00:03:56,169 --> 00:03:58,705

Mars can be anywhere from
six to nine months from home.

110

00:03:58,771 --> 00:04:00,239

The space station will
continue to be our base

111

00:04:00,306 --> 00:04:02,842

camp in low Earth orbit
as we continue under the

112

00:04:02,909 --> 00:04:04,944

Artemis program to the
Moon and on to Mars.

113

00:04:05,011 --> 00:04:06,713

Coollest thing about the
space station in my mind

114

00:04:06,779 --> 00:04:09,415

is the fact that fifteen
countries worked together

115

00:04:09,482 --> 00:04:10,483

to build this and more
than a hundred other

116

00:04:10,550 --> 00:04:13,186

countries have been
invited onboard to conduct

117

00:04:13,252 --> 00:04:14,721

all sorts of experiments.

118

00:04:14,787 --> 00:04:16,556

Its truly a global
enterprise and it shows

119

00:04:16,623 --> 00:04:18,057

how when we put our minds
to it we can really

120

00:04:18,124 --> 00:04:19,993

achieve something amazing.

121

00:04:20,059 --> 00:04:24,430

[Music]

122

00:04:24,497 --> 00:04:26,432

Do you have a
question for NASA?