

Cosmix

Flying to space is easy now a days.

Just put on a spacesuit, jump into a pretty beefy rocket, ignite the engines...and.... hop! You are in space!

What next? You enjoy the adventure; the space has to offer.

Fly with no speed limit!

Avoid asteroids!

How about some Space acrobatics!

And yeah, defend earth from aliens.... Or not!

Lo and behold, it's not!

Flying to space is far from a routine job. And not everyone is cut out for this.

Why not?

Because you get into a rocket, which shot up at the speed of twenty-nine thousand kilometres per hour to a place without air, where everything gets frozen in a blink.

For something like this, you have to be perfectly fit and have nerves of steel.

You need to have a clever head too. Sometimes things go wrong in astronautics and you have to know how to get out of the trouble.

Fortunately, there are people who can do all this.

One half of the world called them astronaut, the other one cosmonauts and the third half calls them taikonauts.

They are carefully prepared for their trips to space for a long time.

First of all, they have to learn really a lot.

About the universe. About flying and rockets. About the space station.

And they must keep themselves fit.

If you are overweight, you will simply fail the job interview for an astronaut.

In space, every kilo counts.

After all, lifting just one kilo into space costs more than forty thousand euros. This means that a kilo of space load is more expensive than a kilo of gold!

Of course, astronauts also train for the situations they'll go through during the take-off or when in space. They have to get used to the high G-force during the take off and during their return back to earth.

The training is done in a high-speed centrifuge.

One of the most amazing thing about being in space is weightlessness.

The force of gravity affecting you in the earth's orbit equalise and you can float freely in space.

But how do we train for weightlessness down on earth? Quite easily!

You only need water. Lots and lots of water.... In a large swimming pool.

Although it's not a perfect solution but floating in water is quite similar to floating weightless in space.

And if you like, you can have your own aliens there too!

Or your adorable pet!

After all, space has hosted quite a number of species... Tiny flies...

Mice...

Monkeys...

Dogs...

Rats...

Rabbits...

Cats...

Turtles...

Fish...

Jellyfish...

Spiders and even frogs.

And how many people have flown to space?

Quite a few actually! More than 550 brave terrestrials.

So, if you dream of becoming an astronaut, you definitely got a chance.

The ultimate adventure awaits you!

And what's a trip to space like?

First of all, you'll have to control the need for personal space! One thing we lack in the space travel is the lack of space in the spaceship.

You know, not enough room! Almost all the volume of the rocket is reserved for the extremely flammable rocket fuel.

So, you and your friend astronauts will be stuffed into a damn small cabin of the spaceship, placed on the very tip of the tall rocket.

Then there comes the very nerve-wracking countdown you can't do without.

Let's have it here too...

Nine hundred ninety-nine, nine hundred ninety-eight, nine hundred ninety-seven, nine hundred ninety-six, nine hundred ninety-five...

Four...three...two...one.... Blast off!

AND.... While on the way to space your rocket falls apart!

Ha-ha!! No need to be scared! That's the plan. The rocket parts that have used up all the fuel gradually fall off.

The flight from Earth to Space is quite fast. Just two and a half minutes, and you are flying 100 kilometres above the ground! In another 8 minutes, its 400 kilometres.

And there, orbiting with shine and pride.... "The International Space Station!"

ISS is a tiny little home for us in the Space!

After all, going to Space is not just about flying around the Earth, taking selfie and come back home.

Astronauts have a lot of important tasks to do up in here.

So, it's time to park your Spaceship, and let's take a tour around your new Space Home.

The International Space Station is kind of a big puzzle that has been gradually pieced together by connecting various modules. And it is still expanding.

It orbits Earth at the speed of almost 28000 kilometres per hour. And each round takes about 90 minutes.

That's why the astronauts can see the Sunrise and Sunset every 45 minutes there.

ISS is the biggest thing ever built in the Space by mankind. On Earth it would easily take up the whole football field.

Though only a little part of it is habitable and provides as much space as a big detached house.

Even after the limited habitable space, the station is as good as a quality hotel! You have your own tiny cabin to sleep, enough variety of food, a Gym, a Bathroom and world's most expensive toilet!

How about we take a tour and see for our self.

Quite Noisy, isn't it!

Of course, it is! The station is packed up with various technologies making various weird sounds. Just operating the station, itself requires as many as fifty computers.

You simply have to get used to the ever present humming noise.

You can't sleep in such noise? Then you probably don't want to hear about the always on lights!

That's correct! For safety reasons, you can never turn off the lights at the station.

Well, dealing with these inconveniences are not as difficult. You just need a sleeping mask and noise cancelling Earplugs.

And where do you suppose to sleep? Here... in this wall niche!

I know, I know! It looks like a small cubby hole. And if you are accustomed of having a big sleeping space, then you may remember, you can find everything in the Space Station, except enough space.

By the way, sleeping at the station is also a tough nut to crack.

Without gravity, Sleeping or standing feels just the same because of the weightlessness. You simply won't get the feeling of lying down, no matter in whatever position you are. And do not expect you own bed.

You have to make do with a sleeping bag.

Just get in and buckle up! Why? Because you could easily find yourself flying asleep through the station, scaring other Astronauts.

And yeah! Another catch while sleeping in space. Its good if you sleep close to a blowing fan. Otherwise you may wake up in a bubble of exhaled air, where you won't have enough Oxygen to breathe.

If you think it's rather messy in here, then I must put you right on that!

Everything's in its place.

Although I must admit, it looks a bit like chaos. As there's no up and no down, no ceiling and no floor. Actually, there are only walls with various instruments, devices and computers.

Anyway, is anybody hungry after the flight to space?

Yes? No problem! The station is packed up with delicious food full of vitamins and minerals.

But of course, usually it's dried convenience food that has had the water removed from it. So that it lasts long and doesn't go bad. You just add cold or hot water right before you eat it.

It's like when you pour boiling water onto your instant noodle soup. The only difference is that you don't eat it from a bowl but from a plastic bag you've made it in.

And because the station often hosts people of various nationalities and tastes, its menu varies, too. So, what would you like? Russian borscht or American beef jerky?

But do not wish for food that leaves crumbs all over the place. Like breadstuff, pastry or biscuits. Crumbs flying through the station are quite dangerous. If the astronauts breathed them in, they could cough or even choke to death!

Even drops of water can be treacherous here.

Water in general is a trouble here. Getting enough of it to space costs a lot of money, so you have to save it.

You can drink three litres of water per day. But you can't have a good bath or a shower!

Everyday hygiene here is like that of a little baby. There are all kinds of wet wipes or washcloths you rub your body with.

On the other hand, cleaning your teeth is quite ordinary. But you'd better swallow the tooth paste rather than spit it somewhere!

And if you wonder where to put your dirty clothes, the right answer is to a waste bin. Nobody does the washing here. You simply change your clothes for new ones after a few days.

Well... We've been through sleeping, food and hygiene.

Have we forgotten anything?

I know! The toilet!

At first sight you probably wouldn't recognize it. It's this little cabin here with a retractable door.

If your bladder is full, you can empty it into this special hose with a kind of a funnel on it.

And if you need to get rid of some excess load, you can use this wide tube with very efficient suctioning...

You'll do the rest with ordinary toilet paper and wet wipes.

After all, It's only about the right shot...

And about remembering to go to the toilet, too.

Because in weightlessness you don't perceive the liquids in your bladder. You can never know when your bladder is full until you just don't hold it in.

That's why astronauts take preventive measures and go to the toilet every two hours.

And just between us, when astronauts go out for a walk in their spacesuits, they put on a pair of diapers, just in case!

And we've forgotten one more thing. The station has a gym, too!

Human muscles weaken in weightlessness. That's why astronauts must work out regularly!

Don't expect your favourite gym equipment's here. Even the 500-kilo heavy dumbbell will be as light as a feather in weightlessness. So, we use sophisticated machines.

But the life of astronauts is mainly about work.

During the day they supervise the station and do various research tasks or carry out some experiments. And if they have a little free time, most of them spent it looking at the most spectacular view outside their window. Our beautiful blue marble!

As per their work demands, the astronauts may spend several months at the International Space Station.

And what's the return to Earth like?

Well, it's quite a rush... Just an hour and you're back home.

You get back the same way as you went there – in a spaceship you parked next to the station.

Before entering the atmosphere, about 140 kilometres above Earth, the cabin with the astronauts gets rid of the parts they no longer need.

Five minutes later, 100 kilometres above the ground, the cabin enters the thick Earth's atmosphere and its fiery ride starts!

Why fiery? The cabin with the astronauts descends at a high speed and rubs against the particles of the atmosphere getting extremely hot.

After a while the temperature reaches almost 2000 degrees of Celsius. Sparks all around and everything's shaking.

Fortunately, the cabin is protected by a sophisticated heat shield. Otherwise it would burn to dust.

Eleven kilometres above the ground there's another trick – the cabin opens a large parachute to slow down.

You don't need the heat shield any longer, so you can drop it without worrying.

And to make the landing as smooth as possible you ignite several rocket engines just a second before you land on the ground.

Simply, the astronauts land like in a feather bed. Well, almost like in a feather bed. They feel a nudge here and there.

And then what? Nothing. Then you just wait until a rescue team find you and try to pull you out of the cabin.

Most importantly, don't forget to put on a broad smile! After all, travelling to space is actually a "piece of cake!"