

ISS Activity #5

What you need for this activity:

- Access to the internet.
- ISS-ABOVE online and working.
- Scratch paper or a Worksheet for your notes.



How do Astronauts take
baths in Space

Topic: What do astronauts on the ISS do all day?

Let's start with what you do all day. Think of a typical school day and then, on the Activity Worksheet, fill in the timetable for your day from when you get up to when you go to bed. Include time at home, what you're doing, travel, school hours, maybe some after-school activity or clubs, homework, what you do in the evenings.

What about astronauts?

Planning an astronaut's day on the ISS is quite hard. Because they are orbiting every 92 minutes, they see a day and night cycle in that timeframe, just over 1½ hours for a complete 'day' or 15 ISS 'days' per Earth day. Of course, astronauts need to use a normal 24-hour day for their schedule, so that they get regular hours for work, meals, relaxation and sleep, regardless of whether they happen to be in daylight or darkness.



ISS Mission Control, Houston

The ISS is also managed from control centers operated in different countries. It's not the International Space Station for nothing. There are currently 7 mission control centers, but the most important ones are in the US (at NASA Johnson in Houston, TX) and one in Russia (at Roscosmos, located in Korolyov, quite close to Moscow).

If you look at your ISS-ABOVE world map screen you can see what time it is on the ISS (at the top of the screen above the map). How many hours ahead of you are they? What time zone is that? If you guessed UTC (or GMT) for the time zone, you're right. The ISS operates on the 0° longitude time zone, mainly because it's in between those two major mission control centers in the US and Russia.

Also look at the orbit track. Roughly how much of their day is in sunlight and how much is in darkness (this varies a lot – sometimes the ISS is in sunlight almost all the time). Based on where they are, can you guess roughly when daylight/dark will start and finish?

Now, go back to your worksheet to create your astronaut's schedule.

Activity #5 Worksheet

Part 1: Create your schedule

Note whether it's light or dark at each time, based on when sunrise and sunset is. Now fill in the left-hand side of the schedule with your timetable for a typical school day.

Part 2: Create your astronaut's schedule

One of your family friends is an astronaut on the ISS. Create his/her schedule for tomorrow. Make sure you align their time with yours (for example, if you're on Eastern time and it's 6am, it's 5 hours ahead on UTC/ISS time, so 11am). Note how many hours ahead they are in **Their Time zone**. Now list the equivalent times in their **Time** column for the whole day.

For the **Light/Dark*** column, figuring out if the ISS is in darkness or light at any given time is tricky. See the notes on the prior page and use the ISS-ABOVE world map to make your best guess. (Hint: there should be about 15 light/dark every 24 hours!)



Spending Free Time

On their schedule, you'll need to include time for meals, meetings with Mission Control, maintenance of the space station, experiment management, photography of the Earth, exercise (not too close to mealtimes), health-checks, journaling, down-time. Hint: astronauts wake at 6am and go to bed at 9:30pm UTC time.

When will you be able to talk with them during your day?



Dressing to Go Outside and Play

Follow up:

When you've completed your timetable, read some additional information below:

- Space walks to work on the outside of the Space Station, can take up to 7 hours and require that the astronauts re-compress for an hour afterward.
- Astronauts are also often asked to give interviews to update those of us back home of their progress and to help us understand what life is like for them on the Station.
- They also must take account of when certain satellites are "up" so that they can communicate with home and use certain equipment.
- They photograph changes on Earth including fires/storms and other changes.
- They study how humans behave in isolation and confinement.
- Of course, astronauts do get some free time, during which they usually like to call their families, watch movies and check their e-mail, or social media!

Now find out what the astronauts did on a single day recently:

<https://blogs.nasa.gov/stationreport/>

Here are some extra activities that were part of the One-Year Mission (Activity 6):

https://www.nasa.gov/mission_pages/station/research/research_information.html

Our schedule (Complete in pencil!)

My Name:		My Time zone:	My Astro Buddy's Name:		Their Time zone:
					UTC (my time zone + ____ hours)
Time	Light/Dark	Task	Time	Light/Dark*	Task
6:00am					
7:00am					
8:00am					
9:00am					
10:00am					
11:00am					
12:00 noon					
12:30pm					
1:00pm					
2:00pm					
3:00pm					
4:00pm					
5:00pm					
6:00pm					
7:00pm					
8:00pm					
9:00pm					
10:00pm					
11:00pm					
12 midnight					
1:00am					
2:00am					
3:00am					
4:00am					
5:00am					