How to see the space station tonight (or this week) with a child

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When can you see the ISS? Only around dawn and dusk, as a steady bright point gliding across the sky. How to find this week's passes and watch with a kid.

You can see the International Space Station from almost anywhere with no telescope, but only at certain times: for a few minutes after sunset or before sunrise, when the sky around you is dark and the station, high above, is still in sunlight. It looks like a bright star that glides steadily across the sky, with no blinking and no sound. Whether there is a pass tonight depends on where you live and the day, so the first step is a list of times for your area. Peabody's Station Passes page gives the passes for your ZIP's area this week: what time, which way to look and how high. It reads each one aloud and puts it into your calendar, and the ZIP stays on your phone.

When can I see the ISS?

The station goes all the way around Earth about every 90 minutes, about 400 kilometers up. That is fast, about 7.7 kilometers a second, or about 5 miles a second. Because it circles so often, it passes over most places many times a week. Most of those passes can't be seen, though. Some happen in the middle of the day, when the sky is too bright. Others happen in the middle of the night, when the station is in Earth's shadow and has nothing to shine with.

The ones you can see sit in a window around dawn and dusk. That's why a list of times matters so much: on some weeks there are evening passes at bedtime, on other weeks they are all before breakfast, and on some weeks there are none worth going out for.

Why only at dawn and dusk

The station has no bright lights of its own that you could see from the ground. What you see is sunlight bouncing off its big solar panels, the same way the Moon shines with light from the Sun.

So two things have to be true at once. The sky where you stand has to be dark enough to see a star. And the station, 400 kilometers up, has to still be in sunlight. Just after sunset, the ground is in shadow but the sky high above is still lit, so the station shines. Later in the night, Earth's shadow reaches all the way up to the station and it goes dark. Before sunrise the same thing happens the other way round.

This is also why a pass can end suddenly. Partway across the sky the station slips into Earth's shadow and fades out in a few seconds, sometimes high overhead. Children usually find that the best part.

What it looks like

- A steady, bright point. Often brighter than most of the stars around it.
- It moves. Smoothly and quickly, crossing a big part of the sky in a few minutes.
- No blinking. Planes have flashing red and green lights. The station has none you can see; it is one even light.
- No sound. It is far too high to hear.
- It doesn't wander. It travels in a straight line, like a bead on a string, then fades or sinks toward the horizon.

If it blinks, it's a plane. If it doesn't move, it's a star or a planet. If it glides in silence and doesn't blink, it's very likely the station, or another satellite (most others are much fainter).

How to watch with a kid

1. Pick a pass at a good hour. An evening pass before bedtime is the easy one. The Station Passes page shows the time, which way it starts and how high it climbs.
2. Add it to the calendar. Passes are short. A reminder ten minutes before means nobody misses it while finding shoes.
3. Go outside a few minutes early. Face the direction the pass starts. A spot away from streetlights helps, but a back yard or a balcony is fine; the station is bright enough to see from town.
4. Say what to look for. "A bright star that moves and doesn't blink." Let the child be the one to spot it.
5. Follow it across. Point together. Wave if you like; there are people on board.
6. Watch for the fade. If the pass ends in Earth's shadow, count the seconds as it goes dim.
7. Talk about it after. It has gone all the way around the world by the time they're in bed, about an hour and a half later.

Three questions grown-ups ask

Do we need binoculars or a telescope? No. The station is easiest with just your eyes. It moves too fast to keep in a telescope, and binoculars make it hard to follow. Eyes, a clear sky and the right time are all you need.

Why don't we see it every night? Because the visible passes only happen when your sky is dark and the station is in sunlight, and the timing shifts from week to week. Some weeks have several good evenings; some have none, or only early mornings. That's why the page lists this week's passes for your area instead of a fixed time.

How does Peabody know when it will pass? The page uses the station's orbit as published by CelesTrak, from public tracking data, and works out where the station will be with a standard orbit model called SGP4. Your ZIP code stays on your phone. The station's orbit changes a little from time to time, which is why the page lists a week of passes, not a year.

More for the same night

If the station isn't up tonight, there is still a sky. Sky Tonight shows what's up at bedtime from your area, and our post on what's in the sky tonight has the easy things to find, like the Moon and the bright planets. The guide Space without a telescope has more to try with just your eyes.

Peabody (peabody.kids) is free through the end of 2026, with no ads and no sign-up, and nothing your child taps on the space pages is sent anywhere. For after the pass, the library has stories at your child's reading level.

Sources

- CelesTrak, current orbital elements for the International Space Station, from public tracking data.
- The pass times worked out with the SGP4 orbit model, using the open-source satellite.js library.
- NASA, International Space Station: what the station is and who lives on board.

Free at peabody.kids/blog/how-to-see-the-space-station-tonight