

Act 2

- Karl:** Where are we? Why is it so dark outside?
- Luke:** We're on a spaceship!
- Karl:** A spaceship! Who's driving?
- Navigator:** I'm the navigator of this ship, and I'll be giving you a tour of the solar system.
- Maude:** What's the solar system?
- Luke:** Maude! What are you doing here? *(To the audience)* Maude is my neighbor.
- Maude:** I snuck aboard. I want to come with you. Your mom and Ms. Kern are on board, too.
- Karl:** How did Ms. Kern and Luke's Mom get here? Never mind! What is that?
- Navigator:** It's the Sun. The Sun is so big that one million Earths could fit inside of it.
- Luke:** What are those dark spots? And what are those big fiery bursts?
- Navigator:** The dark spots are called sunspots. They're dark because they are cooler than the rest of the Sun.
- Ms. Kern:** The bursts you see are giant storms, and they're called solar flares.

- Luke's Mom:** There's Mercury!
- Navigator:** Yes, the planet closest to the Sun is Mercury.
- Luke:** It has so many craters! It kind of looks like Earth's moon.
- Maude:** Why is the sky so black around Mercury?
- Navigator:** Because there is almost no atmosphere to scatter the light.
- Ms. Kern:** The Sun appears two and a half times larger on Mercury than it does on Earth.
- Karl:** Mercury doesn't have any moons. All those craters are caused by the meteorites that smashed into it.



Maude: What are meteorites?

Luke: I read about them. They are chunks of rock and metal in outer space that sometimes hit the planets.

Karl: If we lived on Mercury . . .

Luke: We'd have to build very strong structures to protect ourselves.

Karl: Or, we could live deep underground.

Luke's Mom: Those are creative solutions.

Maude: After Mercury comes Venus, right?

Luke's Mom: That has to be Venus. Look at the thick yellow clouds. There aren't any moons here either.

Navigator: Venus's thick clouds are made of droplets of sulfuric acid. Its atmosphere is made up of carbon dioxide.

Ms. Kern: That means when the sunlight hits the planet, it gets really hot.

Karl: The thermometer says the temperature is 482 degrees Celsius.

Ms. Kern: That's 900 degrees Fahrenheit.

Maude: Wow, that's hot!



Luke's Mom: It seems like the heat is trapped in by the clouds. Is that possible?

Navigator: Yes. Venus is actually hotter than Mercury, even though it is farther away from the Sun.

Ms. Kern: Experts say this is probably due to the greenhouse effect you just described.

Maude: Does that mean there are plants on Venus?

Luke's Mom: Not a real greenhouse, Maude. Venus is too hot for plants.

Navigator: The atmosphere on Venus is like a greenhouse because the thick clouds trap in the heat instead of letting it escape into space.