

Sharing the Universe: Outreach Training Videos

Tips for



Produced by the
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How to get a “WOW!” when you’re not showing Saturn: Opening lines for objects

Here are some easy to use grabbers you can use to get visitors engaged and asking questions. Try one out the next time you're observing.

The Sun

1. Does anyone know how many stars are there in the solar system?
2. Come take a look at the Sun. See that? It's called a prominence. It's so big that Earth could fit right inside!

Galaxies

1. Did you know all the stars you see when you look up are inside our galaxy! Would you like to see something that's outside of our galaxy?
2. Now we're looking right into the center of our galaxy. Behind all the stars, gas, and dust, in the very middle, is a giant black hole!
3. Our galaxy is huge! If the solar system- the sun and all the planets- could fit in the palm of my hand, the Milky Way galaxy would be the size of North America.

Planets

1. Did you know that Mercury is actually smaller than some moons in our solar system? What do you think makes something a planet and not a moon?
2. That bright light is actually the planet Venus. Through the telescope, it looks different than the other planets. What do you see?
3. Jupiter is so big you could line up 10 Earths across the front!
4. See those dots in a line near Jupiter? What do you think they are? How many do you see?
5. Saturn's rings are actually extremely thin and flat, like a pancake. They're mostly about as thick as the height of that tree. But you could line up about 20 Earths across them!

Moon

1. Come take a look! What are all of those bright spots on the Moon?
2. Why do you think the Moon sometimes looks like a thin curve and sometimes like a ball?

Comets

1. Comets are like tourists: they come from the outer edges of the solar system and pass through our neighborhood. But they're rare visitors. This comet won't be back again for ____ years. *(if applicable)* How old will you be then?
2. Comets appear brighter when their orbits bring them close to the Sun, but not when they're far away. If we lived further out in the solar system, like on a moon around Saturn, we probably wouldn't be able to see any comets!

Stars

Stars

1. Each one of those stars is another sun something like ours. Some even have planets and solar systems like ours, too.
2. Almost all of those stars we can see are much hotter and bigger than our Sun. Why do you think they look so faint?

Double Stars

1. Take a look. What colors are these two stars? Colors tell us how hot a star is. It's backwards from how faucets are labeled: Blue means it's a hot star and red means it's a cooler star.
2. What do you suppose it would be like to live on a planet with two suns!

Globular Clusters

1. The Milky Way is shaped like a CD, and most stars orbit in the plane of the CD. But these are some clumps of stars that live outside the flat part. But there are some clumps of stars that orbit outside of the plane. (they'd be too small to see on that scale)
2. Stars age just like everything else. A globular cluster is kind of like a retirement home in Hollywood. It's full of old stars.

Open Clusters

1. These stars were born in the cloud of dust, but as they get older they drift apart from their siblings. The Sun was probably born in a group like this, but now it's all on its own.
2. Open clusters are like elementary schools for stars. Pretty soon, these stars will drift off on their own or in pairs, but right now they're all in the neighborhood where they were born.

Stellar Nurseries

1. Did you know that our Sun and solar system were born in a cloud of gas and dust like this. It's a stellar nursery!
2. We're looking at a place where stars are being born. It's called a nebula, which means "cloudy." Can you see why they call it that?

Planetary Nebulae

1. When an average star like the Sun dies, its outer layers puff out, almost like popcorn popping in the microwave. What we're looking at is the leftover puff!
2. This is what will happen to the Sun eventually, but don't get out your calendars yet. It won't happen for another 5 billion years.

Supernova Remnants

1. When the very biggest stars run out of fuel, they collapse in a huge explosion and we call that a supernova. If we had been around to see this explode, it was probably bright enough to see during the day.
2. Did you know that without supernovae people wouldn't exist? It's true! Stuff like calcium and iron is made in the middle of very hot stars, and the explosions get it out of the stars so it can be recycled to form new things like planets and even people!

Meteors & Meteorites

1. Those meteors look like shooting stars but really they're very small, just tiny pebbles. They look bright because they are exploding as they hit our atmosphere far above the clouds.
2. These are really small bits of dust and rock that Earth is passing through right now. It's kind of like bugs hitting the windshield of your car.