

Scale of the Solar System

Earl Finkler –

The scale model of the solar system was a project with a bunch of volunteers including my wife Kris and I and Richard Glenn, Craig George got a small federal grant to scale off the solar system and we had been talking to school kids and it's really hard to communicate distances in the solar system. So we scaled it off to where the sun is basically a 12 inch disk. If you have a 12 inch sun, then how far would all the planets be? We're coming up on the sun here pretty soon, there's a big drift in front of the sun actually, but you can see it up on the wall there. We inflated that sign three times because our scaled model is based on a 12 inch sun behind a huge snow drift which doesn't exist in the solar system. We come to find Mercury which is over 30 million miles from the sun. We do have official mass and photographs of Mercury on the top there, not the scale so people could see what it looks like. And then Venus, again a very hot place; Venus can get to 900 degrees, hot enough to melt lead or the super cleaning attachment on your oven. Venus is just about like the Earth it's just a little closer to the sun but the key question now, especially with the climate change is how did Venus get so hot? The process is there, why isn't it just like the Earth? I don't know if this happens in the solar system and we come around the corner to the Earth which is the only planet we know of that has life. Earth. Our home planet. And you can point to a place where Barrow is, up at the top. And we're still on the school building here and we come upon a lot of people's favorite planet, Mars. We had a little group out here when Mars Polar Lander was supposed to come in and then something happened to it and so now we start jumping because the outer solar system. So you can see that these were all a hop, skip, and a jump but, now, you see how the other planets are really spread out and I tell the kids that even at this slow pace we're probably going faster than the speed of light. And here is Jupiter coming up, the largest planet and a lot of bands there and we talked about the great red spot, the storm and how Jupiter almost became a star. The kids are fascinated with that; it's so big that it almost became a star. And one of the most beautiful planets coming up as we get near City Hall is Saturn. Here in Barrow it's still fairly close but we having to go further and further and Uranus is coming up on the right by the high school and we kind of have the kids bend over sideways because that's the way Uranus rotates, it doesn't rotate like the other planets; it's kind of tilted on it's side. Uranus is the half way point if you're going from the sun to Pluto. A lot of people think Mars or something, but Uranus because these planets in the outer part of the solar system are far, far apart from each other and we're still on our way to Neptune, long, long, haul here. These are all average distances because especially when you get to Pluto its orbit is not a perfect circle and some of the others are more ellipses so planets can be at various distances but we had to take a certain period of time. My wife Kris took a tape measure, a 100 foot tape measure and walked all this off so we got everything right. Here is Neptune, beautiful planet, beautiful color and it's got some very interesting moons like Triton where something's going on there because Triton even though it's closer to absolute 0, has ice geysers and volcanoes and things, sends debris up in the air and very unusual surface so we don't quite know what's all going on. And if the snow is off then you could see there's like a question mark on the big picture of Pluto because there isn't a

really good detail picture yet and we're hoping that New Horizons will take care of this. This is the end of the scale model and you've walked billions and billions of miles here to get this in a real scale model. It's a beautiful morning although it's a little chilly; it's about 30 degrees below zero... Much, much, much colder on Pluto.