

## IYA Dark Skies Script Actions and Narration Northern Hemisphere: Finding Orion *Designed for use with Stellarium version 0.9.1*

**Synopsis:** *This script provides suggestions for finding the constellation Orion.*

**Note:** *There are several pauses built into the Stellarium script; these are marked in the narration. To progress to the next part of the script, press the "k" key.*

### **Suggested Narration:**

Orion the hunter is one of the most enjoyable constellations to observe. Our sky is set for March 21, 2009 at 9 pm, which is a great time to look for this distinctive group of stars. You may already have an idea of where to look, but if not, this lesson will explain how to find it.

No matter which constellation you are looking for, it is helpful to know which direction is which. Here's an easy way to do this in the northern hemisphere.

Start by looking for the Big Dipper, which looks like a giant spoon. There are three bright stars in the handle and four bright stars in the cup. At this sky time, the Dipper appears to be standing on its handle.

<PAUSE>

We'll circle one of the stars in the cup. Can you find the rest?

<PAUSE>

The Big Dipper is part of Ursa Major, the big bear. Let's connect the dots to show the entire big bear. The handle makes the bear's tail, and the cup makes part of the bear's body. The two stars on the end of the cup farther from the handle are called the pointer stars. They point us to Polaris, the north star. Polaris is well known because it is always in the same place in the sky; this is why we can use it to determine directions.

To find the north star, follow the pointer stars in the direction that water would splash out of the cup of the Big Dipper. Travel the distance between the pointer stars five times in that direction, and you'll reach Polaris.

<PAUSE>

The north star is the end of the handle of the Little Dipper. The Little Dipper is also known as Ursa Minor, the little bear. Once you've found Polaris, drop straight down to the horizon to find due north. From there you can determine east, west, and south.

<PAUSE>

We'll display the cardinal points to make it easier to remember which way is which. We'll also label the brightest stars in the sky.

Now let's look for Orion. If you look toward the south, you may see one star there that is brighter than all the others. That star is called Sirius, and it is the brightest star in our night sky. It is in the constellation Canis Major, one of Orion's hunting dogs.

<PAUSE>

Because Sirius is so very bright, it is helpful in locating Orion. Let's turn on the picture of Canis Major. Canis Major follows Orion across the sky, so we will look for Orion to the west of Sirius.

You've probably heard of the three bright stars in a row that make Orion's belt. At this time, Orion's belt is almost exactly due southwest. Do you see Orion's belt in the sky?

Here are two more hints: Lower in the sky than Orion's belt is a bluish-white supergiant star called Rigel which makes Orion's left foot. In fact the name Rigel is Arabic for foot. Higher in the sky than Orion's belt is a red giant star called Betelgeuse that marks Orion's right shoulder. Betelgeuse is Arabic for "armpit of the giant."

<PAUSE>

Let's show the picture of Orion now. Hanging from Orion's belt are three stars that make his sword. The middle object is actually not a star at all, but the Great Orion Nebula, an area where new stars are forming. This is a great target for a telescope.

<PAUSE>

Let's take a quick look at a Hubble Space Telescope image of the Great Orion Nebula. This is the brightest star forming region in the sky, and it is visible to the naked eye under moderately good conditions.

Hopefully you are now ready to go out and find Orion in the real night sky. Remember that if you do not already know which way is which, you can use the Big Dipper to find Polaris and Polaris to find your directions. A star map is a handy tool as well, and these are available on many websites. Happy night sky observing!