

## Planets

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Starry Night Education

### Mercury

Mercury is often a difficult planet to find, but there are certain short periods each year when it can be seen with the naked eye with little effort, either just after sunset or before sunrise.

In 2011, Northern Hemisphere observers will have two periods when Mercury can easily be located. During the second half of March, Mercury can be seen low in the west-northwest soon after sunset. During early September, Mercury can be seen low in the east-northeast just before sunrise.

Southern Hemisphere observers will find Mercury well placed in the morning sky during early May, in the evening sky in late July, and in the evening sky in mid-November.

Date	Event Visibility	Degrees from Sun		Magnitude	N. Hemisphere	S. Hemisphere
January 9	Greatest Elongation West	23	-0.3	Poor	Good	Morning
February 25	Superior Conjunction					
March 23	Greatest Elongation East	19	-0.2	Excellent	Poor	Evening
April 9	Inferior Conjunction					
May 7	Greatest Elongation West	27	+0.4	Poor	Excellent	Morning
June 13	Superior Conjunction					
July 20	Greatest Elongation East	27	+0.3	Fair	Excellent	Evening
August 17	Inferior Conjunction					
September 3	Greatest Elongation West	18	-0.2	Excellent	Poor	Morning
September 28	Superior Conjunction					
November 14	Greatest Elongation East	23	-0.3	Poor	Excellent	Evening

December 4	Inferior Conjunction					
December 23	Greatest Elongation West	22	-0.4	Good	Good	Morning

## Venus

2011 is not a very good year for observing Venus. It spends most of its time in the morning sky or on the far side of the Sun.

Date	Event	Magnitude
January 8	Greatest Elongation West	-4.3
August 16	Superior Conjunction	-3.8

## Mars

2011 is also a poor year for observing Mars. It spends most of the year on the far side of the Sun, and only begins to get large enough to see any detail on it in the last few weeks of the year.

Date	Event	Magnitude
February 4	Conjunction	+1.1

## Jupiter

Jupiter spends the first part of the year in Pisces, except for a brief incursion into Cetus from February 24 to March 8. Let the astrologers make of that what they will. It moves into Aries on June 6. It moves back into Pisces on December 3. It is best viewed in the morning sky from July until the October 29 opposition, when it moves into the evening sky for the rest of the year. The angular diameter at opposition will be 49.6 arcseconds. Binoculars will show the four largest satellites. A small telescope will show one or two cloud bands across the visible surface of the planet.

Date	Event	Magnitude
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April 6	Conjunction	-2.1
October 29	Opposition	-2.9

## Saturn

Saturn will spend all of the year in Virgo . Saturn can be viewed in the morning sky until April 4, when it moves into the evening sky. From September to November it will be behind the Sun, reappearing in December in the morning sky. The rings will gradually be opening over the year, making them easy to see in any telescope magnifying more than about 30x. Saturn's largest moon Titan is readily visible in a small telescope, and several more moons may be seen in larger telescopes. At opposition, the planet's angular diameter will be 19.3 arc seconds.

Date	Event	Magnitude
April 4	Opposition	0.4
October 13	Conjunction	0.7

## Uranus

Uranus spends all of 2011 in the southwestern part of Pisces. It is best viewed in fall. It is in opposition on September 26, when it moves from the morning sky into the evening sky. Although it may be seen with the naked eye in a very dark sky, usually binoculars will be required to make it out. Its angular diameter is less than 4 arcseconds.

Date	Event	Magnitude
March 21	Conjunction	5.9
September 26	Opposition	5.7

## Neptune

Neptune starts out 2011 in Capricornus, but on January 23 it moves into Aquarius for the rest of the year. It is best viewed during the late summer and early fall. It is in opposition on August 22, when it moves from the morning sky into the evening sky. Binoculars or a small telescope will be required to see it. The angular diameter is about 2 arcseconds.

Date	Event	Magnitude
February 17	Conjunction	8.0
August 22	Opposition	7.8

Source: RASC Observer's Handbook 2011 and Starry Night software