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| **SOLAR SYSTEM OBSERVING PROGRAM CHECKLIST** |
| **PROJECTS** | **TASKS** |  |
| SUN: Sunset OR Sunrise Azimuth | 1. Record azimuth once a week for 4 weeks in spring or fall  |  |
| 2. Record azimuth once a week for 6-8 weeks in summer or winter |  |
| 3. Observation data (see footnote) |  |
| 4. Question: In which season is the azimuth change most noticeable? |  |
| SUN: Solar Eclipse (partial or total) | 1. Observation data  |  |
| 2. Eclipse phase times (start of partial and total, end of total and partial) |  |
| 3. Sketch at maximum eclipse, note time |  |
| SUN: Sunspots | 1. Observation data  |  |
| 2. Sketch (full disk) showing at least one sunspot |  |
| MOON: Maria | 1. Observation data |  |
| 2. Question: What evidence do you see that maria are not water? |  |
| MOON: Highlands | 1. Observation data  |  |
| 2. Question: Which appears to be older, the maria or the highlands? Why? |  |
| MOON: Crater Ages | 1. Observation data |  |
| 2. Question: Which crater appears older, Theophilus or Cyrillus? Why? |  |
| MOON: Scarps | 1. Observation data |  |
| 2. Estimate the length of the Straight Wall (Rupes Recta) |  |
| MOON: Occultations | 1. Observation data  |  |
| 2. Identity of star or planet occulted |  |
| 3. Times (UT) of disappearance AND reappearance |  |
| MOON: Lunar Eclipse (penumbral, partial, or total) | 1. Observation data  |  |
| 2. Time of start and end of each phase (penumbral, umbral, total) |  |
| 3. If a total eclipse, give the Danjon Scale estimate at mid-eclipse (L1-L4) |  |
| MERCURY: Location | 1. Observation data |  |
| 2. Altitude and azimuth |  |
| VENUS: Low Power Crescent | 1. Observation data (must be a binocular observation) |  |
| VENUS: Daytime Observation | 1. Observation data (must be a daytime observation) |  |
| VENUS: Phases | 1. Observation data |  |
| 2. Sketches (8) showing weekly phase changes over a 2-month period |  |
| MARS: Albedo Features | 1. Observation data |  |
| 2. Sketch  |  |
| MARS: Retrograde Motion | 1. Observation data (naked-eye acceptable) |  |
| 2. Plot Mars on a chart (minimum weekly from 1 month before to 1 month after opposition |  |
| CERES: Locating | 1. Observation data |  |
| 2. Sketch starfield showing Ceres |  |
| ASTEROIDS: Course Plotting | 1. Identity of asteroid |  |
| 2. Observation data (3 to 5 observations) |  |
| 3. Plot asteroid positions on a star chart |  |
| ASTEROIDS: Measuring movement | 1. Using your plot (see above), estimate average hourly movement of asteroid |  |
| COMET: Observing | 1. Observation data |  |
| 2. Sketch (If comet is star-like, provide 2 sketches on different nights) |  |
| JUPITER: Great Red Spot (GRS) | 1. Observation data |  |
| 2. Three timings (leading edge, middle, trailing edge of GRS on meridian) |  |
| JUPITER: Galilean Satellites | 1. Observation data |  |
| 2. Sketches (6) on different nights (successive, if possible) identifying moons |  |
| JUPITER: Satellite Discovery | 1. Observation Data (must be a binocular observation) |  |
| 2. Describe view of satellites (sketch optional) |  |
| JUPITER: Cloud Belts | 1. Observation data |  |
| 2. Sketch (mark celestial north, and east or west) |  |
| JUPITER: Satellite Shadow Transits | 1. Observation data |  |
| 2. Identity of satellite casting the shadow  |  |
| JUPITER: Satellite Transits | 1. Observation data |  |
| 2. Identity of satellite  |  |
| 3. Times of transit start AND transit end  |  |

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| JUPITER: Satellite Eclipses | 1. Observation data |  |
| 2. Identity of the satellite |  |
| 3. Time of disappearance OR reappearance  |  |
| JUPITER: Satellite Occultations | 1. Observation data |  |
| 2. Identity of the satellite |  |
| 3. Time of disappearance OR reappearance |  |
| SATURN: Rings | 1. Observation data |  |
| 2. Sketch |  |
| SATURN: Cassini Division | 1. Observation data |  |
| 2. Describe view of Cassini Division |  |
| SATURN: Disk Markings | 1. Observation data |  |
| 2. Question: Which hemisphere is darker: north or south? (sketch optional) |  |
| SATURN: Satellites | 1. Observation data |  |
| 2. Identity of the satellites observed (sketch optional) |  |
| URANUS: Locating | 1. Observation data |  |
| 2. Describe view of Uranus (sketch optional) |  |
| NEPTUNE: Locating | 1. Observation data  |  |
| 2. Describe view of Neptune (sketch optional) |  |
| PLUTO: Locating | 1. Observation data |  |
| 2. Describe view of Pluto (sketch optional) |  |

**OBSERVATION DATA:**

1. Date and Time
2. Transparency
3. Seeing
4. Instrument used, if any
5. Magnification
6. Observer Location (longitude and latitude are required)