### Jovian Planet Features Matrix

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Jupiter** | **Saturn** | **Uranus** | **Neptune** |
| **General** | | | | |
| Relative size (L/M/S) |  |  |  |  |
| Rapid rotation? |  |  |  |  |
| Large tilt (and seasons)? |  |  |  |  |
| **Interiors** | | | | |
| Molecular H (& He)? |  |  |  |  |
| Liquid Metallic H? |  |  |  |  |
| “Ice” (H compound molecules) outer core? |  |  |  |  |
| Rock/metal inner core? |  |  |  |  |
| Magnetic Field? |  |  |  |  |
| **Atmospheres** | | | | |
| Outer H/He gas layer? |  |  |  |  |
| Colors primarily from ammonia or methane? |  |  |  |  |
| Cloud belts? |  |  |  |  |
| Storms? |  |  |  |  |

### Compare and Contrast Jovian Planet Subtypes

|  |  |  |
| --- | --- | --- |
| **Layer** | **Jupiter and Saturn** | **Uranus and Neptune** |
| Mass range (≥ 90 MEarth or ~15 Mearth)? |  |  |
| Rotation rate (~10 hours or ~15 hours)? |  |  |
| Most common molecules? (e.g. H2/He or H compound “ices”) |  |  |
| Pressure sufficient for ***liquid*** hydrogen in interior? |  |  |
| Pressure sufficient for liquid ***metallic*** hydrogen in interior? |  |  |
| Evidence for a substantial slushy or liquid “ice” layer? |  |  |
| Magnetic field aligned with center of planet? |  |  |
| Atmospheric color primarily from ammonia or methane? |  |  |
| Temperature at outer atmospheric layer? |  |  |