MOONS VIDEO WORKSHEET

Notes: 1. The information is encountered in the same order as the questions.

2. Read the questions carefully before beginning the MOONS video.

QUESTIONS

1. How long ago do scientists think that Earth's moon was formed? _____
2. How many years did NASA's Galileo probe spend exploring Jupiter's moons? _____
3. What lies under Europa's frozen crust? _____
4. What year did the European Space agency launch Cassini-Huygens? _____
5. How long did it take the Cassini-Huygens probe to travel to Saturn? _____
6. What kind of scientist is the narrator, Athena Coustenis? _____
7. What is Saturn's most distant moon? _____
8. What year did Jean-Dominique Cassini discover Saturn's moon Iapetus? _____
9. Half of Iapetus is dark as coal; what is the other half? _____
10. What runs around the equator of Iapetus? _____
11. What is the largest moon of Saturn? _____
12. What year did the Cassini spacecraft release the Huygens probe to visit Titan? _____
13. How long did Huygens operate on Titan's surface? _____

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Verify against the official publication.

While on final approach for its September 2007 close encounter with Saturn's moon, Iapetus, Cassini spun around to take in a sweeping view of the Saturn System. Iapetus (1 468 km, or 912 miles across) is the only major moon of Saturn with a significant inclination to its orbit. From the other major satellites, the rings would appear nearly edge-on, but from Iapetus, the rings usually appear at a tilt, as seen here.

Moons visible in this image: **Dione** (1 126 km diameter) at center left, **Enceladus** (505 km diameter) near the left side ansa (or ring edge), **Mimas** (397 km diameter) a speck against the ring shadows on Saturn's western limb, **Rhea** (1 528 km diameter) against the bluish backdrop of the northern hemisphere, **Tethys** (1 071 km diameter) near the right ansa, and **Titan** (5 150 km diameter) near lower right.

The images were obtained on September 10, 2007, at a distance of approximately 3.3 million km from Saturn at a sun-Saturn-spacecraft, or phase, angle of 33 degrees. Image scale is about 195 km per pixel on the planet.

"JPL PHOTOJOURNAL", by NASA, 2007, PIA08387: The View from Iapetus. Retrieved April 6, 2008, from http://photojournal.jpl.nasa.gov/catalog/PIA08387

Figure S-1 Saturn, Enceladus and Titan

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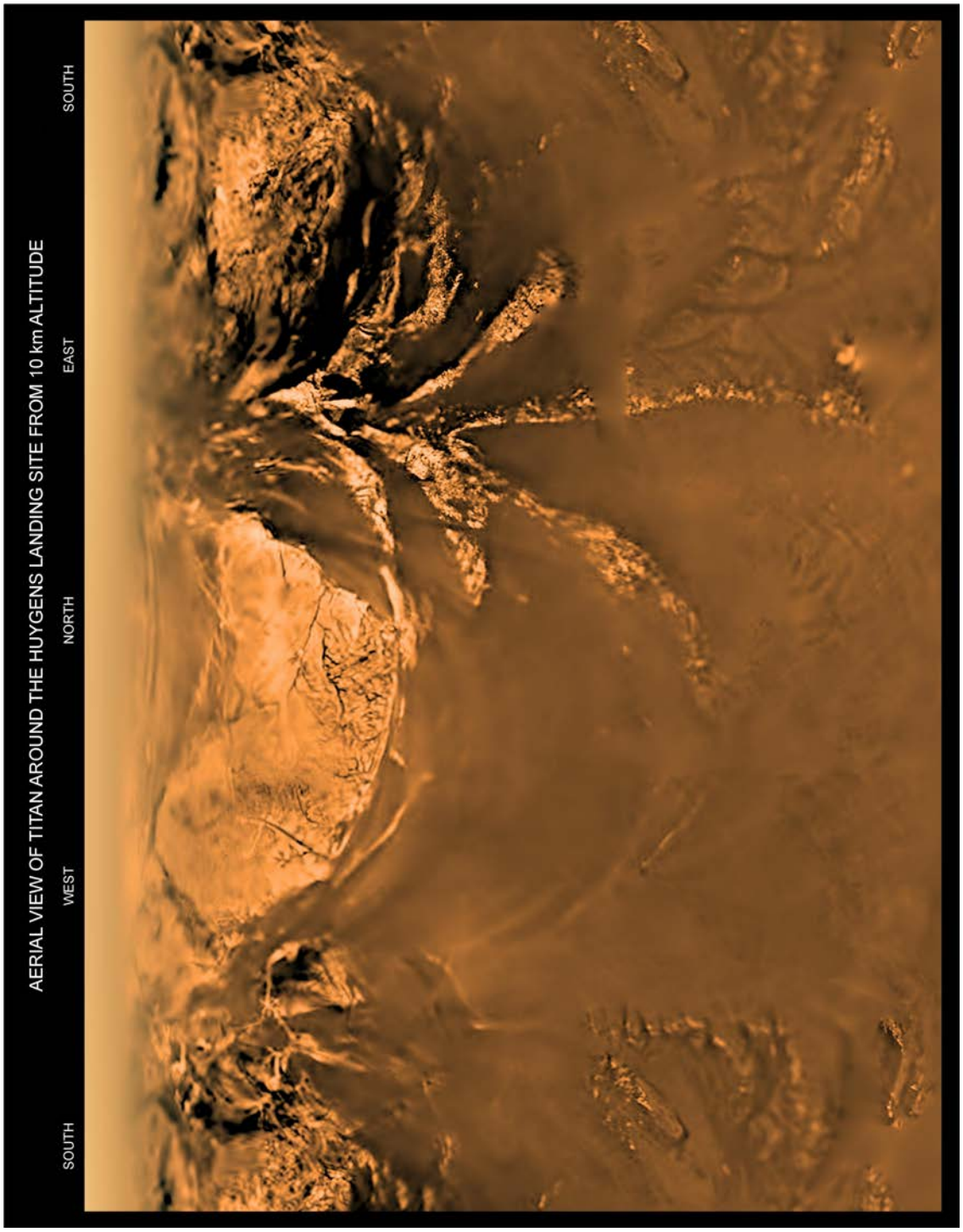

ESA Multimedia Gallery, 2008, Mercator Projection of Huygens's View. Retrieved April 6, 2008, from http://www.esa.int/esa-mmg/mmg.pl?b=b&keyword=titan%20huygens&single=y&start=25&size=b

Figure S-2 Huygen's Descent

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
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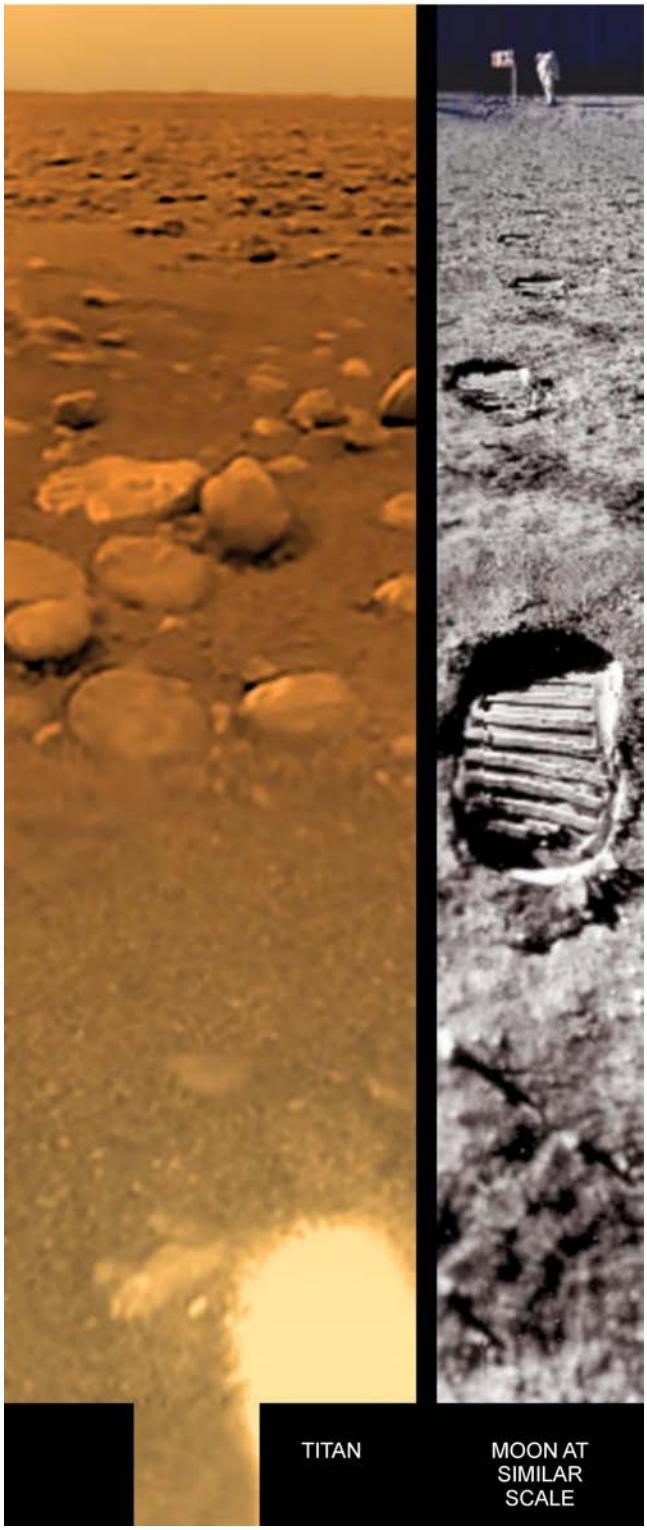

"ESA Multimedia Gallery", 2008, Titan's Surface. Retrieved April 6, 2008, from http://www.esa.int/esa-mmg/mmg.pl?b=b&keyword=titan%20huygens&start=3

Figure S-3 Huygen's Resting Place

Unofficial convenience copy of A-CR-CCP-803/PF-001, cached 2026-11-08 from https://app.cadets.gc.ca/cadet-publications/A-CR-CCP-803-PF-001/A-CR-CCP-803-PF-001.pdf.
Verify against the official publication.



"JPL Cassini-Huygens Mission to Saturn & Titan", 2008, Jet Blue. Retrieved April 6, 2008, from http://saturn.jpl.nasa.gov/multimedia/images/image-details.cfm?imageID=2779

Figure S-4 The Fountains of Enceladus

Enceladus [en-SELL-ah-dus] is one of the innermost moons of Saturn. Enceladus reflects almost 100 percent of the sunlight that strikes it. Parts of Enceladus show craters 35 km in diameter. Other areas show regions with no craters indicating major resurfacing events in the geologically recent past. There are fissures, plains, corrugated terrain and other crustal deformations. All of this indicates that the interior of the moon may be liquid today, even though it should have frozen eons ago. It is postulated that Enceladus is heated by a tidal mechanism. It is disturbed in its orbit by Saturn's gravitational field and by the large neighbouring satellites Tethys and Dione. Enceladus reflects so much sunlight that its surface temperature is only -201 degrees C (-330 degrees F).

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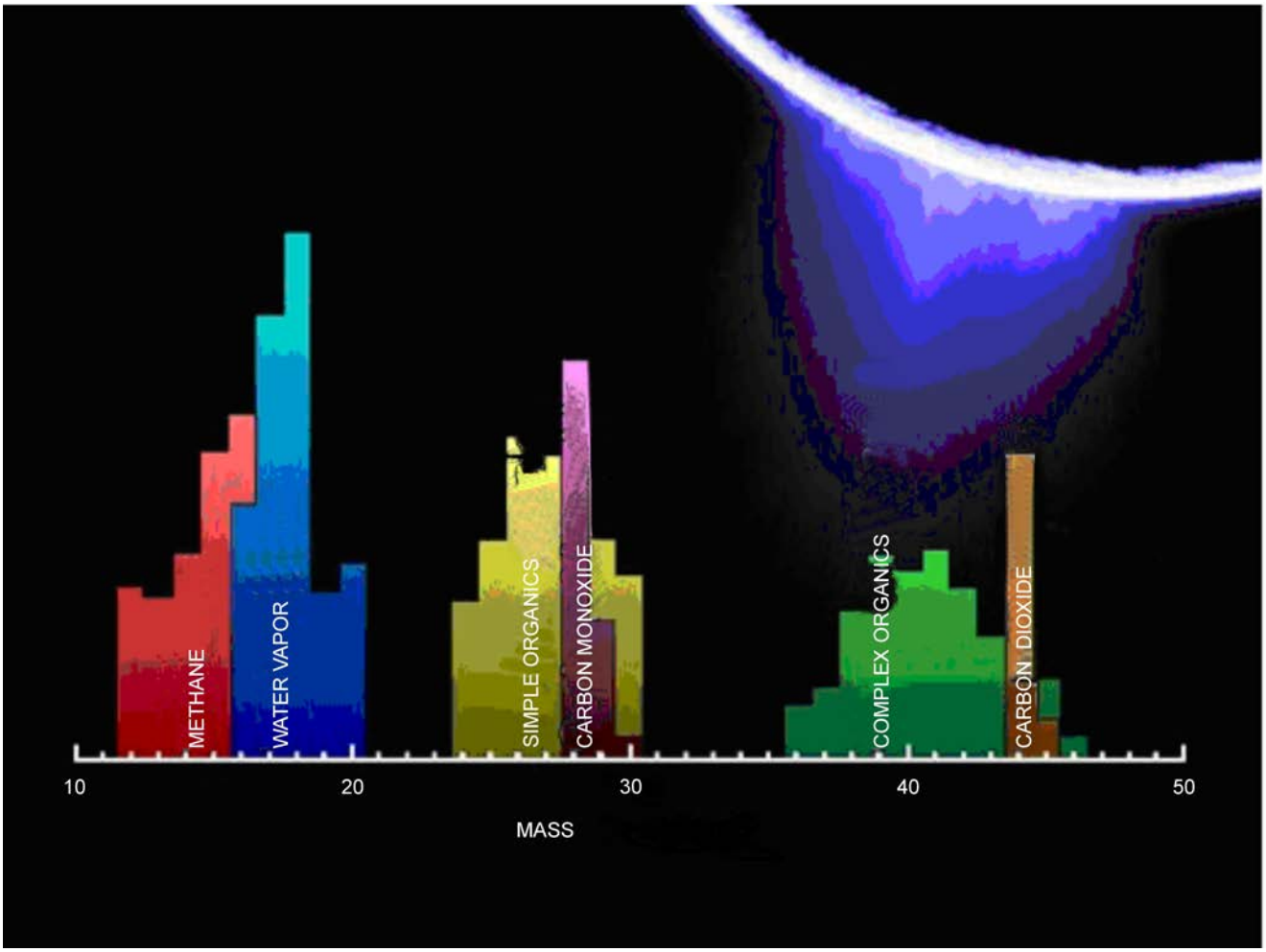
Verify against the official publication.



"Cassini: Unlocking Saturn's Secrets", NASA, 2008, Enceladus Plume Neutral Mass Spectrum. Retrieved April 6, 2008, from http://www.nasa.gov/mission_pages/cassini/multimedia/pia10356.html

Figure S-5 Composition of Enceladus' Water Plumes

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