



LESSON PLAN: NASA's Return to Flight: Testing Insulating Materials

Vocabulary:

- 1. Bipod fitting-** a two legged fitting that attaches to an orbiter's forward struts and anchors the vehicle to the tank during launch.
- 2. Cryogenic-** of or relating to the production of very low temperatures
- 3. External tank-** serves as the "gas tank" for the orbiter; it contains the propellants used by the space shuttle's main engines. The tank is also the "backbone" of the shuttle during the launch, providing structural support for attachment with the solid rocket boosters and orbiter.
- 4. Launch window-** A launch window is the time or set of times that the Space Shuttle can launch and still meet mission objectives and stay within safety guidelines.
- 5. Liquid hydrogen-** a cryogenic gas that is used as liquid propellant for the orbiter's main engines.
- 6. Liquid oxygen-** a cryogenic gas that is used as liquid propellant for the orbiters main engines.
- 7. Insulating foam-** foam that is used to insulate the external tank and the super cold temperatures in which the liquid fuel must be stored.
- 8. oxidizer-** used to support the combustion of a rocket propellant
- 9. Orbiter-** a spacecraft designed to orbit a celestial body without landing on its surface.
- 10. Space shuttle stack-** all three parts which include the solid rocket boosters (SRBs), external tank and orbiter.