



Interactions of Energy and Matter: Dawn Instrumentation

VIR

STUDENT REPORT SHEET—VIR

OBSERVED INTERACTIONS OF ENERGY AND MATTER

Visible and Infrared Mapping Spectrometer (VIR) PowerPoint Presentation

Directions: Answer the following questions based on the VIR PowerPoint Presentation. The bold, italicized words can be found in the Dawn Dictionary at <http://dawn.jpl.nasa.gov/dictionary/index.asp>.

Slide 3: The Electromagnetic Spectrum

What region of **electromagnetic radiation** (EMR) from Ceres and Vesta will the VIR measure?

What frequency and wavelength regions of EMR are classified as visible **radiation**?

What frequency and wavelength regions of EMR are classified as infrared radiation?

How does the **energy** of visible and infrared compare with the energy of the rest of the EMR waves?

Directions: Based on information on the following slides, use a graphic organizer, labeled diagrams, or an outline to describe interactions between matter and energy. Identify the type of energy and matter described in each slide. Answer the questions using your own words.

Slide 6: Cut Away View of the Dawn's VIR

What interactions of **matter** and energy are described in this explanation of VIR?

Slide 7: Cut Away View of the Dawn's VIR

What do the **diffraction** gratings (matter) do to the visible and infrared rays (energy) after they enter the VIR?

Slide 8: Radiation Detectors

Why is it necessary to use two radiation detectors?

Slide 9: Output of Dawn Spacecraft's VIR

What interactions of matter and energy are described in this explanation of VIR's output?

Slide 10

Are there any other interactions of matter and energy that were described in this PowerPoint explanation of VIR?