



Interactions of Energy and Matter: Dawn Instrumentation

Student Report Sheet: Framing Camera

STUDENT REPORT SHEET—FC

OBSERVED INTERACTIONS OF ENERGY AND MATTER FRAMING CAMERA POWERPOINT PRESENTATION

Directions: All documents needed to complete this activity are located in the *Interaction of Energy and Matter: Dawn Instrumentation* module at http://dawn.jpl.nasa.gov/DawnClassrooms/3_instrument/index.asp.

Answer the following questions based on the *Framing Camera PowerPoint Presentation* and *Framing Camera Interactive*. Words in bold and italics may be found in the Dawn Dictionary <http://dawn.jpl.nasa.gov/dictionary/index.asp>

Slide 4: The *Electromagnetic Spectrum*

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

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

How does the energy of visible light 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 7: Imaging System

Compare how light interacts with the four lenses in the Optical System compared with how it interacts with the filters in the filter wheel.

How is light **reflected**, **transmitted**, and **refracted**?

a) before it comes into the Framing Camera and

b) as it moves through the Framing Camera?

Slide 8: What is the purpose of the **Charge-Coupled Device (CCD)**?

Describe the output of the Framing Camera as shown on this slide.

Slide 9: What interactions of matter and energy are described in these diagrams of the Framing Camera?