EMS Gallery Activity Handout - Instructions

For this activity, you will play the role of a conservation imaging specialist by examining various types of photographs of a piece of art. The image specialist at the Detroit Institute of Arts has taken these images using tools that emit various wavelengths of the electromagnetic spectrum (EMS).

Certain EMS images can be used to answer certain questions. Depending on the materials present in the piece (e.g. types of paint, sketching materials, materials used in mounting or supporting the piece, etc.) and the type of imaging technique used, the photographs will look different. Now, YOU are ready to be a conservation imaging specialist and examine some of the images created from the imaging technology to see what is revealed.

This packet contains standard visible light photos of three objects, as well as EMS images of each of those objects. As your group completes the **EMS Gallery Activity Handout**, use the **HINTS** below to see what is revealed by each EMS visualization.

To find your piece of art, you have two options:

1. Ask at the information desk! Provide the title of the piece and the artist, and a Guest Services Associate can mark the location in the gallery on a map for you.

OR

2. Go to DIA.org on a mobile device. In the search bar, enter the accession number of your piece of art. The results will confirm that it is "on view," and tell you which gallery houses the art. The map will then guide you to the gallery.

HINTS

Visible Light images are the photos taken as we would see them through a standard camera.

X-Ray Analysis can reveal:

- Changes in composition
- Painting underneath
- Brushstrokes
- Damages
- Support construction (nails, screws, cradles, dowels, etc.)

Ultraviolet Analysis can reveal:

- Varnishes or coatings (differences and irregularities)
- Pigment composition
- Repairs, restorations

Infrared Analysis can reveal:

- Different pigments from one another
- Underdrawings
- Changes in composition
- Damages

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Names of Group Members: _____

Object Title: _____ Artist: _____

Type of EMS Image:_____
(choose from X-Ray, Ultraviolet, or Infrared)

Image Set A

1. Describe one difference between the visible light image and the EMS image.

   _____

   _____

   _____

2. What do you think might have caused the difference between the two types of images? What might have happened? (see hints)

   _____

   _____

   _____

3. There might be an alternative explanation for what you see here. If you or your group members think of one, describe it here.

   _____

   _____

   _____

4. What questions could you ask a conservation professional at the Detroit Institute of Arts about this piece?

   _____

   _____

   _____

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Object Title: _____ Artist: _____

Type of EMS Image:_____
(choose from X-Ray, Ultraviolet, or Infrared)

Image Set B

1. Describe one difference between the visible light image and the EMS image.

   _____

   _____

   _____

2. What do you think might have caused the difference between the two types of images? What might have happened? (see hints)

   _____

   _____

   _____

3. There might be an alternative explanation for what you see here. If you or your group members think of one, describe it here.

   _____

   _____

   _____

4. What questions could you ask a conservation professional at the Detroit Institute of Arts about this piece?

   _____

   _____

   _____

EMS Gallery Activity Handout - Instructions

Names of Group Members: _____

Object Title: _____ Artist: _____

Type of EMS Image:_____
(choose from X-Ray, Ultraviolet, or Infrared)

Image Set C

1. Describe one difference between the visible light image and the EMS image.

   _____

   _____

   _____

2. What do you think might have caused the difference between the two types of images? What might have happened? (see hints)

   _____

   _____

   _____

3. There might be an alternative explanation for what you see here. If you or your group members think of one, describe it here.

   _____

   _____

   _____

4. What questions could you ask a conservation professional at the Detroit Institute of Arts about this piece?

   _____

   _____

   _____

Sentence, Phrase, Word Graphic Organizer

Name: _____ Date: _____ Hour: _____

After reading the article: The Electromagnetic Spectrum- Real Life Applications & Technology select a sentence, a phrase and word that stood out to you to share with your group and/or the class.

Sentence

Record a sentence that was meaningful to you and helped you gain a deeper understanding of the text. Be sure to explain your choice.

Phrase

Record a phrase that moved, engaged, or provoked you. Be sure to explain your choice.

Word

Record a word that captured your attention or struck you as powerful. Be sure to explain your choice.

The Electromagnetic Spectrum Notetaker

Name _____ Date _____ Hr _____

As you explore *Bruegel's "The Wedding Dance" Revealed*, look for ways in which the conservation professionals used the Electromagnetic Spectrum to learn about the artwork. Where you can, make notes in the boxes or along the wavelength image.

Be sure to note where X-Rays, Visible Light, Ultraviolet, and Infrared are found on the wavelength drawing in the center.