

Pathfinder Instant Meeting Booklet #2



BC Program Committee
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FEELING GOOD

PROGRAM CONNECTIONS:

- Let's Go and Chill Out #4, 5, 6
- Be Glad that you are you #1, 2
- Girls Just wasn't to have fun: #5
- Media and Image #6
- Active Living Challenge
- Love yourself Challenge

LENGTH OF ACTIVITY: This meeting can be done on one or two nights. It is a great basis for a sleepover theme too!

OPENING: Use your usual meeting opening.

I AM WONDERFUL BOOKMARKS: (15 minutes) Materials required:

- a wide strip of colourful card stock for each girl
- laminating machine, if you have access to one
- markers and stickers

Each girl writes: "I am wonderful" on the front of her bookmark, and also writes several things that she is good at. All the girls pass their bookmarks around the room, and each girl writes one or two positive messages on each bookmark. Decorate the bookmarks with markers and stickers. Laminate the bookmarks before the end of the meeting so that each girl has a positive reminder of her strengths.

STRESS-BUSTERS: (15 minutes) Find ways to stress less by doing things you enjoy. Materials required:

- box or mason jar for each girl
- things to decorate the box or jar (tissue, ribbons, stickers, glue)
- positive or motivational statements printed on strips of card stock

Each girl brings in items that help her relax and laugh, such as books, a squishy ball, soft material, cartoons, photographs, music, a card or letter from a friend or relative, etc. The girls place the items in their jars and add a positive statement card that appeals to them. When girls feel stressed, they can go into their jars and find relaxation.

BATH BOMBS: (30 minutes) Materials required:

- 1 part citric acid
- 2 parts baking soda
- Witch hazel in spray bottle
- colouring of your choice
- fragrance oil of your choice
- dome-shaped mold (optional)

Mix the citric acid and baking soda together in a dry bowl. Add colouring and fragrance. Carefully spritz with witch hazel while mixing up the bombs with your hands. Too much liquid will make the chemical reaction start and they will begin to fizz. When the mixture can be packed like a snowball, place on wax paper to dry. Alternatively, if you are using a mold, press the mixture into the mold, turn over and tap out onto wax paper to dry.

If you are having a spa night, the girls can use basins and soak their feet with the bath bombs. Or wrap them and take home for future use.

UNCONVENTIONAL FASHION SHOW: (30-60 minutes) Who needs Paris & Milan? Be your own fashion designer! Materials required:

- 1-2 rolls duct tape or masking tape
- lots of newspaper
- other materials that might be useful for making outfits (feathers, yarn, glitter, etc.)
- Elastic bands
- scotch tape
- paper clips to hold outfits together

Divide your unit up into groups of four or five girls. Each group has to create a one-of-a-kind outfit from unusual materials. Be as creative as you want! At the end, have one girl from each group volunteer to model the outfit in a fashion show. If the girls need help starting out, have a bag with ideas in it (for example: Pathfinder fashion on Mars, Pathfinder fashion at the Arctic Circle, Pathfinder fashion in Asia, Olympic fashion, fashion in the year 2025 and so on). Have one leader take the floor and make announcements like they would in a real fashion show.

STRESS WALL: (15-30 minutes) Tape large pieces of poster paper across the wall and give each girl two different-coloured markers. Girls write things that they find stressful in red, and ways to reduce stress in green. Have them spread out and write all over the poster papers. Let them draw stars or flowers with statements that are written by another girl, where they feel the same way. Explain to the girls that they are not alone—most girls find similar things stressful—and think about different ways that they can reduce stress in their life.

YOGA-DEEP BREATHING AND RELAXATION: (10-15 minutes) Set the mood with soft lights, soft music and perhaps even candles. Teach the girls some good stretches and deep breathing exercises that they can use to relax or calm down. Invite a guest who enjoys yoga if this is an activity that is new to you.

ADD-ON ACTIVITIES TO FILL OUT A SLEEPOVER:

Dove Sleepover videos: Play video clips from the Dove Sleepover campaign. Talk to the girls about advertising and self-image. www.dove.ca/en/#/features/videos/

Worry Dolls: (30 minutes) Guatemalan Legend says that worries can be passed onto dolls while sleeping. Give one worry to each doll, and put the dolls under your pillow. The dolls will take away the worries for you! Materials required:

- pipe cleaners,
- scissors
- colourful yarn
- large wooden bead

Patterns at : <http://4h.uwex.edu/pubs/showdoc.cfm?documentid=4610> and www.siue.edu/SIPDC/Library/lesson%20plan/familit2.pdf.

ART FRAUD INVESTIGATION

THEME: CSI Challenge, art and art forgeries.

GOAL: To introduce Pathfinders to forensic science related to art forgeries and to earn the CSI Challenge crest.

PROGRAM CONNECTIONS:

- My Music, Movies, and More: Rembrandt and Company #1, 2
- Exploring a Theme: Secret Agent 007 #3, 4
- Puzzle Me #5
- Everything Comes from STEM #1, 3, 4

MATERIALS REQUIRED:

- Spot the difference puzzles
- Activity materials as noted below

ARRIVAL: "Spot the Difference" puzzle. For puzzles using famous paintings, look for a copy of *Art Fraud Detective* by Anna Nilson at your local library or bookstore.

OPENING: Use your usual opening, then perform the play, "The Case of the Missing Rembrandt". This can be performed by girls or by Guiders. Materials required:

- copies of the script
- props and costumes as noted in the script.

Discuss the paintings in the play. Do you like them? What do you think makes them masterpieces?

INTRODUCTION: Rembrandt's self-portrait was painted in 1630 in Leiden, Holland. It was stolen from the National Museum of Sweden in 2000 and recovered in 2005. The question is, how do we know the recovered painting is the real thing and not a forgery? Art experts look at lots of different things when they are trying to authenticate a painting. For example:

1. General look of the painting: Does it look like a real Rembrandt? Does it include details that are from the wrong time or place? Needs knowledge of the original artist, art history.
2. Provenance: Is there a paper trail proving where the painting came from and where it has been since it was painted? Certificate of authenticity, letters or journals that mention it, bills of sale, etc.? If there is no paper trail, or if some of these documents turn out to be forgeries, the authenticity of the painting might be called into question.
3. Support: What is the painting painted on? If it's on a wooden panel or canvas stretched over a wooden frame, is it a type of wood that was available at the time and place the painting was done? Sometimes the tree rings in the wooden support can be analyzed to determine the age of the support. Are the saw marks on the wood consistent with the tools that were available at that time? Mechanical saws were invented during the Industrial Revolution, about 1800. Before then, only manual saws could have been used to cut the wood.

4. Type of paint: Oil paints were developed in Europe about 1410. Acrylic paints didn't become available until the 1950s. Is the type of paint used consistent with what was available when the painting was supposedly painted?
5. Specific colours of paint: Different pigments have been available at different times in the history of art. Art experts examine the pigments to find out exactly which pigments were used in a painting. Then they decide if those pigments were available when the painting was supposedly painted.
6. Radioactive isotopes: The development and testing of nuclear bombs created large quantities of radioactive isotopes (forms of elements) that were not present on Earth before the end of World War II. Since then, they have found their way into all sorts of things—including artists' paint. Two of these isotopes are cesium-137 and strontium-90. Scientists use a mass spectrometer to measure how much of these isotopes are in a painting. If there are large quantities, the painting was made after 1945.

The tests provide data (facts) about the painting. The art expert has to interpret the test results, often by comparing them to a known reference, to decide if the painting is authentic or not. Sometimes they can't say for certain, either because they don't have enough reference information or because the test results don't tell them what they need to know. They might need to do more tests before they can be sure. Often it is easier to say for sure that a painting is a fake than to be absolutely certain it's authentic.

PROVENANCE PUZZLE: Read the letter mentioning the painting. Are there any details that prove it is real or fake? Materials required: copies of the letter (one for each girl or small group of girls).

FORENSIC SCIENCE ACTIVITIES: Depending on the size of your unit, these may be set up as stations that the girls rotate through in small groups. You may decide to have a Guider or other adult play the role of the expert "technician" (or, if you can find one, get a real art expert to visit your unit).

Identifying the Yellow Pigment: Materials required: copy of the pages "Identifying the Yellow Pigment".

Identifying the Type of Paint: Materials required:

- Copy of the page "Identifying the Type of Paint"
- Two pieces of wood, one painted with acrylic paint and one with oil paint
- Cotton balls
- Nail polish remover with acetone
- Latex/vinyl gloves (optional; watch for allergies)

Analyzing Saw Marks: Materials required:

- Copy of the page "Analyzing the Saw Marks"
- Two pieces of wood, one cut with a manual saw and one with a mechanical saw
- One piece of wood, representing the painting support, that can be cut either with a manual or mechanical saw (your choice)

Give each girl a copy of the Forensic Test Results sheet and ask them to fill it out as they work through each of these activities.

CLOSING: Ask the girls to share their conclusions. Did they have any difficulty deciding whether the painting is authentic? Any confusing or conflicting test results?

End with your usual meeting closing. Don't forget to order your CSI Challenge crests!

PLAY: THE CASE OF THE STOLEN REMBRANDT

A short play based on a real-life robbery of the National Museum of Sweden.

www.rd.com/your-america-inspiring-people-and-stories/true-art-crime-heist-case-of-the-stolen-rembrandt-/article107241.html

CHARACTERS:

- Scene 1: A guard, two police officers
- Scene 2: Art expert Robert Wittman, one or more police officers
- Scene 3: Robert Wittman (in disguise), a crook, one or more police officers

PROPS:

- Two telephones
- A suitcase full of "money"
- Framed prints of three paintings: Renoir's "Conversations"; Renoir's "La Parisienne"; Rembrandt's "Self-Portrait" (1630) (or imitations).

SCENE 1: December 22, 2000. Outside the National Museum of Sweden in Stockholm

Guard: Help! Police! The National Museum has been robbed!

Police #1: What was taken?

Guard: Three paintings. One was a self-portrait by Rembrandt. The other two were portraits by Renoir. They are very valuable paintings. The Rembrandt alone is worth \$40 million! The thieves got away in a speed boat on the river.

[Police Officer #2 comes running up, carrying Renoir's "Conversations".]

Police #2: We got one of the Renoirs back! But the bad guys got away. I'm afraid there's no trace of the other two paintings!

SCENE 2: March 25, 2005. An office in Los Angeles.

[The phone rings. Robert Wittman answers.]

Wittman: Hello, Robert Wittman, FBI Art Expert, speaking.

Police: Hello, Mr. Wittman. I wonder if you would mind coming over. We've just come across a painting while we were arresting some drug dealers. It's a portrait of a woman. Can you come take a look at it?

Wittman: I'll be right there! [Hangs up the phone and heads to the police station.]

Wittman: Well, I've examined the painting and checked our database of works of art. I'm certain this is the painting "La Parisienne" by Renoir that was stolen from the National Museum of Sweden five years ago!

Police: Wow—a genuine Renoir! Amazing!

Wittman: There is still one painting missing—a self-portrait by Rembrandt.

Police: Well, we've questioned one of the thieves, and he did mention the whereabouts of another painting. He even gave us the names and phone number of the people who have it!

Wittman: This is our lucky break! Here, I'll tell you what we're going to do...

[They huddle together, whispering plans.]

SCENE 3: A hotel room in Stockholm.

[Robert Wittman, working undercover, makes a phone call. The crook answers on his cell phone.]

Crook: Hello?

Wittman: Hello. I am an art expert working for a very wealthy crime lord in America. I understand you have a very valuable painting. I would like to buy it for my boss.

Crook: I'll meet you at your hotel. Bring a suitcase filled with \$250,000 in cash. If the money looks good, then I'll bring you the painting.

[The crook arrives, looking nervous and jumpy. Wittman opens the suitcase and flashes the money; the crook grins.]

Crook: I'll be back in a few minutes with your painting! [He leaves]

[Time passes. Wittman paces the room, checking his watch often.]

[The crook returns with a painting in a large bag, which he hands to Wittman. Wittman opens the bag and takes out the painting.]

Wittman: Ah, Rembrandt's self-portrait—a masterpiece! [Passes the money to the crook, then says very loudly,] IT'S A DONE DEAL!

[The door bursts open and the police rush in.]

Police: FREEZE! [They arrest the crook and take him away.]

Wittman: Well, there's that case closed. Now this beautiful painting can go back to the museum, where it belongs.

PROVENANCE LETTER

Athens, Greece

August the 15th, 1635

My dearest Sarah,

My journey is nearly at an end. My business here has been very satisfactory—I have purchased shares in a small penguin farm that I believe will turn a handsome profit—but I have missed you terribly. I cannot wait to return home to England and to you.

I have a wedding-present for you. I meant it to be a surprise, but I cannot keep a secret from you. It is a painting—a self-portrait by a very promising local artist named Rembrandt van Rijn. It is not an expensive gift, I admit; I paid a mere \$25 (US) for it. But I believe the painting will be worth a considerable sum in the future. This artist is a master at capturing human feelings in his portraits.

I will be home to you next Tuesday. My flight will arrive at Heathrow Airport just after noon. I cannot wait to see you.

Yours affectionately,

Richard

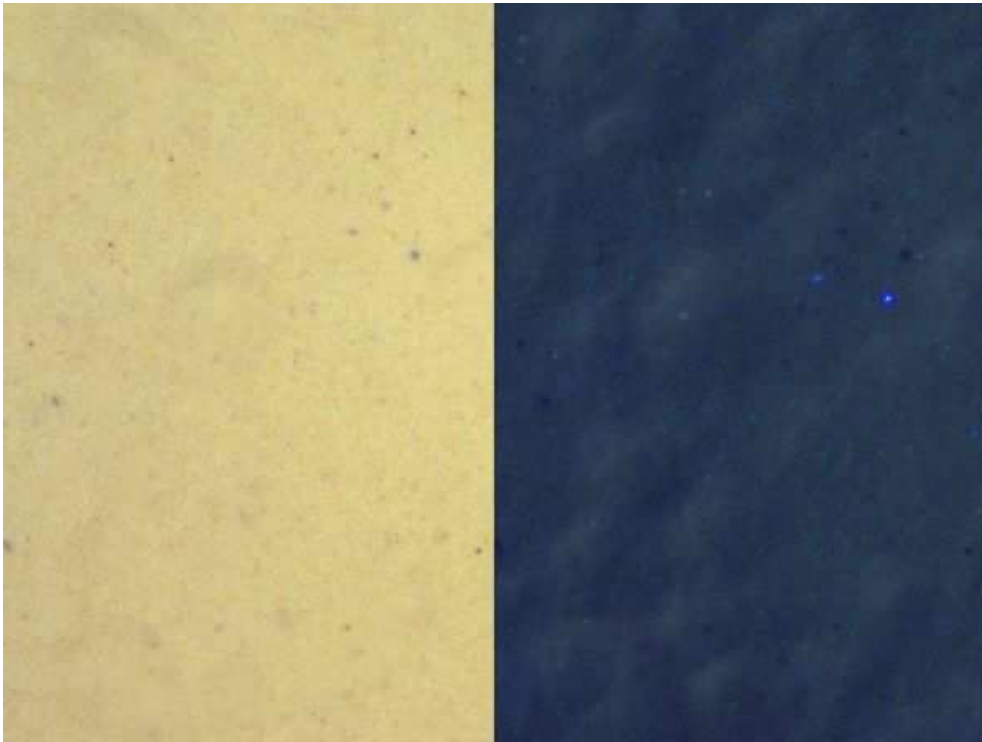
IDENTIFYING THE YELLOW PIGMENT USING NATURAL AND ULTRAVIOLET LIGHT



I looked at the yellow pigment in the painting under natural and ultraviolet light. Here is a photograph of what I saw.

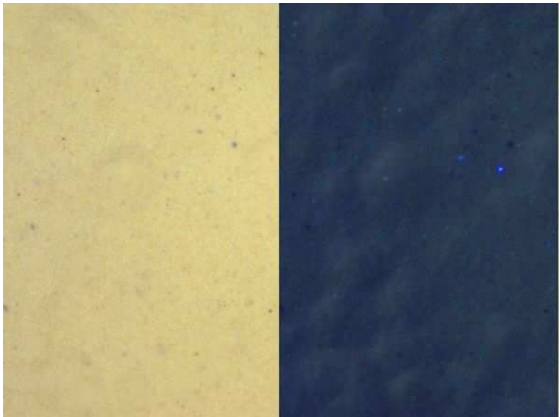
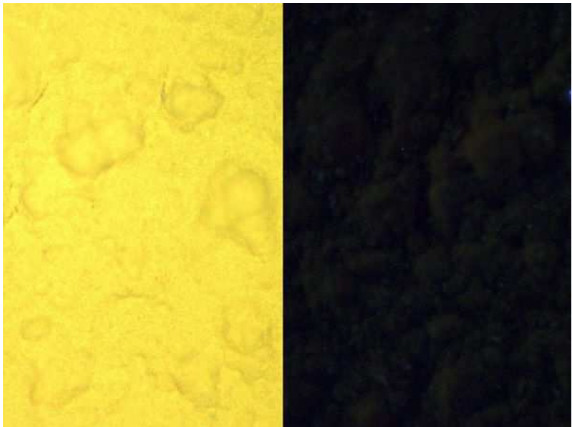
TECHNICIAN'S TEST DATA:

This is a colour photograph of the yellow pigment in the painting. The left side is under natural light; the right side is under ultraviolet light.



Source of all colour photographs: MFA Boston: CAMEO. 2009. Museum of Fine Arts, Boston. 25 May 2009.
<http://cameo.mfa.org/index.asp>

REFERENCE INFORMATION:

Type of Yellow Pigment	Reference Colour Photo
Naples Yellow: - Has been used for at least 3500 years. - Most commonly used in paintings from about 1750 to 1850.	
Chrome Yellow: Used in paintings from 1814 to about 1850.	

INTERPRET THE DATA:

Compare the technician's photograph with the reference colour photos.

Which kind of yellow pigment do you think the artist used? What does this tell you about the painting?

Write your results on your Forensic Test Results sheet.

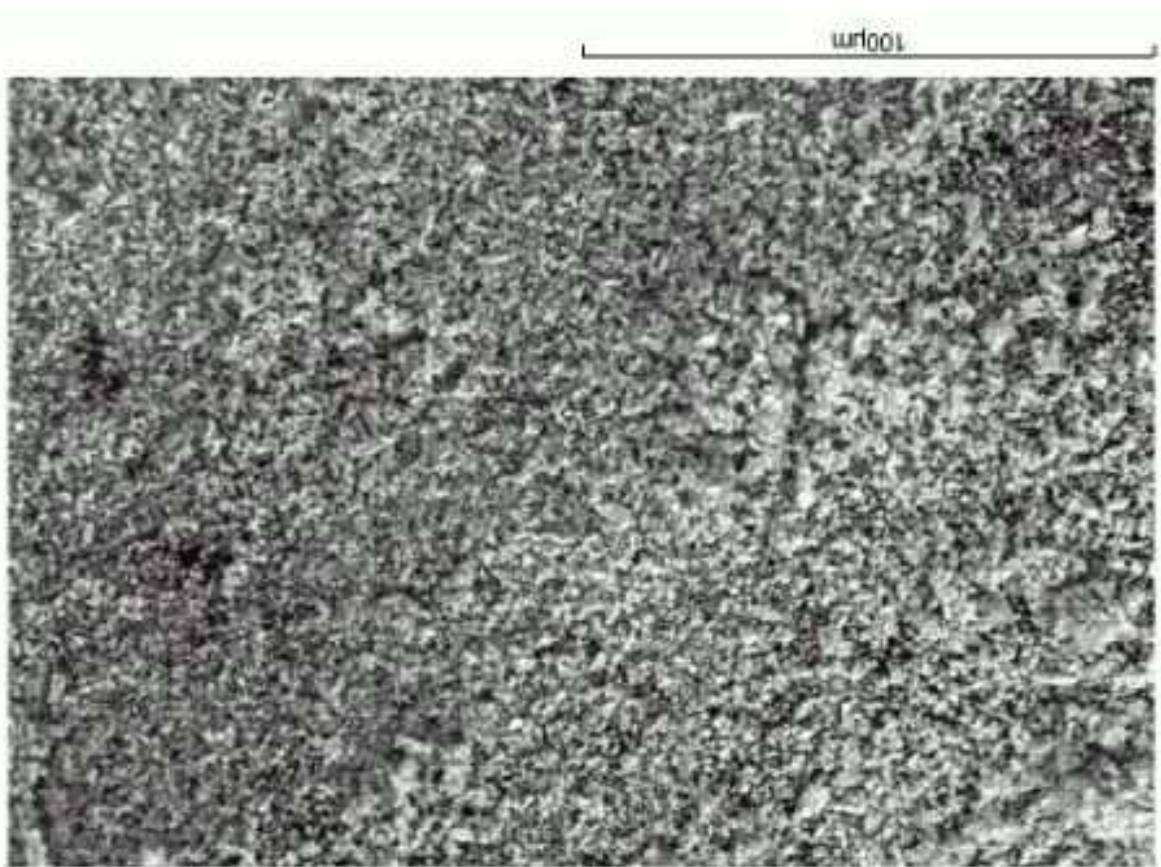
IDENTIFYING THE YELLOW PIGMENT USING A SCANNING ELECTRON MICROSCOPE (SEM)



I looked at the yellow pigment in the painting using a scanning electron microscope (SEM). I've printed out an image of what I saw for you to interpret.

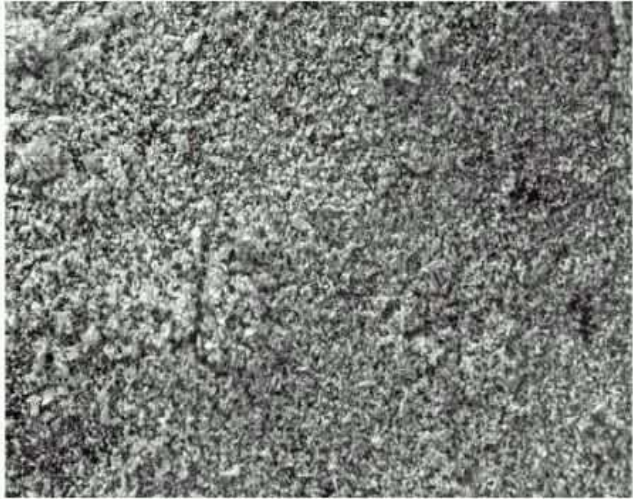
TECHNICIAN'S TEST RESULTS:

This is an SEM image of the yellow pigment in the painting.



Source of all SEM images: MFA Boston: CAMEO. 2009. Museum of Fine Arts, Boston. 25 May 2009.
<http://cameo.mfa.org/index.asp>

REFERENCE INFORMATION:

Type of Yellow Pigment	Reference SEM Image
Naples Yellow: • Has been used for at least 3500 years. • Most commonly used in paintings from about 1750 to 1850.	 100µm
Chrome Yellow: • Used in paintings from 1814 to about 1850.	 100µm

INTERPRET THE DATA:

Compare the technician's print-out with the reference SEM images.

Which kind of yellow pigment do you think the artist used? What does this tell you about the painting?

IDENTIFYING THE TYPE OF PAINT



I took a tiny sample of paint from the painting and put it in acetone. The paint sample dissolved. Does that mean it's acrylic or oil paint?

TECHNICIAN'S TEST DATA:

A sample of paint from the painting dissolved in acetone.

REFERENCE INFORMATION:

Type of Paint	When Used by Artists
Acrylic	Since the 1930s
Oil	Since about 1410

INTERPRET THE DATA:

Test two kinds of paints to find out what happens when they come in contact with acetone.

1. Put on a pair of latex gloves.
2. Using a cotton ball, rub a small area of the reference sample of acrylic paint with nail polish remover (acetone).
3. Using a clean cotton ball, rub a small area of the reference sample of oil paint with nail polish remover (acetone).

What do you notice? What does this tell you about the painting? Write your results on your Forensic Test Results sheet.

ANALYZING SAW MARKS ON THE PAINTING'S WOODEN SUPPORT



I have obtained a piece of the wooden support from the painting that shows saw marks along one of the long edges. How does it compare to the reference samples of wood?

TECHNICIAN'S TEST DATA:

Saw marks are visible along one of the long edges of the wood from the painting's support.

REFERENCE INFORMATION:

Type of Saw		When Used by Artists
Manual		For as long as humans have cut wood with saws
Mechanical		Since the Industrial Revolution (about 1800)

INTERPRET THE DATA:

Compare saw marks made by a mechanical saw and saw marks made by a manual saw.

1. Look closely at each reference sample of wood, at the side marked with a star.
2. Compare saw marks from a manual saw with those from a mechanical saw.
3. Compare the two reference samples with the wood from the painting's support.

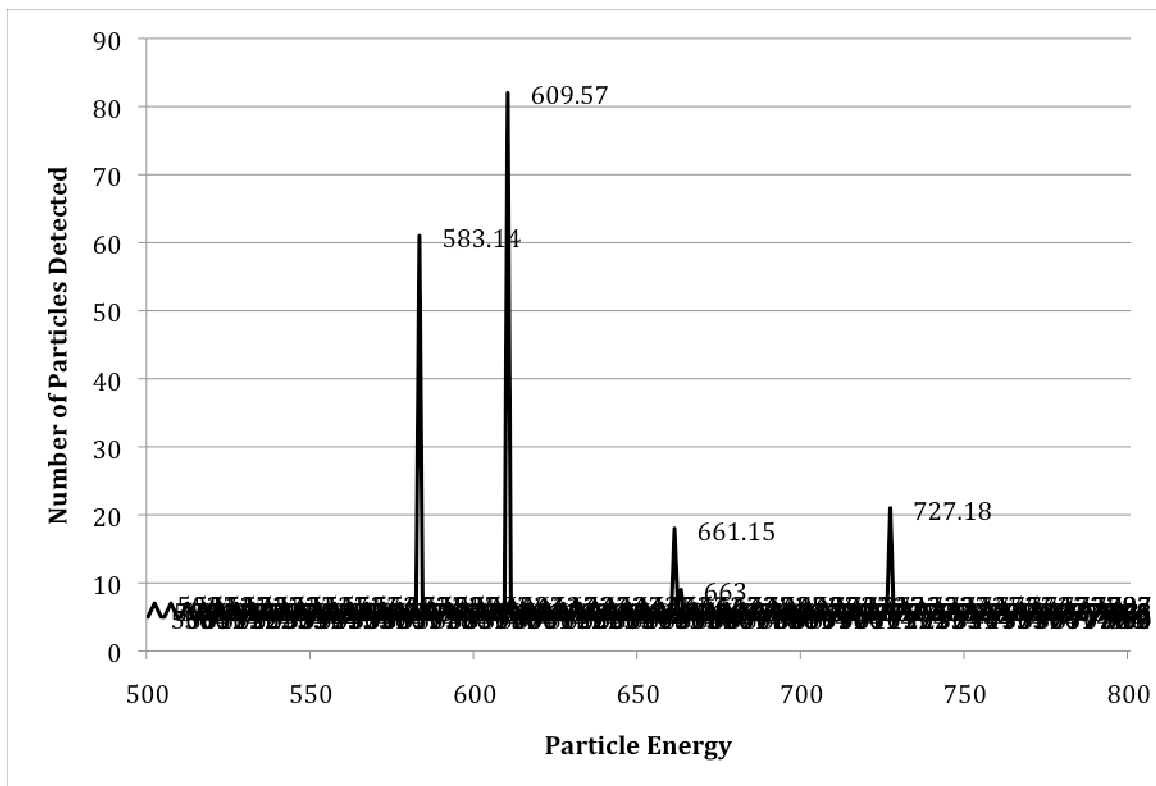
What kind of saw was used to cut the wood for the painting's support? What does this tell you about the painting? Write your results on your Forensic Test Results sheet.

TESTING FOR RADIOACTIVE MATERIALS WITH A MASS SPECTROMETER



I took a tiny sample of paint from the painting and analyzed it with a mass spectrometer to find out what elements are present in the painting. Here's a graph of what I found.

TECHNICIAN'S TEST DATA:



REFERENCE INFORMATION:

Element	Particle Energy	Comments
Bismuth-212	727.18	Heavy, silvery-white metal that is found naturally on Earth. It has been used for many purposes; the Incas used it to make bronze for their knives.
Bismuth-214	609.57	
Cesium-137	661.15	Radioactive material that has been present on Earth only since the atomic age began in 1945.
Thallium-208	583.14	Soft, highly toxic material that is found naturally on Earth.

INTERPRET THE DATA:

Compare the spikes on the graph from the mass spectrometer to the reference information. What elements are present in the painting? Is there a large amount of Cesium-137 in this painting? What does that tell you about the age of the painting?

Write your results on your Forensic Test Results sheet.

FORENSIC TEST RESULTS

Test		What You Observed	What Does This Tell You About the Painting?
Type of Paint	Acrylic		
	Oil		
Saw Marks	Manual		
	Mechanical		
Radioactive Materials	Amount of Cesium-137		
Yellow Pigment	Natural and Ultraviolet Light		
	Scanning Electron Microscope		

Conclusion: Is the painting authentic, or is it a forgery?