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Otero County Farm Bureau 515 North Main Street
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Southeast Area 4-H Newsletter



April 2018

Important 4-H Dates

April

- April 1st - 4-H Scholarship Deadlines
- April 2nd - Creative Cooks & Cake Decorating Contest Deadlines
- April 6th-8th - Shooting Sports Leader Training - Arapahoe County
- April 9th-12th - 4-H Agents at Professional Development Conference
- April 13th-15th - Shooting Sports Leader Training - Mesa County
- April 16th - Add/Drop Deadline for SEA**
- April 19th - District Creative Cooks & Cake Decorating Contests
- April 21st-22nd - YHEC - Flagler
- April 23rd-26th - Area Agents Gone for AgFest

May

- May 1st - Registration opens for Camp Go West
- May 8th-10th - Area Agents Gone for Regional Meeting
- May 26th-27th - Western Heritage Invitational
- May 28th - Extension Offices Closed
- May 29th - Picketwire Canyon Trip



Southeast Area Office
411 North 10th Street
Rocky Ford, CO 81067
719-254-7608

<p>Baca County 700 Colorado Street Springfield, CO 81073 719-523-6971 coopext_baca@mail.colostate.edu</p>	<p>Cheyenne County Box 395 Cheyenne Wells, CO 80810 719-767-5716 coopext_cheyenne@mail.colostate.edu</p>	<p>Kiowa County Box 97 Eads, CO 81036 719-438-5321 coopext_kiowa@mail.colostate.edu</p>	<p>Prowers County 1001 South Main Lamar, CO 81052 719-336-7734 coopext_prowers@mail.colostate.edu</p>
<p>Bent County 1499 Ambassador Thompson Las Animas, CO 81054 719-456-0764 coopext_bent@mail.colostate.edu</p>	<p>Crowley County 613 Main Street, Courthouse Annex Ordway, CO 81063 719-267-5243 coopext_crowley@mail.colostate.edu</p>	<p>Otero County Box 190 Rocky Ford, CO 81067 719-254-7608 coopext_otero@mail.colostate.edu</p>	

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District VI Elections

Elections for the 2018/2019 District VI 4-H Officers was held during the South Central District Retreat on March 17th. Congratulations to our new officers!

- President – Molly Stolzenberger, Kiowa County
- Vice President – Sophie Russell, Otero County
- Secretary – Shelby Wallace, Baca County
- Treasurer – Emily Nelson, Kiowa County
- Reporter – Athena Terrones, Baca County
- Executive Committee – Allison Gekeler, Cheyenne County & Kaysa Kurtz, Otero County

Colorado 4-H Shooting Sports Leader Training

The dates for the 2018 Colorado 4-H Shooting Sports Leader Trainings have been set. Approved leaders can register for these trainings through 4-H Online. See your local extension office for more information.

- Arapahoe County - April 6th-8th
- Mesa County - April 13th-15th

Add/Drop Deadline

Members wishing to either add or drop a project have until April 16th to do so. All additions and drops must be done in writing, on the appropriate form, and signed by both the member and their parent/legal guardian. Add/drop forms are available at the Extension Office. Remember, you must be enrolled in at least one project to maintain your 4-H membership, and to participate in 4-H activities.



Creative Cooks

Express your creativity at the District VI Creative Cooks and Cake Decorating

Contests! Both contests will be held at the Minnick Building on the Baca County Fairgrounds in Springfield on April 19th. Set up for the contests will start at 5:00 pm and the contests will start at 6:00 pm. There is a \$5 per person entry fee that must be paid when arriving.

During the Cake Decorating Contest, youth are given the opportunity to show off their skills while decorating a cake in a given amount of time. The Creative Cooks contest allows youth to plan a menu, set a place setting, cook a dish, and participate in an interview with the judge. Judging is based on creativity, taste, and visual appeal, among other factors. Complete contest requirements can be found at www.colorado4h.org.

We hope to see you all there! For more information or entry forms, contact your local Extension Office. Entries are due to your Extension Office by April 2nd.



YHEC

The 2018 Youth Hunter Education Challenge is scheduled for April 21st and 22nd near Flagler. Please use the following link for registration and event information. http://www.co-nra-yhec.org/yhec_events.html Click on the information packet link to open the PDF document. Participants will need to fill out the form on the last page and mail it to: Perry D. Brewer, 19550 County Road 40, Bethune, CO 80805 **by April 13, 2018.**

Western Heritage Invitational

The 2018 Colorado 4-H Shooting Sports Western Heritage Invitational will be held in Whitewater, CO near Grand Junction on May 26-27. More Information will be coming soon.

Adventure into the Land before Time

Picketwire canyon, a portion of the Comanche National Grasslands, located outside of La Junta Colorado is home to

the over 1,300 dinosaur tracks. This tour dives into the scientific discoveries that have been made within the canyon; along with local history and stories about the settlers we homesteaded the land. This tour is a jam packed and will start at 8 a.m. on Tuesday, May 29th at the Comanche National Grasslands office and then travel out to the canyon making various stops along the route including a 19th century church, settler's encampments and the dinosaur tracks themselves. Participants will need to pack a lunch and plenty of water as we will be out all day. Once you are signed up you will receive a list of proper clothes to wear that day and other gear to bring such as sunscreen. It is \$15 for youth and \$20 for adults, and there is a limit of 35 participants total. For more information contact your local extension office.



Camp Go West

Are you ready for some adventure this summer? Join the Southeast Area on the camp experience of your life. Camp Go West will occur July 1-3 and you will be transported into endless fun including canoeing, hiking, roasting marshmallows around the campfire and so much more. This camp is three days jam-packed with excitement. We will be staying at YMCA Camp Jackson in beautiful Rye, Colorado. This camp is open 9 to 18 year olds. Registration is \$150 including meals, lodging, activities and camp goodies. Stay tuned because there will be a discount to the first 30 youth from the Southeast Area to register and there will be half-scholarships offered. Registration opens May 1st and closes June 1st on 4-H Online! Be sure to mark your calendars, so you don't miss out on the fun!

State Fair Exhibit Requirements

The 2018 State Fair Exhibit Requirements have been updated. Please be sure to refer to the exhibit requirements when you are planning on your project, as this is what it will be judged on at both county and state fair. You can find them at <http://www.colorado4h.org/project/resources/StateFairExhibitReq.pdf>

District VI Shooting Sports Contest

Mark your calendars for the 2nd annual District VI 4-H Shooting Sports Contest. It will be Saturday, June 9th, 2018 at the La Junta Rifle Club.

4H Online – Email Blasts

From time to time the State office will be sending emails directly to the 4-H members. It is the easiest and most effective

way to communicate important State events and requirements. We know that not everyone particularly enjoys the extra emails and there have been requests to be unsubscribed. It is important to know that if you do that, you would not receive any re-enrollment emails or information the County office sends directly to you. Please do not “unsubscribe.”

4-H Project Highlight

Foods & Nutrition

Are you hanging out in the kitchen ready for the first cookie to come out of the oven? Or do you like to help prepare a fresh garden salad? If you have a hankering for cooking or just like good food, then the Foods and Nutrition projects are for you. In these different units, you will have fun learning how to cook the basics and then advance to gourmet and international meals. You will learn the heritage of many foods as well as consumer buying skills to get the most from your money. In addition, you will also learn how to make healthy snacks and modify recipes to fit a healthy life style.

Cooking 101 •Kitchen & Food Safety •Basic Food Preparation •Basic Nutrition

Exhibit Options: No Bake Cookies or Bars, Coffee Cake or Cookies (Dropped or Molded)

Cooking 201 •Expanded Knowledge from Cooking 101

Exhibit Options: Quick Breads, Scones or Muffins

Cooking 301 •Outdoor Cooking •Party Planning •Making Yeast Breads & Shortened Cakes

Exhibit Options: Shortened Cakes, Yeast Rolls, Yeast Bread or Party Planning

Cooking 401 •Preparing Ethnic Foods •Cooking with Herbs & Spices •Other Advanced Skills

Exhibit Options: Flatbread, Double Crust Pie, Celebration Meals

Specialty Foods •Outdoor Cooking •Cultural Foods •Passport to Foreign Cookery

Food Preservation •Drying •Freezing •Boiling Water Canning •Pressure Canning



Bent County 4-H

April 2018 Newsletter

Volume 10, Issue 14, April 2018

What to Look For:

State 4-H News

www.colorado4h.org
Project Resources
StateFairExhibitReq.pdf.



We're on FACEBOOK! Please **LIKE** our pages to stay up-to-date with all the upcoming events & share with your friends, let's get to 500 likes!

- ◆ Bent County Extension
- ◆ Bent County Fairgrounds

County News

Opportunities and Deadlines

April 2—Creative Cooks and Cake Decorating Entry Due
April 2 —State Fair Market Beef Entry Due
April 6—Sewing Workshop
April 14—Horsemanship—Riding Class
April 15—4-H Project Drop/Add Deadline
April 19—Creative Cooks in Springfield
April 25—4-H Council Meeting
April 27—Santa Fe Trail Day—Pickup Raffle Ticket Sales
May 1—Horse and Dog ID deadline in 4H Online
May 3—Small Animal Weigh in (4-6pm)
May 7—Hog Nominations Due

State Fair Market Beef Entry

Market Beef entries for State Fair are due to the Extension Office by April 2, 2018 by noon! These entries have to have the retinal scan attached before they can be submitted. If you have not already paid your retinal scan fee of \$5.00 to Bent County Extension, that can be done at the time of form submission to the office.

1. State Fair Market Beef Entry
2. 4-H Project Drop/Add Deadline
3. Small Animal Weigh-in
4. Hog Nominations
5. May Day Council Project **
6. Upcoming 4-H Workshops/Classes & Dates



4-H Workshops

The Bent County 4-H Council is sponsoring a number of upcoming workshops that will be available to 4-H members .

Horsmanship Series: Class 2 (Riding)

There will be a riding workshop on **April 14, 2018 from 10:00am—11:30am at the Bent County Fairgrounds** for all 4-H members enrolled in horse projects. This class will be divided according to events and participants will get a chance to ride their horse and practice events they intend to participate in. Please plan to bring your horse and be prepared to review what you have learned already in the showmanship class. If you are only doing halter, please bring your horse to work with halter showing.

Sewing Workshop

The sewing skills workshop with Ginny Freed will take place at the **Bent County Extension Office on April 6, 2018 from 9:00am-12:00pm**. Participants will leave with a finished product from this workshop. Materials will be provided. If you have a sewing machine you can bring, please do so. Material and your other supplies will be provided for you.



New State Fair Requirements

Participants from the Bent County 4-H Clubs should be aware that there have been some changes to the State Fair requirements in several categories. If you intend to take part in the Colorado State Fair as a showman for any project, be sure you review that State Fair Requirements. These can be accessed through 4Honline, or you are welcome to review them in print at the Extension Office.

Hog Nominations

Hog nominations are due to the Extension Office by May 7th. If you have not already picked up a hog nomination form, you will find it attached to this newsletter, or you can get one from the Extension Office.

Small Animal Weigh In



Small animal weigh in will be held at the Bent County Fairgrounds on Thursday, May 3, 2018 from 4:00-6:30pm. If you plan to show a sheep or goat, at the Bent County Fair, you will need to have them weighed in and tagged at this event. If you plan to show at the State Fair, you will need a retinal scan as well. If you have questions, please contact the Extension Office.

4-H Drop/Add Deadline

Much like the 3-step process to enroll, it is a 2-Step process to change (drop/add) a project. April 15th is the 4H Drop/Add deadline for all 4-H Projects. If you plan to change projects, add a project, or drop a project, you will need to fill out a form that has to be turned into the office and change your project in 4H Online <https://www.4honline.com/>

under your family account. The form you need is attached to this newsletter, can be obtained from your club leader, or you can pick one up at the Extension Office. Please remember the **deadline is April 15th!**

** May Day Pots Council Community Service Project

During the next Bent County 4-H Council Meeting, members will be potting plants for elderly and shut-ins in the Las Animas area as a community service project. If you would like to participate, this will count as your Council event. The next meeting will be at the McClave United Methodist Church at 6:00pm on April 25th.

Stock Show U/Steer-Aid Clinic

WW Feed & Supply will again host its Steer-Aid Clinic in conjunction with a Stock Show University by Sullivan Supply. It will be free of charge and is set for Saturday, June 2, 2018. The event is geared specifically for beef exhibitors. The activities will take place at the Bent County Fairgrounds. Youth will bring their own animals and it will be an all-day instruction and hands-on experience for you to actually clip and groom your steer or heifer under the guidance of an expert. More details will be provided when the date nears.



Opportunities.....Don't Miss Out!

Citizenship Washington Focus is June 23-30th. If you are age 15 or older, you are welcome to apply for this once-in-a-lifetime opportunity trip! Applications are due February 16, 2018.



Who: 4-H Members (Ages 11-13)

What: Personal and Leadership Development

Where: Burlington Community Center

When: Wednesday, May 30, 2018

Why: Fun and Engaging Program

How: Registration is \$15 and Begins April 1st

* Flyer and Registration Form is attached to this Newsletter!

Bent County Council 2018 February Bent County Council Meeting

There was a very eventful meeting for the council this past month. Lance Jagers provided the council with a parliamentary procedure practice were the members of the council acted out some scenarios and solved them with parliamentary procedure. The members also discussed the county test and the pick up -shirt design con- raffle. The Bent County Council also is in need of some new members. We need two senators that are over 14 years old. We also are looking for a treasurer that can at least do four digit addition and subtraction and will be able to write checks. If you are interested to fill in any of these spots please come to the next meeting on March 28th at 6:00 p.m. at the Bent County Extension Office.



By: Holly Morgan-Reporter



4-H Project Add/Drop Form

Due: April 14, 2017

Return to Extension Office at:
CSU Extension, Bent County
1499 Amb Thompson Blvd
Las Animas CO 81054
Coopext_bent@mail.colostate.edu

Name: _____

4-H Club: _____

Projects to ADD:

Project Name	Literature	
	Needed	Cost
	Yes / No	

Projects to DROP:

Project Name

Member Signature

Date

Parent/Guardian Signature

Date

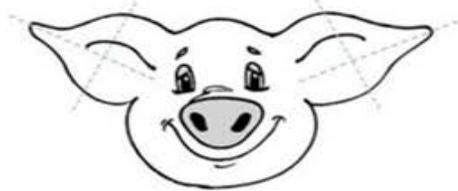
Note: You must complete at least one project to maintain your 4-H membership.

DRAW EAR NOTCHES BELOW FOR EACH NOMINATED HOG

COPY OF PQA CARD MUST BE ATTACHED

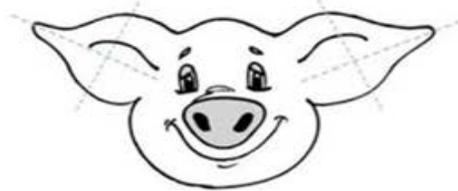
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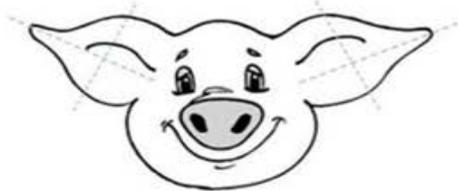
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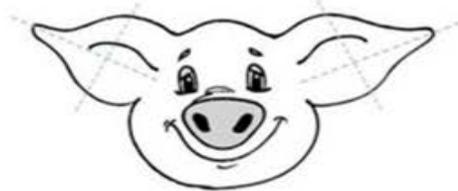
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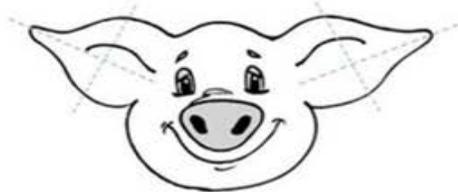
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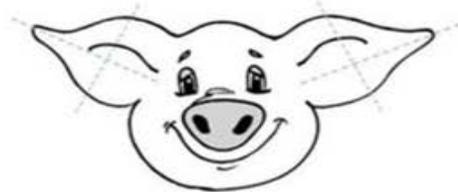
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COWBOY ETHICS

BE SOMEBODY!

Attitude. Integrity. Grit. Purpose.

WIN AT LIFE

WHO:

4-H Members
Ages 11-13

WHAT:

Personal and Leadership
Development

WHERE:

Burlington
Community
Center

WHEN:

Wednesday
May 30, 2018



HOW:

Registration is \$15
Begins April 1st

WHY:

Fun and Engaging
Program

Be Ready to Move, to Think, and to Be Somebody!

Be Somebody! Registration

Name _____

T-Shirt Size (circle one): Youth Sizes: Small Medium Large Adult Sizes: Small Medium Large XL XXL

Registration Paid: Date _____ Cash ___ Check # _____



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CAREERS

We have been exploring career ideas over the past 3 months. If you missed those issues, you can find activities 38 through 41 located here:

<http://tra.extension.colostate.edu/stem-resources/>

The 12 broad interest categories are:

- Adventure
- Animals and Nature
- Art
- Business
- Computers
- Math
- Music and Dance
- Science
- Sports
- Talking
- Travel
- Writing

What are your four top ranked broad interests from the results of your quiz:

- 1.
- 2.
- 3.
- 4.

Last month, you reflected on the project you selected and started an interest journal. Continue using your journal to collect those things that spark your interest. You may find that your interest journal is different than the broad interest quiz. If that is the case, you

Pigments Colors of Art in our World

Dr. Barbara J. Shaw



Artifact found in Blombos Cave, South Africa

BACKGROUND

The image above of engraved ochre (a rock rich in iron) is the oldest known art, dated at 77,000 years before present. It was found in Blombos Cave in South Africa. The cave artifacts include marine shell beads, refined bone and stone tools, and ochre making kits (to make red pigment). The artifacts in the cave have been dated from 100,000 to 70,000 years before present.

The image below was found in a cave in Spain and has been dated to 65,000 years ago. The people living in Spain at that time were not our ancestors, but our cousins, the Neanderthals (*Homo neanderthalensis*). They used medicinal plants and crafted tools. They carefully buried their dead. These are hallmarks of culture and society. They arrived in



Neanderthal Cave Art found in Spain

Europe as early as 500,000 years ago. The physical evidence supports that our ancestors arrived about 50,000 years ago, and co-existed with Neanderthals for more than 5,000 years. As with all science, this could change if we find additional information, but now we can only assume the artist was a Neanderthal.

Our ancestors 40,000 years ago used pigments in rocks and substratum to paint. The red ochre used in the cave drawing below is still used by artists today. It comes from iron-rich rocks, which are abundant in Colorado's mountains. Recall that the cave in South Africa had red ochre kits (to make this pigment), but it doesn't appear that any of those drawings survived.



Objectives

You will:

- Collect substratum and rock samples
- Identify the different pigment colors found within the rock and substratum samples you collected
- Prepare paints from the pigments using different media
- Compare and contrast data on the different media used to fix the pigments
- Analyze pigments artists use through time
- Create a painting using the pigments you made
- Identify the three different aspects of the theory of color: hue, chroma, and value

Materials:

- Gallon Ziploc baggies
- Sharpie permanent marker (black works best)
- Trowel or shovel
- Option: GPS unit and ArcGIS software program
- Recycled containers w/lids (e.g. 1 lb yogurt container) 4/sample
- Newspaper
- Media (milk, egg yolk, egg white, and white school glue)
- Hammer (in addition rolling pin and/or mortar and pestle)

may want to retake the interest quiz. You can find it in issue 38. Snowflakes, and the score cards on the last page of issue 39. Astronomy on this website: <http://tra.extension.colostate.edu/stem-resources/>

This month, you are going to plan and design your own project, based on your 2-4 top interests, your interest journal, and the reflections you made on your first project.

It can be very similar to the project you have already completed, or you can try something really wild, using out of the box thinking.

1. Pick a project topic. What interests you? What would you like to do? What would you like to share with others? For example, maybe you are fascinated by the stars and planets, and you want to learn more about them. Astronomy will be the example in each of these steps.
2. Spend time researching more information about your topic. For example, explore NASA website, Astronomy Picture of the Day, HubbleSite, etc. Go to the library and ask the librarians to help you find books about astronomy, and activities you can do in astronomy.
3. During this exploration, determine what you would like to learn or share. For example, you decide that you want to learn the constellations and the other objects in the sky.

4. Determine how you can accomplish this goal. For example, find an astronomy club to join.
5. Develop a list of the supplies you need to complete your project. For example, your list would include a planisphere, a flashlight with a red filter, good book with the constellations and the time of year, and maybe a mentor—someone in the astronomy club—who could help you. The astronomy club will also have telescopes you can use with their help. Before spending a lot of money, check it out first.
6. Find books or search the internet for activities to help you learn more about your project. For example, the Astronomical Society of the Pacific has activities for different ages online. The librarian may help you find a book like “39 Easy Astronomy Experiments” by Robert W. Wood.

- Craft sticks
- Copy of the Munsell Soil Color Chart (page 8)
- Paint brushes and paper
- Google map incorporating all areas that you collect your samples
- Tape or glue



DO: Altamira Cave, Northern Spain, 15,000 before present

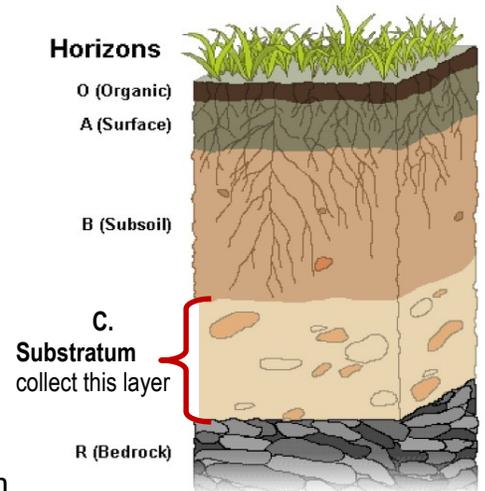
Opening Question

- Examine the cave paintings on pages 9-14. What colors do you see in these paintings? How did these artists find the colors to make their paintings?

Directions

Part One

- Look around your home, school, parks, etc., at road cuts and river banks to find different color rocks and substratum.
- To collect substratum samples, scrape the top organic, surface, and subsoil layers (O, A, and B layers diagrammed on the right). These layers are rich in organic matter, and do not make good pigments. Collect your sample from the substratum layer (C layer diagrammed on the right).
- Add the sample to your Ziploc baggie and label with the location.
- Collect from several locations. It will be difficult collecting samples this way, because until you dig to the substratum layer, you won't know if you found a different mineral composition (i.e. different color).
- It is much easier to collect these samples from road cuts or river banks that have channeled through substratum or bedrock.



Continue working on your interest journal:

- Keep things that you find interesting. For example, you see a beautiful sunrise, and you want to capture the feeling, take a picture and write a haiku in your journal. Print the picture and tape it next to your haiku.
- If you see something on the internet that is fascinating or peaks your interest, print it and tape it in your journal.
- Write your thoughts about yourself at the end of the day or first thing in the morning.



- The pictures above are from the San Juan Mountains. Great rock samples there, but you can find all kinds of rock and substratum colors in every county in Colorado.
- Collect the loose debris located in a layer or at the bottom of the road cut. Place each color sample in a different Ziploc bag.
- Label each bag with the location of the sample (GPS coordinates or Mile Marker (MM). MM 96-97 is between those two MMs).
- Sometimes you will find different colors layered on top of each other at the same location, like the picture on the right (The Paint Mines Interpretative Park, Calhan, CO).
- Locate each sample site on a map. You can do this one of two ways:
 - Print a map of the area you collected samples, and mark each site.
 - If you used a GPS unit and have access to ArcGIS, you can record each location on one layer of the ArcGIS map.



Part Two

- Spread each sample out on newspaper, and remove all organic matter (like roots, dead leaves and grass). Be sure that each sample remains separate to preserve the colors you collected.
- Use a hammer to crush the rocks and substratum into a fine powder. A rolling pin and/or mortar and pestle can complete the powdering process.
- Allow your rock and substratum samples to dry completely.

Part Three

- Use the Munsell Soil Color Chart on page 8 to identify the closest color and record the letter column and number row on the map at the site where you collected that sample.
- In painting, a medium is a substance that allows the pigment to stick. Our cave art ancestors used animal fat or spit for their media. We are testing four media: egg yolk, egg white, milk, and white school glue.
- You will need to separate your egg yolk from the egg whites.

Try different questions, like:
 Why is my favorite color red?
 When is my favorite time of the day?

POWER WORDS

- **medium** (plural media): material that holds pigments together, e.g. oil paint uses oil, tempera uses egg yolk; the method in which the artist works (i.e. oil, watercolor, etc.).
- **ochre**: an earthy pigment containing ferric oxide, typically with clay, varying from light yellow to brown or red.
- **pigment** Substance used as coloring. Dry coloring matter, usually an insoluble powder to be mixed with water, oil, or another base to produce paint and similar products. A substance that produces a characteristic color in tissue.
- **primary colors**: red, yellow, and blue.
- **secondary colors**: orange, green, and purple.
- **substratum**: an underlying layer or substance, in particular, a layer of rock or soil beneath the surface of the ground.
- **tertiary colors**: red-orange, orange-yellow, yellow-green, green-blue, blue-purple, purple-red.

FASCINATING FACTS

- All the different colors in rocks and substratum are the result of the minerals that make up the rocks. Minerals are the building blocks of rock. Some rocks consist of just one type of mineral, but most rocks contain many different minerals.

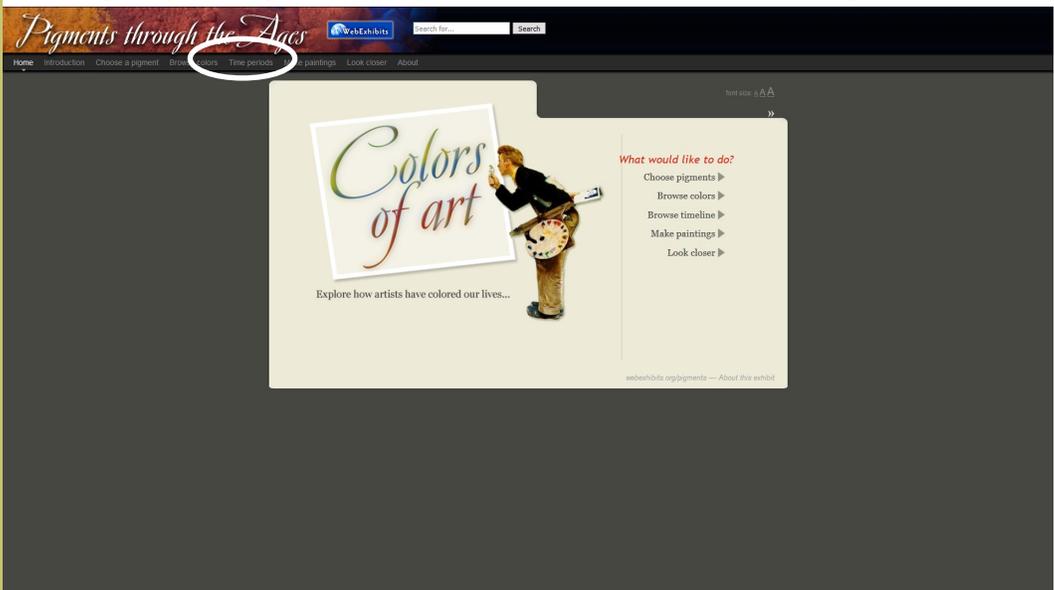
- The most popular color worldwide is blue! Based on several global marketing firm surveys, they have found:
 - Blue—40%
 - Purple—14%
- Red is the first color a baby sees. Recent studies show that 2 week-old babies can distinguish the color red.
- Women are generally better at differentiating close range of colors than men are. This gene lies on the X chromosome, and males only inherit one copy, while women inherit two copies of the gene. (Men, however, are better at recognizing fine details in a moving object.)
- Ultramarine blue is almost impossible to find. It is made from lapis lazuli, a gemstone only found in a single Afghanistan mountain range.
- The Egyptian made a synthetic blue 2,200 B.C. by combining limestone and sand with copper-containing mineral, and then heated the solution between 1470 and 1650°F. It was easy to go wrong, and the process was forgotten.
- The first time ultramarine blue was used as a pigment is in Buddhist frescoes in Afghanistan in the 6th century. It finally made it to Europe in the 700s, where it cost more than gold!
- Drinking hot chocolate from a cream-colored or orange cup makes the hot chocolate taste better!
- Red and yellow increase the appetite! Look at the number of food packaging and chain restaurants who use those colors!

- Working with one sample at a time, divide it into 4 of the recycled containers. Label each container with the type of medium used (i.e. “yolk,” “egg white,” “milk,” and “glue”) and the location.
- Mix each medium into the rock or substratum pigment powder until it is the consistency of tempera paint, stirring with a clean craft stick. Repeat for each sample you collected.
- Use the Munsell Soil Color Chart to identify the closest color for each of the 4 samples identified by the medium. Compare to the dry sample. How did they change?

REFLECT:

Part One

- Examine the modern art pictures on pages 15-17. The paintings are from different time periods. What pigments do you see in these paintings? What do you notice about the paintings through time? What colors do you see in modern art that is not present in the cave art? What colors are used in O’Keeffe’s painting that is not in either van Gogh’s or da Vinci’s painting? What colors are present in van Gogh’s painting that are not present in da Vinci’s painting?



Part Two

- Explore the website “Colors of Art.” This interesting website has the history of pigments. <http://www.webexhibits.org/pigments/>
 - One of the top tabs (hard to read in the image above of the home page, but circled in white) is “Choose a time period.” The Time Period shows the progress of finding and using pigments.
 - Other tabs will lead you to:
 - “Choose a pigment” provides information about when it was discovered, and other information—like Emerald Green was poisonous and used not only in paintings, but also clothing.
 - “Browse a color” gives you information about the pigment hues and their history.
 - “Make paintings” gives directions for making different types of paint (e.g. oil, acrylic, or watercolor).
 - “Look Closer” goes further into concepts of light, 3D modeling, microscopy, tomography, dating, and spectroscopy.

Part Three

- Cut out the Munsell colors that are closest to each of the original dry rock or substratum samples and tape or glue by the site collected. The colors represent different chemicals in the rock or substratum. Do you notice anything about the sites and the colors?
- What colors did you find in close proximity? Sometimes you will find very different colors in layers (see images on page 4).
- Did the medium change the color of the rock/substratum? How?
- The first cave art used animal fat or saliva as the medium. Which of the mediums you sampled (egg yolk, egg white, milk, and white school glue) is closest to animal fat?
- Compare the 4 treatments (yolk, egg white, milk and glue) to each other. How did each medium change the color?

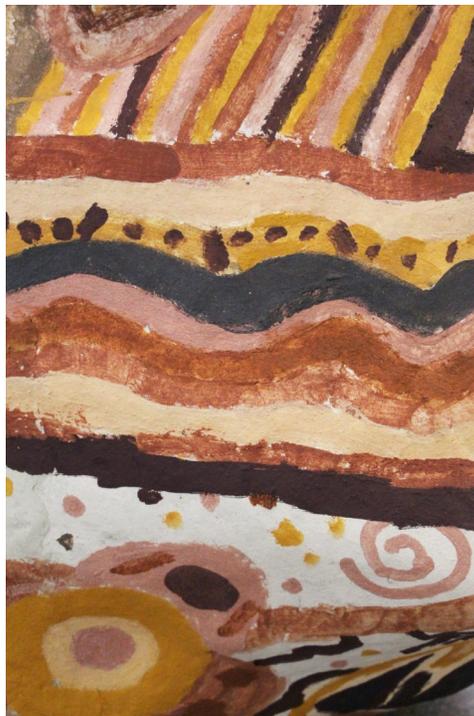
APPLY:

Part One

- Plan your painting before you make it. Will you use paper, canvas, rock, wood or something else?
- Do these colors remind you of people, animals, or places? What are they? How about geometric shapes and patterns?
- How do you want to apply your paint? With paint brushes, fingers, leaves, cotton or cotton swabs, or something else?
- Create your painting(s) with your homemade rock and substratum pigments.
- What do you think? What do you like about it? What would you change?

Part Two

- Plan another painting, but this time, incorporate additional art supplies (markers, pencils, etc.). How will this change how you approach your next picture? What will you use this time to paint? What patterns or pictures do you envision? What will you use to apply the paint? What additional art supplies will you use? How will they add to your picture?
- Write a story based on your pictures. For example, if you saw those colors as a landscape, write a story that uses that landscape as the place. You can modify your art to capture the additional images your story evoked.



The above two images are art pieces created using rock and substrate pigments.

CITATIONS

ACTIVITY

- <https://www.sabinebrosche.com/making-paint-from-rocks-substratum/>
 - <https://www.sabinebrosche.com/making-paint-from-rocks-substratum/>
 - <http://munsell.com/color-blog/category/color-education/>
 - <http://zbection.blogspot.com/2011/02/munsell-substratum-color-chart.html>
 - <http://www.webexhibits.org/pigments/>
 - <http://www.dangerousroads.org/north-america/usa/4808-san-juan-skyway.html>
 - <https://erikas4k.wordpress.com/2013/07/29/day-53-montrose-co-to-norwood-co/>
 - https://www.nrcs.usda.gov/wps/portal/nrcs/detail/substratums/edu/?cid=nrcs142p2_054308
 - <https://www.education.com/activity/article/color-wheel-art/>
- #### YOUTHS' PICTURES
- http://www.ecomatters.org.nz/wp-content/uploads/2017/12/ed-IMG_4463.jpg
 - <https://intim8ecology.files.wordpress.com/2015/04/finger-painting-earth-pigments-and-natural-binders-on-canvas-c2a9-f-owen-p-ward-2015.jpg>

ART

- https://web.archive.org/web/20081225115801/http://www.svf.uib.no:80/sfu/blombos/Artefact_Review2.html
- <https://www.smithsonianmag.com/history/journey-oldest-cave-paintings-world-180957685/>
- <https://www.independent.co.uk/arts-entertainment/art/news/40000-year-old-cave-paintings-include-oldest-hand-stencil-known-to-science-9783840.html>
- <https://www.cnn.com/2013/06/20/us/tennessee-cave-art/index.html>
- <https://focus.louvre.fr/en/mona-lisa>
- <https://www.moma.org/collection/works/79802>
- <https://www.metmuseum.org/toah/works-of-art/52.203/>

FACTS

- <http://www.ucreative.com/articles/22-intriguing-facts-about-colors-that-you-need-to-know/>

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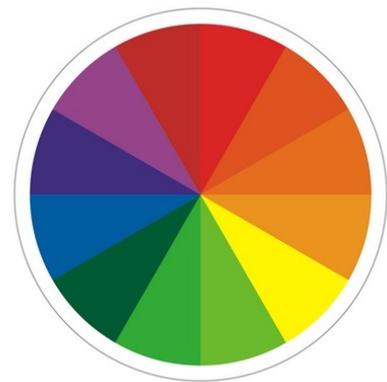
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Part Three

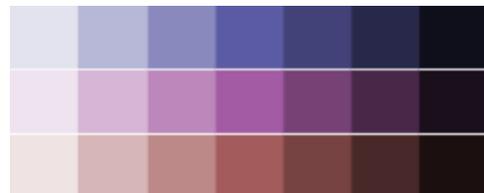
• Study of Hues

- Hue is that attribute of a color by which we distinguish red from green, blue from yellow, etc.
- If you mix paints of adjacent colors in this series and obtain a continuous variation from one to the other. Red and yellow may be mixed in any proportion to obtain all the hues red through orange to yellow. The same is true for yellow and green, green and blue, blue and purple, and purple and red. This series returns to the starting point, so it can be arranged around a circle.
- Make a color wheel by including the primary, secondary, and tertiary colors. You need a paper plate, glue, old magazines, a ruler, a marker, and a compass. Divide the plate into 12 equal pie shape wedges (30° wedges if you use a compass) with the marker and ruler. Write on each wedge (in this order): Red, Red-Orange, Orange, Orange-yellow, Yellow, Yellow-Green, Green, Green-Blue, Blue, Blue-Purple, Purple, Purple-Red. You should have a color name in each wedge. Go through the magazines and tear out pieces of colors. Glue them on the plate in the wedge that matches the color you labeled on the plate.



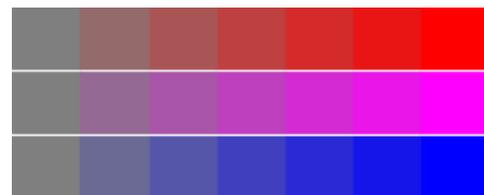
• Study of Values

- Value of a color is the lightness or darkness of tones. White is the lightest value; black is the darkest. The value halfway between these extremes is called middle gray.
- Take any color pencil and a sheet of paper. Start by lightly rubbing the side of the pencil as you move from left to right on the paper, increasing the pressure of the pencil, making the color darker. This is the value of a color.



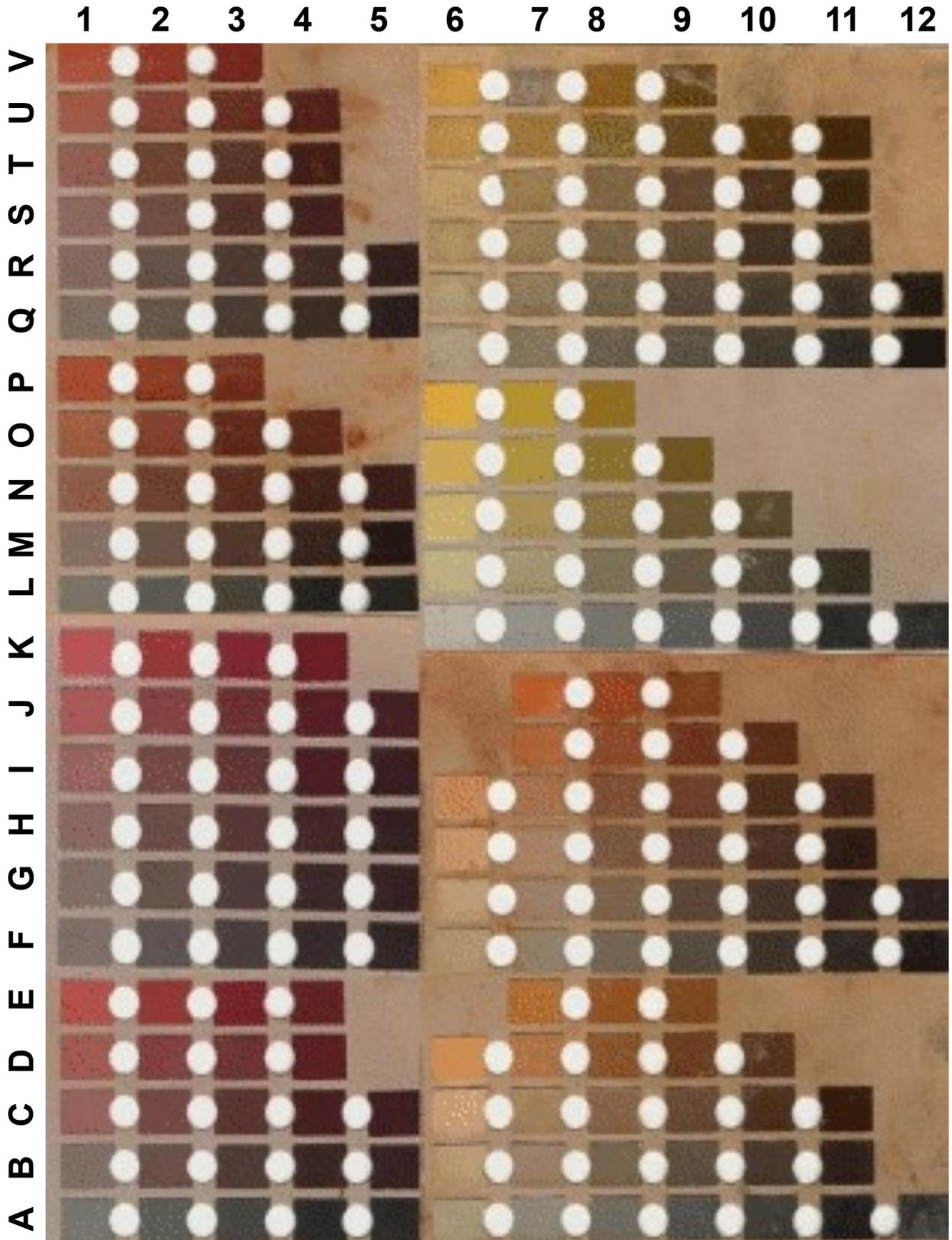
• Study of Chroma

- The purity or saturation of a color is the chroma. Grey is one end, and the less grey in the color, the more saturated the color becomes.
- Take a grey color pencil, any hue of a color pencil, and a sheet of paper. Start with the hue (for example green) and lightly rub the color across a swath of the paper. With the grey pencil, start with a lot of pressure, and rub the grey over the top of the hue color. As you move from left to right, decrease the pressure on your grey pencil, until you have no pressure. The highest chroma is on the right with no grey, and the lowest chroma is on the left with the most grey.



Supplemental Information

Munsell Soil Color Chart



Supplemental Information

Cave, Borneo. Dated 40,000 to 35,000 B.C.



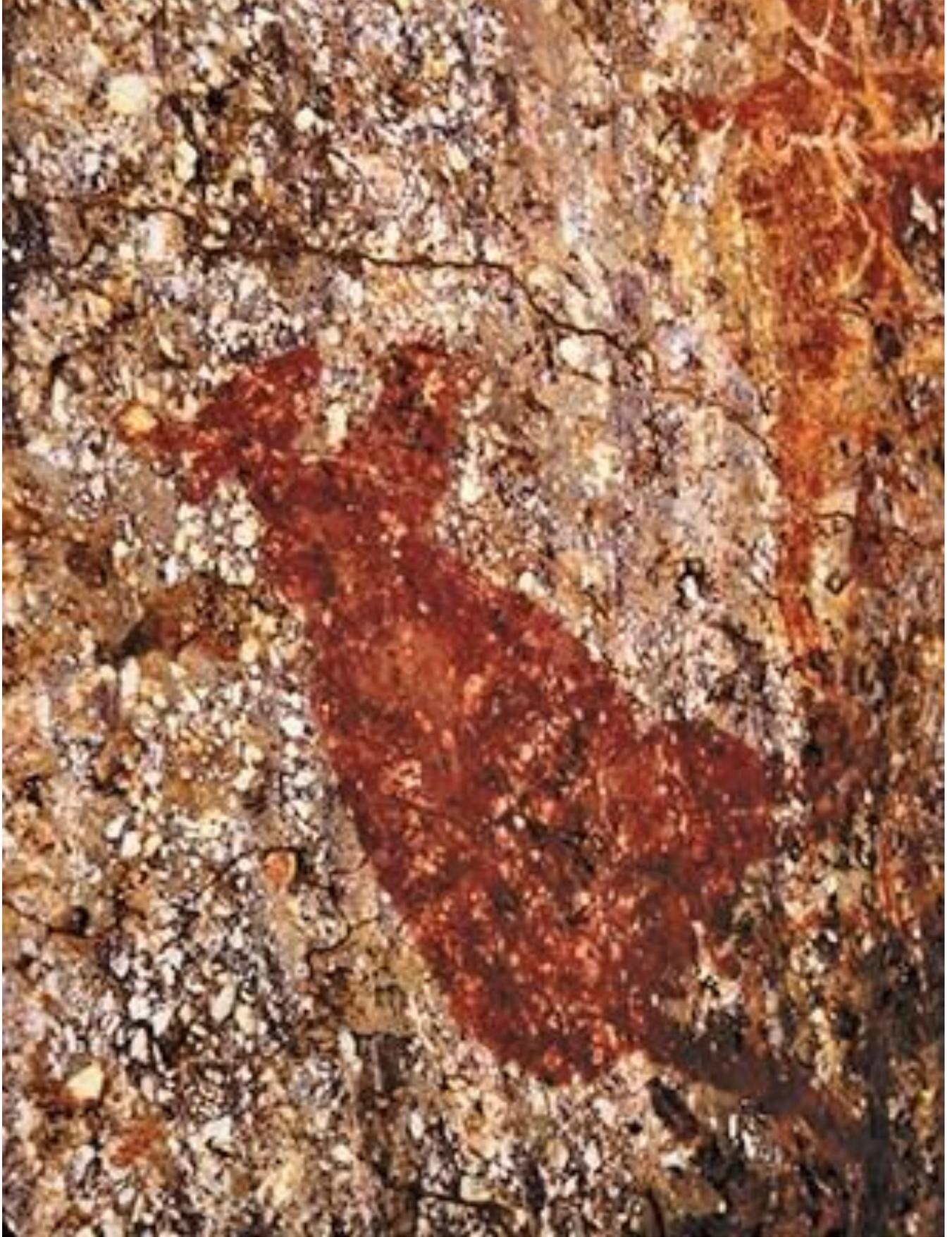
Supplemental Information

Chauvet Cave, Araecne, France. Dated 30,000 to 28,000 B.C.



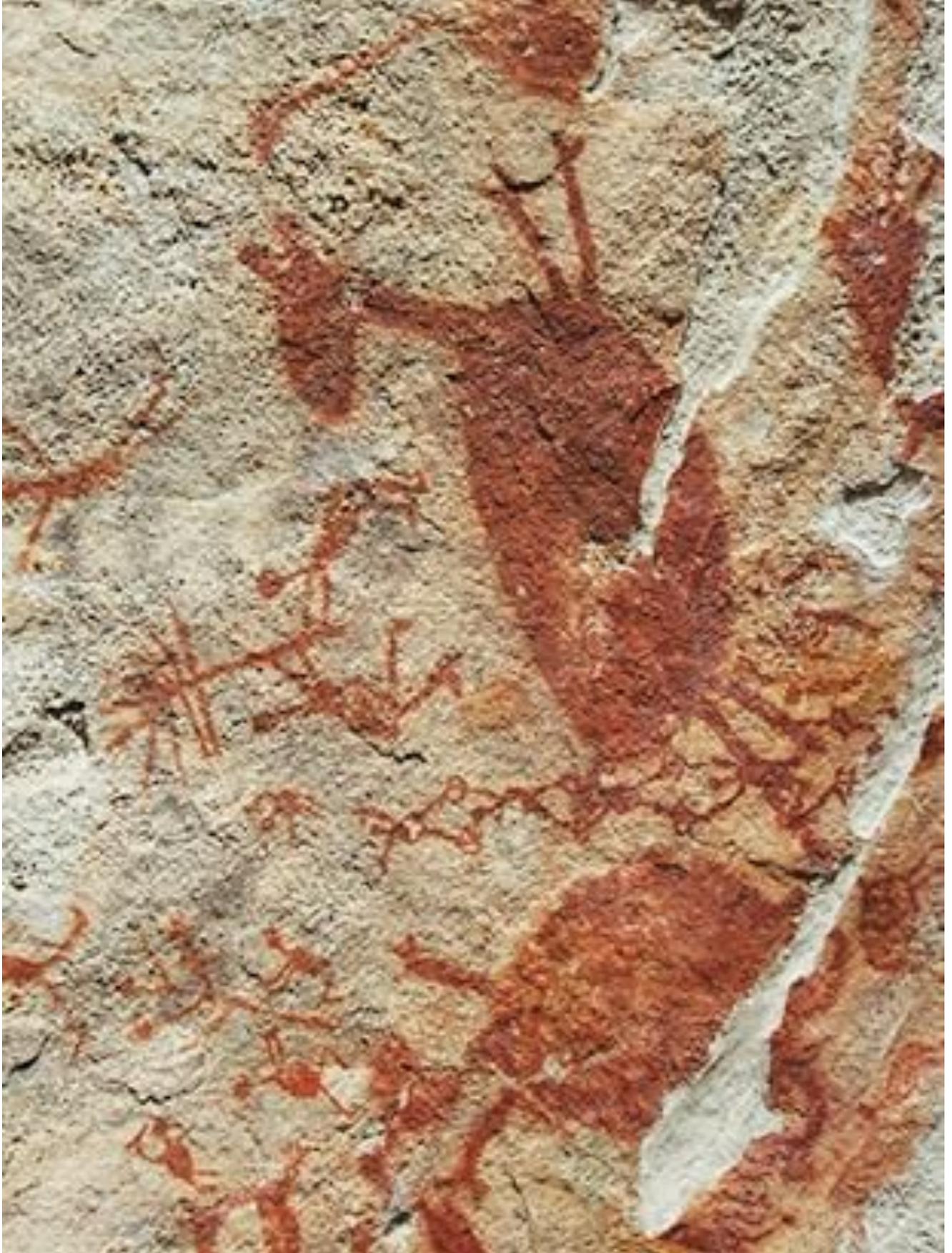
Supplemental Information

Ubirr at Kakadu, Northern Territory, Australia. Dated to 26,000 B.C.

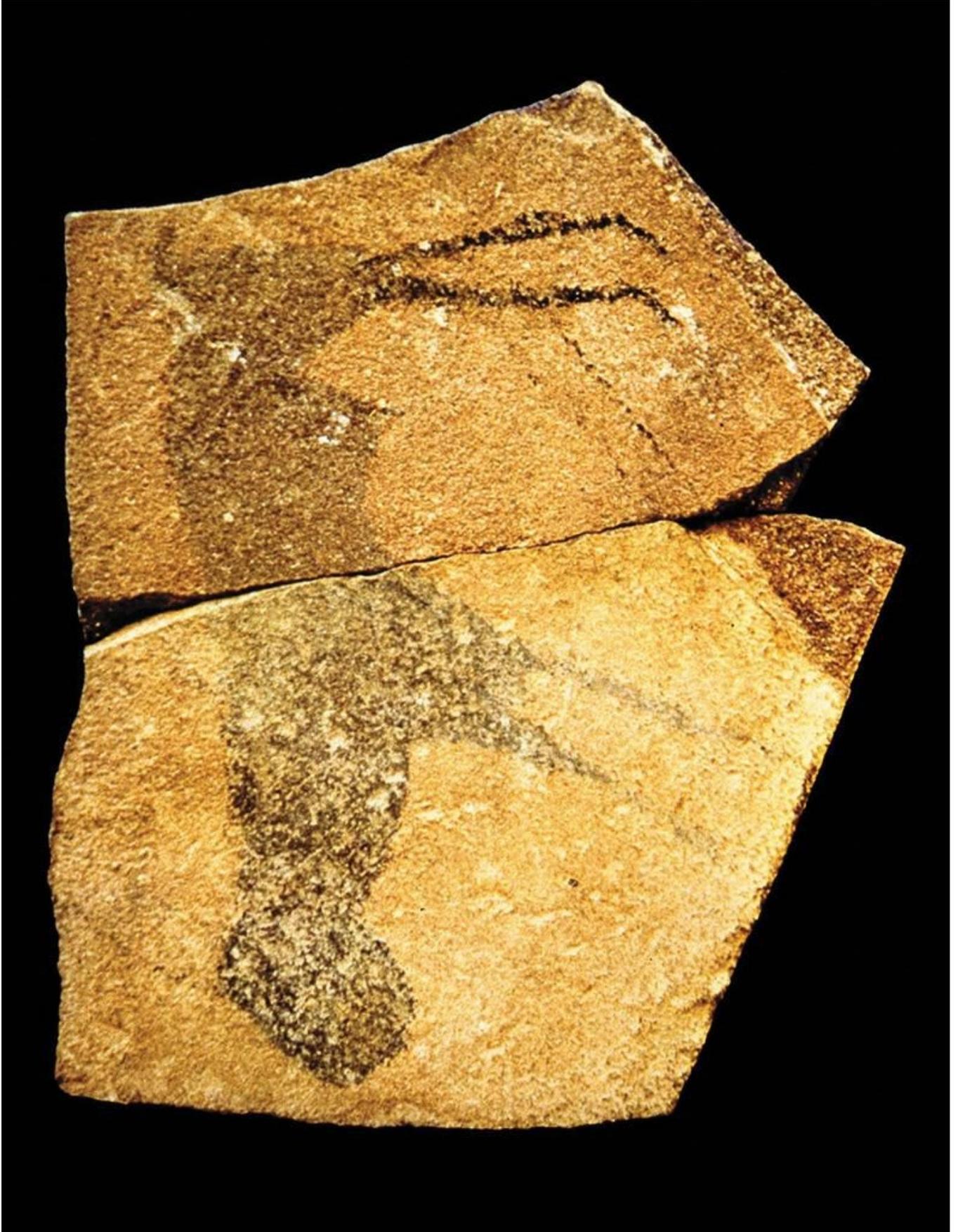


Supplemental Information

Serra da Capivara, Piauí, Brazil. Dated 28,000 to 6,000 B.C.



Apollo 11 Cave, Karas, Namibia. Dated 25,500 to 23,500 B.C.



Supplemental Information

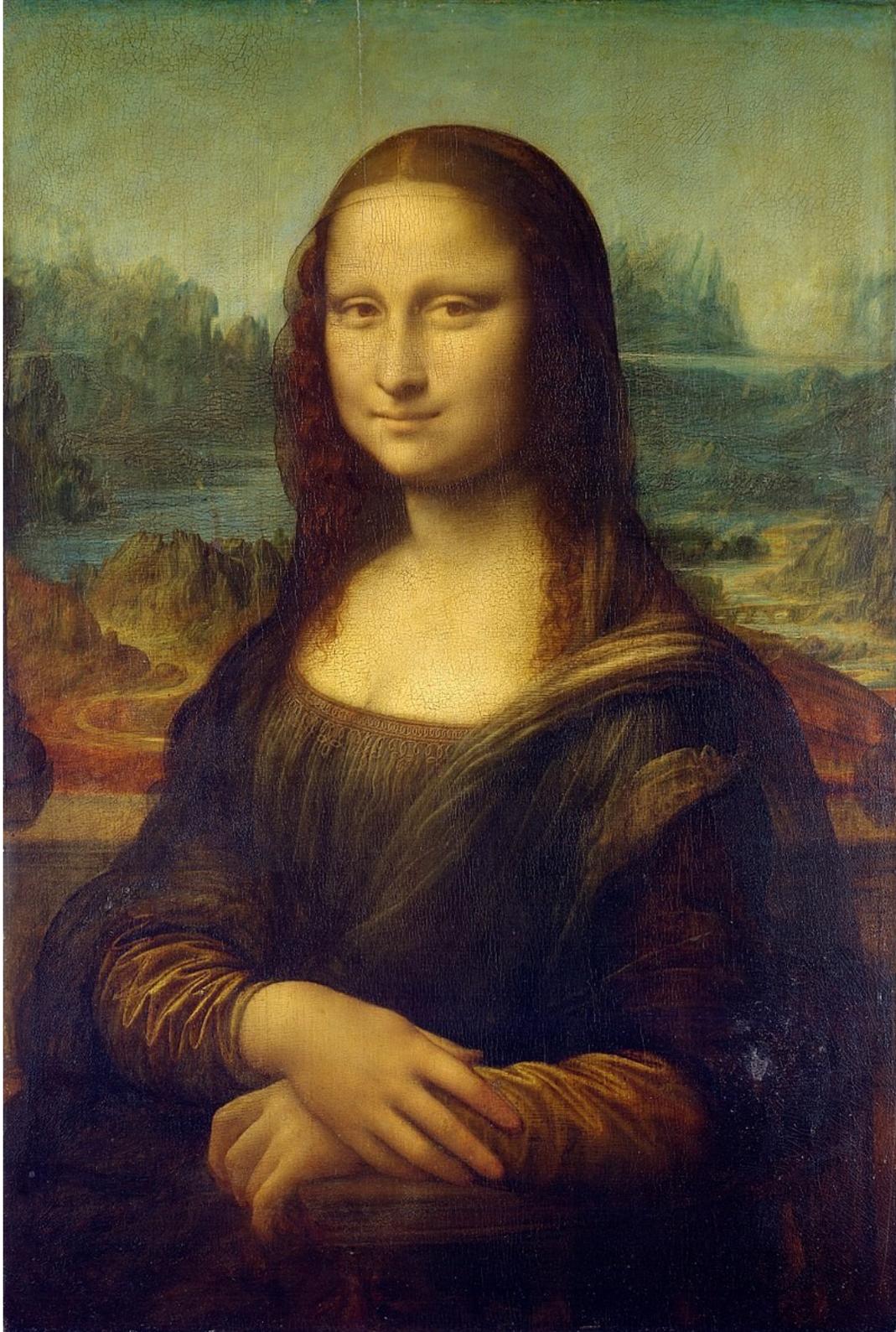
Tennessee's Cumberland Plateau. Dated 6,000 B.C.



Supplemental Information

Mona Lisa by Leonardo da Vinci (Italian) ~1506 A.D.

Leonardo da Vinci is widely considered one of the greatest painters of all time. His interests included anatomy, architecture, astronomy, botany, cartography, engineering, geology, history, invention, literature, mathematics, music, painting, science, sculpting, and writing.



Starry Night by Vincent van Gogh (Dutch) 1889

Vincent van Gogh's life was plagued with depression and mental illness. He also had a condition known as chromesthesia, which means when he heard sounds, he saw colors. No wonder his art is so alive and vibrant!



Supplemental Information

Cow's Skull: Red, White, and Blue by Georgia O'Keeffe (American) 1931

