

Science and Nature Path Challenges

Last Updated Friday, 21 December 2007

SCIENCE & NATURE

Field Topic Mission

Field-craft

Botany

Identify three common poisonous plants, avoidance techniques, and treatment upon contact.
Identify twenty poisonous plants, avoidance techniques, and treatment upon contact.
Demonstrate treatment for contact with a poisonous plant and avoidance techniques.

Orienteering

Make a compass using a needle and a bowl of water.
Shoot an azimuth with an orienteering compass.
Plot a back azimuth with an orienteering compass, map and protractor.
Demonstrate the use of a compass.
Correct for declination.
Determine your average pace.
Find five major, three minor and two supplementary terrain features on a topographic map.
Locate a position on a topographic map.
Determine a distant position on a topographic map by intersection.
Determine your own position on a topographic map by resection.
Use a compass to travel five miles.
Participate in an orienteering event.
Lay out an orienteering problem.
Plan, organize and lead an orienteering event.
Draw a planimetric map and use it.
Draw a topographical map and use it.
Keep a journal of a trip include maps and photographs.
Demonstrate how to use a map and what ten of the symbols on the map mean.
Explain what true north is and its effect on orientation.
Determine your position using a GPS device.
Plan your route using a GPS device.
Record your route using a GPS device.
Determine direction without a compass.

Signaling

Send a message of at least ten words by four methods of signaling.
Leave messages on a trail.

Science and Nature

Architecture

Visit three unusual engineering or architecturally designed structures and discuss with a professional the method of creation and the specific use of materials involved.

Astronomy

Explain what the North Star is and its significance in history.
Locate the North Star and provide relevant information about it.

Science and Nature Path Challenges

Last Updated Friday, 21 December 2007

Explain what the south star is and its significance in history.

Locate and identify ten star constellations. Diagram the constellations you have identified and explain their significance.

Make a telescope.

Distinguish between planets and stars in the sky and point out at least one planet.

Tell time without a clock.

Bird Study

Visit a bird sanctuary.

Build and use a birdhouse to identify the birds that use the birdhouse.

Take a census of birds.

Environmental Awareness

Plan, organize, and lead a recycling school awareness event.

Plan, organize, and lead a conservation school awareness event.

Visit a forest that had been on fire within a few years.

Plant fifty tree seedlings and tell us why they were chosen for the area planted.

Geology

Collect and identify 10 different minerals or rocks. Explain the difference between a mineral and a rock.

Herpetology

Tour a herpetarium (place where snakes are kept.)

Meteorology

Identify five cloud formations in the sky and explain the significance of each.

Identify three ways to predict rain.

Create a rain measurement gauge.

Create a wind vane.

Create a barometer

Forecast the weather in the immediate and short term.

Identify weather signals (small craft warnings etc.)

Nature Study

Collect, identify and mount 20 varieties of insects.

Catch a butterfly and release it.

Catch five species of butterfly and mount them.

Collect and identify 20 varieties of leaves, bark, and wood from trees and plants.

Tour an animal sanctuary.

Tour a national park.

Tour a national forest.

Catch a firefly.

Identify twenty endangered species and how you can play a part in their preservation.

Identify five types of trees, describe their identifying characteristics and discuss the uses of each species.

Identify ten types of trees, describe their identifying characteristics and discuss the uses of each species.

Identify twenty types of trees, describe their identifying characteristics and discuss the uses of each species.

Identify thirty types of trees, describe their identifying characteristics and discuss the uses of each species.

Science and Nature Path Challenges

Last Updated Friday, 21 December 2007

Re-pot a plant or tree.
Identify ten animals normally found in a jungle.
Identify the tracks of ten animals or birds.
Track ten animals or birds.
Identify the tracks of ten animals or birds in the snow.
Track ten animals or birds in the snow.
Track three people.
Track three people in the snow.
Make plaster casts of the tracks of five animals or birds.
Identify ten animals normally found in a desert.
Identify ten animals normally found in the ocean.
Track five animals or birds.
Identify ten varieties of snakes and tell us what we should know about each.
Visit a river.
Visit a lake.
Visit a meteor crater.
Visit a volcano.
Visit a fault line.
Visit a rain forest.
Visit a desert.
Whale watch.
Swim with a dolphin.
Hold a non-poisonous snake.
Identify three types of scat.
Visit an animal preserve.
Visit a zoo.
Visit an aquarium.

Vocational

Technology & Business

Shadow a doctor.
Shadow a truck driver.
Shadow a museum curator.
Shadow a museum docent.
Shadow a plumber.
Shadow a writer.
Shadow a newspaper journalist.
Shadow a broadcast journalist.
Shadow a private detective.
Shadow a dentist.
Shadow a chimney sweep.
Shadow a florist.
Shadow a furniture maker.
Shadow a polygraph examiner.
Shadow a PR person.
Shadow a realtor.
Shadow someone in the recording industry.
Shadow a restaurant manager.
Shadow a sign maker.
Shadow someone in the military.
Shadow a party/event planner.
Shadow a veterinarian.
Shadow a manager or staff person of a sports facility.

Science and Nature Path Challenges

Last Updated Friday, 21 December 2007

Shadow a clothing designer.
Shadow a land surveyor.
Shadow a swimming pool service attendant.
Shadow a travel agent.
Shadow a mapmaker.
Shadow someone in the computer industry.
Shadow a retail store manager.
Shadow someone working at an airport.
Shadow a park employee.
Shadow a judge.
Shadow an attorney.
Shadow an insurance agent.
Shadow an accountant/CPA.
Shadow a contractor.
Shadow a nurse.
Shadow a mechanic.
Shadow a teacher.
Shadow a salesperson.
Shadow a banker.
Shadow five different vocational persons.
Shadow ten different vocational persons.
Shadow twenty different vocational persons.
Shadow a forest ranger.
Shadow a police person.
Shadow a fire person.
Shadow a carpenter.
Shadow a gardener.
Shadow a horticulturalist.
Shadow a government employee.
Shadow a librarian.
Shadow someone in the movie industry.
Shadow someone in the television industry.
Shadow a rancher.
Shadow an officer of an organization.
Shadow an arbitrator.
Shadow a mediator.
Shadow a professional in the weather industry.
Interview a reporter or journalist.
Interview a teacher.
Interview a principal.
Interview a police officer.
Interview a firefighter
Interview a paramedic. **Interview someone in the military.**
Interview someone who fought in Vietnam.
Interview someone who fought in the Gulf War.
Interview someone who fought in Afghanistan
Interview someone who fought in Iraq.
Interview someone who has traveled abroad.
Interview someone who has lived abroad.
Interview a professional Surfer.
Interview a professional Skateboarder.
Interview an extreme sport professional.
Interview someone who served in active conflict.
Interview someone who was adopted.
Interview someone from the civil rights movement.

- Name ten jobs within the music industry.□ Tell us what each of them does.
- Tour an auto mechanic station.
- Name ten jobs within the film industry.□ Tell us what each of them does.
- Name ten jobs involved in the publication of a book.□ Tell us what each of them does.
- Act as a salesperson's assistant.
- Act as a doctor's assistant.
- Act as a teacher's assistant.
- Act as a salespersons assistant.
- Visit a manufacturing plant.
- Visit a police station.

□ Miscellaneous□

□

□□ Technology & Business

- Identify twenty varieties of flowers.□ Mount 10 of them and discuss the differences between them.
- Distinguish between ten types of flowers and five types of garnish used for floral displays.
- Copy a movie to DVD for personal use.□
- Tour a zoo.
- Tour a stable.
- Tour a locksmith's shop.
- Tour a pizza establishment.
- Tour a fast food establishment.
- Tour a college or university.
- Tour a restaurant.
- Tour a fitness gym.
- Tour a recording studio.
- Tour a golf course.
- Tour a pet store.
- Tour a marina.
- Tour an alarm monitoring station.
- Tour a gas station.
- Tour a social service organization.
- Tour a college.
- Tour a hotel.
- Tour a motel.
- Tour a kennel.
- Tour a military base or facility.
- Tour a home improvement store.
- Tour a library.
- Tour a doctor's office.
- Tour a movie theatre.
- Tour a printing plant.
- Tour a magazine/periodical office.
- Tour an election campaign office.
- Tour a moving and storage facility.
- Tour a greenhouse or nursery
- Tour an oil well.
- Tour a television studio.
- Tour a movie studio.
- Tour a self-service storing facility.
- Tour the offices of a telephone company.
- Tour a thrift shop.
- Tour an auto mechanic station.
- Tour an upholstery plant.

- Tour a hospital.
- Tour a pool store.
- Tour a Clothing Manufacturer.
- Tour a Stock Brokerage office.
- Tour the Exchange of a Stock Exchange.□
- Tour a sports facility.
- Tour a bank.
- Tour a horse stable or equestrian center.
- Tour a children's hospital.
- Tour a planetarium.
- View an IMAX movie.
- Tour an IMAX movie theatre.□
- Tour a museum.
- Tour a train.
- Ride a train.
- Tell us about the journey of Lewis and Clark.
- Tell us about an individual who changed the world, how they did so, and why.
- Learn to milk a cow.
- Learn to shine a pair of shoes.
- Learn to clean a pair of sneakers.
- Learn how to clean a baseball hat.
- Place a telephone call using a cellular telephone.
- Enter telephone numbers in the directory of a cellular telephone.
- Use the directory of a cellular telephone to place a telephone call.
- Choose a ring option for a cellular telephone.
- Configure the voicemail option on a cellular telephone.
- Use a cellular telephone to take and send a photograph.

□ Hobbies and Personal Interests□

□

□□ Aviation and Model Rocketry

□

- Learn about radar and its uses, dangers, and importance.
- Launch a rocket.
- Fly a kite.
- Visit a hot air balloon show.
- Visit a blimp.
- Tour an airport.

□□□

□□ Electricity and Electronics

- Use solar energy as the source of energy to operate something.
- Build an electronic device employing a solenoid.
- Distinguish between five different electronic devices or parts and discuss the distinguishing□□□□□□□□□□□□□□□□ characteristics and uses of each device.
- Distinguish between ten different electronic devices or parts and discuss the distinguishing□□□□□□□□□□□□□□□□ characteristics and uses of each device.
- Distinguish between twenty different electronic devices or parts and discuss the distinguishing□□□□□□□□□□□□□□□□ characteristics and uses of each device.

□□□

□□ Gardening

□

- Plant fifty seeds and explain why they were chosen for the area in which each was planted.□
- Visit three unusual gardens or landscaped places and discuss with a professional the method of□□□□□□□□□□□□□□□□ creation and specific materials involved.

□□□ Create a butterfly garden.□

□

BASE□□

□ **Field□ Topic□ Mission**

□□□

□ **Principals*** □□

□□ **Promise, Motto and Code□**

□□□ **1. The Scout has recited from memory the Promise, Motto and Code of Adventure Scouts USA and□□□ explained their meaning in accordance with published guidelines.**

□□□ **2. The Scout's conduct conforms to the Spirit of the Promise, Motto and Code of Adventure Scouts USA.**

□□□

□□ **Wearing of Uniform□**

□□□ **1. The Scout wears the Uniform of Adventure Scouts USA according to published guidelines.**

□□□ **2. The Scout wears the Uniform of Adventure Scouts USA in accordance with written guidelines and□□□□ helps others to do so.**

□□□

□ ***Principles are available as requirements even after they have been met for the first time.□**

□□□

□ **Base□□**

□□ **Scout Spirit□**

□□□ **Recite the spirit of Adventure Scouts USA with your crew or team.**

□□□ **Recite the Spirit of Adventure Scouts USA from memory.**

□□□ **Explain the meaning of the Spirit of Adventure Scouts USA.**

□□□ **Help another Scout to memorize the Spirit of Adventure Scouts USA.**

□□□ **Do one thing that exemplifies the Spirit of Adventure Scouts USA.**

□□□ **Do two things that exemplify the Spirit of Adventure Scouts USA.**

□□□ **Do five things that exemplify the Spirit of Adventure Scouts USA.**

□□□ **Do ten things that exemplify the Spirit of Adventure Scouts USA.**

□□□ **Exemplify the Spirit of Adventure Scouts USA in your daily life.**

□□□ **Write a ceremony.**

□□□ **Write a ceremony and plan and lead it.**

□□□ **Plan and participate in a group activity.**

□□□ **Plan and create a print ad for potential use by Adventure Scouts USA.**

□□□ **Plan and create a fundraising program for Adventure Scouts USA.**

□□□ **Lead a fundraising program for Adventure Scouts USA.**

□□□ **Demonstrate respect for others.**

□□□ **In the movie City Slickers there is a discussion of what the one thing is, what is the one thing?**

□□□ **Donate something of yours to a charity.**

□□□ **Plan, organize, and lead a charitable donation drive.**

□□□

□ **Community, Social Responsibility and Citizenship**

□□

□□ **Flag Handling & Knowledge□**

□□□ **Demonstrate proper flag etiquette.**

□□□ **Fold a flag.**

- Fold the flag in a manner that allows it to break free when raised.
- Conduct a flag-raising and flag-lowering ceremony.
- Identify the design elements of the Flag of the United States of America and explain their meaning
- Recite the Pledge of Allegiance with your Team or Crew and explain what it means to you.
- Recite the Pledge of Allegiance from memory.
- Lead your Team or Crew in reciting the Pledge of Allegiance.
- Write a short essay about the history of the Pledge of Allegiance.
-
- Civics□

- Plan, organize, and lead a small community service project.□
- Plan, organize, and lead a large-scale community service project.□
- Plan, organize, and lead a portion of a community service project.
- Plan, organize, and lead a recycling community awareness event.□□□ Act as parliamentarian for a meeting.
- Plan, organize, and lead a clean-up project within your community.
- Plan, organize, and lead a bicycle safety community awareness event.
- Plan, organize, and lead a bicycle safety school awareness event.
- Plan, organize, and lead a first-aid community awareness event.
- Plan, organize, and lead a first-aid school awareness event.
- Enhance your community by planning, organizing, and leading a community improvement event.
- Enhance your community by participating in a community improvement event.
- Meet your neighbors.
- Help a neighbor.
- Interview someone who is a first generation American Citizen.
- Discuss good citizenship with an elected official.
- Attend a meeting of the local government.
- Attend a meeting of the school board.
- Attend a meeting of your city council or county/parish commissioners.
- Attend a session of your state or commonwealth legislative body.
- Attend a session of the United States House of Representatives or Senate.
- Attend a public meeting regarding an issue of interest to you, your family or community.
- Tour a courthouse.
- Attend a session of small claims court.
- Attend a session of traffic court.
- Distinguish between mediating versus arbitrating and mediate a dispute.
- Distinguish between arbitrating versus mediating and arbitrate a dispute.
- Volunteer your time to help a charity.
- Volunteer your time to help an environmental group.
- Attend a meeting of an environmental group.
- Plan, organize, and lead a conservation community awareness event.
- Write a letter expressing your opinion regarding an issue and mail it to three elected officials.
- Using email, write three elected officials expressing your opinion regarding an issue.
- Tour a post office.
- Tour a city hall.
- Tour a state capitol building.
- Tour the United Nations.
- Attend a session of the United Nations.
- Tour a foreign Embassy.
- Distinguish between the agencies of the National Park Service and the National Forest service.□□□□□□

Identify the consequence of their creation.

- Plan, organize, and lead a small community service project.
- Plan, organize, and lead a large-scale community service project.□
- Plan, organize, and lead a portion of a community service project.

Last Updated Friday, 21 December 2007

9 / 15

Science and Nature Path Challenges

Last Updated Friday, 21 December 2007

- Demonstrate the proper use and storage of a peeler and can opener.
- Demonstrate two stopper knots: an overhand knot and figure eight knot.
- Describe what those knots are for.
- Describe and show the different parts of a rope used for knot tying.
-
- Finding Your Way (Map and Compass)□

- Show how to hold a compass, demonstrate how to find north, south, east and west.
- Describe what can prevent a compass from working properly.
- Locate your home or camp on a highway or city map.
- Draw a simple map of your camp or neighborhood.
-
- Exploring Your World (The Environment and Our Place and Responsibility in It)□

- Play a nature game that helps you understand ecology.
- Using your senses of sight, touch, smell and hearing, describe 10 things in your outdoor camping area.
- Describe what minimum impact means.
- Draw a picture or make a poster showing animals, birds & insects in their natural environment and explain how to watch, protect and respect them.
- While camping or hiking, identify camouflaged animals and birds.

□

Outdoor Living Skills 2- Sun

□

- On Your Way (Planning and Preparing for an Outing)□
 - Plan and go on an all day hike with a lunch meal that doesn't require cooking
 - Pack a day pack
 - Discuss appropriate clothing for your hike
 - Describe different kinds of shelters and what situations to use them in
 - Demonstrate how to set up a tarp tent or emergency shelter

□ Being Safe (Safety and environmental hazards)

Discuss personal health practices in camp

- Describe your water source for the hike
- Identify 3 plants, animals and insects that are harmful to humans
- Name 3 things that might require first aid
- Explain what to do if you see a wild animal such as a bear
- Describe steps to take in the event of a thunderstorm

□ Putting it on Your Plate

(selection, storage, preparation□ of food) Describe where to build an open fire and when it is appropriate

- Identify and find tinder, kindling, and small fuel
- Demonstrate how to build a fire
- Demonstrate appropriate methods for extinguishing a fire and discuss appropriate methods for disposing of the remaining contents and why you would do so
- Plan, prepare and cook one meal and one snack

Putting it on Your Plate

(selection, storage, preparation of food)

- Describe where to build an open fire and when it is appropriate
- Identify and find tinder, kindling, and small fuel
- Demonstrate how to build a fire
- Demonstrate appropriate methods for extinguishing a fire and discuss appropriate methods for disposing of the remaining contents and why you would do so
- Plan, prepare and cook one meal and one snack

Tools and Ties

(Use of tools and knots)

- Demonstrate the safe and proper use of a trowel and paring knife
- Demonstrate 2 joiner knots: a square knot and a sheet bend
- Describe what these knots are used for

Finding Your Way

(map and compass)

- Explain the difference between a planimetric map and topographical map and how each is used
- Demonstrate where the cardinal points and inner cardinal points are on a compass
- Determine the average length of your pace
- Measure 150 feet by pacing

Exploring Your World

(the environment and our place and responsibility in it)

- Recite the OLS pledge
- Describe what it means to pollute and identify three places that are polluted and why
- Describe what you can do to minimize pollution
- Describe the LAWS of nature
- While camping or hiking, identify camouflaged animals and birds
- Describe two animals that use adaptations in their environment

□

Outdoor Living Skills 3- Water

On Your Way (Planning and Preparing for an Outing)

- Plan and go on an overnight trip with 3 meals
- Pack an overnight backpack
- Demonstrate how to properly fit a backpack
- Describe the criteria for selecting a tent site
- Demonstrate how to set up a tent
- Describe the proper way to layer your clothing and why it is important

Being Safe

(Safety and environmental hazards)

□

- List and discuss safety rules for an overnight trip
- Explain how to prevent injuries from happening
- Identify contents of first aid kit and for what contents are used
- Describe 2 different toilet practices and when you should use them

- Identify the signs of serious weather conditions in your area and what you should do

Putting it on Your Plate

(selection, storage, preparation of food)

- - Describe safety precautions for using a camp stove
 - With appropriate adult supervision demonstrate proper use of a camp stove
 - Plan and carry out sanitizing of cooking utensils, dishes, trash etc
 - Demonstrate methods of care, storage and protection of food from insects, animals and spoilage
 - Plan 3 meals, cooking at least 2

Tools and Ties

(Use of tools and knots)

- Demonstrate the safe and proper use of a pocket knife
- Demonstrate the safe and proper way to sharpen a knife
- Explain the difference between a knot and a hitch
- Demonstrate a clove hitch and a half hitch

□

Finding Your Way

(map and compass)

- - Identify north, the legend and 3 landmarks on a topographic map
 - Demonstrate how to take a bearing and how to find a bearing
 - With a group, lay a compass course using 5 changes of direction, identifying bearings & distance at each change
 - Follow a compass course another group has set

□ Outdoor Living Skills 4- Weather

□

□

□

On Your Way (Planning and Preparing for an Outing)

- - Plan a 2-night overnight with a complete menu for 5 meals with 3 away from base camp
 - Go on overnight trip with a group using tent or tarp shelter
 - Plan the cooking gear needed
 - Pack your personal gear and help pack the group gear for your trip

Being Safe

(Safety and environmental hazards)

- - Discuss and know your responsibilities for first aid

- Help prepare a group first aid kit
- Demonstrate at least one method for purifying water and describe one other method
- Learn effects of cold and heat related illnesses and what to do if you encounter them
- Develop and sign an individual health and safety agreement

Putting it on Your Plate

(selection, storage, preparation of food)

- Demonstrate how to hang your food to protect it
- Describe at least 2 other ways to protect your food on trail
- Prepare one meal without cooking
- Help plan and pack the food for the trip

Tools and Ties

(Use of tools and knots)

□

- Identify tools needed for overnight
- Demonstrate their use, care, safety and storage
- Discuss type, size, use & care of ropes in camp
- Demonstrate how to tie a bowline and a taughtline hitch

□

□ Finding Your Way

(map and compass)

□

- Make a simple map of an outdoor area using a compass and pacing
- Describe what declination is, how and why we need to adjust for declination
- Learn about the Big Dipper and use it to find the north star
- Describe how you can determine direction without a compass

Exploring Your World

(the environment and our place and responsibility in it)

□

- Draw an example of an ecosystem
- Define an omnivore, herbivore and carnivore and give an example of each
- Observing clouds, wind & temperature, predict the weather daily for a week
- Discuss the weather conditions for your trip

□ Outdoor Living Skills 5- Stars □

□

On Your Way (Planning and Preparing for an Outing) □

□

- Write a trip plan for a 3 night overnight with non-motorized travel
- Write an emergency plan for your trip and include a communications plan and file it with the appropriate people
- Assist in leading the planned trip with appropriate adult supervision

- Assist a younger group in properly fitting their pack

Being Safe

(Safety and environmental hazards)

□

- Take a basic community first aid course
- Evaluate safety rules for 3 night trip
- Have your group sign a health and safety agreement, and discuss why it is necessary
- Learn common health or allergy problems of your group
- Carry out a sanitation plan having minimum impact on the environment

□ Putting it on Your Plate

(selection, storage, preparation □ of food)

□

- Plan complete menus considering nutritional needs, demands of the activity, availability of water, type of food needed for safe consumption & minimum impact on the environment
- Pack food for the trip and work with the group to decide on meal responsibilities during the trip

Tools and Ties

(Use of tools and knots)

□

- Explain why saws, axes and other cutting tools are not appropriate for use in minimum impact programs
- Demonstrate whipping a rope
- Teach how to tie a stopper knot, a joiner knot, and a hitch

Finding □ Your Way

(map and compass)

□

- Plan an off trail hike in an appropriate area using a map and compass
- Use a topographical map to route your trip and identify areas where the route may be more difficult
- Teach a group to use a compass course
- During your trip, identify your landmark and take a bearing at least three times

Exploring Your World

(the environment and our place and responsibility in it)

- □

□

- Participate in a conservation project for at least one day and write a newsletter article, story or poem on the experience
- Describe the food chain & how humans fit into the chain
- Keep a journal of □ your weather prediction and the actual weather

□

□