



CHEMISTRY Merit Badge Virtual Course

Hosted by Northwest District, Montana Council, Scouts BSA

Who: All youth, ages 11-17, in Montana Council of Scouts BSA

What: Requirements for the CHEMISTRY Merit Badge.

When: Thursday, March 4th & 18th, at 6:00pm (must attend both)

Where: The classes will be held online via Zoom

Cost: FREE to all youth in Scouts BSA

*****CLASS SIZE IS LIMITED TO THE FIRST 50 SCOUTS*****

GENERAL INSTRUCTIONS:

- BLUECARDS:** Scouts must get approval from their Scoutmaster to begin the merit badge and have a digital BlueCard started on Scoutbook prior to the first class. Scoutmasters will need to connect the merit badge counselor with their Scouts on Scoutbook. Merit badge counselor info will be sent with the login info.
- REGISTRATION:** Scouts should register for this course by providing their Scoutmaster with a current email. Scoutmasters will submit a list of Scouts participating, with their email addresses, to the course hosts in Northwest District. Scoutmasters will then receive an email confirming their Troop's registration.
- LOG-IN INFORMATION:** Forty-eight hours prior to the first class a group email will be sent to each Troop, individually, with the login information and merit badge counselor's information. Please log-in with plenty of time prior to the start of class for registration. Remember there will be others logging in as well and depending on the size of the class, that log-in may take a little time.
- MERIT BADGE PAMPHLET:** Reviewing online (*no need to print*) the merit badge pamphlet PRIOR to attending and doing preparation work will ensure that Scouts get the most out of this class opportunity. The merit badge pamphlet has a wealth of information that can make earning the merit badge a lot easier. It contains many of the answers and solutions needed or can at least provide direction as to where one can find the answers. A pdf file of the merit badge booklet can be found at: https://filestore.scouting.org/filestore/merit_badge_reqandres/chemistry.pdf
- MERIT BADGE WORKBOOK:** Scouts must print the merit badge workbook to help document their knowledge. MB Workbooks are required to be sent to the MB counselor before the badge will be approved. A pdf file of the workbook can be found at: <http://usscouts.org/mb/worksheets/chemistry.pdf>
- UNIFORMS:** Scout uniforms are required

PREREQUISITE:

Prior to Part #1 – March 4th	Prior to Part #2 – March 18th
<p>Requirement #1 Do EACH of the following activities:</p> <ol style="list-style-type: none"> Describe three examples of safety equipment used in a chemistry laboratory and the reason each one is used. Describe what a safety data sheet (SDS) is and tell why it is used. Obtain an SDS for both a paint and an insecticide. Compare and discuss the toxicity, disposal, and safe-handling sections for these two common household products. Discuss the safe storage of chemicals. How does the safe storage of chemicals apply to your home, your school, your community, and the environment? <p>Requirement #3</p> <ol style="list-style-type: none"> Construct a Cartesian diver. Describe its function in terms of how gases in general behave under different pressures and different temperatures. Describe how the behavior of gases affects a backpacker at high altitudes and a scuba diver underwater. <p style="color: red;">Send photos documenting your work to your MB counselor.</p>	<p>Requirement #4 Do EACH of the following activities:</p> <ol style="list-style-type: none"> Cut a round onion into small chunks. Separate the onion chunks into three equal portions. Leave the first portion raw. Cook the second portion of onion chunks until the pieces are translucent. Cook the third portion until the onions are caramelized, or brown in color. Taste each type of onion. Describe the taste of raw onion versus partially cooked onion versus caramelized onion. Explain what happens to molecules in the onion during the cooking process. Describe the chemical similarities and differences between toothpaste and an abrasive household cleanser. Explain how the end use or purpose of a product affects its chemical formulation. In a clear container, mix a half-cup of water with a tablespoon of oil. Explain why the oil and water do not mix. Find a substance that will help the two combine and add it to the mixture. Describe what happened, and explain how that substance worked to combine the oil and water <p style="color: red;">Send photos documenting your work to your MB counselor.</p>

For more information contact the course hosts in Northwest District:

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