

SOIL AND WATER CONSERVATION MERIT BADGE WORKBOOK

This Scoutmaster Bucky Merit Badge Workbook is based off the current *Scouts BSA Requirements*.

Consider also using the Soil and Water Conservation merit badge class preparation page for clarification and expectations when participating in a Scoutmaster Bucky merit badge opportunity ([online](#) or [in-person](#)).

<https://scoutmasterbucky.com/merit-badges/soil-and-water-conservation/>

Scout's
Name:

REQUIREMENT 1: Do the following:

REQUIREMENT 1 A: Tell what soil is. Tell how it is formed.

REQUIREMENT 1 B: Describe three kinds of soil. Tell how they are different.

REQUIREMENT 1 C: Name the three main plant nutrients in fertile soil. Tell how they can be put back when used up.

REQUIREMENT 2: Do the following:

REQUIREMENT 2 A: Define soil erosion.

REQUIREMENT 2 B: Tell why it is important. Tell how it affects you.

REQUIREMENT 2 C: Name three kinds of soil erosion. Describe each.

REQUIREMENT 2 D: Take pictures or draw two kinds of soil erosion.

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REQUIREMENT 3: Do the following:

REQUIREMENT 3 A: Tell what is meant by conservation practices.

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REQUIREMENT 3 B: Describe the effect of three kinds of erosion-control practices.

REQUIREMENT 3 C: Take pictures or draw three kinds of erosion-control practices.

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REQUIREMENT 4: Do the following:

REQUIREMENT 4 A: Explain what a watershed is.

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REQUIREMENT 4 B: Outline the smallest watershed that you can find on a contour map.

Completed

REQUIREMENT 4 C: Then outline on your map, as far as possible, the next larger watershed which also has the smallest in it.

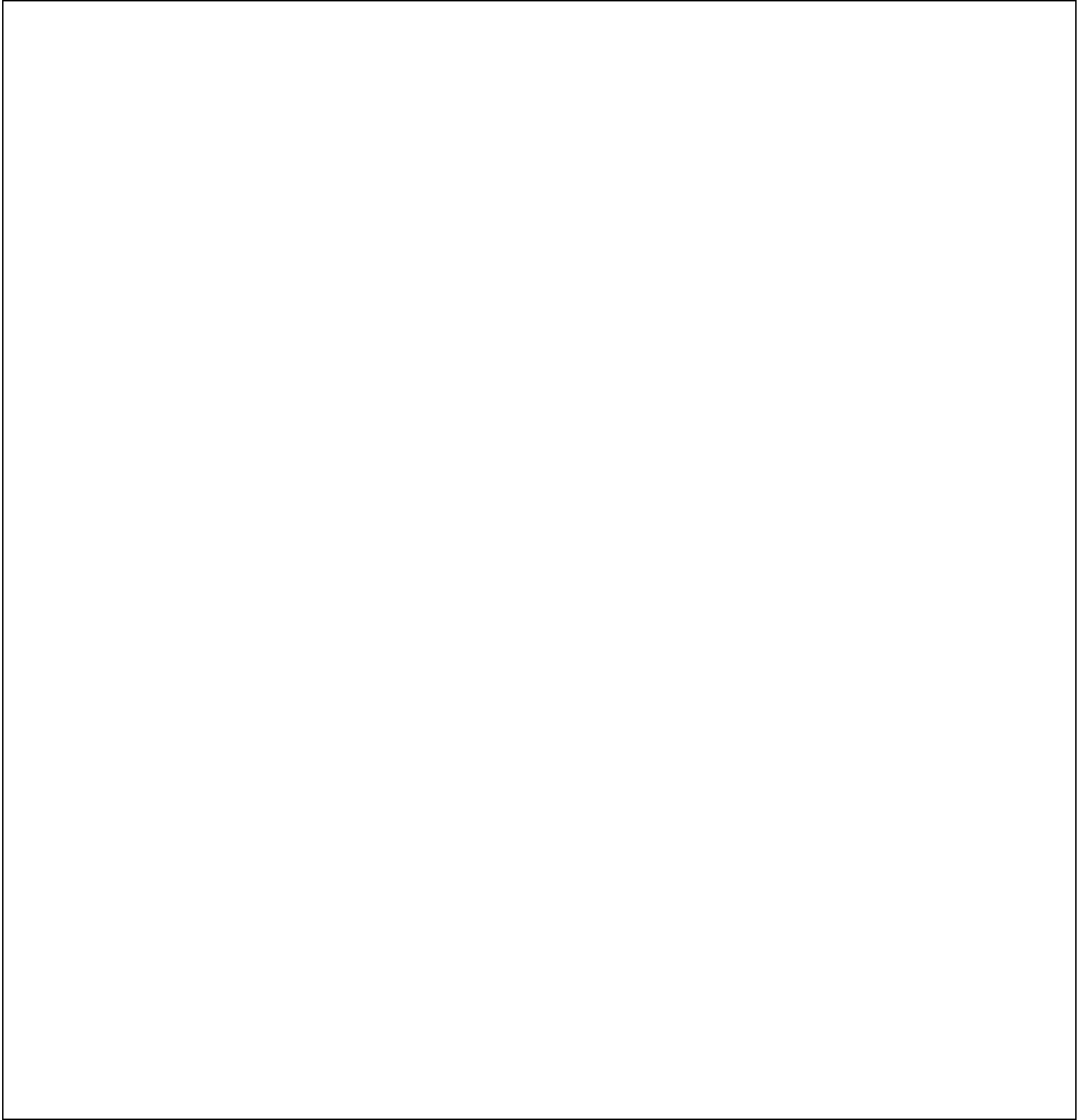
Completed

REQUIREMENT 4 D: Explain what a river basin is. Tell why all people living in a river basin should be concerned about land and water use in it.

REQUIREMENT 4 E: Explain what an aquifer is and why it can be important to communities.

REQUIREMENT 5: Do the following:

REQUIREMENT 5 A: Make a drawing to show the hydrologic cycle.



REQUIREMENT 5 B: Show by demonstration at least two of the following actions of water in relation to soil: percolation, capillary action, precipitation, evaporation, transpiration.

Completed first demonstration

Completed second demonstration

REQUIREMENT 5 C: Explain how removal of vegetation will affect the way water runs off a watershed.

REQUIREMENT 5 D: Tell how uses of forest, range, and farm land affect usable water supply.

REQUIREMENT 5 E: Explain how industrial use affects water supply.

REQUIREMENT 6: Do the following:

REQUIREMENT 6 A: Tell what is meant by "water pollution."

REQUIREMENT 6 B: Describe common sources of water pollution and explain the effects of each.

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REQUIREMENT 6 C: Tell what is meant by “primary water treatment,” “secondary waste treatment,” and “biochemical oxygen demand.”

Primary water treatment

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Secondary waste treatment

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Biochemical oxygen demand

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REQUIREMENT 6 D: Make a drawing showing the principles of complete waste treatment.

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REQUIREMENT 7: Do TWO of the following:

REQUIREMENT 7 A: Make a trip to TWO of the following places. Write a report of more than 500 words about the soil and water and energy conservation practices you saw.

REQUIREMENT 7 A 1: An agricultural experiment

Visited location

Wrote report

REQUIREMENT 7 A 2: A managed forest or woodlot, range, or pasture

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 3: A wildlife refuge or a fish or game management area

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 4: A conservation-managed farm or ranch

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 5: A managed watershed

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 6: A waste-treatment plant

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 7: A public drinking water treatment plant

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 8: An industry water use installation

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 A 9: A desalinization plant

<input type="checkbox"/> Visited location	<input type="checkbox"/> Wrote report
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REQUIREMENT 7 B: Plant 100 trees, bushes, and/or vines for a good purpose.

<input type="checkbox"/> Completed

REQUIREMENT 7 C: Seed an area of at least 1/5 acre for some worthwhile conservation purpose, using suitable grasses or legumes alone or in a mixture.

<input type="checkbox"/> Completed

REQUIREMENT 7 D: Study a soil survey report. Describe the things in it. On tracing paper over any of the soil maps, outline an area with three or more different kinds of soil. List each kind of soil by full name and map symbol.

Describe the things in a soil survey report

Outlined area

List each kind of soil by full name and map symbol

REQUIREMENT 7 E: Make a list of places in your neighborhood, camps, school ground, or park that have erosion, sedimentation, or pollution problems. Describe how these could be corrected through individual or group action.

REQUIREMENT 7 F: Carry out any other soil and water conservation project approved by your merit badge counselor.

Completed