

# LESSON PLAN: ANTIQUE PAPER

Author: Maple Ridge Museum

Subject and Grade Level: Science/Social Studies (Grade 3)

Objectives: Make history more relevant. Understand how paper chemically changes over time. Understand why paper ages the way that it does. Understand the shared aspect of written history.

## Materials:

Supplies: Black tea bags, letter sized white paper, plastic bags

## For detailed instructions:

<https://lifestyle.howstuffworks.com/crafts/recycled/used-tea-bag-staining1.htm>

## Additional Notes:

The plastic bags are to protect the work surfaces from being stained.

## POSSIBLE OPENING QUESTIONS:

Why do you think paper is important for our history? What qualities do you associate with old paper? Do you think that you could tell the difference between old paper and new paper? How?

## PROCEDURE/STEPS:

1. Ask questions about the history of paper and/or the importance of paper and other written history.
2. Explain the method (in link above)
3. Allow the children to stain their paper with the tea bags.
4. When done, move onto discussion.
5. Give information on the chemical and physical changes in paper over time in whatever way best suits the students.

## DISCUSSION AND REVIEW:

Discussion question ideas: Why do you think that old paper looks brown/yellow? Why is it important to preserve old papers?

## ASSESSMENT:

## ENRICHMENT:

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## BACKGROUND INFORMATION:

- The reason that paper ages and turns yellow is because of the oxidation (the chemical effect of oxygen) of the lignin in the paper.
- The process of oxidation is accelerated by exposure to light.
- Paper made entirely with cellulose (another fiber in trees) is pure white and is resistant to yellowing. However, this paper is often very expensive and requires quite a bit of chemical treatment in order to produce.
- The level of acidity of the paper can also affect how it ages. The more acidic (that is the further it is from having a pH of 7), the faster it will deteriorate.
- Preserving paper is a challenge faced by many conservators, archivists and librarians as the best sources of information about the past are contemporary ones (meaning sources produced by people who were writing about their own time period as it was happening around them).