

Fall into Color

Grade Cluster - 3-5

NETS-S -3 - Research and Information Fluency

Quick Look:

Students learn how and why leaves lose their colors in the fall in Vermont. They create a 'Fall Into Color' [wiki](#) about the different changing leaves around the world and invite students from around the world to collaborate on the project.

Scenario:

During the fall as the leaves start their spectacular color show, students wonder why the leaves change color and if this happens in other places. The class decides this will make a great investigation project. To start the project off, the class discusses the creation of a 'Fall Into Color' [wiki](#). They decide on the type of information they would like collected from students around the world; specifically, tree type, how/if leaves change, and the geographic location of these trees. The class then creates the *wiki* and posts requests for participation on [ePals](#) and [Global School Network](#). (3a)

Once the *wiki* is set up, it is time for the students to collect leaves and document the changes in the leaves in their natural environment outside the school. Students spend one week taking digital pictures of the leaves and gathering them. (3c, 6b) In the classroom, students sort the different types of leaves they find and use the [document camera](#) to project their leaves on the *whiteboard*. (3b, 6c) The [interactive whiteboard](#) captures a picture of each student's collected leaves. (6b) Using a [graphic organizer](#), images from the *interactive whiteboard*, their *netbooks*, and the foliage internet site, http://www.foliage-vermont.com/foliage_leaves_1.htm, students identify the characteristics of their leaves and the trees from which they came. (3c, 3d, 6a, 6b) This information is posted on their *wiki*.

As it so happens, the teacher had also signed the class up to become a Foliage Spotter at <http://www.foliagenetwork.com/> and now the class creates a schedule for updating the information in Google Calendar. (6b) The class follows the Foliage Network's maps of New England and use their *wiki* to collaboratively predict when the leaves will be in peak colors around their school. (3d, 6a, 6b) The class reads the updated newsletter twice a week on their [Kindle](#). (6b) Using a [digital camera](#), students continue to document the trees as they change color.

Following the updated maps on the Foliage newsletter, students see live [streaming videos](#) of the foliage color on the [New England Web Cams](#), set up around VT. (3b) Students use *Jing* to capture the computer screen streaming the web cams. (3b, 6b) They will use the captured videos in their final project and also post their videos on their *wiki*. To help students understand why the leaves are changing colors, students view [NEO K12](#)

[Educational Videos](#) for an explanation of photosynthesis. Students use a [digital voice recorder](#) to narrate what they learned on the NEO videos. These [mp3s](#) are saved for their final project. (6d)

To further help the students understand why the leaves change color; students are divided into groups of four and are given a live plant. Students select four geometric shapes found on the website Enchanted Learning, and save these images in the common folder. They then use [Picnik](#), a picture manager, to make sure the images are large enough to cover 1/2 of a leaf. (3b, 3c, 6a) Students print and cut out the geometric shapes to create geometric stencil templates. Using these templates, students then cut stencils from cardboard or aluminum. The shapes are fastened to individual leaves with a paper clip. They leave the plants in a window where they will get plenty of sunlight. Students use [Google Docs](#) and their [netbooks](#) to make observations beginning each day (include weather notes) and predict what will happen to the leaves. (3a, 3d, 6b) After four days, the geometric stencils are removed from the leaves. Students compare the areas on the leaf that were covered with the shape to the rest of the leaf, and the changes are recorded in [Google Docs](#). The plants are then put back in the window with the shapes removed. For the next week, students observe the plants to see what happens when they are exposed to sunlight again. The entire process is documented with a [digital camera](#). (3d)

After the students have experimented with light and the absence of light on plants, students use their [netbooks](#) to make observations about the trees around the school and discuss why the change of leaves happens in the fall. They create a new page in their [wiki](#) to add their pictures, observations, and information collected in [Google Docs](#).

Students look at the information gathered on their [wiki](#) from students around the world. They discuss how climate affects foliage in different geographic areas.

To show what the students have learned in the unit, each student creates a [ScrapBlog](#). They use their [digital images](#), [Jing captured videos](#), [digital voice recordings](#) and written observations to tell the story about why the leaves lose their color. (3d, 6a, 6b, 6d) The [ScrapBlogs](#) are published to the class [blog](#) and posted on the [wiki](#), and the mystery of the changing colors outside is solved.

Student Standards- The following NETS-S are noted in the Scenario:

3. Research and Information Fluency- A, B, C, D
6. Technology Operations and Concepts- A, B, C, D

Teacher Standards- Teachers who teach this unit address the following NETS-T:

1. Facilitate and Inspire Student Learning and Creativity- A, B, C
2. Design and Develop Digital-Age Learning Experiences and Assessments- A, B, C, D
3. Model Digital-Age Work and Learning- A, B, C, D
4. Promote and Model Digital Citizenship and Responsibility-A, B
5. Engage in Professional Growth and Leadership- B, C

Content Grade Expectations

The scenario writer has identified the following content grade expectations that s/he felt might be assessed in this scenario. In most of these scenarios, there may well be opportunities to assess other or additional content grade expectations across a variety of disciplines. If you are interested in developing a unit or lessons based on the following scenario, and you don't see any grade expectations in your content area, we encourage you to capture the ideas presented in the scenario and make it your own by adding components that address the grade expectations you are most interested in assessing.

H&SS 3-4:14 Civics, Government and Society - Students act as citizens by...

- Demonstrating positive interaction with group members.
- Identifying problems, planning and implementing solutions in the classroom, school or community.

Standard 7.7: Geometry and Measurement Concepts

M4: 9 Recognizes symmetrical figures and uses symmetry to identify and classify figures.

S3-4:38 Life Science -Students demonstrate their understanding of Classification of Organisms by...

- Describing and sorting plants and animals into groups based on structural similarities and differences.

S3-4: Life Science - Students demonstrate their understanding of Evolution/Natural Selection by...

Identifying differences in characteristics of a certain type of organism

A3-4:11 Students demonstrate PERFORM/COMMUNICATE skills in visual arts by...

- Participating in group art activities
- Experimenting with media and materials to convey feelings or ideas