NASHUA RIVER WATERSHED ASSOCIATION

Nashua River Watershed Investigations for Grades K-8

Lesson # 1-3

Title: 1-3 Tree Journaling: Changes through the Seasons

Grade Level & Standard: Grade 1
1-ESS1-2. Analyze provided data to identify relationships among seasonal patterns of change, including relative sunrise and sunset time changes, seasonal temperature and rainfall or snowfall patterns, and seasonal changes to the environment. Examples of seasonal changes to the environment can include foliage changes, bird migration, and differences in the amount of insect activity.

Objective: Students will observe a deciduous tree in their schoolyard over the course of the school year and record activity and changes in a tree journal.

Vocabulary:

- **Tree bud** - the small "package" on the stem of a plant that develops into a flower, leaf, or shoot. Tree buds are made at the base of the leaf stem during the summer and grow in spring.
- **Seasons** - four different times during the year with different types of weather. They are spring, summer, fall, and winter, and are caused by the earth's orbit around the sun, its rotation on its axis, and its tilt.

Discussion Points: Some types of trees (deciduous) lose their leaves and grow new ones each year. Other trees keep their leaves (coniferous) as waxy needles through the winter. But many other changes and activities happen during each season in and around a tree. What might we find on the leaves? Bark? In the branches? Around the roots?

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Materials:

- 8.5”x11” paper; regular white and some colored card stock for journal cover
- Hole punch
- 1 inch loose leaf binder rings, enough for 1-2 per student
- Colored pencils, markers, crayons
- Regular pencils
- Measuring tape
- Magnifying glasses
- Clipboards to lean on when outside journaling
- Camera for documenting trees
- Stapler & half sheets of cardstock to make a pocket inside back cover for leaves
- Table in the classroom for collections of tree parts, seeds, leaves, fallen bark

Procedure (time varies throughout year with each activity)**:**

1. Have the students (individual, in groups, or as a whole class) choose an accessible schoolyard deciduous tree in late September. They can give their tree a special name and also look up the type of tree in a tree guide.

2. Using template provided or blank paper, make simple journal using multiple tree journaling pages from the template attached and have the students decorate the cover. Add a half sheet of cardstock with staples to back inside cover for leaf collection. Hole punch the upper left corner of the journal and hold pages together with 1” loose leaf binder ring. A second ring can be added to lower left corner. *Practice on scrap paper drawing a leaf or seed close up while looking frequently at the object to encourage observation drawing vs. memory drawing*.

3. Throughout the school year, give them 15 - 20 minutes per visit to their tree 5-7 times throughout school year. Encourage them to document changes to the leaves, bark, branches, roots. With assistance, students can measure their tree circumference with tape measures. Teacher and volunteer parents could photograph tree each visit and print out images in consecutive order. Look for signs of insect and animal activity around and on tree and leaves during each visit.

4. Create a small space on table or shelf for collections from their adventures: leaf types, fallen bark or branch, seeds, etc.

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Seasonal Observations

- Early fall: green leaf, insects in bark or flying around tree, signs of animal activity
- Late fall: red or orange or yellow or brown leaf, look for cocoons of insects in bark, seeds on the ground
- Winter: twig with buds- notice bud scale (next year's special package with leaves and flower), animal prints in snow, chew marks on twigs or bark
- Early spring: young light green leaf, insect activity, squirrels, birds, nests
- Late spring: dark green leaf, take the temperature in sun and shade to compare

Extension:

- Trees | Educational Video for Kids: https://www.youtube.com/watch?v=5I7u5FMQxHA&t=190s
- Parts of a Tree for Kids: https://www.youtube.com/watch?v=5eTA9m8OCrs

Data Sheets: (attached)

- Tree Journaling Page (for copying to make tree journals)

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Tree Journaling Page **NRWI Lesson 1-3**

Circle today's:

Season:	fall	winter	spring
Weather:	clouds	snow	sun
Temperature:	warm	cool	hot

Draw what you discover today:

LEAF or BUD:	BRANCH or BARK:
INSECT or BIRD:	ANIMAL or SIGN OF ANIMAL:

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