

1st and 2nd Grade Lessons in March

Trees as a Living Natural Resource

1) Introduction to Trees and Parts of a Tree

Objectives:

- Students will be able to identify the four main parts of a tree (roots, trunk, branches, leaves)
- Students will be able to match the appropriate function to the tree part that performs that function.
- Students will be able to describe what a tree needs to survive as a living thing and how the different parts help it survive.

As a class students will begin with a KWL chart about trees. Students will recall from the previous unit that trees are a natural resource. Then students will kick off the tree unit with a reading of *Mama Miti*, a story about the work of Nobel Peace Prize winner Wangari Maathai who started the tree planting campaign in Kenya. Students will reflect on the story as a class, recording responses on the Smartboard and KWL chart. Students will then draw a tree however they know how. Then students will discuss how in the story different parts of the different trees were useful to the women in Kenya. Students will offer up parts of a tree to draw a class tree, many will realize that they are missing important parts of the tree in their own drawings and will be told to revise, add to and label their drawings to turn them into an informative tree diagram. Once we have our class tree drawing complete, we will discuss what a tree needs to survive as a living thing. Just like parts of our body help us survive, parts of the tree help the tree survive. Students will play a matching game in their table groups to align the correct function with the correct part. We will review the correct matches as a class.

Students will think about how some parts of the trees change depending on the season or weather conditions in the environment. Students will get a brief introduction to the seasonal cycle (phenology) to think about when making their own tree observations.

2) Introduction to Tree Observations at Clark Park on March 7th (half day) – 1ST GRADE

Objectives:

- Students will be able to record observations of specific trees in an environment
- Students will come up with a list of important questions to ask themselves when they are observing trees.
- Students will use observational evidence to claim which part of the seasonal cycle trees are currently in.

Students will travel to Clark Park with their class to observe and record observations of local trees. They will do this with the guidance of a field guide provided by the Budburst Citizen Science project. While making observations students will be asked to think of good questions they could ask themselves the next time they observe trees. They will be observing a tree every week for homework, so this is meant as an introduction to the act of observing, and recording meaningful notes on those observations. Students will then be entering some of their observations into the Budburst database using mobile technology to contribute to the scientists' study of when trees go through their seasonal changes. The class will discuss why we care about when seasonal changes happen. Students will connect trees budding early to the global warming discussed during the school's UNLESS project last month.

3) Life Cycles of Trees

Objectives:

- Students will be able to identify the stages in the life cycle of a tree.
- Students will be able to sequence the life cycle of a tree
- Students will hypothesize what would happen if the life cycle of a tree is altered

Students will discuss together the seasonal changes they were looking for with the trees in Clark Park. As a class we will review the cycle of the seasons and what happens to trees in each season. Students will discuss how seasonal changes aren't the only cycle that trees are a part of. They will be introduced to the life cycle of a tree by reading a non-fiction text together as a class. After learning the different stages/parts of the cycle, students will review it by role playing with students identifying as parts of the cycle and having to find other classmates to complete the cycle and try to sequence themselves accurately as a group in a circle. Using student role-play groups as examples, the class will discuss what might happen to break the cycle. Students will complete a worksheet individually to show their understanding of the correct sequence of the stages of the trees life cycle at the end of class.

4) Identifying and Classifying Trees

Objectives:

- Students will be able to sort and classify tree samples by the type of tree they are.
- Students will compare and contrast different types of trees

Students will begin class by referring back to their KWL chart to see if anything needs to be added, changed or addressed. Then students will reflect on their visit to Clark Park. Students will be asked if all trees looked the same. Students will be introduced to the term “Classify” and reflect back on previous experiences where they have classified or grouped things. Students will observe different tree samples/pictures and attempt to sort them into groups. Then students will read a non-fiction book about trees to understand that trees have certain defining features/characteristics that we identify them by (leaf shape and type, tree shape, bark, etc.) and we group them based on certain similarities in these characteristics to classify them and understand them better. Students will be introduced to the terms conifer, and deciduous. Using the Smartboard we will play some games based on classifying and identifying trees types.

5) Students Mapping/Charting Tree Types in the PAS Schoolyard.

Objectives:

- Students will be able to sort and classify trees by type
- Students will graph and map data based on observations

Students will review the two main types of trees discussed last class and the way you identify them. Then the students will (weather permitting) go outside and try to take a tally/track how many of each type we have on PAS school grounds. They will have a simple map of the school and mark each place they find a tree with one of two symbols representing the two different types. When back at the classroom the students will count up their observed trees from their maps and we will make a graph showing the results of our mapping activity. Students will end class by discussing other things that they noticed about the trees in our schoolyard (recalling the different questions we should ask ourselves when we observe trees from the previous lessons).

6) Benefits of Trees and Trees as a Habitat

Objectives:

- Students will be able to identify benefits of trees to humans as well as other parts of the natural world
- Students will demonstrate how a tree is an important habitat for other animals

Students will begin class with an imaginative exercise. They will be asked to close their eyes and imagine what the world would be like with no trees. What would it look, feel, taste, smell and sound like without trees? They will draw a picture/write something to express what that world was like. As a class we will record some answers and talk about how important trees really are to us. We will then go broader and explain that trees are important to everything living thing all over the world but that sometimes trees are threatened even by the humans that need them. Together we will read the book *The Great Kapok Tree*. Students will create a tree art project that reveals all the different kinds of animals that rely on the different parts of the trees for their habitats.

7) How Can We Help the Trees?

Objectives:

- Students will conclude that humans can have a positive impact on the environment and particularly on trees by recycling, respecting and protecting current trees and planting new ones.
- Students will communicate to persuade others to care about trees

Students will discuss as a class how we have much fewer trees today than we did hundreds of years ago by looking at tree coverage maps for the world and for Philadelphia. Students will think-pair-share about why there are so many less trees in the world. The class will discuss how it is mostly because humans have cut them down to harvest the raw materials trees provide or to clear the land for development. In the city we have dont have many trees left but we do have a few but unfortunately many people do not protect or care for the trees in the city and they do not survive like they should. So we will create one page posters to tell people in our community why they should take care of the trees (Care for our urban trees because...). We will put these one pagers together to form a class book.