



## **Next Generation Science Standards Applied to Talk About Trees Classroom Programs First Grade**

### ***Life Science - Standard 1-LS1.1***

#### ***From Molecules to Organisms: Structures and Processes***

*Students who demonstrate understanding can: Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow and meet their needs.*

#### **Disciplinary Core Ideas**

##### **\*Structure and Function**

-All organisms have external parts Different animals use their body parts in different ways to see, hear, grasps objects and protect themselves, move from place to place, and seek, find and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits)that help them survive and grow.

#### **Science and Engineering Design**

\*Constructing Explanations and Designing Solutions (Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in constructing evidenced-based accounts of natural phenomena and designing solutions.)

-Use materials to design a device that solves a specific problem or a solution to a specific problem.

#### **Crosscutting Concepts**

##### **\*Structure and Function**

-The shape and stability of structures of natural and designed objects are related to their functions.

\*Connections to Engineering, Technology and Applications of Science

\*Influence of Science, Engineering and Technology on Society and the Natural World (Every human-made product is designed by applying some of the knowledge of the natural world and is built by using natural materials.)

#### **Talk About Trees Classroom Programs: Tree Talk #1 - Tree Talk #2 - Outdoor**

### ***Life Science – Standard 1-LS3.1***

#### ***Heredity: Inheritance and Variation of Traits***

*Students who demonstrate understanding can: Make observations to construct an evidence-based account that young plants and animals are like but not exactly like their parents.*

#### **Disciplinary Core Ideas**

\*Variations of Traits (Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.)

#### **Science and Engineering Practices**

\*Constructing Explanations and Designing Solutions (Constructing explanations and designing solutions in K-2 builds on prior experiences and progresses to the use of evidence and ideas in construction evidence-based accounts of natural phenomena and designing solutions.)

-Make observations (first hand or from media) to construct an evidence-based account of natural phenomenon.

#### **Crosscutting Concepts**

\*Patterns

-Patterns in the natural and human designed world can be observed, used to describe phenomena and used as evidence.

#### **Talk About Trees Classroom Programs: Tree Talk #2 - Outdoor**

### ***Engineering Design – Standard K-2 ETS1.2***

*Students who demonstrate understanding can: Develop a simple sketch, drawing or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.*

#### **Disciplinary Core Ideas**

\*Developing Possible Solutions

– Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people.

#### **Science and Engineering Practices**

\*Developing and Using Models (Modeling in K K-2 builds on prior experiences and progresses to include using and developing models (i.e.: diagrams, drawing, physical replica, diorama, dramatization, storyboard) that represent concrete events or design solutions.)

– Develop a simple model based on evidence to represent a proposed object or tool.

#### **Crosscutting Concepts**

\*Structure and Functions

-The shape and stability of structure of natural and designed objects are related to their functions.

#### **Talk About Trees Classroom Program: Paper Making**