**LEAF & SOIL COLLECTION USING A TRANSECT**

**EXPECTED RESULTS & DISCUSSION TOPICS**

Post Reading Questions:

1. Define the following words using context clues from the text and your own knowledge.

a. Deciduous: *Trees that lose their leaves once per year*

b. Evergreen: *Trees that lose their leaves continuously throughout the year*

c. Turgid: *Filled with water*

d. Dormant: *Not growing*

e. Photosynthesis: *The process of converting light energy from the sun into chemical energy in the form of glucose.*

2. Which two major nutrients are absorbed by the tree before trees drop their leaves in preparation for the winter?

a. *Nitrogen*

b. *Phosphorous*

4. We are going to conduct a simple experiment and collect a sample of dropped leaves from a tree using a transect. A transect is simply a rope or tape measure that is laid out on the ground and where the experimenter then chooses which increments to measure and collect samples (see the following diagram). In this activity, we will collect samples every 5 meters as we move away from the tree. What do you think will happen to the amount of leaves as we move away from the tree? Write your prediction as a hypothesis statement.

*Answers may vary: As leaves are collected further from the tree, the number of leaves will decrease due to limited leaf movement due to the wind.*

*Data Collection and Graph will vary due to data collected. In general a pattern will emerge that shows leaf numbers may increase slightly and then significantly begin to decline as collection moves farther from the tree. An overall indirect relationship will become apparent.*

Analysis Question:

If you were able to collect a sample of soil and perform a nutrient analysis, at which distance from the tree would you expect the richest (most nutrients) soil? Defend your answer using data collected.

*Students should answer this based on their graph indicating the meter mark where the majority of leaves were found.*