Description: Students learn that plants that appear to be dead may actually be dormant. Students learn how to distinguish the difference between a dormant plant and a dead plant. This activity encourages students to be careful near plants while conducting activities in habitat areas.

Objectives:
• Students understand that plants have the ability to adapt to extremes in seasons by changing into a dormant state.
• Students are more aware and careful when visiting habitat areas.
• Students gain an understanding and appreciation for plant adaptations.

Print Materials:
• Images: ‘Dead or Alive’

Kit Materials:
• ‘Starflower Plant ID Cards’ for your habitat (these indicate whether a plant is evergreen, deciduous or herbaceous)

Teacher supplied:
• Optional: 4” to 1 gallon containerized herbaceous perennial (ideally a ground cover species such as false lily of the valley, bleeding heart, iris, pearly everlasting, fireweed, lady fern) to show active underground root system with dead or nonexistent above ground growth.

Vocabulary
Dormant: A state in which activity, such as growth and water flow slows down, usually during drought and cold
Annual: A plant whose life cycle is complete in one year; dies in one year
Deciduous: falling off seasonally
Woody plant: Plants whose aerial parts (above ground) are made up of woody branches upon which new growth occurs
Herbaceous perennial: Plants whose aerial parts die each year, and regenerate from roots the next growing season

Before activity: Identify a spot in the habitat that has one or more each of: a deciduous tree or shrub that is in a dormant state (leaves have dropped); an herbaceous perennial plant with dead leaves from the previous season; and one dead woody plant or plant part (plant or branch that has not survived transplant, windstorm, drought, etc).

Activity:
• Bring students to habitat area. Ask students to look around and describe the condition of the plants in the habitat. Many plants may appear to be dead.
• Show students images: ‘Dead or Alive’. Read the description associated with the image, and then ask students, “Do you think this plant is dead, or alive and dormant?” Discuss.
• Take students to the area selected before activity. Ask students to look at the plants you have selected and tell them that there are many living plants and one dead plant here. Ask “How can we tell if a plant is dead or dormant?”
• Point out a dormant, deciduous tree or shrub. Say, “What information can we use to tell if this plant is dead or dormant?” (Signs of a dormant living plant include: flexible branches, green inner bark, soft living buds). Is it dead or alive?”
• Say, “Compare this with the living dormant woody plant we just looked at. How is it different? (Signs of a dead woody plant include: dead inner bark and wood [break branches to show brittleness], dry or nonexistent buds.) Is it dead or dormant?” Note that, “It is possible for some damaged plants to grow new growth from roots so we usually leave an apparently dead plant until summer to see if it might recover.”
• Point out a dormant herbaceous plant. Say, “How does this plant differ from the other two we’ve just seen?” Show dead aerial parts and discuss that this will eventually decompose, helping to nourish the soil, and supply cover for new seedlings and new growth. Look for evidence of new shoots, often hidden under dead leaves at the base of stems. These new shoots are growing from the living roots.
• Optional: Expose the roots of a containerized herbaceous perennial. Show that roots are alive (succulent, flexible, usually white or red new growth) and look for active underground growth.
• Discuss, “Plants in winter continue to grow underground and send out new roots. Imagine the growth taking place under the ground right now. Dead looking branches are already forming new flowers and leaf buds that will appear in spring.”
• Ask students, “How will what we’ve just learned affect our activities while we are visiting our habitat area?” Have students suggest ways to make sure dormant plants aren’t damaged during visits to habitat areas (flag them, step around all plants even if they look dead, stay on trails, mulched areas or stepping stones as much as possible, etc.).