

Name: _____

Green Planet: Seasonal Worlds - Plant Adaptations Worksheet

Plants in seasonal worlds demonstrate incredible adaptations to survive the changing conditions throughout the year. This worksheet will help you explore and understand how these adaptations work.

Part 1: Observations from the Episode

1. List three examples of plant adaptations to seasonal changes mentioned in the episode:

- Example 1: _____

- Example 2: _____

- Example 3: _____

2. Pick one plant from the episode and describe how it adapts to extreme weather or seasonal changes:

Plant Name: _____

Adaptation: _____

Part 2: Critical Thinking

3. Why are seasonal adaptations important for plants? Explain your thoughts:

Part 3: Broader Connections

4. Compare the adaptations of plants in seasonal worlds with those in desert environments:

Similarities: _____

Differences: _____

5. How might climate change affect plants in seasonal worlds? Provide one positive and one negative impact:

Positive Impact: _____

Negative Impact: _____

Plants have incredible strategies to thrive in diverse environments. Observing their adaptations can inspire us to appreciate and protect our natural world.

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Answer Key

Part 1: Observations from the Episode

1. Three examples of plant adaptations to seasonal changes:

- Some trees shed their leaves during autumn to conserve water and energy during winter.
- Flowers bloom in spring to take advantage of pollinators and optimal growing conditions.
- Certain plants develop thick bark or underground storage organs to survive freezing temperatures.

2. Plant example and its adaptation:

- **Plant Name:** Deciduous trees (e.g., maple, oak)
Adaptation: They lose their leaves in autumn to prevent water loss during winter when water is less available. This also reduces the risk of damage from snow accumulation on leaves.
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Part 2: Critical Thinking

3. Why are seasonal adaptations important for plants?

- Seasonal adaptations allow plants to survive harsh conditions such as freezing winters or dry summers. These adaptations ensure they can reproduce, grow, and thrive when favourable conditions return.
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Part 3: Broader Connections

4. Similarities and differences between seasonal and desert plant adaptations:

- **Similarities:** Both types of plants conserve resources (e.g., water) during unfavourable conditions. For example, desert plants store water, while seasonal plants drop leaves to conserve energy.
- **Differences:** Desert plants are adapted for long-term drought (e.g., thick, waxy leaves), whereas seasonal plants are adapted for periodic changes, such as leaf shedding or dormancy.

5. Climate change effects on plants in seasonal worlds:

- Positive Impact:** Longer growing seasons could allow plants to grow larger or reproduce more frequently.
- Negative Impact:** Erratic weather patterns, such as sudden frosts or droughts, could harm plants not adapted to these changes.

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