City Trees, Smart Choices

Combine details to explain how planners make decisions.

7.5.H "synthesize information to create new understanding; and"

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline details that show what trees do, then number the details planners would need to combine when choosing a planting site. Use your marks to connect separate facts into one recommendation.

Where Should Cities Plant Trees?

1. On hot summer days, pavement and dark roofs absorb sunlight, then release heat slowly after sunset. This effect can make neighborhoods with few trees several degrees warmer than nearby leafy areas. In Phoenix, researchers have used thermal images to map these hotter blocks. The maps do not show that every street is equally hot. Instead, they help city planners notice patterns, such as large parking lots, wide roads, and neighborhoods with limited shade.

2. Trees change more than air temperature. Their leaves shade sidewalks and buildings, so less sunlight reaches surfaces that would otherwise store heat. Trees also release water vapor through tiny openings in their leaves, a process that can cool the air nearby. During rainstorms, roots and soil can absorb some water, slowing runoff into storm drains. A single young tree cannot solve flooding or extreme heat. However, groups of healthy trees can work with other city features, including permeable pavement and shaded bus stops.

3. Because trees provide several benefits at once, choosing where to plant them requires more than picking empty spaces. A city might compare heat maps with flood-prone areas, bus routes, and places where people walk. It must also consider whether residents can help care for new trees and whether pipes or power lines limit planting. Young trees need water and protection, especially during dry periods. By combining these kinds of information, planners can choose sites where trees are most likely to cool daily life, reduce runoff, and serve people who need shade.

2 ANSWER WITH EVIDENCE

Use the passage

1. What pattern do thermal maps and details about parking lots, roads, and tree cover help planners recognize?

2. How do tree shade and water vapor work together to make an area cooler?

3. Why should planners compare heat maps, flood-prone areas, bus routes, and walking areas instead of choosing any empty space?

4. Write one sentence that states the passage's main idea by combining the benefits of trees with the challenges of planting them.

3 YOUR TURN

Your own words

Imagine your town can plant trees at one of two places. Place A is a hot parking-lot area beside a busy bus stop, but nearby power lines may limit planting. Place B is a grassy area with few walkers and no power lines. In exactly three sentences, recommend a place and explain how you combined at least three pieces of information from the passage, including one benefit and one challenge.

ANSWER KEY # City Trees, Smart Choices

GRADE 7 · TEKS 7.5.H

PART 1 · READ AND MARK

Underline details that show what trees do, then number the details planners would need to combine when choosing a planting site. Use your marks to connect separate facts into one recommendation. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What pattern do thermal maps and details about parking lots, roads, and tree cover help planners recognize?	**They help planners identify places that are hotter because they have heat-absorbing surfaces and limited shade.**
2	How do tree shade and water vapor work together to make an area cooler?	**Shade keeps sunlight from heating sidewalks and buildings, while water vapor released from leaves can cool the nearby air.**
3	Why should planners compare heat maps, flood-prone areas, bus routes, and walking areas instead of choosing any empty space?	**Comparing the information helps planners find places where trees can reduce heat and runoff while serving people who walk or use bus stops.**
4	Write one sentence that states the passage's main idea by combining the benefits of trees with the challenges of planting them.	**Sample answer: Cities should use information about heat, runoff, where people need shade, and planting limits to choose tree sites that will provide the most benefit.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Town planners should choose Place A if they can find safe locations away from the power lines. Its hot pavement and busy bus stop suggest that shade could cool surfaces and help people who need it daily. They should also plan for watering and protection because young trees need care, especially in dry periods.

Accept answers that combine at least two relevant passage details to form a supported conclusion. For Part 3, accept either location if the student explains the trade-off accurately and gives a logical recommendation.