

CONSTRUCT A TEMPORARY OUTLINE AND ORGANIZE NOTE CARDS

Directions: Examine the 4 main topics in the **Skeleton Outline** below (Plan No. 3: Series of Explanations). Label each note card on the left with **I, II, III,** or **IV** in the **Topic** box to match the main topic it explains. Next, construct the complete hierarchical outline for "Deserts of North America" on the right by writing each subtopic and detail on its proper ruled line. Mentally prove your outline.

NOTE CARD 1

Western Desert Locations

- California — Death Valley
- Arizona - Utah border — Monument Valley
- Utah — Bryce Canyon & Bonneville Salt Flats

Topic:

NOTE CARD 2

Nighttime Climate

- Deserts cool off quickly; temp can drop 50°
- Lose heat faster than more humid lands

Topic:

NOTE CARD 3

Animal Life on the Desert

- Desert kit fox, roadrunner, lizard, rabbit, coyote

Topic:

NOTE CARD 4

Effects of Mountain Chains

- Cause moist ocean air to rise
- Meets cool air at high altitudes and air condenses
- Causes moisture to drop on side facing ocean

Topic:

NOTE CARD 5

Effects of California Current

- Cold current cools ocean air
- Causes moisture to drop before it reaches land

Topic:

NOTE CARD 6

Southwest & Plains Desert Locations

- New Mexico — Tularosa Basin & White Sands
- South Dakota — Badlands

Topic:

NOTE CARD 7

Plant Life on the Desert

- Cactus, Joshua tree, creosote bush

Topic:

NOTE CARD 8

Daytime Climate

- Extremely hot; absorb more heat than humid areas

Topic:

NOTE CARD 9

Human Life on the Desert

- Native Americans, farmers, tourists

Topic:

DESERTS OF NORTH AMERICA

I. How are they formed

A. _____

1. _____

2. _____

B. _____

1. _____

2. _____

II. Where are they located

A. _____

1. _____

2. _____

B. _____

1. _____

2. _____

III. What kinds of life are found there

A. _____

1. _____

B. _____

1. _____

C. _____

1. _____

IV. What types of climate are found

A. _____

1. _____

B. _____

1. _____

DESERTS OF NORTH AMERICA (MASTER HIERARCHICAL OUTLINE)

- I. How are they formed Supported by Cards 4, 5

A. Effects of mountain chains Card 4

1. Cause moist ocean air to rise and condense at high altitudes

2. Causes most moisture to drop on side facing ocean (Rain shadow effect)

B. Effects of California current Card 5

1. Cold current cools ocean air

2. Causes moisture to drop before it ever reaches land

II. Where are they located Supported by Cards 1, 6

A. Western Desert Locations Card 1

1. California (Death Valley) and Arizona-Utah border (Monument Valley)

2. Utah (Bryce Canyon, Bonneville Salt Flats)

B. Southwest and Plains Locations Card 6

1. New Mexico (Tularosa Basin, White Sands National Monument)

2. South Dakota (Badlands)III. What kinds of life are found there Supported by Cards 7, 3, 9

A. Plant life on the desert Card 7

1. Cactus, Joshua tree, creosote bush

B. Animal life on the desert Card 3

1. Desert kit fox, roadrunner, lizard, rabbit, coyote

C. Human life on the desert Card 9

1. Native Americans, farmers, tourists

IV. What types of climate are found Supported by Cards 8, 2

A. Daytime climate Card 8

1. Extremely hot; deserts absorb more heat than humid areas

B. Nighttime climate Card 2

1. Cool off quickly; temperature can drop 50° due to rapid heat loss

MODEL 4-PARAGRAPH EXPOSITORY REPORT: DESERTS OF NORTH AMERICA

Paragraph 1 (Orographic and Oceanic Formation): The arid landscapes of North America are forged primarily by geological and oceanic forces. Towering coastal mountain chains force incoming moist Pacific air upward into cooler altitudes, where water vapor condenses and precipitates entirely on seaward slopes, leaving inland regions in dry rain shadows. Compounding this, the cold California current chills maritime air prematurely, discharging moisture over the Pacific before weather fronts can reach the continent.

Paragraph 2 (Geographic Distribution): These arid basins span vast western and southwestern territories. Prominent landmarks include California's sunken Death Valley, the dramatic sandstone towers of Monument Valley along the Arizona-Utah border, and Utah's Bryce Canyon and Bonneville Salt Flats. Farther east and south, desert ecosystems extend through New Mexico's gypsum-laden White Sands in the Tularosa Basin to the eroded plateaus of the South Dakota Badlands.

Paragraph 3 (Ecological Adaptations): Despite harsh conditions, specialized life forms flourish across North American deserts. Resilient flora like the water-storing cactus, branched Joshua tree, and drought-hardy creosote bush dominate the terrain. They support an active wildlife community including the desert kit fox, fleet roadrunner, heat-tolerant lizards, jackrabbits, and coyotes. Humans also thrive here, from historic Native American settlements to modern agricultural irrigation and ecotourists.

Paragraph 4 (Diurnal Temperature Extremes): Desert climate is distinguished by extreme diurnal temperature fluctuations. Under cloudless skies, bare sand and rock absorb intense solar radiation, driving daytime temperatures to scorching heights. However, lacking protective atmospheric humidity to trap ambient warmth, the earth radiates heat rapidly back into space after sundown, causing night temperatures to plummet by as much as 50 degrees.

Plan No. 3: A Series of Explanations

Unlike chronological or simple listing reports, Plan No. 3 organizes scientific topics where multiple causal explanations (orography, geography, biology, thermodynamics) combine to provide a holistic understanding of an ecosystem.

Multi-Card Synthesis

Notice how 9 separate research note cards coalesce naturally into 4 unified Roman numeral categories. Students learn to cluster distinct geographic locations and day/night climate facts into coherent subtopics.

Card # & Roman Tier	Card Headline / Content	Structural Rank	Scientific & Rhetorical Function
Cards 4 & 5 → Topic I	Mountains (Rain shadow) & Ocean current	Subtopics A & B (4 Details)	Physical mechanisms of moisture depletion and aridity.
Cards 1 & 6 → Topic II	Western & Southwestern locations	Subtopics A & B (4 Details)	Regional geography across 5 western states.
Cards 7, 3, 9 → Topic III	Plant, Animal, and Human life	Subtopics A, B, C (3 Details)	Desert ecology and xerophytic biological adaptation.
Cards 8 & 2 → Topic IV	Daytime & Nighttime temperatures	Subtopics A & B (2 Details)	Thermal radiation and extreme diurnal climate swings.