Name: _____

Date: _____

Monsoons

For months, people across the Indian subcontinent eagerly await the rain. The land is parched, rivers shrink, and animals search for water and food. Forecasters predict the monsoon is nine days away, then six, then eight as weather models shift. The countdown continues until the forecast finally confirms the rains are imminent.

The Arrival

After weeks of anticipation, the sky explodes in a violent downpour. Rain falls in sheets, turning roads into rivers as water rushes across the land. These rains are both dangerous and welcome, and as predictable as the calendar.

The monsoon does not arrive across India all at once. The rains usually reach the southwestern coast around the beginning of June, then steadily advance northward. While southern India is already being drenched, people farther north may still be watching the forecasts and waiting. It can take several weeks for the monsoon rains to spread across most of the country.

Water Brings Life

India depends on the monsoon to replenish its water supplies, nourish farm crops, and power hydroelectric plants. A weak monsoon can bring failed harvests, water shortages, and drought.

But the same water that brings life can also destroy it. Torrential rains often overwhelm rivers and drainage systems, flooding farms, villages, and crowded cities. On steep mountain slopes, water-soaked soil can suddenly give way, causing deadly landslides that destroy entire villages. India needs the monsoon, but too much rain in the wrong place can trigger catastrophe.

A Highway Across the Ocean

A monsoon is a wind that reverses direction with the seasons. For thousands of years, sailors on the Indian Ocean built their voyages around those changing winds. A merchant might sail hundreds of miles to India, unload his cargo, and then wait months for the winds to turn around and carry him home. The monsoons became a highway across the Indian Ocean, carrying traders and their goods between India, Arabia, East Africa, and Southeast Asia.

The Science of Monsoon Winds

The force behind this enormous wind system begins with a simple difference between land and water. On a summer day at the beach, scorching sand burns bare feet until they touch the cool water. Both absorb the same blazing sun, but land heats much faster than water.

The same process unfolds on an enormous scale across India. In spring and early summer, the Indian subcontinent bakes under intense heat, while the Indian Ocean remains much cooler.

As the land heats the air above it, that hot air rises. Cooler air from over the Indian Ocean rushes inland to replace it. Loaded with water vapor, these ocean winds carry the moisture that produces the drenching rain of the summer monsoon.

The Reversal

In winter, the cycle reverses as the land cools faster than the ocean. Winds blow from the northeast, moving dry air from the land toward the sea. Because these winds carry little moisture, winter becomes the dry season for most of India.

Anticipation

As spring approaches, the rains become a distant memory. Rivers run low, reservoirs shrink, and the ground turns hard. Farmers watch their fields while people scan the sky. Soon, forecasters track the weather over the Indian Ocean. The monsoons are coming again, continuing the endless cycle of the seasons.

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Name: _____

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Fill in the Blanks

Across the Indian subcontinent, people eagerly await the m__n__o__n as rivers s__r__nk and the land becomes p__r__h__d. When the rains finally a__r__ve, downpour brings both ★r__l__ef and d__n__er. The monsoon replenishes w__t__r supplies, nourishes c__o__s, and powers h__d__o__l__c__r__c plants, but t__r__e__t__al rain can also cause f__oo__s and deadly l__n__s__i__es.

A monsoon is a w__nd that reverses d__r__c__i__n with the s__a__o__s. In spring and early summer, land h__a__s faster than w__t__r, so it becomes much h__t__er than the o__e__n. Hot air over the land r__s__s, and c__o__er ocean air rushes inland to r__p__a__e it. These winds carry the m__i__t__re that produces the summer rains. In winter, the pattern r__v__rs__s. The land cools faster than the ocean, and d__y winds blow t__w__rd the sea. Months later, r__ve__s and r__s__r__o__rs shrink again.

Answer in Complete Sentences

1. Why do many people look forward to the torrential rains of the monsoon season?

2. How did merchants time their trade to the monsoon winds?

★3. Why is summer in India wetter than winter?

★4. Using the model presented in the article, how would India's climate have to be different for monsoons not to occur? Your response will likely include the heat of land and water.

★ This is a higher order learning question. You must answer the question to the best of your ability, but any reasonable answer will be graded as correct.

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