GEOBASICS MINI-MARKING GUIDE

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ABOUT THE MINI-MARKING GUIDE (*MMG*)

This Mini-Marking Guide (MMG) for the maps in ***Geobasics in the Land of the Bible*** is designed as a quick and easy way to prepare these maps for use in the classroom and/or in field work. Before begining your marking note the following five points.

1 ✓ MMG is a greatly reduced, introductory form of the full ***Geobasics Study Guide***, which is available online as a free download at the Biblical Backgrounds web site (www.bibback.com).

2 ✓ MMG will launch you into a fruitful study which you can continue later with the full guide.

3 ✓ Assignments in MMG use selected optimal maps. If the same sites, features and routes appear on other G*eobasics* maps, you may want to copy your markings to those maps.

4 ✓ The most efficient ways of marking is in a group with one person reading while others mark.

5 ✓ To acquaint yourself with the G*eobasics* book and map graphics read the terminology listed below. Then proceed with 'Getting Started' on the next page before marking various sections.

GETTING TO KNOW THE BOOK '*GEOBASICS IN THE LAND OF THE BIBLE*'

Geobasics are regional features which allow us to partition the land into natural divisions. They define an area, distinguish it from other areas and dictate local lifestyle. Read p. 1 in the book.

Find the following six parts of your book:

1 ✓ **Front cover map**: A useful reference and review map of the entire land. Turn to it often in class and on field trips, perhaps even noting your daily progress with a nonpermanent marker.

2 ✓ **Outside back cover maps**: A key to specific maps in the book within the context of the land.

3 ✓ **Reference chart inside back cover**: An introduction and reference to 'geobasics.'

4 ✓ **Center fold** (pp. 12/13): Rocks and soils across the entire land with a legend and short descriptions. Read the text running across the bottom of these pages and find the green rainfall line. By comparing this map with more detailed maps you see greater regional relationships.

5 ✓ **Maps showing both rocks and soils**: Three full-color maps introduce the land's three arenas: The Northern Arena (pp. 2/3), the Central Arena(pp. 4/5) and the Southern Arena (pp. 6/7).

6 ✓ **Maps showing only soils**: The relief, roads, etc. are easier seen on these maps (pp. 8-23). These allow you to take a closer look at specific areas as you engage in a more detailed regional study.

Find the following types of lines on maps:

1 ✓ **Broken, Yellow Uplift Lines** mark out the top of major upfolds (anticlines), geological crests which create ranges of hill country. Surface erosion removes the tops of these uplifts (see p. 3).

2 ✓ **Thick Solid Divisional Lines** mark out major divisions in each arena, clusters of related regions. Division names appear on the Master Map (MMG) and in texts (G*eobasics*, pp. 2, 4, 7).

3 ✓ **Dotted Subdivisional Lines** partition divisions into subdivisions or regions. Find such a line between Golan and Bashan on Master Map (MMG), on G*eobasics*, p. 3 and elsewhere.

4 ✓ **Soil Division Lines** (very thin, broken line) divides soils from adjacent rocks and demarcates plains or valleys with larger soil deposits. See line between Acco plain and Galilee (G*eobasics*, p. 2).

5 ✓ **Red Road Lines** mark natural roads throughout the land, best seen on G*eobasics*, pp. 14/15.

Find the following symbols appearing on later pages of this MMG:
HL (highlight with designated color); ✎ (a marking instruction); ☞ (find or observe what is noted)

A more complete introduction appears in the full ***Geobasics Study Guide***, available free online at www.bibback.com. Part of the Central Arena and the entire Southern Arena is still in process.

1. GETTING STARTED: THE MASTER MAP AND THE THREE ARENAS

The Master Map on p. 1 (above) is a key reference tool in your study. By showing the entire country this map allows you to see the full layout of the land. Markings (A, B, C below) are on this Master Map, but you are asked to relate this map to the front cover map of ***Geobasics in the Land of the Bible*** (*Geobasics* below) as well as to other maps in this book. Your exploration of these maps is very important, especially as you locate divisions and their lines (solid dark) and subdivisional/regional names. Some names appear in their longer form on *Geobasics* maps.

A. The Northern Arena (NA)

✎ On the *MMG* master map find the term Northern Arena and HL (highlight) it in pink

✎ HL in yellow the three main divisions of the NA: Stable East, Soaring North, Complex West

☞ Find these same areas on *Geobasics* front cover map, although they are not named there

✎ On the master map find subdivisional/regional names in the above three divisions of the NA.
In the Stable East HL in green: Damascus plateau, Upper and Lower Golan, Bashan, Lower Gilead and Jebel Druze
In the Soaring North HL in green: Lebanon range, Beqaa, Anti-Lebanon range and Dan
In the Complex West HL in green: Upper and Lower Galilee, Jezreel and Carmel range

☞ Find the same subdivisional/regional names in *Geobasics* Rocks and Soils map on pp. 2/3

B. The Central Arena (CA)

✎ On the master map find the term Central Arena and HL it in pink

✎ HL in yellow the main divisions of the CA: Eastern Heights, Central Abyss, Western Uplifts (Central Hill Country) and Coastal Plain

☞ Find these same areas on *Geobasics* front cover map, although they are not named there

✎ On the master map find subdivisional/regional names in the main divisions of the CA.
In the Eastern Heights HL in green: Upper Gilead, Ammon, Medeba plateau and Moab
In the Western Uplifts HL in green: Samaria, Ephraim, Judah and Wilderness
In the Coastal Plain HL in green: Sharon, Philistia and Shephelah

☞ Find the same subdivisional/regional names in *Geobasics* Rocks and Soils map on pp. 4/5

C. The Southern Arena (SA)

✎ On the master map find the term Southern Arena and HL it in pink

✎ HL in yellow the main divisions of the CA: Arabian Desert, Eastern Heights (HL above) and Southern Uplifts. The Central Abyss extends south of the Dead Sea but is not named here

☞ Find these same areas on *Geobasics* front cover map, although they are not named there

✎ On the master map find subdivisional/regional names in the main divisions of the SA.
In the Eastern Heights HL in green: Edom
In and around the Southern Uplifts HL in green: Southern Highlands, Aravah, Eastern (E) Negev, Western (W) Negev, Sinai sands and Sinai

☞ Find the same subdivisional/regional names in *Geobasics* Rocks and Soils map on pp. 6/7. The term Sinai does not appear on this map but find its location by comparing maps, and write SINAI in (small caps) and HL it in green.

2. NORTHERN ARENA—GALILEE FIELD TRIP

Your study/field trip to Galilee is much more valuable if you know the greater context of this important region. Page numbers in the instructions below all refer to maps in *Geobasics*.

A. Subdivisional/regional names

✎ On pp. 2/3, HL in green the following regional names: In the **Stable East**, Damascus plateau, Upper/Lower Golan, Bashan, Jebel Druze, Lower Gilead; in the **Soaring North**, Lebanon range, Anti-lebanon range, Beqaa valley, Bir ed-Dahr blockage, Dan region, Huleh basin; in the **Complex West**, Litani depression, Upper Galilee, Acco plain, Lower Galilee (with Western and Eastern), Jezreel valley, Carmel range, Sharon plain

✎ HL in green, any of these regional names that appear on pp. 8/9; pp. 10/11 (include Samaria and Upper Gilead); and pp. 14/15 (include Upper Gilead and Iskandar uplift)

B. Subdivisional lines

✎ On pp. 2/3, HL in green the following thin, dotted, black subdivisional lines: 1) between Golan and Bashan, from the base of Mt. Hermon to the Yarmuk plain; 2) between Lower Gilead and Bashan, from the Yarmuk canyon and S off the map; 3) between the Carmel range and Jezreel valley, from the northern tip of Mt. Carmel SE off the map beside Mt. Gilboa; 4) between Lower and Upper Galilee, from the Acco plain E to the divisional line N of the Lake Galilee; 5) both sides of the Beqaa valley, from the top of the map near the source of the Litani to the divisional live beside Abel and 6) from near Baalbek in the N to Caesarea-philippi in the S

C. Feature names

✎ On pp. 2/3, HL in yellow: Ladder of Tyre, Mt. Carmel, Mt. Gilboa, Hill of Moreh, Mt. Tabor, Yarmuk plain, Yarmuk canyon, Mt. Hermon, Litani river, Litani canyon, Mt. Meron

✎ On pp. 8/9, HL in yellow: Ladder of Tyre, Mt. Meron, Headwaters of the Jordan river, Mt. Hermon, Abana river, Litani river, Litani canyon

✎ On pp. 10/11 HL in yellow: Ladder of Tyre, Kishon stream, Mt. Carmel, Mt. Sheikh Iskandar, Dothan valley, Mt. Gilboa, Harod valley, Hill of Moreh, Mt. Tabor, Jordan river, Yarmuk river, Yarmuk plain, Yarmuk canyon, Headwaters of the Jordan river, Mt. Hermon, Litani canyon, Mt. Meron

✎ On pp. 14/15 HL in yellow: Ladder of Tyre, Kishon stream, Mt. Carmel, Mt. Sheikh Iskandar, Dothan valley, Mt. Gilboa, Harod valley, Hill of Moreh, Mt. Tabor, Jordan river, Yarmuk river, Yarmuk plain, Yarmuk canyon, Mt. Arbel, Plain of Gennesaret, Ammud canyon, Plain of Bethsaida, Rosh Pinna Sill, Mt. Meron, Bet-netofah valley

D. Strategic sites (in clusters or along coast)

✎ On pp. 2/3, HL in red/pink the following sites: 1) Damascus, Abila, Chalcis; 2) Berytus, Sidon, Tyre, Acco, Caesarea; 3) Aruna, Megiddo, Shimron, Sepphoris; 4) Beth-shan, Pehel/Pella, Gadara, Beth-arbel, Ramoth-gilead, Karnaim; 5) Bethsaida, Hazor, Dan, Abel [Abel's longer name is Abel-beth-maachah], Ijon, Caesarea-philippi

✎ On pp. 8/9, HL in red/pink the following sites: 1) Damascus, Abila, Chalcis; 2) Berytus, Sidon, Tyre, Acco; 3) Ijon, Abel-beth-maachah, Dan, Caesarea-philippi, Hazor, Bethsaida

✎ On pp. 10/11, HL in red/pink the following sites: 1) Tyre, Acco, Caesarea; 2) Aruna, Megiddo, Jokneam, Shimron, Sepphoris, Hannathon; 3) Shunem, Jezreel, Beth-shan, Rehob, Pehel/Pella; 3) Jabesh-gilead, Gerasa, Mahanaim; 4) Ramoth-gilead, Beth-arbel, Gadara, Ashtaroth, Karnaim, Bezer, Canatha; 5) Bethsaida, Hazor, Kedesh, Dan, Caesarea-philippi, Abel-beth-maachah

✎ On pp. 14/15, HL in red/pink the following sites: 1) Acco, Dor, Caesarea; 2) Aruna, Megiddo, Jokneam, Sarid, Shimron, Sepphoris, Hannathon; 3) Shunem, Jezreel, Taanach, Ibleam, Dothan; 4) Beth-shan, Pehel/Pella; 5) Ramoth-gilead, Beth-arbel, Gadara, Ashtaroth; 6) Aphek, Hippus, Bethsaida, Hazor, Kedesh

E. North-south imperial highways

✎ **Three northern gateways**. On pp. 8/9, HL in yellow on red roads: 1) **Coastal highway**—from top of map near Juniyah and S via Sidon, Tyre, Achzib, Acco, Aphek and off map; 2) **Hazor highway**—from top of map by Baalbek and S via Ain-Shasi, Chalcis, Abel-beth-maachah, Hazor, Chinnereth and S off map; 3) **Bashan highway**—begin on the road near the solid black line **directly below** the page number '9' (in the top right-hand corner of the map) and continue SW via Dumah, Damascus, Ghabaqhib, Bathyra and S off map

✎ **Two connections between the three northern highways**. On pp. 8/9, HL in yellow on red roads: 1) link the Hazor highway with the Coastal higway from Abel-beth-maachah via Yiron to Acco; 2) link Damascus to the Hazor highway via Caesarea-philippi and Dan to Abel-beth-maachah

✎ On pp. 10/11, HL in yellow the same roads as on pp. 8/9 with the following continuations: 1) **Coastal highway**—S from Aphek via Jokneam, Gath-padalla, Yaham and S off the map; 2) **Hazor highway**—S from Chinnereth via Horns of Hattin, Mt. Tabor, Sarid, Megiddo, Aruna to join road to Yaham; 3) **Bashan highway**—S from Bathyra via Beth-arbel, Ephron, Beth-shan, N side of Harod valley, Jezreel (site), Dothan valley to join Yaham road; 4) SW from Abel-beth-maachah to Acco per pp. 8/9; 5) S from Bathyra via Ramoth-gilead, Gerasa and S off map

✎ On pp. 14/15, HL in yellow any roads that appear as on pp. 10/11.

☞ Before you HL the east-west trade routes (below) review these north-south imperial highways on this map and the three maps above. Try to fix them in your mind as a coastal highway, the Hazor highway and the Bashan highway. As you complete the next marking note intersections with these imperial highways and nearby sites (if any) which control these intersections.

F. East-west trade routes through the Northern Arena's trade corridor

✎ **Crossovers from Transjordan to the coast**. On pp. 8/9, HL in yellow on red roads: 1) **Damascus-Berytus** (Beirut)—NW from edge of map below Philippopolis (SW corner of map) via Burraq, Kissoue, Damascus, Chalcis, Gaddashuna to Berytus; 2) **Dan-Sidon**—NW from second road to the W of Bosor (bottom right of map) via Euthymia, Dan, Abel-beth-maachah, Beaufort, Nabatiya to Sidon; and from Abel-beth-maachah to Tyre passing above Janoah; 3) **Hazor-Tyre**—NW from of Plain of Bethsaida via Julias/Bethsaida, Hazor, Taphnith to Tyre and also via Hazor, Kanah to Tyre (that is, both branches in Upper Galilee)

✎ On pp. 10/11, HL in yellow the same roads as on 8/9 with the following departures: 1) NW from the BB copyright (corner of map) via Bezer, Dionysias Soada, Canatha, Philippopolis, Burraq and off map toward Damascus (off map); 2) NW from Bezer via Raphon, Euthymia, Dan, Abel-beth-maachah and off map toward Sidon; and from Abel-beth-maachah to Tyre passing above Janoah; 3) NW from bottom edge of map, first road W of BB copyright, via Ramoth-gilead, Beth-arbel, Gadara, Aphek and N via Bethsaida, Hazor and Kedesh to Tyre (both branches in Upper Galilee); 4) **Yarmuk plain-Acco**—NW from Gadara via Yenoam, Hanathon to Acco; 5) **Gerasa-Acco**—NW from Gerasa via Pehel/Pella, Beth-shan, Shunem, Sarid, Shimron to Acco; 6) **Mahanaim-Acco**—NW from Mahanaim via Rehob, Jezreel (site), Afula (and on via Sarid to Acco)

✎ On pp. 14/15, HL in yellow any crossovers that appear as on pp. 10/11

LISTS OF GEOBASICS—
taken from the ***Geobasics Study Guide***

1. NA: THE STABLE EAST

a. Damascus Plateau

- The Damascus plateau, an uninviting and unnoteworthy plain, becomes an arid desert as rainfall diminishes in a barren 'rain shadow' E of the Anti-Lebanon range.
- Barren desert soils cover much of this plateau, but runoff from the Anti-Lebanon range brings water and fertile alluvia to the Damascus oasis around the city.
- The Abana river provides much of the alluvia and waters the Damascus oasis, and drainage from Helbon north of Damascus creates additional agricultural land.
- The Pharpar river from Mt. Hermon waters the southeastern edge of the plateau.
- The Damascus oasis attracts and services highways coming from all directions.
- Damascus is a sentinel city, a great northern gateway to the Land Between, a center of commerce and a coveted prize for invaders in this politically unstable Stable East.

b. Golan

- The Golan is a tilted basaltic plateau, dropping in elevation from Upper to Lower Golan and draining into the Huleh basin and into Lake Galilee.
- Golan's higher elevations attract significant rainfall resulting in erosion which exposes fields of boulder (see pattern on p. 3) and in places create fertile basins or plateaus.
- Boulders in Golan's fertile basaltic soils discouraged farming prior to modern times, but heavy stands of wild grasses surrounding the region's small hamlets were well-suited for grazing herds such as cattle.
- In recent times industrious clans of Druze in the villages below Mt. Hermon planted apple and cherry orchards where Golan's renowned oak forests once thrived.
- Although rugged terrain can impede travel, Golan's routes thread their way between the drainage systems to link Damascus with Lower Galilee and Bashan with the Dan region.

c. Bashan

- Bashan's broad basin covered by a hard basaltic crust makes up much of the Stable East.
- Generous annual rainfall in much of Bashan yields fertile basaltic soil suitable for both farming and grazing, creating an alluring expanse for both small and large settlements.
- Major highways in the land intersect within Bashan's relatively flat, easy-to-cross basin making this region a communication conduit for both traders and invaders.
- Bashan's roads offer Damascus convenient invasion routes to Gilead and to Galilee.
- When Arabian caravans reach Bashan they have two options: continue N via Damascus or make their way around the Yarmuk canyon to the Mediterranean via the Dan region.
- Bashan's network of trade routes could easily fall prey to marauders from more desolate areas to the E or could entice invaders from the N, the S or the W.
- Bashan's abounding agricultural potential, built-in settlement attraction, impressive communication network and coveted intersections encouraged the formation of local political entities when those who controlled the area could guarantee adequate security.

d. Jebel Druze

- A volcanic complex of irregular, rugged peaks now called 'Jebel Druze' formed on the E edge of Bashan around persistent volcanic vents as new spots continued to expel lava.
- The complex of lava flows and volcanic cones of Jebel Druze rises in some places well over 1525m/5000f, high enough to draw precipitation from passing western storms.
- Rain and snow on Jebel Druze erode its volcanic rock into rich basaltic soils that fill valleys within its western slopes and reach the plains of Hauran/Bashan below.
- The combination of soils and precipitation on slopes and plains to the W of Jebel Druze support pastures, forests and fields of grain, vegetables and fruit orchards.
- Early inscriptions, abundant references in the Bible and impressive remains from Greco-Roman times clearly reveal a pattern of settled communities near Jebel Druze, the eastern frontier of Bashan. Beyond lies vast areas of basaltic wasteland and arid desert.
- Protecting cities and caravan traffic in Bashan from marauders hiding in the volcanic complex of Jebel Druze and in the Leja flow, 'The Refuge' to the N was imperative.

e. Lower Gilead

- Lower Gilead is a plain of lower elevations and rolling hills descending N toward the Yarmuk and W toward the Rift, an area distinct from Upper Gilead's heights to the S.
- Softer marine rocks cover most of Lower Gilead, except in places covered by Bashan's volcanic outflow before the Yarmuk canyon formed, such as the plain by Gadara.
- Lower Gilead's softer limestones and chalks produce poorer soils which generally do not support the type of agriculture and settlement found on Bashan's adjacent basaltic soils.
- Slopes across western Lower Gilead's network of canyons expose weaker chalky rock, but remaining plains, such as those around Abila and Ephron, support farming while a broad basaltic crust by Gadara preserves heights on a fertile plain overlooking the Rift.
- Erosion in the western half of Lower Gilead results in disruptive canyons which restrict most travel to E-W ridge-travel and crossings between various drainage systems.
- The full force of erosion has not reached the eastern plain of Lower Gilead between Beth-arbel and Ramoth-gilead, a communication conduit similar to adjacent Bashan.
- The major obstacle of the Yarmuk canyon defines the path of highways in the area and gives great potential to the site of Ramoth-gilead as an administrative center for roads linking Arabia, Damascus and Mediterranean ports.

2. NA: THE SOARING NORTH

a. Lebanon Range

- The lofty uplifted Lebanon range N of Ijon dominates the relatively narrow mountainous area between the shores of the Mediterranean sea and the Rift valley.
- On the W the Lebanon range consists of deep canyons, forested slopes and highland valleys draining SW to the sea, but on the E it plunges headlong into the Rift.
- The high Lebanon range, adjacent to the Mediterranean sea and the northern storm belt, captures heavy rains and snows along western slopes.
- Lebanon's coasts are narrow and difficult with intermittent rocky promontories.
- With limited farmland but abundant timber the inhabitants in Lebanon's coastal ports turned to the sea as a way of life and depended upon inland peoples for staple foods.
- Lebanon's dramatic uplift and eroded western slopes kept E-W trade routes to the S, in what we call the Litani depression linking the interior to ports at Tyre and Sidon.
- The beauty of the Lebanon range, its heights, water resources, forests and wild animals attracted conquering kings from Egypt, from Mesopotamia and from nearby local lands, and also provided extraordinary imagery for ancient Israel's prophets and poets.

b. Anti-Lebanon Range

- Unlike the unified Lebanon range Anti-Lebanon consists of roughly parallel uplifts which form several detached ranges between the Rift and the Damascus plateau.
- The southern end of Anti-Lebanon's highest uplift culminates in Mt. Hermon while the uplift's northern extension forms the Sirion range.
- Abundant winter rain and snow on Hermon's heights feed the headwaters of the Jordan and Pharpar rivers; summer dew provides nightly refreshment to Hermon's vegetation.
- The Sirion uplift rises in the NE to some 2,000m/6,500f and its western, well-watered slopes drain into the fertile Zabadani/Sirghaya valley, abounding with orchards.
- Anti-Lebanon's eastern ranges become increasingly arid, but rivers and streams sustain farming in areas like Abila and Helbon while winter rains bring some life to NE valleys.
- Geological faulting severs the Hermon/Sirion uplift and encourages E-W passage through Anti-Lebanon in the area of Abila at the southern end of the Zabadani/Sirghaya valley.
- The Anti-Lebanon range is a natural bulwark W of Damascus, but the faulted E-W passage near Abila creates a connection with the Beqaa valley and accentuates the importance of the sentinel site of Chalcis in the Rift and intersections by Abila.

c. Beqaa Valley

- The Beqaa is clearly defined between the uplifted Lebanon and Anti-Lebanon ranges and extends N from the Bir ed-Dahr blockage to far off this map.
- Rich alluvia from surrounding ranges fill much of the Beqaa (green on this map) while the Litani river begins by Baalbek and gathers streams on its way S through the fertile valley. A less fertile Beqaa N of Baalbek lies in the rain shadow of the Lebanon range.
- Surrounding ranges define N-S travel through the entire Beqaa, a critical portion of what we call the 'conquerors' corridor' between the region of Aram and Egypt.
- In contrast, E-W travel from the Beqaa over the Lebanon range to coastal ports is difficult, but travel to Damascus via the Abila pass is more convenient.
- The enclosed, fertile and broad Beqaa encourages the formation of political entities, but they must contend with adjacent local rivals and conquering imperial armies.
- The Beqaa is part of a geopolitical triangle around lofty Mt. Hermon with its strategic connections to Damascus in the E and the region of Dan and Land Between to the S.

d. Bir ed-Dahr Blockage

- The Bir ed-Dahr blockage challenges the conquerors' corridor and separates the two open areas of the Beqaa valley and the Dan region, along with their important intersections.
- The Bir ed-Dahr blockage forms as uplifted Lebanon and Anti-lebanon draw closer, narrowing the Rift before they plunge underground as part of a large, faulted complex.
- Within this tightly constricted Rift a series of smaller, uplifted ridges appear and almost close the southern Bir ed-Dahr blockage to N-S travel.
- The N-S route through this blockage stays to the E, accenting the importance of Chalcis and Kumidu and passing the Hasbani spring, the northernmost source of the Jordan.
- Suddenly, at the tight southern end of the Bir ed-Dahr blockage, geological pressure is released as faulting spreads across Upper Galilee and the Rift shifts direction to due S.
- The Litani river flows through deep, western canyons of the Bir ed-Dahr blockage, but uplifts abruptly divert it to the W, out of the Rift to the Mediterranean.

e. Region of Dan

- The open region of Dan emerges just S of the Bir ed-Dahr blockage, precisely at the point where Lebanon's ranges plunge underground and the Rift turns due S.
- Abundant water, fertile soils and routes entering the Dan region from all directions make this hub an attractive but dangerous area of settlement over the millennia.
- The conquerors' corridor emerges from the Bir ed-Dahr blockage and intersects the hub of the Dan region before it continues S via the Hazor highway to Galilee and Gilead.
- Invaders from the N view the Dan region as a gateway to the entire Land Between; invaders from the S see this same region as a springboard to the Beqaa and beyond.
- The open region of Dan, S of Lebanon's obstacles, invites E-W trade through this area and links Damascus, Bashan and Arabia with the ports of Tyre and Sidon.
- Spring-fed streams from Hermon's slopes flow through the Dan region and form the headwaters of the Jordan, but the Litani river leaves the Rift and veers W to the sea.

3. NA: THE COMPLEX WEST

a. Upper Galilee

- Upper Galilee's hill country rises between the coastal highway and the Conquerors' Corridor (in the Rift) and thereby creates a broad and serious blockage to N-S travel.
- Upper Galilee's routes on both sides of the Litani river canyon offer E-W connections between Tyre and hubs on the Hazor Highway, as well as from Sidon to the Dan region.
- The site of Kedesh and the high ground between Maroun er-Ras (872m/2861 elevation) and Taphnith (885m/2904f) play key roles in Upper Galilee's routes from Hazor to Tyre.
- Upper Galilee's abrupt southern and eastern scarps make the Kedesh plateau a valuable stepping stone from the area of Hazor in the Rift to the high ground of Maroun er-Ras.
- Higher elevations and deeply eroded canyons in the S (such as the Kesiv system) keep Upper Galilee's main trade routes farther N and allow local Jewish settlement to thrive.
- The SE corner of Upper Galilee traditionally has been Jewish territory, semi-secluded but in part agriculturally fertile, especially for the production of olive oil.
- Surrounding areas of rugged limestone highlight the importance of weaker limestones and chalks within the Litani depression for routes in the midst of Upper Galilee.

b. Lower Galilee

- Lower Galilee's three subregions are part of a larger area that suffers from deep diagonal faulting off the Rift that has left a complex, fragmented landscape.
- Side faults off the Rift in Eastern Lower Galilee dissect basalt-covered, tilted plateaus and encourage E-W travel while keeping N-S routes to specific paths and passes.
- Chalky 'lowlands' and open valleys between E-W ridges in Western Lower Galilee offer little resistance to travel and share the open, threatened character of the Jezreel valley.
- East-West ridges of harder limestone and small, fertile valleys in Northern Lower Galilee provide areas of settlement in a more secluded setting reached by local tracks.
- While Lower Galilee offers challenges, its plains, passes and lower elevations allow imperial N-S highways and E-W trade routes to flow across the Land Between.
- The Hazor Highway faces a particular challenge along the NW shores of Lake Galilee where the Galilean depression has left a deep cavity through which the road must pass.

c. Jezreel Valley

- The Jezreel valley is a large, faulted basin within the Complex West, defined by Lower Galilee, the folded and faulted Carmel range and Mt. Gilboa.
- The Jezreel valley has three natural 'bays': 1) The Tabor plain in the NE below Mt. Tabor, 2) the Gilboa plain in the SE and the Jokneam/Shimron plain in the NW.
- The Jezreel valley's three bays offer rich agricultural lands, but poor drainage inside the valley restricts travel, especially in winter and spring, and keeps roads to higher ground.
- Highways from across the Northern Arena enter and cross the Jezreel valley.

  NW—Various convenient gateways into the valley from Phoenicia and Acco

  NE— Hazor highway traffic enters the valley via corridors around the Nazareth ridge

  SE —Access into the valley from Gilead and Arabia via Beth-shan and Harod valley

  SW— Carmel passes connect the valley with Sharon, Philistia and Egypt far beyond
- The Jezreel valley naturally divides the hill country and serves as a transit area, a classic battlefield and an imperial prize rather than an area where local political entities emerge.

d. Carmel Range

- The Carmel range creates a natural barrier to traffic between the Sharon plain and the Jezreel valley, SE from the tip of Mt. Carmel and off this map into the region of Samaria.
- Most regions of the Carmel range have lower elevations in the W and rise to the E.
- The Carmel range consists of uplifts (broken yellow lines) of hard limestone (green), a chalky limestone depression (yellow) and narrow, intervening bands of chalk (brown).
- Proximity to the sea produces abundant dew and rain on Mt. Carmel's rugged limestone slopes, ideal conditions for thick scrub-forest (Hebrew ya'ar), a secluded, off-road retreat.
- The limestone Iskandar uplift (not named) rises in the SE creating another barrier but also forming a large, natural amphitheater around Taanach (the 'T' on its lower E side).
- The Shephelah of Carmel (yellow) is a syncline (geological depression) between uplifts and offers easier travel, together with adjacent eroded passes of chalk (brown).
- The blend of rugged Mt. Carmel with summits overlooking the land's spreading plains, lowland passes and imperial highways is the unique personality of the Carmel range.

e. Achzib-Acco Coast

- The coastal plain S of the Selaim/Ladder of Tyre promontory is part of a large structural depression within the complex west between uplifted Mt. Carmel and Upper Galilee.
- Upper Galilee's streams flow westward in shallow valleys and cut through a narrow ridge of brown-red sand before reaching the coastline, mostly free of dunes except by Achzib.
- Mediterranean currents carry lighter, fine sand north around the tip of Mt. Carmel and deposit it along the larger Acco bay. Such sand was important in early glass production.
- The accumulation and subsequent solidification of sands along Acco bay create a natural obstacle which diverts drainage from Lower Galilee north to an exit by Acco.
- Waters from Lower Galilee and a spring-fed river by 19m/62f produce a marshy and poorly drained inland, but the Kishon stream reaches the sea near Mt. Carmel's tip.
- The coastal plain S of the Selaim/Ladder of Tyre promontory is part of a large structural depression within the complex west between uplifted Mt. Carmel and Upper Galilee.

3. CENTRAL ARENA—BENJAMIN, JUDAH, SHEPHELAH, PHILISTIA FIELD TRIP

Your study/field trip to Benjamin and Judah is much more valuable if you know the greater context of the Central Hill Country. Page numbers in the instructions below all refer to maps in *Geobasics*.

A. Subdivisional/regional names

✎ On pp. 4/5, HL in green the following regional names (N to S): In the **Eastern Heights**, Upper Gilead, Ammon, Medeba plateau, Moab; in the **Western Uplifts**, Iskandar uplift, Samaria, Ephraim, Judah, Wilderness; in the **coastal plains**, Sharon plain, Coastal plain, Shephelah, Philistine alluvial plain, Western Negev, Eastern Negev

✎ HL in green, any of these regional names that appear on pp. 16/17 (include Shephelah of Carmel, Jezreel valley, Lower Gilead, Joppa-Aphek-Gezer triangle); pp. 18/19 (include Joppa-Aphek-Gezer triangle, Remote interior of Ephraim, Benjamin, Hill Country); and pp. 20/21 (include Benjamin, Hill Country)

B. Subdivisional lines

✎ On pp. 4/5, HL in green the following thin, dotted, black subdivisional lines: 1) between Ammon and Medeba plateau, from Abel-shittim E off the map; 2) between Medeba plateau and Moab, along the Arnon canyon from the Dead sea to divisional line E of Moab; 3) from the coast near Gath-rimmon E between Samaria and Ephraim to elevation -288m/-945f in the Rift; 4) between Ephraim and Judah, from LBh E to divisional line N of Jericho; 5) between Coastal plain and Shephelah, from Hadid S to T. Halif, skipping broken areas; and 6) between Judah and Wilderness, from elevation 912m/2992f N to divisional line N of Jericho

✎ On pp. 16/17, 18/19 and 20/21, HL in green lines 5 and 6 from preceding exercise

C. Feature names

✎ On pp. 16/17, HL in yellow: in the **Eastern Heights** (S to N), Mt. Nebo, Jabbok river, Kufrinja canyon, Wadi Yabis, Jordan river; in the **Western Uplifts**, (N to S), Farah (change from 'Faria' valley, Mt. Ebal, Mt. Gerizim, Shechem valley, Kanah canyon, Shiloh canyon, Makuk canyon, Lookout, Zeboim valley, Central Benjamin plateau, Suweinit canyon, Farah canyon, Kelt spring, Ascent of Adummim; in **Coastal Plain and Shephelah**, Yarkon river, Aijalon valley, Sorek valley

✎ On pp. 18/19 HL in yellow: in the **Eastern Heights** (S to N), Kerak canyon, Arnon/Mujib canyon, Heidan canyon, Zarqa Main canyon, Mt. Nebo, Jordan river; in the **Western Uplifts**, (N to S), Shiloh canyon, Makuk canyon, Lookout, Zeboim valley, Central Benjamin plateau, Suweinit canyon, Farah spring, Kelt spring, Ascent of Adummim, Chesalon canyon (below 'Benjamin'), Sorek canyon, Rephaim canyon, Rephaim valley, Kidron canyon; in **Shephelah**, Aijalon valley, Sorek valley, Elah valley

✎ On pp. 20/21, HL in yellow: any of the same features that appear per markings on pp. 18/19

D. Strategic sites

✎ On pp. 4/5, HL in red/pink the following sites (N-S): 1) Ramoth-gilead, Gerasa, Rabbah, Heshbon, Medeba, Dibon, Aroer, Kir-hareseth; 2) Beth-shan, Rehob, Pehel/Pella, Jabesh-gilead, Mahanaim/Penuel, Adam, Jericho (N) [an 'N' or 'S' signifies which of the two sites]; 3) Dothan, Tirzah, Samaria (site), Shechem, Shiloh, Bethel, Ai, Mizpah, Michmash, Geba, Ramah, Gibeon, Gibeah, Jerusalem, Bethlehem, Tekoa, En-gedi, Beth-zur, Hebron, Debir, Beer-sheba; 4) Caesarea, Aphek, Joppa, Lod, Gezer, Emmaus, Aijalon, Zorah, Beth-shemesh, Azekah, Socoh, Mareshah, Lachish; 5) Ekron, Ashdod, Gath, Ashkelon, Gaza, Gerar

✎ On pp. 16/17, HL in red/pink the following sites (N-S): 1) Ramoth-gilead, Gerasa, Rabbah, Heshbon; 2) Beth-shan, Rehob, Pehel/Pella, Jabesh-gilead, Mahanaim/Penuel, Adam, Jericho (N); 3) Megiddo (very top), Jezreel, Dothan, Ibleam, Tirzah, Samaria/Sebaste, Shechem, Shiloh,

Bethel, Ai, Mizpah, Michmash, Geba, Ramah, Gibeon, Gibeah, Jerusalem; 4) Caesarea, Aphek, Joppa, Lod, Gezer, Lower Beth-horon, Emmaus, Aijalon, Zorah, Beth-shemesh, Ekron

✎ On pp. 18/19, HL in red/pink the following sites (N-S): 1) Rabbah, Heshbon, Medeba, Dibon, Aroer, Kir-hareseth; 2) Jericho (N), Abila; 3) Shiloh, Bethel, Ai, Mizpah, Michmash, Geba, Ramah, Gibeon, Gibeah, Jerusalem, Bethlehem, Tekoa, En-gedi, Beth-zur, Hebron, Debir, Beer-sheba, Arad (T. Arad), Aroer; 4) Joppa, Lod, Gezer, Lower Beth-horon, Emmaus, Aijalon, Zorah, Beth-shemesh, Azekah, Socoh, Mareshah, Lachish; 5) Ekron, Ashdod, Gath, Ashkelon, Gaza, Gerar

✎ On pp. 20/21, HL in red/pink the following sites (N-S): 1) Heshbon, Medeba, Dibon, Aroer; 2) Jericho (N), Abila; 3) Bethel, Ai, Mizpah, Michmash, Geba, Ramah, Gibeon, Gibeah, Jerusalem, Bethlehem, Tekoa, En-gedi, Beth-zur, Hebron, Debir, Beer-sheba, Arad (T. Arad); 4) Lower Beth-horon, Gezer, Emmaus, Aijalon, Zorah, Beth-shemesh, Azekah, Socoh, Mareshah, Lachish; 5) Ekron, Ashdod, Gath, Ashkelon, Gerar

E. North-south highways

✎ On pp. 16/17, HL in yellow on red roads: 1) **Coastal highway**—NE from edge of map via Jabneel, Azor, Joppa to Aphek; and from map-bottom via Ekron, Lod, Aphek to Yaham; Yaham through Zephath and off map; Yaham via Aruna to Megiddo and off map; Yaham to Jezreel (site) and N off map; 2) **Transjordanian highway**—N from Rabbah via Gerasa, Ramoth-gilead and N off map; S from Rabbah via Samaga and off map (King's highway); S from Rabbah via Ziza (Desert highway); 3) **Jordan valley road**—NE from Jericho (N) via Gilgal, Succoth and N off map; 4) **Patriarchal highway and more**—N from S of Jerusalem via Mizpah, Bethel, Geba, Shechem, Tirzah to Beth-shan; W from Shechem via Samaria (site), Sanur, Jezreel and NE off map

✎ On pp. 18/19, HL in yellow on red roads: 1) **Coastal highway**—NE from edge of map (by Sharuhen) via Ashdod, Azor, Joppa and NE off map; also NE from Gaza via Gath, Lod and N off map; 2) **Transjordanian highway**—N from Rabbah off map; S from Rabbah via Samaga, Medeba, Dibon, Thona and off map (King's highway); S from Rabbah via Ziza and SSE off map by BB copyright (Desert highway) 3) **Jordan valley road**—NE from Jericho (N) via Gilgal to E side of Rift and N off map (toward Succoth); 4) **Patriarchal highway**—N from Beer-sheba (W) via Hebron, Beth-Zechariah, Bethlehem, Jerusalem, Mizpah, Bethel, Geba and N off map

✎ On pp. 20/21, HL in yellow any roads that appear as on pp. 18/19

✎ On pp. 20/21 also HL these local N-S road through the Shephelah: 1) **Chalk Moat road**—S from Lower Beth-horon via Aijalon, Keilah to Beit Mirsim; 2) **Chalk Moat road**—SW from junction in Sorek valley via Beth-shemesh, Mareshah, Lachish, T. en-Najila, Gerar and off map

F. East-west trade routes through the Central Arena

✎ **To the northern trade corridor**. On pp. 16/17, HL in yellow on red roads: 1) **Gerasa-Acco**—NW from Gerasa via Jabesh-gilead, Beth-shan, above Harod valley and NW off map; 2) **Rabbah-Acco**—NW from Rabbah via Zia, Mahanaim, Rehob, Jezreel (site) and NW off map

✎ **Local east-west**. On pp. 16/17, HL in yellow on red roads: 1) SW from Rabbah via Abel-keramim, Abila, Beth-arabah, Jericho (S), Michmash, Geba, Ramah, Gibeon, Lower Beth-horon, Lod to Joppa; 2) W from Jericho (S) via Anathoth, Gibeon, Kiriath-jearim, Aijalon to Lod; also Jericho (S) to Jerusalem; 3) NW from Jericho (N) via Naaran, Gophna (by Bethel), Timnah to Aphek; also SE from Bethel via Ai to Lookout; 4) N from Jericho (N) via Phasaelis, Shechem to Socoh; 5) N from Abila (E of Jericho) to Adam and NW via Tirzah, Bezek to Ibleam

✎ On pp. 18/19, HL in yellow on red roads 1-3 from preceding exercise; 6) NW from En-gedi via Tekoa to Bethlehem; 7) W from Bethlehem via Hushah, Beth-shemesh, Timnah to T. Mor; 8) W from Hushah via Timnah, Socoh, Gath to Ashdod; 9) NW from Beth-zur via Adullam to Socho; 10) NW from Hebron via Beth-leaphrah, Tricomias, Beth Guvrin to Ashkelon; 11) W from Hebron via Beth-tappuah, Migdal-gad, Lachish, T. el-Areini to Ashkelon

✎ On pp. 20/21, HL in yellow any roads that appear per markings on pp. 18/19

LISTS OF GEOBASICS—
taken from the ***Geobasics Study Guide***

1. CA: EASTERN HEIGHTS

a. Upper Gilead

- Upper Gilead is a broad, uplifted hill country region of hard limestone (green) between the Rift, the southern edge of basaltic-covered Bashan, and northern Arabia.
- Plentiful rainfall, fertile soils and strong springs invite settlement in Upper Gilead's hills where cities flourish along trade routes or deep within its more secluded valleys.
- The Jabbok river canyon drains much of Upper Gilead, flowing NE in the area of Rabbah, then N and finally W into the Rift through deeper limestones and sandstones.
- Upper Gilead's deep drainage systems force its network of roads to stay on specific paths that link Rabbah in the S with Ramoth-gilead in the N and Beth-shan in the NW.
- Upper Gilead is unique and alluring hill country east of the Rift which offers ideal settlement conditions, built-in security and yet potential control of caravan trade.

b. Ammon and the abarim slopes

- The Bible uses the terms 'the hand of the Jabbok' and nearby 'hill country villages' to define the region of Ammon, an area whose canyons drain E into the upper Jabbok.
- Ammon was ideally situated to control trade between the arid south and the watered north, a magnet for desert caravans making their way to Phoenicia and to Damascus.
- Ammon's natural stronghold of Rabbah was a formidable fortress with adequate water and maximal protection in the midst of an area threatened by Arabian marauders.
- Small forts encompassed the Rabbah citadel, and from this central core the Ammonites controlled their region of grainfields on the edge of settled areas to the N, S and W.
- A strong man at Rabbah could exploit Ammon's potential by securing Ammon itself and then expanding into settled areas along adjacent routes to the N, S and W.

c. Moab and the arnon canyon

- An extensive, watered plateau, part of the greater Arabian plateau, extends S of Upper Gilead, across the Arnon canyon and through the region of Moab to the Zered canyon.
- The deep Rift chasm creates erosion which cuts rugged canyon systems eastward from the Dead sea into the Arabian plateau, often capturing runoff far to the E.
- Eastward erosion in larger canyons exposes scarps of limestone (green) and deeper sandstones (purple), while rainfall on higher, gentler slopes produces fertile soils.
- The Arnon canyon divides Moab proper to the S from the plateau to the N, while the Zered canyon serves as Moab's southern limit; beyond lies Edom.
- Arid Arabia and the Dead Sea chasm effectively isolate Moab, which must expand N of the Arnon canyon onto the Medeba plateau in order to control trade routes.
- Like Ammon, Moab possesses a great natural stronghold, the isolated height of Kir towering about the Kerak canyon, which drains into the Dead Sea chasm.

d. Medeba Plateau

- An extensive, watered plateau, part of the greater Arabian plateau and lower than Upper Gilead, extends S of Ammon, rising slightly through the region of Moab.
- The Rift chasm creates erosion which cuts deep, rugged canyon systems eastward from the Dead sea into the Arabian plateau, often capturing runoff far to the E.
- The Arnon canyon divides the northern part of the plateau from Moab proper to the S.
- North of the Arnon the Zarqa Maim and Heidan canyons cut into the plateau, but it persists in the N around Medeba and T. Jalul, and to the S by Dibon and Aroer.
- The importance the Medeba plateau in the N is that it offers attractive descents into the Rift valley N of the Dead sea, ascents not available in the region of Dibon.
- Highways from the N, caravan routes from the S and E, and ascents from the Rift in the W meet in the Medeba plateau making it one of the land's major intersections.
- Given the military and commercial importance of the Medeba plateau, leaders in Ammon, Moab, Israel, Judah and elsewhere coveted this plateau and its major sites.

2. CA: CENTRAL ABYSS OF THE RIFT

- The Rift valley creates a major division in the Center Arena between eastern heights and western uplifts, falling some 100m/330f from the Beth-shan area to the Dead Sea.
- Steep scarps descend into the Rift on both the east and the west, but sheer limestone cliffs and violently tilted strata are found around the edges of the Dead Sea chasm.
- A large inland body of water in the central Rift deposited layer upon layer of powdery, white rock, called 'lissan' after the 'tongue' of land now remaining in the Dead Sea.
- Various types of alluvial deposits from the well-watered eastern heights cover the Rift's central lissan, through which the Jordan river cuts a valley with small alluvial areas.
- Rain shadow regions in adjacent western uplifts deposit less alluvial runoff, but aquifers in the higher hill country flow toward the arid Rift, emerge as springs and form oases.
- Three main cross-overs in the central Rift link the eastern heights and western uplifts: the convenient area of Beth-shan, the Adam area and the plains east of Jericho.

3. CA: WESTERN UPLIFTS

a. Samaria

- Samaria divides into 1) eastern uplifted, cross-faulted limestones (green), 2) central mountains of later limestone (yellow), 3) western limestones and chalks (brown).
- Although Samaria's geological diversity results in obstacles such as mountains and ridges, routes pass between these obstacles with relative ease, often via convenient valleys.

- A chalk trough, some times filled with alluvia, runs NE from Michmethath by Shechem, Tirzah and Bezek, carrying a route which avoids higher hills to the E and W.
- The broad Shechem valley links the site with the coastal highway at Socoh, while the route to Tirzah abruptly drops into the deep Farah valley and continues E to the Rift.
- Naturally indefensible Shechem sits at the heart of Samaria; Tirzah lies to the E at the head of the Farah valley; and the city of Samaria stands atop a solitary hill in the W.
- Dothan stands adjacent to a broad valley and an international pass by the same name.
- Samaria, the northern extremity of the central hill country, is a relatively open region, encouraging expansion to the north, but northern invaders also find it easy to conquer.

b1. Ephraim

- Unlike Samaria, Ephraim is one broad, uplifted limestone region stretching from the Rift to the coastal plain, with one main uplift and several side uplifts (not shown).
- Ephraim's elevated hill country draws abundant rainfall which erodes long V-shaped canyons to the W and deep shorter canyons in the E that plunge into the Rift.
- Rough, secluded western slopes in Ephraim create a safe refuge, the Bible's 'remote interior of Ephraim,' which is drained by two main canyon systems (Shiloh and Natuf).
- Travel in Ephraim is challenging and avoids V-shaped canyons, keeping a lone N-S route E of major canyons and restricting E-W routes to high, unbroken ridges.
- Unlike Samaria, Ephraim has no easy access from the coastal highways nor from the Rift, although a ridge route via Timnath-serah reaches Bethel and continues to Jericho.
- Ephraim has no central site like Shechem in Samaria, but Bethel was a major center on its southern flank while Shiloh provided a central sanctuary for the early Israelite tribes.
- The above features set Ephraim apart from Samaria to the N and Judah to the S.

b2. Benjamin

- The small but strategic tribal territory of Benjamin borders the territory of Ephraim, the prominent tribe in the powerful House of Joseph (Benjamin's elder brother).
- The area of Benjamin exhibits great diversity, from the Jericho oasis in the Rift through a chalk wilderness and a limestone plateau to ridges overlooking the Aijalon valley.
- Benjamin, a saddle between heights in Ephraim and Judah, has access from both E and W; by taking Benjamin invaders 'broke the back' of the central hill country, splitting it in two.
- Northern Israel and southern Judah coveted Benjamin since from here they could expand from the hill country onto the coastal highway and into the eastern heights via Jericho.
- The broad Aijalon valley, the short ascent between two Beth-horons and the ascent via Kiriath-jearim to Gibeon offer relatively easy western access in and out of Benjamin.
- Three main routes from Jericho to the hill country keep to ridges above the Kelt and Makkuk canyons: one to Jerusalem, one to Ramah and Bethel and one via Ophrah.
- A direct road to Bethel climbs to the shallow Zeboim valley, ascends to what we call the 'region of Ai' and intersects routes to Ramah beyond a pass across the Suweinit canyon.
- The rolling central Benjamin plateau (CBP) with its chief city of Gibeon attracts roads from E and W and also hosts the Bethel-Jerusalem route, the hill country's N-S artery.

c. Judah

- While Ephraim's central uplift disappears beneath the Shephelah, Judah's uplift emerges to create a fertile limestone hill country which rises to summits around Hebron.
- Stress between these two uplifts fragments the area W of Jerusalem where erosion has created deep canyons within the Sorek system's three main tributaries, named on p. 18.
- Runoff from Mizpah on the central Benjamin plateau, Jerusalem and Bethlehem flows through the Sorek system's canyons before reaching the Shephelah's Sorek valley.
- Canyons descending to the arid wilderness bound Judah to the E of its central limestone uplift, while to the W ridges plunge and V-shaped canyons drain into the Shephelah.
- The hill country's N-S highway S of the central Benjamin plateau avoids wilderness canyons and the upper Sorek system in its journey by Jerusalem to Bethlehem.
- South of Bethlehem two N-S roads and a route via Tekoa reach the 'crown of Hebron,' a high, well-watered region whose southern slopes descend to the arid Negev basin.
- Hebron dominates Judah's heartland as far as Bethlehem, but its influence wanes farther N as priorities of central Benjamin emerge and dominate.
- High ridge routes W of the crown of Hebron fall to the Shephelah, but W of Bethlehem a convenient route via Hushah connects to the Shephelah's Elah and Sorek valleys.
- Secluded Judah, shut in by an arid S and the wilderness with its Dead Sea chasm needs the central Benjamin plateau in order to expand beyond its heartland hill country.

c1. Wilderness

- The chalky wilderness lies between the hill country and limestone cliffs falling into the Dead Sea chasm; its secluded and sterile terrain serves as a refuge for fugitives from Judah.
- Since the wilderness descends behind higher hills rainfall quickly diminishes, but surface runoff from the hills cuts deep canyons through the softer chalk into bedded limestone.
- Areas near the hill country receive adequate rainfall for grains, especially E of Bethlehem and Tekoa, a bread basket where a myriad of threshing floors operate in late spring.
- The northern wilderness is home to shepherds and herds as it receives slightly more rain, and spring grass covers its chalky slopes, but aridity and ruggedness increase to the S.

- Shepherds roam chalky tracts E of Ziph in the southern wilderness, but erosion exposes deeper limestones and cuts gaping gorges to the Rift in what the Bible calls the Jeshimon.
- The central Arugot canyon drains much of Judah's interior and empties into the Dead Sea by En-gedi, a site enhanced by springs, a subtropical climate and a road to Tekoa.
- A series of deep canyons empty the region of the Jeshimon, including the great Zeelim canyon which divides the Jeshimon from grazing slopes to the S connected to the Negev.
- Faults above the Dead Sea, S of the Zeelim left a high, isolated block of limestone, an impressive natural stronghold called Massada, fortified and adorned in Jesus' day.

c2. Shephelah

- The Shephelah (Lowland) at the foot of the hill country of Judah consists of chalky limestones often covered by a tough crust called 'nari' protecting underlying chalks.
- The native soils of the Shephelah support scrub woodlands rather than farming, but fertile deposits of alluvia descending from the hills make Shephelah valleys productive.
- A series of valleys drain runoff from the hills via the Shephelah to the coastal plain: the broad Aijalon, the Sorek and the Elah in the N and narrower valleys to the S.
- Shephelah valleys serve as gateways between the hill country and the coastal plain, and sites along these valley are sentinels protecting specific hill country ridge routes.
- The prominent Azekah ridge between Azekah and the region of Mareshah divides the Shephelah into slightly higher hills to the E and lower, rolling plains to the W.
- The Shephelah has three main N-S roads: a chalk moat at the base of the hill country; a diagonal route linking Beth-shemesh with Lachish; and the Gath-Mareshah road.
- The Shephelah lacks a unifying center since the N is quite open, while S of Mareshah the Shephelah is more sheltered; the basin around Mareshah serves as a southern hub.
- Connections from Mareshah to the Negev basin around Beer-sheba enhance Mareshah's position and make this area a key component in the southern trade corridor.
- The position of the imposing site of Lachish, at the edge of low hills SW of Mareshah, is very impressive since Judah's control of Lachish assumes its control of this entire area.

d. Coastal Plain and Philistia

- Imperial N-S highways flow along the curved southern coastal plain, the broadest along the eastern Mediterranean, whose coastline is aligned with hill country uplifts.
- Ephraim's uplifted hill country limits the width of the Sharon plain, but the broad southern coastal plain and the adjacent Shephelah present a different picture.
- Rain diminishes to the S as the coastal plain becomes covered with fine, wind-blown loess soil of the western Negev, and the Shephelah all but disappears.
- The coastal plain consists of three main soils: coastal sand dunes (yellow), areas or islands of brown-red sands (orange) and basins of alluvial deposits (green) from the hill country.
- Mediterranean currents carry sediments NW from the mouth of Nile river forming coastal sands, often blown inland and sometimes covering low hills of brown-red sands.
- Brown-red sands are simply dune sand with a crust of alluvial material, often persisting along low, solidified sand ridges ('kurkar'), seen in the coastal relief of these maps.
- Large basins of alluvial deposits exist in the northern Sharon plain, by Aphek and Lod and in what we call the Philistine alluvial plain, outlined by Ekron, Ashdod and Gath.
- The chalky, semi-sterile Shephelah (light yellow) plays a special role in this coastal context because its alluvia valleys link the plain with ridge routes in the hill country.

4. SOUTHERN ARENA—NEGEV, DEAD SEA FIELD TRIP

Your study/field trip to Negev and Dead Sea is much more valuable if you know the greater context of the Southern Arena. Page numbers in the instructions below all refer to maps in *Geobasics*.

A. Subdivisional/regional names

✎ On pp. 6/7, HL in green the following regional names: Arabian desert; in the **Eastern Heights**, Moab, Edom; in the **Rift**, Aravah valley; in the **Series of Uplifts**, Southern highlands, Nahal Zin; in **Negev corridor** and **coast**, Eastern Negev, Western Negev, Sinai sands

✎ HL in green, any of these regional names that remain without HL on pp. 18/19 and pp. 22/23

✎ On p. 6 and p. 23 find the open area of slopes between Oboda and Kadesh [barnea] and in small caps write in SOUTHERN SLOPES and HL it in green. This entire area drains this side of the highest uplifts in the Southern Highlands and directs drainage NW toward Nessana.

B. Subdivisional lines

✎ On pp. 6/7, HL in green the following thin, dotted, black subdivisional lines: 1) between Eastern Negev and Western Negev, from T. Halif S to the divisional line; 2) between Sinai sands plateau and Western Negev, from near Raphia via T. el-Farah to the divisional line; 3) from SW of Yurza via T. en-Najila to the subdivisional line of the Shephelah; 4) from E of Aroer S via Soubaita and E to the divisional line of the Rift; 5) from W of Hazar-addar N and then E to the divisional line of the Rift; and 6) N of Moab along the Arnon canyon

C. Feature names

✎ On pp. 6/7, HL in yellow: in the **Eastern Heights** (N to S), Heidan canyon, Arnon/Mujib canyon, Ascent of Luhith, Kerak canyon, Ascent of Horoniam, Zered canyon, Dana canyon, Feinan canyon; along the W side of the **Rift** (N to S), Arugot canyon, David's canyon, Hever canyon, Mishmar canyon, Zeelim canyon, Hemar canyon, Small bowl, Big bowl, Ascent of Aqrabbim, Super bowl; in **Western Negev**, Nahal Gerar, Nahal Besor, Nahal Beer-sheva.

✎ On pp. 18/19 HL in yellow: in **Wilderness** near Dead Sea, Mukallik canyon, Kidron canyon, Darga canyon, Tekoa canyon, Murabbaat canyon, David's canyon, Arugot canyon, Hever canyon, Mishmar canyon, Zeelim canyon, Hemar canyon; in **Western Negev**, Nahal Gerar, Nahal Besor, Nahal Beer-sheva

✎ On pp. 20/21, HL in yellow: any of the same features that appear per markings on pp. 18/19

✎ On pp. 22/23, HL in yellow: any of the same features that appear per markings on pp. 6/7

D. Strategic sites

✎ On pp. 6/7, HL in red/pink the following sites: 1) in **Moab and Edom**, Dibon, Kir-hareseth, Bozrah, Petra, Wadi Musa; 2) in **Judah**, Hebron, Debir, Ziph, Carmel, Maon; 3) in **Shephelah**, Lachish and Mareshah [find site dot and name on p. 4 and write them in on p. 6); 4) in **coast and Negev**, Gaza, Gerar, Beer-sheba, Arad (T. Arad); 5) along **Dead Sea**, En-gedi, Massada, Zoar; in **Southern Highlands and Rift**, Elusa, Nessana, Oboda, Kadesh [barnea], Tamar

Optional: In the printing process some names were omitted on this map. Write in black ink, DEAD SEA in small caps NE of En-gedi

✎ If you have not done so in your studies above, on pp. 18/19 HL in red/pink the following sites: 1) in **Negev**, Beer-sheba (T. es-Saba), Aroer, Arad (T. Malhata), Arad (T. Arad); 2) along **Dead Sea**, Massada, Kh. Qumran

✎ If you have not done so in your studies above, on pp. 20/21 HL in red/pink the following sites: 1) in **Negev**, Beer-sheba (T. es-Saba), Arad (T. Arad); 2) along **Dead Sea**, Massada, Kh. Qumran

✎ On pp. 22/23, HL in red/pink the following sites: 1) in **Moab and Edom**, Kir-hareseth, Bozrah; 2) in **Judah**, Hebron, Debir, Ziph, Carmel, Maon; 3) in **coast and Negev**, Gaza, Gerar, Beer-sheba (T. es-Saba), Arad (T. Arad); 4) along **Dead Sea**, Massada, En-gedi; in **Southern Highlands**, Elusa, Nessana, Oboda, Kadesh [barnea] (Mampsis as written in below) 5) [Make this correction in the **Rift**. Cross out Tamar on p. 23, make a new dot at crossroads as per p. 6 and write in black ink, 'Tamar' by this new dot] HL this Tamar

✎ Optional: In the printing process names were omitted on this map, such as those S of Bab edh-Dhra by the Dead Sea and in Edom. You can find them on p. 7 and write them in on p. 23.

E. North-south highways

✎ On pp. 22/23, HL in yellow on red roads: 1) **Coastal highway**—NE from edge of map via Sharuhen, Gaza and NE off map; 2) **Transjordanian highway**—NE from bottom edge of map (just E of Shaubak) along road without sites (E of Bozrah, not by Bozrah) reaching Thona and from there N via Arabatha, Qasr and western fork N off map [this was part of the *Via Nova Traiana*, an imperial Roman frontier road between Bezer by Jebel Druze and the Red Sea port of Aila/Aqaba]; 3) N from the junction by Bozrah to join route just HL; write in 'King's Highway' along this route just N of EDOM [the King's highway continued N with the later Roman road]; 4) S from near page number '23' (top of map) along the Arabian desert to S off the map; write in 'Desert Highway' along this route; 5) **Aravah valley road**—N from map bottom (W side of Aravah valley) to a corrected location of Tamar and from there N to the Zohar Fort and NW via Arad (T. Arad), Kerioth, Maon, Hebron and off map; 6) NE from bottom-left corner of p. 22 via Nessana, Rehoboth, Elusa to Beer-sheba (W); 7) **Patriarchal highway**—NE from Beer-sheba (W) via Beth-pelet, Debir, Hebron and N off map

✎ On pp. 18/19 and 20/21, HL in yellow on red road: from Hebron S via Ziph, Carmel, Maon, Kerioth, Arad, H. Uza and S off map

F. East-west trade routes through the Southern Arena

✎ On pp. 22/23, HL in yellow on red roads: 1) W from Desert highway via Bozrah, repositioned Tamar (see Tamar at crossroads on p. 6) and from Tamar NW via Ascent of Aqrabbim, Aroer, Beer-sheba (T. es-Saba), Gerar to Gaza; 2) W from H. Uza via Arad (T. Malhata), Hormah, T. Halif, T. en-Najila and NW off map; 3) SE from Gaza via Yurza, T. el-Farah, Elusa, Oboda and SE off map (toward Petra, not on map but see on p. 7)

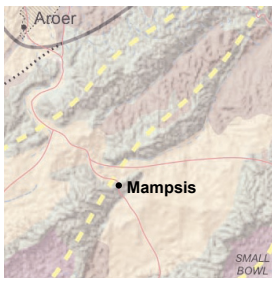
✎ On pp. 18/19, HL in yellow on red roads: 1) from Arad (T. Arad) via Kerioth, Eshtemoa, Debir, Maresha to Gath; 2) from H. Uza via Arad (T. Malhata), Hormah, T. Halif, T. en-Najila, T. el-Hesi to Ashkelon; 3) from map bottom, near Aroer, via Aroer, Beer-sheba (T. es-Saba), Gerar to Gaza; 4) from Gaza via Yurza, T. el-Farah and SE off map

✎ On pp. 20/21, HL in yellow any roads that appear per markings on pp. 18/19

G. Write-ins on pp. 6/7 and 22/23

Mampsis write-in

The name 'Mampsis' was mistakenly omitted on pp. 6 and 22. Find this site's location on both these pages, draw a black dot, write in the name as it appears on this map and HL it in red/pink.



Punon write-in

The name 'PUNON' was mistakenly omitted on pp. 7 and 23. Find this region's location on both these pages, and write in the name as it appears on this map (in SMALL CAPS).

LISTS OF GEOBASICS—
taken from the ***Geobasics Study Guide***

1. SA: EASTERN HEIGHTS AND THE RIFT

a. Edom

- Bounded by the Arabian desert and by the Rift, Edom's broad northern heights rise from the Zered canyon to almost 1800m/5900f but become narrow ridges S of Shaubak.
- Edom's northern heights (Mt. Seir) draw rain and snow from passing storms to create small areas of agricultural activity and even orchards in an otherwise arid setting.
- Edom's western scarps rise abruptly from the Rift to form a natural and spectacular bulwark of canyons, from lower, colorful sandstones to higher, formidable limestones.
- Tracks descending from Edom's heights into the Rift are few and difficult, and camel drivers needed great skill to protect animals and goods on their westward way.
- The faulted and rugged Feinan depression stretches from the Dana canyon to the fortress of Shaubak, but a route around its high rim links northern and southern Edom.
- South of the Feinan depression Edom's limestones narrow as agricultural activities are confined to a few local catchment areas, such as those around modern Wadi Musa.
- Edom occupies a key position in the southern trade network, and when Edom expanded W of the Rift and to the Red Sea it became Judah's main commercial competitor.
- Edom's celebrated site of Bozrah in northern Edom sits within yawning canyons while the ornate, commercial hub of Petra lies deep within Edom's southern sandstones.
- Edom's unique setting allowed a central clan authority to use its choice regions as bases from which to extend control over surrounding caravan routes and gain great wealth.

b. Aravah

- The term 'Aravah' may apply to arid plains N and S of the Dead Sea, but we use it here in a specific sense for the broad, parched expanse between Edom and the southern uplifts.
- Water sources such as Bir Madhkur and Tamar were of utmost importance for caravans crossing the Aravah from the Red Sea, Arabia or Edom on their way coastal regions.
- Regions of lissan material fill the Aravah and accumulated sands can impede passage.
- Aravah sites from Khanazir N to Bab edh-Dhra flourished in the Early Bronze age, prior to a catastrophe which also filled the shallow, southern basin of today's Dead Sea.
- Excavations reveal copper mines within the Feinan depression ('Punon' of the Bible), mines which generated coveted metal and violent conflicts between Edom and Judah.

2. SA: SOUTHERN UPLIFTS AND SINAI

a. Southern Highlands

- The Southern Highlands consist of a series of uplifts rising from Sinai, curving toward the Dead Sea and lying across routes linking the Aravah and the southern coastal plain.
- Two major uplifts in the Southern Highlands rise to some 1000m/3000f to the S of the Nahal Zin while three main uplifts N of Nahal Zin reach only some 600m/2000f.
- Cracks in three uplifts form geological bowls, exposing deep substrata: the Small Bowl, the Big Bowl, and what we call the Super Bowl, more complex than the other two.
- These uplifts expose strata of limestone, but slack precipitation leaves them void of fields or herds, except on some slopes which face N and receive additional rainfall.
- Caravans from Arabia and the Red Sea (off our maps) must find ways through or around the uplifts of the Southern Highlands to reach the Negev basins and coastal ports.
- Routes from Tamar in the Aravah reach the Eastern Negev while another route skirted Sinai and the Southern Highlands to reach all-important springs by Kadesh [barnea].
- Although the Southern Highlands lay beyond the watered and settled north, the Nabateans and others found ways of subsisting here, and even building cities.

b. Uplifts in the South

- Southernmost uplifts in the Southern Highlands separate these highlands from the more threatening great wilderness to S and SW, the expansive and rugged Sinai.
- Sinai's northern sands and parched plains, together with rugged regions within the Super Bowl and along its southern flank, make Kadesh and its springs an attractive area.
- Strong winter storms easily pass over lower areas and reach the Southern Highland Slopes, bringing rainfall to these slopes and even snow to heights around the Super Bowl.
- Trees grow in canyons in the Southern Highland Slopes, and given sufficient rainfall, some grains can grow along slopes draining into the broad Nessana streambed.
- After passing through Sinai the wandering Israelites encamped at Kadesh on the SW edge of Canaan, an area which supports life and in which they remained for some time.
- Small settlements and forts along the lower edge of the Southern Highland Slopes and in nearby valleys is evidence of Solomon's control of this part of the southern trade corridor.
- In Roman and Byzantine times the influx, settlement and innovation of the Nabateans allowed cities such as Oboda and Nessana to thrive along this region's trade routes.
- Nabatean settlement across the Southern Highlands is extraordinary for they actually created a route from Petra to Oboda which passed through the heart of the Super Bowl.
- Border fences today run SE from Raphia on the coast and replace earlier cease fire lines, leaving Kadesh and its fortresses in Egypt but the southern uplifts and Nessana in Israel.

c. Nahal Zin and the Southern Slopes

- Nahal Zin is a drainage depression reaching W from the Aravah to the heart of the Southern Highlands with a large catchment area extending to the S and the N.
- In the W Nahal Zin abruptly turns S through an impressive gorge (Nahal Avdat) and passes Oboda to capture runoff from a large part of the Super Bowl's southern slopes.
- During winter downpours runoff from almost all adjacent basins and slopes including the slopes of Mt. Halak, the Big Bowl and the Small Bowl converge in Nahal Zin.
- Nahal Zin provides E-W passage through the heart of the Southern Highlands and on the way intersects with the Scorpions' Ascent road and routes in the Oboda area.
- An extension of this central depression reaches westward beyond Nahal Zin to connect with routes N to Gaza via Nahal Besor and with routes W to Nessana and to Egypt.
- The Red Sea-Kadesh-Gaza highway ran at the foot of the Southern Highland Slopes, and sites here were crucial for the long and difficult journey S along the edge of Sinai.

d. Sinai and Sinai sands

- Vast and threatening Sinai borders the Southern Slopes on the SW while a large region of wind-blown sands from northern Sinai covers an area stretching N to Wadi Besor.
- A modern border runs from the general area of Raphia on the coast SE off the map, leaving Nessana and Super Bowl in Israel but the area of Kadesh and Sinai in Egypt.
- Wind-blown sands from the Nile delta (far to the W off the map) and the Mediterranean cover northern Sinai and the area from Raphia to the chalks SE of Rehoboth.
- The combination of heavy sands, the formidable Sinai wilderness and rugged regions in and around the Super Bowl make the springs around Kadesh particularly attractive.
- In late Roman and Byzantine times the influx, innovation and settlement of the Nabateans allowed cities such as Nessana and Rehoboth to thrive along the trade routes in this area.

3. SA: NEGEV CORRIDOR

a. Eastern Negev Basin

- In the Bible 'the Negev' (or 'the South') is a transitional area of less rainfall beginning in the drier slopes S of Hebron and reaching to the southern edge of the Negev basins.
- The Negev is the end of arable land W of the Rift and is filled with fine, wind-blown soil called 'loess' in contrast to northern soils formed from the action of water on rocks.
- With enough well-spaced, seasonal rainfall, loess soil can yield ample amounts of grain, but since the Negev lies S of the green rainfall line (pp. 12/13) crops are never certain.
- Powdery loess does not absorb rainfall easily, and runoff cuts gullies that feed the Negev's drainage system flowing from the higher E through Beer-sheba and into Nahal Besor.
- Since the Negev attracts roads from across the Southern Arena, it is a crucial part of the southern trade corridor with great economic importance for anyone who controls it.
- The Negev is not only a potentially robust economic engine but also lies between the nomadic south and the settled north; it is a region where goods and cultures mingle.
- One of the greatest shifts in control of this region occurred as Judah fell and Edomites ('Idumeans') overtook the Negev and Hebron and made their capital in the Shephelah.

b. Western Negev Basin

- The broad, Western Negev basin, with its rolling, loess-covered hills, stretches from Beer-sheba to the Nahal Besor, to the outskirts of Gaza and the southern Shephelah.
- The wide Nahal Besor, whose sprawling drainage system reaches the slopes of the Big Bowl, provides a natural frontier beyond which lies Sinai's sands and rugged landscape.
- Water sources along the Besor, Beer-sheva and Gerar streambeds made early settlements and later, larger sites on mounds possible in the large basin of the Western Negev.
- To reach the Western Negev and coastal ports the routes of the Southern Arena pass through a corridor between the uplifted central hill country and the Sinai sands.
- On its way from Egypt and northern Sinai the imperial highway splits N of Raphia: one stays near the coast, another moves inland via Gerar and a third lies between these two.
- Impressive Western Negev sites, such as Gerar, Yurza/T. Gamma, T. el-Farah-south, Ziglag/T. esh-Sharia and T. en-Najila, rise at intersections along this region's highways.