



An interaction unit exploring the importance of physical environment to past, present, and future societies

The Authors

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TEACHER GUIDE

PURPOSE

A major problem concerning geography teachers is the inability of students to become intellectually and emotionally *involved* in the study of physical geography. Anthropology and World History teachers also find it difficult to impress upon students how physical environment has shaped the cultures of various societies.

Is it possible to get students excited about the realities of Mediterranean vegetation or humid continental climate? Is it possible to expect students to leave the classroom still heatedly debating the influence of chaparral? In ADAPT's interaction structure your students become world-renowned scholars excitedly challenging and defending ideas that, if taught in many other classroom environments, might put them to sleep. In examining the ways in which different societies adapt to different physical environments, your students experience the following:

Knowledge

- 1. the distribution of the world's climate zones
- 2. the distribution of the world's vegetation zones
- the distribution of wildlife in relation to climate and vegetation zones
- 4. the concept of biomes and their specific groupings of climate, flora, and fauna
- 5. the tremendous importance of environment to hunting-gathering and other societies
- the methods societies have used to overcome the problems found in vastly different physical environments

Attitudes

 appreciation of the ingenuity of humans belongs as reflected in various societies' adaptations to different physical environments

Skills

- reading and interpreting maps dealing with specific geographic data: climate zones, vegetation zones, land forms, wildlife distribution, and mineral distribution
- 2. correlating data from various physical maps
- 3. obtaining and applying data from reference books to specific research problems
- 4. presenting research data to other students
- 5. preparing for and participating in group work
- 6. compromising while reaching group decisions
- utilizing the overhead projector and transparencies while making large group presentations
- 8. evaluating the work of other classmates

OVERVIEW

ADAPT begins with you asking the class to decide which environmental factor (climate, vegetation, landforms, wildlife, or minerals) would be the most important in determining where a hunting-gathering society would exist on an unknown continent. A heated discussion results, with students defending and challenging choices but drawing no conclusions at this time. Then pass out the STUDENT GUIDE.

After learning that their unit grade will depend upon how many Research Investigation Points (RIPS) they acquire, students receive maps dealing with a specific environmental aspect of Schlunkland, a newly discovered continent. (The student might receive a climate map, a vegetation map, a landform map, a wildlife map, or a minerals map.) Using a pencil and penny, each student circles on his/her map the most logical place for a hunting-gathering society. The student next briefly explains his/her choice on the back of the map.

Students are then placed in groups of five in which all the various geographic factors—climate, vegetation, landforms, wildlife, minerals—are represented. After a chairperson is elected, each member explains his/ her choice of a location in terms of his/her specific map. By the end of the hour, the group must agree on one common location. At this time the chairperson distributes a packet of research tasks to group members. The research tasks ask for data that applies only to the location chosen by the group and deals with topics such as how a specific environmental factor influences the food, clothing, shelter, etc., of the hunting-gathering society.

During the next class hour the various researchers present their findings to the other group members. Group members evaluate the quantity and quality of one another's research and then award RIPS. By the end of the hour, group members must pool their research and logic and fill out their SYMPOSIUM PAPER-MAP, which is the basis of their forthcoming large group presentation. A copy of the SYMPOSIUM PAPER-MAP is also prepared on an acetate overlay for overhead projection.

The third and fourth hours are spent listening to and challenging one another's symposium reports, as groups explain how their location would influence the behavior and culture of a hunting-gathering society. After each report and cross-examination session, the audience awards RIPS to the presenting group mem-

bers. At the end of all presentations, collect the papers and tally the RIPS.

During the fifth and final hour present a film on a real hunting-gathering society.

You can repeat the procedure above for three other cycles dealing with pre-industrial agricultural, industrial, and future societies.

TEACHING OPTIONS

ADAPT's four cycles can be utilized in isolation or sequentially.

- *Cycle 1* How do hunting-gathering societies adapt to their environments?
- *Cycle 2* How do pre-industrial agricultural societies adapt to their environments?
- *Cycle 3* How do industrial societies adapt to their environments?

Cycle 4 How would future societies adapt to and change their environments?

Recommended uses

- **Geography** Use Cycle 1 as a transitional unit to studying cultural geography after experiencing an introductory unit on physical geography.
- World history Use any cycle as an introduction to a stage in human history.
- Anthropology Use Cycle 1 as an introduction to study of a specific hunting-gathering society such as the Bushmen, Pygmy, or Plains Indian. Use Cycles 2, 3, and 4 as introductions to the ways changing technologies influence human cultures.
- Humanities Use Cycle 1 or 2 as a vehicle for examining how environment influences various societies' religion and art.

UNIT TIME CHART

(Intended as example; alter as desired.)

This chart is for Cycle 1: Hunting and Gathering Society. Adapt with comparable time allocations for Cycle 2: Pre-Industrial/Agricultural, Cycle 3: Industrial, and Cycle 4: Future societies

Read STUDENT GUIDE	Review Day 1 activities	Distribute SYMPOSIUM EVALUTION SHEET	Continue Day 3 activities	Review the week's activities
Students place hunting- gathering society on map	Individuals present research tasks to group	Collect SYMPOSIUM PAPER-MAP from all chairpersons	Collect SYMPOSIUM EVALUATION SHEETS, research task sheets,	Show film on specific hunting-gathering society
Divide class into seven groups; groups choose chairpersons and select	Group members evaluate one another's work, award RIPS	Chairpersons present SYMPOSIUM PAPER- MAP assignment	and SYMPOSIUM PAPER MAPS from chairpersons	Conduct class discussion
single area for society Distribute research task packets; individuals	Groups completes SYMPOSIUM PAPER-MAP and	Other groups' members challenge each group's conclusions; experts	Record RIPS	Announce the next cycle
work on research tasks Optional: Give students	transprency Groups share research	from each group answer challenges		
a work day either in class or in library	Chairpersons collect research tasks; prepares presentation	Groups in audience evaluate each group's presentation and award RIPS		
· .	2	3	4	5

SETUP DIRECTIONS: Cycle 1

- 1. **Duplication** Duplicate the following pages in the numbers designated:
 - STUDENT GUIDE (class set)
 - LANDFORM MAP (7)
 - CLIMATE MAP (7)
 - VEGETATION MAP (7)
 - WILDLIFE MAP (7)
 - MINERAL MAP (7)
 - RESEARCH TASK 1 (7)
 - RESEARCH TASK 2 (7)
 - RESEARCH TASK 3 (7)
 - RESEARCH TASK 4 (7)
 - RESEARCH TASK 5 (7)
 - SYMPOSIUM PAPER-MAP (10; 7 for Day 2)
 - SYMPOSIUM EVALUATION SHEET (10; 7 for Day 3 and subsequent days)

Place all these duplicated materials in labeled manila folders and file them for easy access.

- Overhead projection Make 10 overlay transparencies of the SYMPOSIUM PAPER-MAP—seven for Day 2. Also obtain 10 overlay transparency marking pens (non-permanent and of various colors), an overhead projector, and a screen. If you do not have access to an overhead projector and/or transparencies, have each group prepare the SYMPOSIUM PAPER-MAP on a large piece of butcher paper, using crayons. If nothing else is available, use the chalkboard.
- 3. **Film** If possible, obtain a film on a hunting and gathering society to show during Day 5. *The Hunters,* dealing with the African Bushmen, is superb.
- 4. Research materials Speak with your school librarian and department head at least seven days prior to beginning ADAPT. Set up special shelves in your school library or your classroom with books, magazines, and other materials that will help your students fulfill their research tasks.
- 5. Preparation
 - Number 1 to 7 in the upper right-hand corner of the landform maps. Do the same for the climate, vegetation, wildlife, and mineral maps. Mix together all 35 maps.
 - Staple together seven research packets, each containing a copy of Research Tasks #1-#5.

DAILY LESSON PLANS: Cycle 1

- Day 1
- 1. Pass out the STUDENT GUIDES and have stu-

dents read paragraph 1. Then lead the class in a discussion about the questions. Ask which environmental factor would be the most useful to know if they had to predict the most logical location for a pre-metal, hunting-gathering society on an unknown continent such as Schlunkland.

- 2. Have students read the remainder of the STU-DENT GUIDE.
- 3. Distribute the mixed-together maps so that chance determines which a student receives. (Do not tell them that the number in the corner will determine their future group.)
- 4. Explain that each student has 10 minutes to determine the most logical location for a hunting-gathering society. Each student is to circle an area the size of a penny on his/her map, explaining the choice's logic on the back. Students are not to share ideas at this time.
- 5. Divide the class into seven groups (determined by the numbers on the maps). If you do not have enough students to make five-member groups, do not have fewer than four to a group, even if this means having several four-member groups. In such groups, give a landform map and a mineral map to the same person. Do the same with research tasks. Each group then chooses a chairperson.
- 6. Explain that each expert is to justify his/her choice of location to the group. You may wish to send some groups to the library or resource center in order to lessen the noise factor! Stress the importance of using a good encyclopedia. Explain that you and the librarian have set up a Reserve Shelf: ADAPT in the library. (You may wish to spend a period in the library on directed research.)
- 7. Tell the groups: You must agree on a single location whose total area is no larger than a quarter, though it can be any shape. It must also be contained in only one climate zone. Each member of the group must have this common area indicated on his/her individual map no later than five minutes before the end of this period.
- 8. In the event any group fails to compromise and decide on a common location, the final decision will be made by the chairperson.
- Distribute the research task packets to each chairperson, who removes the staple and distributes separate tasks to proper group members.

Explain that the Research Tasks will be presented tomorrow and that the other members of the group will evaluate the quantity/quality of each person's research by awarding zero to 10 RIPS (Research Investigation Points). Thus, perfect research will result in 40 RIPS! *Note:* For any four-member groups, change the possible RIPS that a member can award to 0-13, allowing the chairperson to cast 14.

Day 2

- 1. Note: You may want to give your students a work day either in the classroom or the library prior to Day 2.
- Review Day 1's activities. Explain that each student first presents his/her research to the group. After the presentation, the group members individually award the "expert" 0-10 RIPS each. This is to be done by having the student pass the research task around the group so that members can award points and place their initials after the points. (See top of any research task sheet.)
- 3. Explain that the group must come to some conclusions concerning its society and how it is affected by the physical environment. Further explain that these conclusions are to be outlined on the SYMPOSIUM PAPER-MAP (paper and transparency) by the end of the period.
- 4. Have students meet in their groups and share research.
- 5. Check on progress and pressure chairpersons to complete material by end of the period.
- Tell chairpersons to collect all research tasks at the end of the period. If desired, chairperson may take material home to complete SYMPOSIUM PAPER-MAP. (Keep track of your transparency pens, especially if they are needed for subsequent classes!)
- 7. If work is finished and collected, place each group's work in a folder for use during the next class meeting.

Day 3

- Arrange a table or five desks in front of room. Place an overhead projector in the middle for chairperson's use.
- 2. Decide by chance (numbers from a "hat," etc.)

which group will first present its report. Pass out SYMPOSIUM EVALUATION SHEET to each chairperson and explain evaluation procedure:

- Evaluation takes place after each group presentation.
- The maximum points a group can award is 10.
- The group caucuses and discusses the presentation before deciding on points.
- The chairperson enters the points on the sheet.
- Chairpersons of evaluating groups read their RIPS.
- Evaluated group's chairperson enters combined RIPS on his/her group's research task sheets.
- To prevent groups from changing their SYMPO-SIUM PAPER-MAP after seeing errors made by groups making earlier presentations, collect all SYMPOSIUM PAPER-MAPS before the symposium. Do not give them out until the group is in front of the class for its presentation.
- 4. Tell the chairperson of the first group to make its presentation. Try to limit the talk to 10 minutes. Allow no interruptions or questions from the audience during this time!
- 5. Cross-examination by the audience now takes place. Ask students to reflect on errors in logic, misplaced environmental factors, failure to consider possible effects of decisions, failure to cope with problems, etc. This may get out of hand! The specific expert should answer any questions directed to his/her area.
- Watch the time! Tell class that presentations will continue next class meeting. Have chairpersons keep SYMPOSIUM EVALUATION SHEETS in their folders.

Day 4

- 1. Follow the same procedure as Day 3 except collect SYMPOSIUM EVALUATION SHEETS, research task sheets, and SYMPOSIUM PAPER MAPS from chairpersons.
- 2. Record RIPS and return materials next day.

Day 5

1. Arrange for a 16mm movie projector or video equipment to show the film you have obtained on a hunting-gathering society.

- 2. Review the last four class meetings, stressing how the class has been examining the various ways in which physical environment influences hunting-gathering societies.
- 3. Explain that the class will now observe a film on how a real hunting-gathering society adapts. Ask them to watch for any specific examples of adaptation that they may have predicted. Ask them to look for any unique adaptations they never could have predicted.
- 4. Show the film.
- 5. Discuss the film in relationship to #3 above.

SETUP DIRECTIONS: Cycle 2

- 1. **Duplication** Duplicate the following pages in the numbers designated:
 - LANDFORM MAP (7)
 - CLIMATE MAP (7)
 - VEGETATION MAP (7)
 - MINERAL MAP (7)
 - POTENTIAL DOMESTICATED PLANTS MAP (7)
 - POTENTIAL DOMESTICATED ANIMALS
 MAP (7)
 - RESEARCH TASK 1 (7)
 - RESEARCH TASK 2 (7)
 - RESEARCH TASK 3 (7)
 - RESEARCH TASK 5 (7)
 - RESEARCH TASK 6 (7)
 - RESEARCH TASK 7 (7)
 - SYMPOSIUM PAPER-MAP (10; 7 for Day 2)
 - SYMPOSIUM EVALUATION SHEET (10; 7 for Day 3 and subsequent days)
 - CYCLE 2 FACT SHEET (class set) Place all these duplicated materials in labeled manila folders and file them for easy access.
- 2. Film If possible, obtain a film on the origin and significance of the domestication of plants and animals such as the second in *Time-Life's* The Ascent of Man series, "Harvest of the Seasons."
- 3. **Research materials** Continue to use the reserved materials in your school library.

4. Preparation

- Number 1 to 7 in the upper right-hand corner of the landform maps. Do the same for the climate, vegetation, wildlife, and mineral maps. Mix together all 35 maps.
- Staple together seven research packets, each containing five different research tasks.

DAILY LESSON PLANS: Cycle 2

Day 1

- Lead the class in a discussion based on the assumptions about food-producing societies listed on the CYCLE 2 FACT SHEET. How important are various environmental factors to such a society? Which factor would be most useful to know if they had to predict the most logical location for a pre-industrial food-producing society?
- 2. Pass out the CYCLE 2 FACT SHEET.
- 3. Distribute the mixed-together maps so that chance determines which a student receives.
- 4. Explain that each student has 10 minutes to determine the most logical location for a preindustrial food-producing society. Each student is to circle an area the size of a penny on his/her map, explaining the choice's logic on the back. Students are not to share ideas at this time.
- 5. As in Cycle 1, divide the class into seven groups determined by the numbers on the maps. Each group chooses a chairperson.
- 6. Explain that each expert is to justify his/her choice of location to the group. Tell the groups: You must agree on a single location whose total area is no larger than a quarter, though it can be any shape. It must also be contained in only one climate zone. Each member of the group must have this common area indicated on his/her individual map no later than five minutes before the end of this period.
- 7. Distribute research task packets to each chairperson, who removes the staple and distributes separate tasks to proper group members. Explain that the research tasks will be presented tomorrow and that the other members of the group will evaluate the quantity/quality of each person's research by awarding zero to 10 RIPS. Thus, perfect research will result in 40 RIPS!
- 8. Follow Cycle 1's directions for any possible problems.

Days 2-5

 Follow Cycle 1's directions for Days 2-5, except on Day 5 show a film specific to pre-industrial agricultural societies.

SETUP DIRECTIONS: Cycle 3

- 1. **Duplication** Duplicate the following pages in the numbers designated:
 - LANDFORM MAP (7)
 - CLIMATE MAP (7)
 - VEGETATION MAP (7)
 - WILDLIFE MAP (7)
 - MINERAL MAP (14)
 - NATURAL HAZARDS MAP (7)
 - RESEARCH TASK 1 (7)
 - RESEARCH TASK 2 (7)
 - RESEARCH TASK 5 (14)
 - RESEARCH TASK 8 (7)
 - SYMPOSIUM PAPER-MAP (10; 7 for Day 2)
 - SYMPOSIUM EVALUATION SHEET (10; 7
 - for Day 3 and subsequent days)
 - CYCLE 3 FACT SHEET (class set) Place all these duplicated materials in labeled manila folders and file them for easy access.
- 2. **Film** If possible, obtain a film on the origin and significance of the Industrial Revolution.
- 3. **Research materials** Continue to use the reserved materials in your school library.
- 4. Preparation
 - Number 1 to 7 in the upper right-hand corner of the landform maps. Do the same for the climate, vegetation, wildlife, and mineral maps. Mix together all 35 maps.
 - Staple together seven research packets, each containing one copy of Research Tasks #1, #2, and #8; two copies of Research Task #5.

DAILY LESSON PLANS: Cycle 3

Day 1

- Lead the class in a discussion based on the facts and assumptions listed on the CYCLE 3 FACT SHEET. Ask which environmental factor would be most useful to know if they had to predict the most logical location for an industrial society. Bring out the significance of possible natural hazards to such a society.
- 2. Pass out CYCLE 3 FACT SHEET.
- 3. Distribute the mixed-together maps so that chance determines which a student receives.
- 4. Explain that each student has 10 minutes to determine the most logical location for an industrial society. Each student is to circle an area the size of a penny on his/her map, explaining the

choice's logic on the back. Students are not to share ideas at this time.

- 5. Divide the class into seven groups determined by the numbers on the maps. Note that each group will have two students with MINERAL MAPS. Each group then chooses a chairperson.
- 6. Explain that each expert is to justify his/her choice of location to the group. Tell the groups: You must agree on a single location whose total area is no larger than a quarter, though it can be any shape. Each member of the group must have this common area indicated on his/her individual map no later than five minutes before the end of this period.
- 7. Distribute the research task packets to each chairperson, who removes the staple and distributes tasks to proper group members. Due to the complexity of the mineral research for this type of society, suggest that the two mineral experts divide up either the minerals to be researched or the research questions. Explain that the research tasks will be presented tomorrow and that the other members of the group will evaluate the quantity/quality of each person's research by awarding zero to 10 RIPS. Thus, perfect research will result in 40 RIPS!
- 8. Follow Cycle 1's directions for any possible problems.

Days 2-5

 Follow Cycle 1's directions for Days 2-5, except on Day 5 show a film specific to industrial societies.

SETUP DIRECTIONS: Cycle 4

- 1. **Duplication** Duplicate the following pages in the numbers designated:
 - LANDFORM MAP (7)
 - CLIMATE MAP (7)
 - VEGETATION MAP (7)
 - WILDLIFE MAP (7)
 - MINERAL MAP (14)
 - RESEARCH TASK 9 (class set for Day 1)
 - FUTURE SYMPOSIUM PAPER-MAP (10;7 for Day 2)

Place all these duplicated materials in labeled manila folders and file them for easy access.

2. Film If possible, obtain a film on the predictions of the nature of future societies such as *Future Shock* or *1985*.

- 3. **Research materials** Continue to use the reserved materials in your school library.
- 4. Preparation
 - Number 1 to 7 in the upper right-hand corner of the landform maps. Do the same for the climate, vegetation, wildlife, and mineral maps. Mix together all 35 maps.

DAILY LESSON PLANS: Cycle 4

Day 1

- Pass out maps the same as you did during Cycle 1, Day 1. Tell students that the time represented by the maps is 10,000 B.C. They are to indicate what changes in the physical environment shown on their map might have taken place from 10,000 B.C. to A.D. 10,000. They are to briefly explain on the back of the map how they reached their conclusions. Allow about 10 minutes for this activity.
- 2. Divide the class into groups as you did in Cycle 1, Day 1, according to the numbers in the corners of the maps. Have each group elect a chairperson. Explain that they are to listen to each others' predictions and come to some common conclusions for each map. *They are not to locate any society.*
- 3. At the end of the period, pass out Research Task #9 to the chairpersons, who will distribute them to group members for homework.

Day 2

- 1. Review previous class meeting's assignment. Place in groups and follow procedure for Cycle 1, Day 2.
- 2. Explain that the FUTURE SYMPOSIUM PA-PER-MAP and the FUTURE SYMPOSIUM PA-PER-MAP transparency must be completed by the end of class.
- 3. Allow time to work on map assignment.
- 4. Collect Research Task #9, FUTURE SYMPO-SIUM PAPER-MAPS, FUTURE SYMPOSIUM PAPER-MAP transparencies, and pens from chairpersons.

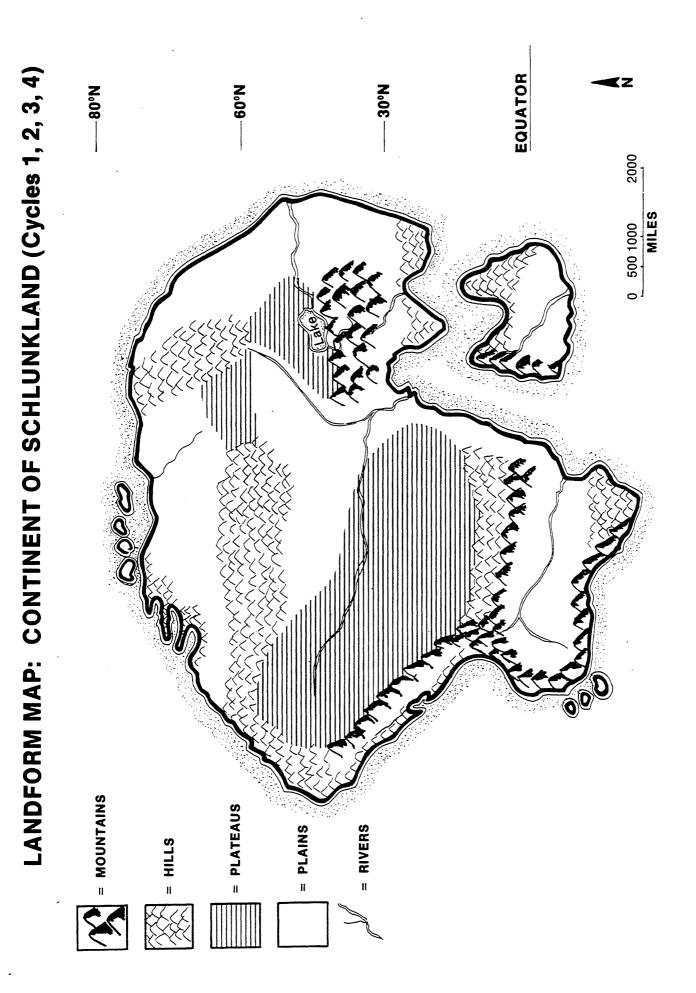
Days 3-4

1. Follow Cycle 1's directions for Days 3-4.

Day 5

- 1. Review the major conclusions reached by groups in previous two class meetings.
- 2. Show a film dealing with the future, such as *Future Shock* or *1984.* Ask the class to watch for any references to situations they predicted.
- 3. Discuss the film in light of situations students predicted.





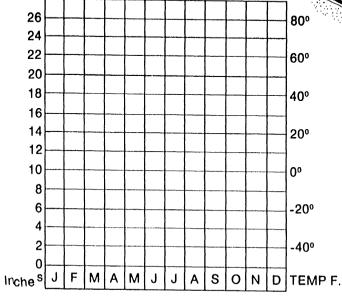
CLIMATE MAP: CONTINENT OF SCHLUNKLAND (Cycles 1, 2, 3, 4)

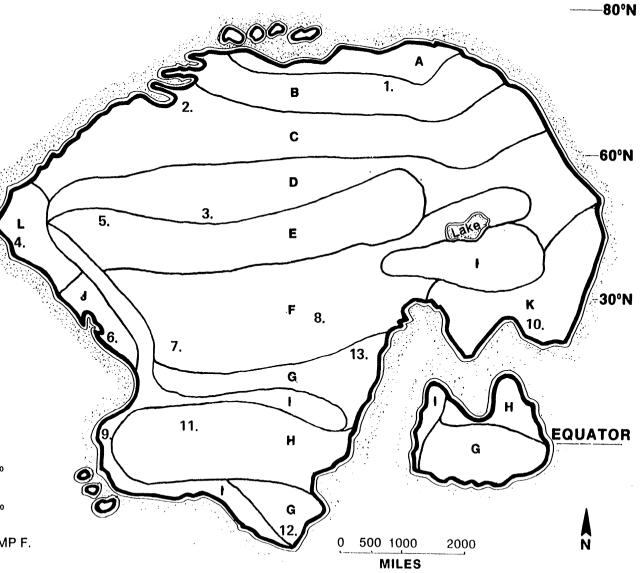
- A = **POLAR ICECAP** (white)
- B = **TUNDRA** (purple)
- C = SUBARCTIC (dark blue)
- D = **HUMID CONTINENTAL** (light blue)
- E = **STEPPE** (light orange)
- J = **MEDITERRANEAN** (light green)
- L = MARINE (dark green)
- F = **DESERT** (yellow)

CLIMATE:

- H = TROPICAL RAINFOREST (red)
- K = MONSOON (brown)
- I = UNDIFFERENTIATED MOUNTAIN (gray)
- G = SAVANNA (dark orange)

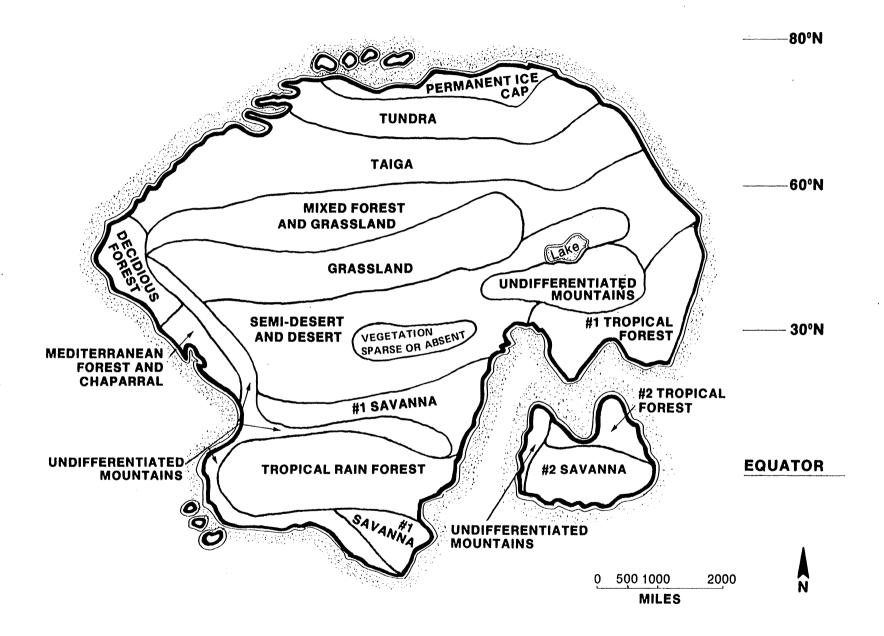






ADAPT 9

VEGETATION MAP: CONTINENT OF SCHLUNKLAND (Cycles 1, 2, 3, 4)



WILDLIFE MAP: CONTINENT OF SCHLUNKLAND (Cycles 1, 4)

(Key to Wildlife Population Map)

MAMMALS

Aa	Aardvark	De	Deer	Lp	Leopard	Pu	Puma
An	Antelope	DI	Dolphin	Ly	Lynx	Ra	Rat
Ar	Armadillo	EI	Elephant	Ma	Mara	Rh	Rhino
As	Wild Ass	Fo	Fox	Md	Mandrill	Se	Seal
Ba	Bat	Ga	Gaur	Mb	Magabey	Sh	Shrew
Bb	Baboon	Gb	Gibbon	Mg	Mountain Goat	Sk	Skunk
Bd	Badger	Ge	Gerbil	Mi	Mice	SI	Sloth
Be1	Brown Bear	Gi	Giraffe	Mk	Mink	Sq	Squirrel
Be2	Panda Bear	Gn	Guanaco	Мо	Moose	Ta	Tapir
Be3	Polar Bear	Go	Gorilla	Mq	Macaque	Ti	Tiger
Be4	Spectacled Bear	Gp	Gopher	Mr	Marmoset	Tk	Takin
Bi	Bison	Gu	Guenon	Ms	Mountain Sheep	Tr	Tamarin
Br	Boar	Gz	Gazelle	Mu	Musk Ox	Vi	Vicuna
Bu	Bush Baby	Ha	Hare	Мy	Monkey	Vo	Vole
Βv	Beaver	He	Hedgehog	Oc	Ocelot	Wa	Walrus
Ca	Caribou	Hi	Hippopotamus	Ор	Opossum	We	Weasel
Cb	Capybara	Ho	Horse	Or	Orangutang	Wh	Warthog
Ce	Cebid	Hy	Hyena	Pc	Paca	Wi	Wildebeast
Ci	Chiru	lb	lbex	Pd	Prairie Dog	Wo	Wolf
CI	Colobus Monkey	Ja	Jaguar	Pi	Bush Pig	WI	Whale
Ср	Chimpanzee	La	Langur	Ро	Porcupine	Ya	Yak
Ct	Cheetas	Le	Lemming	Pr	Pronghorn	Ze	Zebra
Су	Coyote	Li ·	Lion	Pt	Potto		

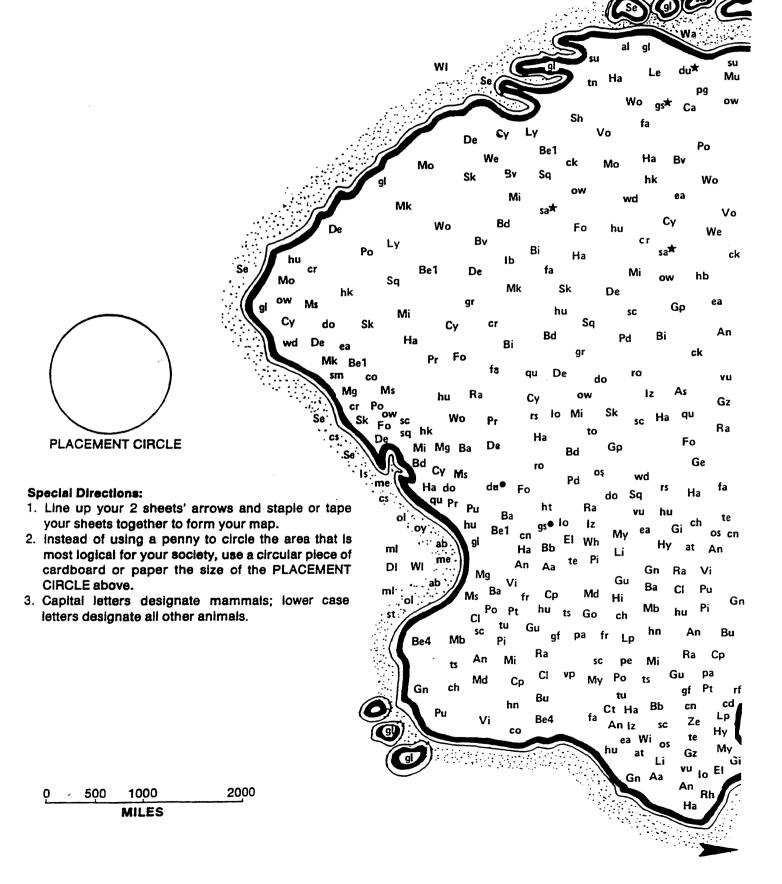
BIRDS

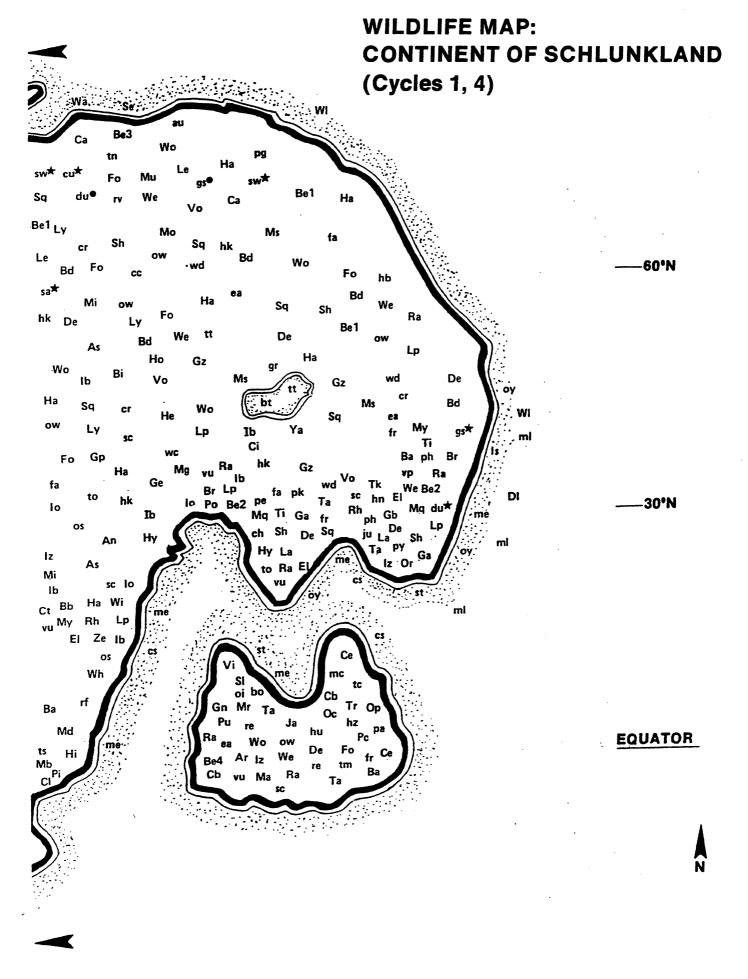
MISCELLANEOUS

ab at	Abalone Ant	hb Ib	Honey Bee Lady Bug	py rs	Python Rattlesnake
bo	Boa	lo	Locus	SC	Scorpion
bt	Boney Tail Fish	ls	Lobster	sm	Salmon
cd	Crocodile	İz	Lizard	st	Starfish
ch	Chameleon	me	Mussel	te	Termite
cs	Clams	ml	Mackerel	to	Tortoise
fr	Frog	ol	Olivella	ts	Tsetse Fly
ht	Horney Toad	oy	Oyster	tt	Trout
				vp	Viper

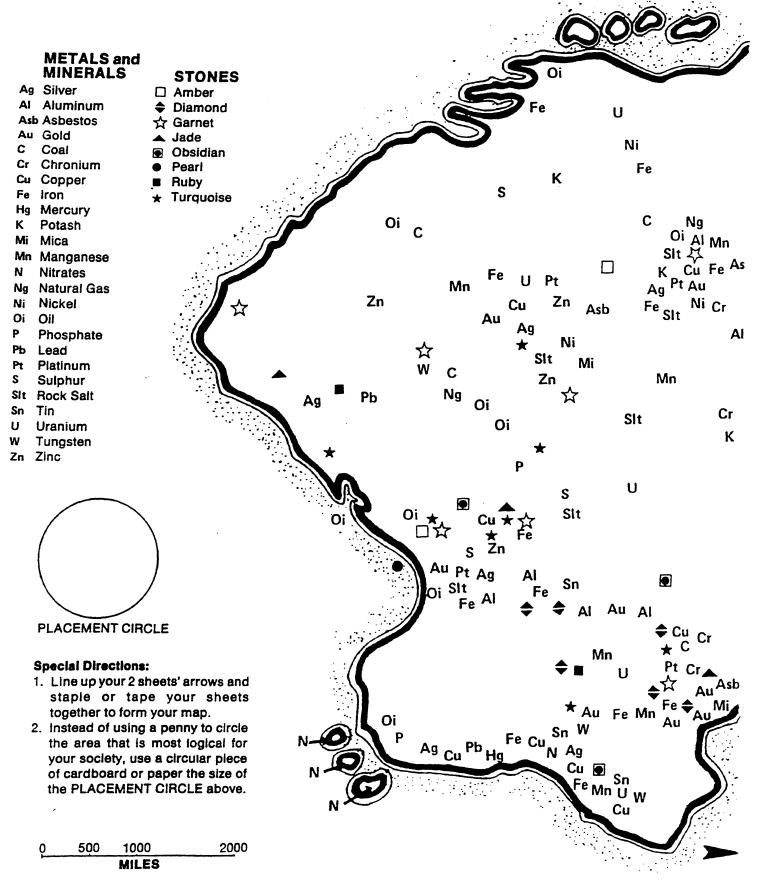
LOGIC:

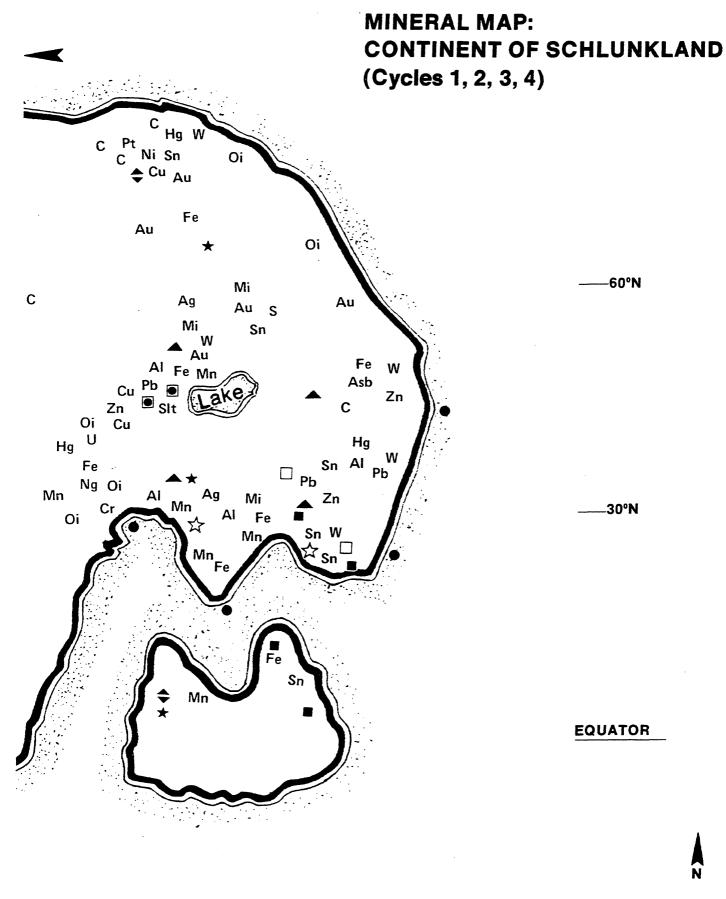
WILDLIFE MAP: CONTINENT OF SCHLUNKLAND (Cycles 1, 4)

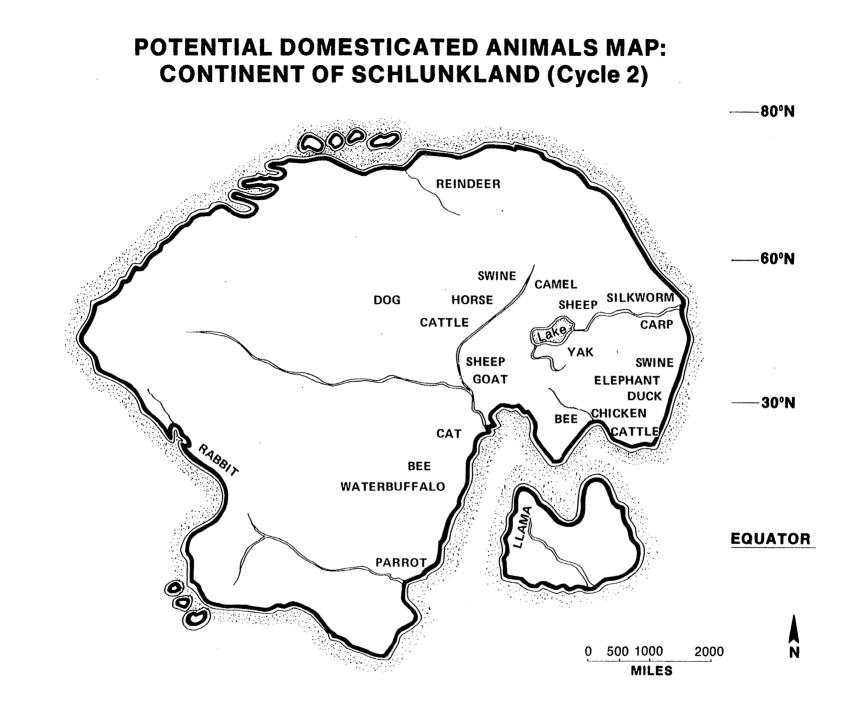




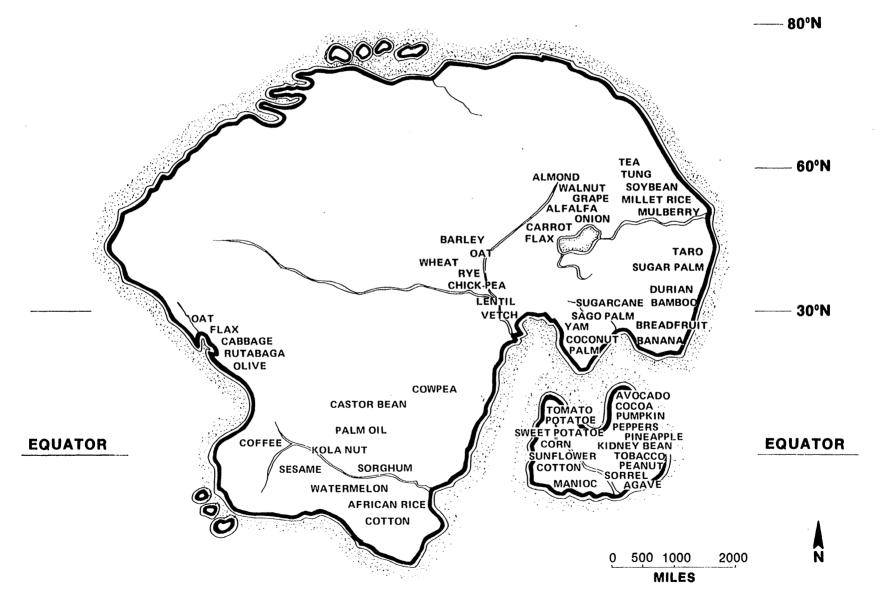
MINERAL MAP: CONTINENT OF SCHLUNKLAND (Cycles 1, 2, 3, 4)



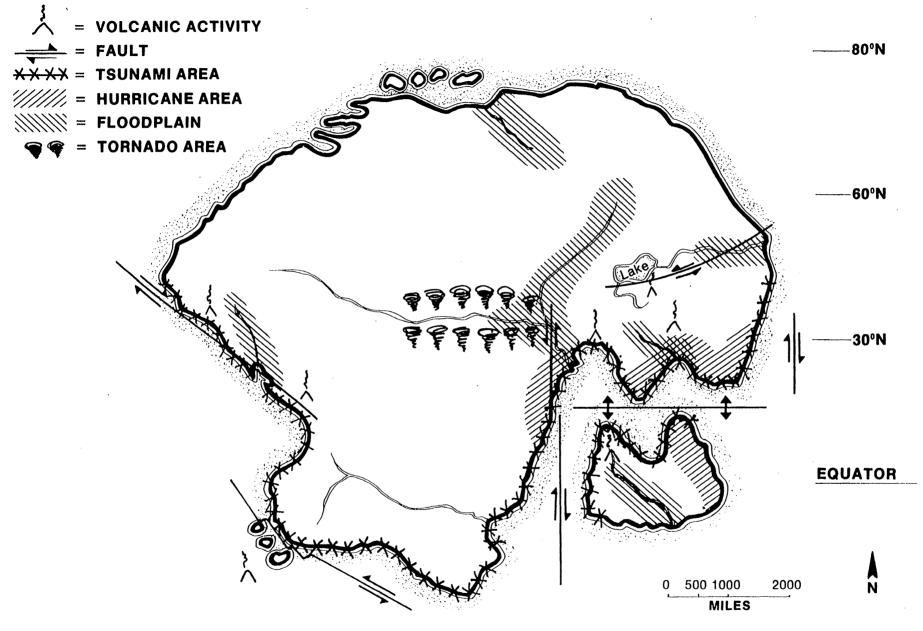




POTENTIAL DOMESTICATED PLANTS MAP: CONTINENT OF SCHLUNKLAND (Cycle 2)



NATURAL HAZARDS MAP: CONTINENT OF SCHLUNKLAND (Cycle 3)



RESEARCH TASK 1: LANDFORM EXPERT (Cycles 1, 2, 3, 4)

Name	Group
RIPPERS (Each student evaluating this RESEARCH TASK s the above. Each RIPPER should initial the RIPS awarded. these RIPS the number of SYMPOSIUM RIPS the group rece	The evaluated student should then add to all
Points and initials + SY	MPOSIUM RIPS = Total RIPS
1. What is the major landform your society inhabits	s?
2. Define this type of landform:	
3. How will this landform influence the shelter of th	e society in question?
4. How will this landform influence the <i>clothing</i> of t	he society in question?
•	
5. How will this landform influence the food utilized	by this society?
6. How will this landform influence the transportati	on utilized by this society?
7. How might this landform affect the society in gu	estion in other ways? (<i>religion</i> ? social

organization? political organization? recreation? the arts?)

RESEARCH TASK 2: CLIMATE EXPERT (Cycles 1, 2, 3, 4)

(page 1)

Name _____

Group

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____ + SYMPOSIUM RIPS _____ = Total RIPS _____

RAW CLIMATE DATA

(selected sites on the continent of Schlunkland)

Month ≁ Site	• J	F	M	А	м	J	J	А	S	0	N	D	
1	-24	-23	-10	8	23	37	48	45	30	18	-8	-25	temp.
	.7	.7	.9	1.0	1.0	1.5	2.0	1.7	1.6	1.5	1.7	.5	precip.
2	-10	5	16	31	50	66	67	57	46	28	4	-8	temp.
	1.6	.7	.8	.5	.6	1.6	1.8	2.1	1.3	1.0	.7	.5	precip.
3	26	25	27	34	51	68	78	79	75	68	56	35	temp.
	.6	1.0	1.5	2.0	3.0	4.0	2.8	3.1	3.5	2.0	1.5	.8	precip.
4	44	44	45	50	55	60	66	64	59	53	·` 49	45	temp.
	2.3	2.2	2.1	2.0	2.2	1.5	1.3	2.0	2.3	3.3	3.2	3.7	precip.
5	26	30	39	47	57	68	69	67	58	47	34	28	temp.
	.8	.7	.8	1.1	2.5	2.5	1.7	1.2	1.6	1.1	1.0	1.1	precip.
6	50	54	56	58	59	62	63	63	64	60	54	49	temp.
	3.5	2.7	3.0	1.3	.6	.1	-	-	-	.7	1.5	3.1	precip.
7	56	61	66	71	77	84	91	91	84	72	63	56	temp.
	.3	.5	.3	.2	-	-	.2	.6	.3	.3	.4	.5	precip.
8	72	74 -	80	87 -	91 .1	94 .9	91 2.2	83 3.0	87 1.5	86 .8	82 -	78 -	temp. precip.
9	55	56	59	61	62	59	58	58	58	57	55	55	temp.
	2.9	1.4	2.0	4.5	6.0	4.1	5.0	7.0	7.3	9.7	8.2	4.4	precip.
10	76	80	85	87	86	82	80	79	81	84	85	81	temp.
	.5	.5	.5	2.0	13	20	23	21	16	8.0	3.0	.6	precip.
11	78	79	80	79	78	79	80	81	80	80	79	79	temp.
	12	10	11	11	13	9	9	8	8	7	8	11	precip.
12	80	79	78	77	73	70	70	76	80	81	82	83	temp.
	7	6	6	2.5	2.6	.9	.8	.4	2.1	2.7	5	5	precip.
13	69 .2	72 .3	73 .8	74 4	73 8	71 9	70 13	69 12	68 9	70 2	72 .1	71	temp. precip.

1. What is the average annual temperature for your spot? _____

2. What is the annual precipitation for your spot? _____

3. What is the warmest average temperature for a month? _____

4. What is the coldest average temperature for a month?

5. Translate the raw data to a climate graph on the CLIMATE MAP OF THE CONTINENT OF SCHLUNKLAND.

RESEARCH TASK 2: CLIMATE EXPERT (Cycles 1, 2, 3, 4)

(page 2)

6. What types of shelter would the climate require for the society in question?

7. Would there be a variation in shelter requirements for various seasons?

8. What types of clothing, if any, would be required for this climate?

9. How would food availability be affected by this climate?

...

10. What transportation problems would be created by this climate?

11. How might this climate affect the **society** in **question** in other ways? (**religion**? **social organization**? **political organization**? **recreation**? **the arts**?)

RESEARCH TASK 3: VEGETATION EXPERT (Cycles 1, 2, 3, 4)

(Page 1)

Name ____

----- Group ----

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____

_____ + SYMPOSIUM RIPS _____ = Total RIPS _____

Note: Numbers refer to season plant has flowers, nuts, berries, or fruit: 1-winter; 2-spring; 3-summer; 4-fall; if no number appears, the season is irrelevant.

TUNDRA Blueberry-3, Reindeer moss, Dryas plant-23, Dwarf willow, Grasses, Sphagnum moss.

TAIGA Aspen, Birch, Blueberry-3, Grasses, Cranberry-4, Douglas fir, Dwarf willow, Juniper, Pine, Reindeer moss, Skunk cabbage-34, Sphagnum moss, Spruce, Water lily-3.

DECIDUOUS FOREST Maple, Douglas fir, Spruce, Lupin-2, Birch, Aspen, Juniper, Skunk cabbage-34, Oak-4, Flowering dogwood-23, Evening primrose-34, Blueberry-3, Pasture grasses, Hemlock tree, Madrone-41, Pine, Water lily-3, Water lettuce-3.

MIXED FOREST Aspen, Cypress, Birch, Blueberry-3, Cranberry-4, Evening primrose-34, Flowering dogwood-23, Hemlock tree, Honey locust-3, Juniper, Wintergreen-3, Maple, Pasture grasses, Pecan-4, Persimmon-4, Pickerel weed-34, Pine, Oak-4, Orchid-23, Fireweed-3, Pitcher plant-3, Catalpa-4, Gentian-34, Magnolia, Spruce, Trumpet creeper-34, Buckeye-4, Water lily-3, Golden rod-34, Foxglove-34, Larch.

GRASSLAND Barley-34, Clover-234, Reed-3, Pasture grasses, Spruce, Thistle-23, Poppy-2, Sagebrush-23, Filbert-41, Mesquite-3, Buckeye-4, Honey locust-3, Sunflower-34, Spider flower-234, Dandelion-234.

DESERT AND SEMI-DESERT Mesquite-3, Joshua tree-2, Prickly pear-23, Clover-234, Sagebrush-23, Saguaro cactus-3, Barrel cactus-23, Madrone-41, Agave-3, Thistle-23, Gourd-3, Date palm-3, Paper reed, Cowpea-3, Heath-34, Gum arabic-2 (acacia senegal), Onion-12, Moroccan broom, Welwitschia-23, Spiderflower-234, Doum palm-23, Ocotillo-23, Cholla-23, Tamarisk-23, Pinyon pine-4, Creosote.

MEDITERRANEAN FOREST AND CHAPARRAL Broad bean-2, Chamise-23, Beech, Birch, Laurel, Clover-234, Crocus-2, Evergreen oak-4, Fig-3, Flax-234, Gentian-34, Hawthorn-34, Filbert-41, Holly-34, Ivy, Juniper, Mistletoe-41, Mushroom-234, Mariposa-23, Oak-4, Olive-3, Pasture grasses, Pine, Poppy-2, Reed-3, Saxifrage-23, Spruce, Sweet chestnut-34, Thistle-23, Water lily-3, Wild raspberry-34, Mint-234, Manzanita-23, Sugar bush-23, Sagebrush-23, Chia-3, Buckwheat-23, Yucca-3.

#1 SAVANNA African violet-2, Acacia-2, Aloe-23, Baobab, Cowpea-1, Crown of thorns, Doum palm-23, Dracaena. Ebony, Paper reed, Elephant grass, Gum arabic-2, Millet-34, Okra-3, Onion-12, Yam-4, Watermelon-3, Sansevieria, Pyrethrum-23, Geranium-23.

#2 SAVANNA Ground cherry-3, Maize-3, Nasturtium-23, Pampas grass, Passion fruit-3, Peanut-4, Potato-2, Red pepper-3, Runner bean-3, Tobacco-34, Tomato-3.

#1 TROPICAL FOREST Bamboo, Banana, Banyan tree, Orchid, Hibiscus, Jute, Lotus, Maidenhair tree, Mango-3, Mulberry-23, Nutmeg, Orange-23, Peach-23, Pepper-3, Rhododendron, Rubber plant, Sago palm-23, Sugar cane, Tea, Teak, Walnut-4, Sandalwood, Lianas, Casuarina, Evergreen oak-4, Camellia, Magnolia, Tree ferns, Coconut palm.

#2 TROPICAL FOREST Allamanda, Brazil nut, Cassava, Ceriman, Cinchona, Cocoa, Flamingo flower, Water Iily, Guava, Jacaranda, Mahogany, Maize-3, Papaya, Rubber tree, Peanut-4, Pineapple, Potato-2, Red pepper-3, Rosewood, Runner bean-3, Silk-cotton tree, Tobacco-34, Tomato-3, Orchid, Vriesia.

TROPICAL RAIN FOREST African violet, Coffee, Ebony, Gladiolus, Gourd, Oil palm, Okra-3, Sansevieria, Sapele, Strelitzia, Water melon-3, Arum Iily, Yam-4, Orchid, Dipterocarpus, Pandanus, Rubber plant, Bamboo, Tree ferns, Lianas, Mangrove.

UNDIFFERENTIATED MOUNTAINOUS Pasture grass, Rhododendron-23, Heather-23.

RESEARCH TASK 3: VEGETATION EXPERT (Cycles 1, 2, 3, 4)

(page 2)

1. How, if at all, will this **vegetation** be **used for shelter** by the society in question? Sketch examples if you can.

2. How, if at all, will this **vegetation** be **used for clothing**? List specific plants and means of preparation. Sketch, if possible.

3. How will this **vegetation** be **used for food**? List specific plants, season of availability, and means of preparation.

4. If desired, can this food be preserved? If so, explain how.

5. In what ways can this **vegetation** be **used for transportation** by the society in question? Sketch, if possible.

6. Describe how this vegetation might be important to *the society* in question in other ways? (*religion? social organization? political organization? recreation? the arts*?

RESEARCH TASK 4: WILDLIFE EXPERT (Cycles 1, 4)

Name	Group	

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____ + SYMPOSIUM RIPS _____ = Total RIPS _____

- 1. List the *animals* or region occupied by the society in question.
- 2. Which **animals** would be **useful for shelter** by the society? Explain and draw sketches if possible.
- 3. Which *animals* could be *used for clothing* by the society? Explain and draw sketches if possible.
- 4. List all animals that would be used by the society for food.
- 5. List at least two methods for acquiring and preparing the animals listed in question 4.
- 6. Which animals would be used for transportation by the society?
- 7. How might any of these animals be important to the **society** in question in other ways? (*religion*? *social organization*? *political organization*? *recreation*? *the arts*?)

RESEARCH TASK 5: MINERALS EXPERT (Cycles 1, 2, 3, 4)

Name	Group	
Nume	aioup	

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials	 + SYMP	OSIUM RIPS	=	Total RIPS	

1. List the *minerals* of the region occupied by this society.

- 2. Which of these *minerals* from question 1 will be used by this society?
- 3. List *minerals needed* by this society that are not found in the region they inhabit.
- 4. By what means will they acquire these minerals from question 3?
- 5. Which of the *minerals* used by this society could be *used as food or in food preparation and acquisition*? Explain, giving specific examples.
- 6. Which of the *minerals* used by this society could be *used for clothing and adornment or their preparation*? Give specific examples.
- 7. How could these *minerals* be used as *shelter or in its preparation*?
- 8. Which of these *minerals* would be used for *transportation*?
- 9. In what other ways might any minerals in this region influence the society in question? (religion? social organization? political organization? recreation? the arts?)

RESEARCH TASK 6: DOMESTICATED PLANT EXPERT (Cycle 2)

Name ____

ADAPT 26

Group ____

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____ + SYMPOSIUM RIPS _____ = Total RIPS _____

1. List the *plants* found in your group's area that can possibly be domesticated.

- 2. How, if at all, will this **vegetation** be **utilized for clothing**? List specific plants and means of preparation. Sketch, if possible.
- 3. How will these *plants* be *utilized for food*? Explain methods of planting, cultivation, harvest, and preparation as food.
- 4. Which *plants* can be *utilized for animal food*? If necessary, explain methods of cultivation, harvest, and preparation. If wild foods can be utilized, explain potential problems and their possible solutions.
- 5. In what ways can the vegetation be utilized for transportation? Sketch, if possible.
- 6. Describe any other ways this vegetation might affect the society in question. (social organization? political organization? recreation? the arts?)
- 7. In light of your answers to all of the above, explain which single domesticated plant would be most important to the society.

RESEARCH TASK 7: DOMESTICATED ANIMAL EXPERT (Cycle 2)

Name _____ Group _____

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Poi	ints ar	nd ini	tials				+ S`	YMPO	SIUM	RIPS	=	Total RIPS	
1.	List	the	animals	found	in you	ur group's	area	that	can	possibly	be	domesticate	e d .

- 2. Which of the *animals* in your area would persons find *useful for shelter*? Explain, with sketches if possible.
- 3. Which of the **animals** in your area would be **utilized for clothing** by the society? Explain, giving specific examples and drawing sketches, if possible.
- 4. List the animals that would be important for food to the society.
- 5. Give examples of how the animals listed above would be prepared for food use.
- 6. Which animals would be utilized for work? Explain.
- 7. Describe any other ways these animals might be important to the **society** in question. (social organization? political organization? the arts?)
- 8. Explain methods the society would use to control and shelter the animals.
- 9. In light of your answers to all of the above, **which single domesticated animal** would be **most important** to the society?

RESEARCH TASK 8: NATURAL HAZARDS EXPERT (Cycle 3)

Name _____ Group _____

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____ + SYMPOSIUM RIPS _____ = Total RIPS _____

1. Which natural hazard might affect the society of your group's megalopolis?

2. List specific precautions that should be taken to prepare for each of these hazards.

3. Assuming any or all of the listed *hazards* struck your society, how *might* they *affect* the *religious, social, political, and recreational structure*?

4. How would the society's arts be affected by experiencing any of these hazards?

RESEARCH TASK 9: THE FUTURE (Cycle 4)

Name ____

Group ___

RIPPERS (Each student evaluating this RESEARCH TASK should write the number of RIPS he/she gives the above. Each RIPPER should initial the RIPS awarded. The evaluated student should then add to all these RIPS the number of SYMPOSIUM RIPS the group receives.)

Points and initials _____ + SYMPOSIUM RIPS _____ = Total RIPS _____

After you and other group members have made the changes that you believe will have taken place in Schlunkland from 10,000 B.C. to 10,000 A.D., how will the environmental factors shown on your map influence each of the following for a society in the year 10,000 A.D.?

FOOD

CLOTHING

SHELTER

. .

SOCIAL STRUCTURE

POLITICAL STRUCTURE

RELIGIOUS STRUCTURE

RECREATION

THE ARTS

CYCLE 2 FACT SHEET

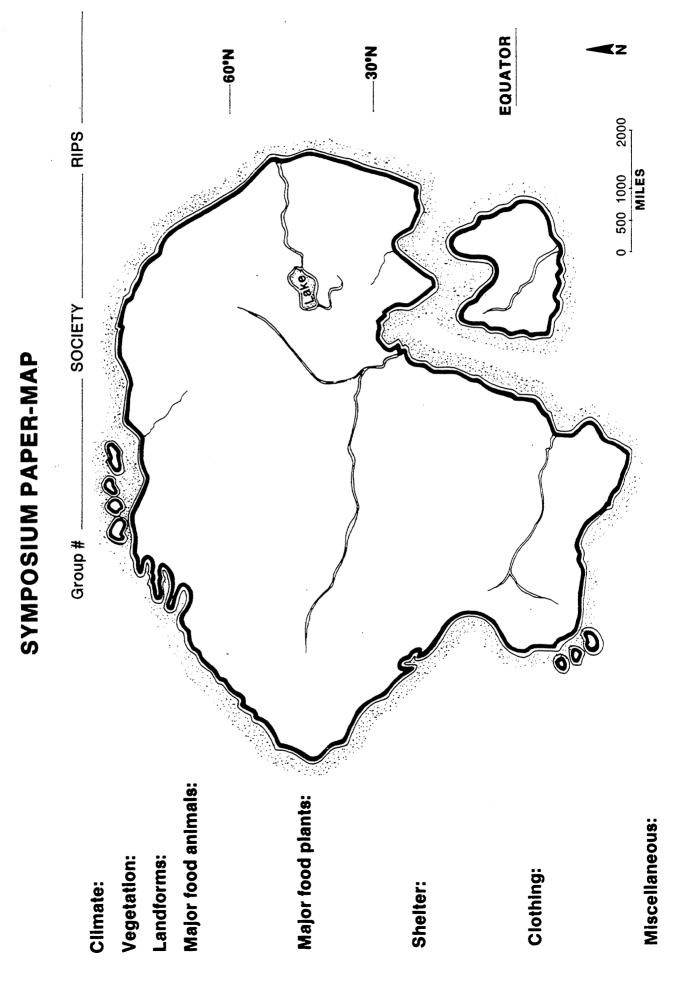
You are to determine the most logical location — no larger than a penny — for a preindustrial food-producing society on the continent of Schlunkland. You are to base your logical choice only on the map you receive. In making your decision, keep the following facts and assumptions about food-producing societies in mind:

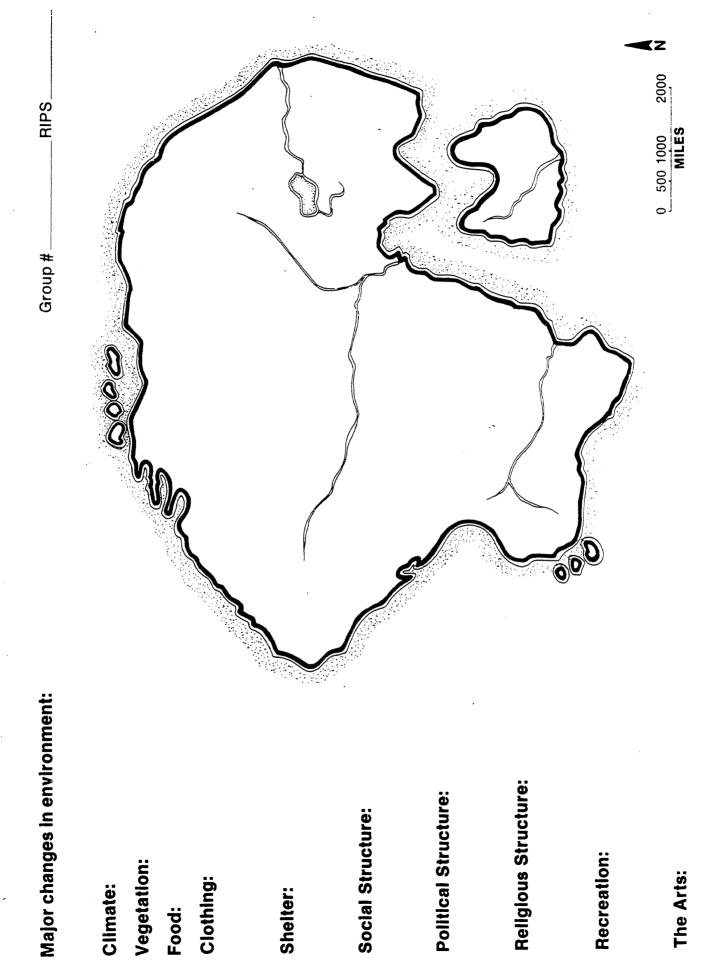
- **1** A food-producing society is one which acquires its food through the cultivation of plants and the domestication of animals.
- 2 Food-producing societies utilize only one or two plants and animals for the major portion of their food supply.
- **3** Because they must be close to fields and flocks, food-producing societies form sedentary communities.
- 4 The ability to produce a reliable and abundant food supply allows for a larger population and freedom to engage in specialized activities.
- 5 Due to larger numbers of people and the complexity of agricultural food production, political, social, and religious organization becomes more specialized.

CYCLE 3 FACT SHEET

You are to determine the most logical location — *no larger than a penny* — for **an industrial megalopolis** on the continent of Schlunkland. You are to base your logical choice only on the map you receive. In making your decision, keep the following facts and assumptions about industrial societies in mind:

- 1 An industrial society requires natural resources that it may not have and for which it may have to trade.
- 2 Industrial megalopolises require access to foreign lands and interior agricultural and resource regions.
- **3** Industrial megalopolises require climates that provide reasonable living conditions for large numbers of people.
- 4 Industrial megalopolises require landforms with the vast areas needed for residential and industrial land use.
- 5 Due to the large numbers, of people and the vast number of possible activities available, industrial societies are extremely complex in social, political, and religious structure.





FUTURE SYMPOSIUM PAPER-MAP

SYMPOSIUM EVALUATION SHEET

What was said:

The presentation's strengths were

The presentation's weaknesses were

How it was said:

Circle the words that best describe the presentation: organized ... unorganized; animated ... sleepy; clear ... muddy; direct eye contact ... little eye contact; effective use of overhead projector ... ineffective use of overhead projector; wide participation by several (or all) members ... overly dominated by chairperson

Points aw	varded:
------------------	---------

Above average				Average	2	Below average				
10	9	8	7	6	5	4	3	2	1	

Evaluators' signatures

(members of Group # _____):

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An interaction unit exploring the importance of physical environment to past, present, and future societies

STUDENT GUIDE

QUESTIONS

- How do different societies adapt to their physical environment?
- How much of your food and clothing is determined by where you live?
- To what extent would your shelter be different if you lived hundreds of miles north or south of your present home?
- Is it possible that any of your country's political or social organization has been determined by the length of your winters or the dryness of your summers?
- Is it pure chance that three of the world's monotheistic religions had their origin among desert-dwelling societies?
- Can similar societies exist in completely differing geographic environments?
- To what extent do a society's arts and recreation reflect the influence of geography?
- Finally, if you were given certain environmental factors, could you predict the way a specific type of society would adapt?

SCHLUNKLAND'S GEOGRAPHY

As you and your fellow class members become world famous scholars on the physical geography of the continent of Schlunkland, you will explore the possible answers to the above questions. You will join a group of five experts in five fields of physical geography:

- landforms
- climate
- vegetation
- wildlife
- minerals

First you will decide on the most logical location for a pre-metal, hunting-gathering society in Schlunkland.

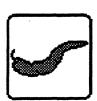












HUNTING-GATHERING SOCIETIES

Anthropologists have developed some basic facts and assumptions about such societies that you will wish to keep in mind:

- **1** Hunting-gathering societies usually consist of 75-100 people.
- 2 Hunting-gathering societies utilize collected plants and hunted animals.
- **3** Hunting-gathering societies adapt their movements to the seasonal availability of plants and animals.
- 4 Hunting-gathering societies have social, political, and religious systems that aid adaptations to the physical environment.
- 5 Hunting-gathering societies utilize only one biome, i.e., Eskimo—Polar Ice Cap; Mbuti Pygmy—Tropical Rainforest; Bushman—Desert.

You will receive a detailed map concerning a specific aspect of the physical geography of Schlunkland. This map will indicate your particular expertise along with your assigned group of fellow scholars. After you and your group have decided on a location for the hunting-gathering society, you will complete research tasks that will assist the group in answering the questions asked above. Pooling members' research, your group will present your conclusions to a symposium called to discuss the problems of human adaptation. Needless to say, the various groups will vigorously cross-examine one another. The assembled scholars' final vote will determine the group that best expressed an understanding of the relationship of hunting-gathering societies to their environments. After your participation in ADAPT, you will realize how physical surroundings significantly influence a society and its culture. No matter where you live, you will be more aware of the importance of physical geography.

