Physical Geography of SE Asia:

Creating an Annotated Sketch Map of Southeast Asia

Grade Level: 9-12

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Time Frame: Two 55 minute class periods

Curriculum Connection: This lesson is intended to be used in a high school World Regional Geography course in a unit on Southeast Asia. Since Southeast Asia is typically taught towards the end of the school year, it is assumed that the concepts of plate tectonics and factors affecting climate have been previously covered. If not, a brief introduction before beginning this activity may be necessary. This activity provides students with an opportunity to apply those concepts to a specific world region and would be a good way to review these concepts before a major assessment.

Learning Outcomes:

Upon completion of this lesson, students will be able to:

1. identify important landforms in Southeast Asia,
2. explain the physical processes which formed those landforms,
3. describe the tectonic and atmospheric forces which affect this region,
4. explain how landforms and weather systems create the unique climate features of this region,
5. draw a sketch map illustrating the major physical features of Southeast Asia.

TEKS Strand(s) Objective(s):

(3) ***Geography***. The student understands how physical processes shape patterns in the physical environment. The student is expected to:

(B) describe the physical processes that affect the environments of regions, including weather, tectonic forces, erosion, and soil-building processes;

(4) ***Geography***. The student understands the patterns and characteristics of major landforms, climates, and ecosystems of Earth and the interrelated processes that produce them. The student is expected to:

(A) explain how elevation, latitude, wind systems, ocean currents, position on a continent, and mountain barriers influence temperature, precipitation, and distribution of climate regions;

(B) describe different landforms and the physical processes that cause their development;

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(22) ***Social studies skills***. The student communicates in written, oral, and visual forms. The student is expected to:

(A) design and draw appropriate graphics such as maps, diagrams, tables, and graphs to communicate geographic features, distributions, and relationships;
(B) generate summaries, generalizations, and thesis statements supported by evidence;
(C) use geographic terminology correctly;
(D) use standard grammar, spelling, sentence structure, and punctuation;

Materials

For Student Use:	
11" x 17" blank paper	one per student **Note:** 11" x 17" paper provides more room to help ensure that students' maps are legible. When folded in half, they are the same size, so are easy to store. If this size cannot be obtained, regular sized paper may be used.
Colored pencils	
Atlas or textbook with map of southeast Asia	See Reference section for the atlas used in creating this lesson, but feel free to substitute the books you have available in your classroom.
For Teacher Use:	
Physical Geography of Southeast Asia Power Point	
Climates of Southeast Asia Power Point	
Computer with projection device and internet connection	

References:

Hayes, D. A. (1993). Freehand Maps Are for Teachers and Students Alike. *Journal of Geography*, 13-15.

Heritage, A. (Ed.). (2001). *DK Compact World Atlas*. New York City: Dorling Kindersley Publishing, Inc.

McNee, R. B. (1955). On the Value of Sketch Maps. *Journal of Geography*, 416-417.

Strategies:

During this lesson, students will be creating a series of annotated sketch maps to illustrate and explain the creation and distribution of Southeast Asia's landforms and climate regions. A typical sketch map is quickly drawn and contains only essential information. They are an excellent way to get rid of an overabundance of detail while focusing on a specific geographic concept. (McNee, 1955) An annotated sketch map is a bit more formal and contains more information. Students will use the annotated sketch maps as a type of graphic organizer for their class notes. Information presented in the power point will be transferred to the students' sketch maps, which will then be used for analysis. As a final assessment activity, students will create a final sketch map combining information from both previous maps.

Note to Instructor: Many students are apprehensive about drawing sketch maps because they feel they do not have the artistic skill necessary to draw a "good" map. Emphasize that all maps are imperfect representations of the earth's surface – they all contain distortions and errors. In addition, sketch maps are an important way for students to develop their mental maps and build understanding about geographic relationships. Assure the students they will not be assessed based upon the artistic merits of their maps and that accuracy will be assessed based upon relative and not absolute location. Finally, the best way to assist students with their anxiety is to model the practice for them as often as possible. (Hayes, 1993)

Procedures to conduct the lesson:

Starting the Lesson: Day One – 5 minutes

Asking Geographic Questions: Introduce the students to the lesson topic by displaying the Guiding Question, which is on the second slide of the "Physical Geography of Southeast Asia" Power Point. Explain to the students that the Guiding Question is the question which the entire lesson seeks to answer. Ask the students to copy down the question, then show the next slide, which depicts the major landforms of Southeast Asia. Have the students use their textbook or atlas to find a climate map of Southeast Asia, as well. Ask them to recall the processes you have previously studied which affect the creation and distribution of landforms and climates. Make sure to remind them to try and recall how landforms and climates interact (ex. Orographic precipitation). Give the students a few minutes to write a brief (2 to 3 sentence) answer to the guiding question.

Guiding Question: ***What processes are responsible for the creation and distribution of the landforms and climates found in Southeast Asia?***

After students have completed their answers, ask a few to share their answers with the class. Hopefully, some students will remember information regarding plate tectonics and will mention the role plates play in creating landforms such as mountains and volcanoes. In addition, some students might mention climate factors such as proximity to water, latitude, and altitude. At this stage, you are just checking for recall. It is not necessary to correct them or add information at this time – tell them that they will learn the important process through completing this activity.

The Lesson:

Acquiring Geographic Information & Organizing Geographic Information:

Explain to the students that they are going to be completing an annotated sketch map as a method of organizing the information they need to answer the guiding question.

Step One: (10 – 15 minutes)

Begin by making sure each student has one sheet of 11" x 17" paper, one set of colored pencils, and a textbook or atlas with a physical map of Southeast Asia. The students should draw an outline of Southeast Asia using a black pencil. (It may be helpful to let them use a regular pencil initially, so they can erase. Once they have an outline they are happy with, they can trace over it with the black colored pencil.) Make sure they fill the paper as much as possible, but leave about a 1" margin around the edges. (This does not have to be exactly 1".)

Note regarding time: If this is the first time students have completed a sketch map, it may take a bit more time. However, try not to give them too much time, or they will try to make their maps too perfect. Set time at 10 minutes to begin with. Check students' progress and increase by a few minutes at a time to make sure students are consistently working. If students have a great deal of experience making sketch maps, this task may only take 5 to 10 minutes.

Step Two: Day One: 25 – 30 minutes

Once the outlines have been completed, continue with the power point. As each concept is explained, have students draw in the appropriate features and add annotations along the sides and margins of the map indicating how each feature was formed or what effect each feature has on landforms or climate. Examples are shown in the power point slides. Higher order thinking questions are presented throughout the power point in the "Notes" section of each slide. Students may write the answers to these questions on the back of their maps. After they have answered, stop and take a few minutes to discuss their answers – making sure to correct any misconceptions or incorrect answers using the answers provided in the "Notes" section on the slide for reference.

End of Day One: 5 minutes

Closing product: Before collecting the maps, have the students complete the closing question (slide 20) on the back of their map. Collect the maps as the students leave class.

Day Two: 5 – 10 minutes

Depending upon the amount of discussion for each question and the length of time it took to draw the sketch maps, you may need to complete the Physical Geography Power Point today.

Step Three: (10 minutes)

Begin the "Climate & Weather of Southeast Asia" Power Point. Give the students a few minutes to answer the opening question (on slide two) for day two. Today's opening question is designed to assist the students in reflecting upon how they learn.

Opening Question: Take a few minutes to evaluate your map from yesterday. What aspects of your map do you find helpful? What aspects of your map do you think might need to be improved? Explain how you think this map might help you understand the physical geography of this region better than traditional notes.

Step Four: (20 minutes)

Then, students will continue to add details to their map of Southeast Asia – this time including information regarding climate and weather patterns. As in yesterday's power point, questions are included in the slides with answers and discussion points in the notes. Have students answer the questions on the back of their maps.

Analyzing Geographic Information & Answering Geographic Questions:

Step Five: (10 - 15 minutes)

Now that the students' maps are complete, give them a few minutes to study their maps and review the information they have written down. Finally, have them answer the guiding question from day one on the back of their maps (slide 12 of Climate and Weather power point). Their answer should list and describe the major features, explain the factors which shaped or created them, explain the impacts they cause on life in the region, and explain how the features work together to make this region unique.

End the Lesson: 5 minutes

Closing product: Have the students reflect upon their answer to the guiding question from day one and compare that with their answer on day two. Have them answer the following questions before handing in their maps: How did your answer change between yesterday and today? Do you feel more confident in answering the question today than you did yesterday? How did drawing the sketch map help you answer the question?

Questions:

Predict how these two landforms would affect the people living in this region.

- Student answers will vary, but in general the answer being sought is "Peninsulas and islands". Predictions are based upon student opinion – again, this will vary, but an example might be: "Most people in this area would live fairly close to the ocean. Many people in this area might be engaged in fishing activities or maritime trade."

Explain how the presence of so many mountains would affect the people who live in this region.

- Mountains tend to isolate groups of people because transportation and communication between groups is difficult. As a result, mountain cultures tend to be very diverse.

Predict which waterway would be the most valuable to control in order to control shipping in the region.

- Predictions will vary, but any well supported answer can be accepted. The Strait of Malacca is the most important waterway due to its strategic location – making the trip from Africa/South Asia much shorter than going all the way around Indonesia.

Based upon what you already know about the geology of Southeast Asia, which type of boundary would you most expect to find here (along the plate boundaries)?

- Subduction boundaries are most likely to be found here due to the presence of a large continental plate (Eurasia) and an oceanic plate (Pacific).

Explain the factors which created the features found in Southeast Asia.

- Each feature will have its own factors, but overall the factor most responsible for creating most of the landforms in Southeast Asia is the collision of numerous plates in this area. The collisions have uplifted some areas, folded others, and created numerous trenches and volcanic arcs throughout the region.

Evaluation/Assessment:

Monitor the students as they complete their maps during class.
Questions asked during class and written on the back of the map can be checked for completion.
Final Grade will be based upon the completed map and the map analysis:

Rubric: Point Total: 5

	Not There Yet	Satisfactory	Clearly Outstanding
Content	**1 point** • Summary merely lists features. • Summary makes little to no attempt to analyze formation and distribution of features. • Summary and annotations do not utilize appropriate vocabulary. • Summary and annotations are difficult to read due to spelling and/or grammar errors. • Map features are missing or incorrectly labeled.	**2 points** • Summary correctly describes most features. • Summary adequately analyzes formation and distribution of most features. • Summary and annotations correctly utilize appropriate vocabulary. • Summary and annotations are generally free from spelling or grammar errors. • Most map features are correctly labeled.	**3 points** • Summary completely and correctly describes each feature. • Summary completely analyzes formation and distribution of all features. • Summary and annotations demonstrate mastery of appropriate vocabulary. • Summary and annotations are largely free from spelling or grammar errors. • All map features are correctly labeled.
Appearance	**0.75 Points** • Map features are not clear and are difficult to read. • Annotations obscure map features. • Map shows minimal effort.	**1.25 Points** • Map features are clear and legible. • Annotations are neat and do not obscure map features. • Map shows effort and attention to detail.	**2 Points** • Map features are clear, legible and attractively drawn. • Annotations are neat and enhance the map presentation. • Map shows great effort and attention to detail