

Lesson Plan (Lesson #1)

Subject	Geography
Level/Stream	Class 11
Topic	Topic: Map Reading
Lesson Title	Map Skills: Bearing and Compass Directions
Learning Objectives	Students will be able to: 1. Find/Calculate bearings and compass directions
Pre-requisite Knowledge	Students should be able to: 1. Navigate confidently in Second Life 2. Identify different types of plants
Pedagogical approach/critical thinking skill	Observation, examination, identification, calculation and comparison skills
Second Life Skill(s)	Capable of reading coordinates using the program Exploratory Study <ul style="list-style-type: none"> ○ Virtual fieldtrip to get an overview of land topography and mastery of map-reading skills

Duration (mins)	Instructions	Resources
Introduction (15 mins)	<ul style="list-style-type: none"> • Teacher will provide a scenario with Powerpoint slides whereby students were stranded on an island and have to find food for survival. Therefore, the task assigned was to locate food on the island. • Teacher will then explain the sequence of the lesson – exploration, pair share, class discussions as well as instructions for the activity • Lastly, teacher will demonstrate on how to complete the assigned tasks. 	Powerpoint slides Computer Second Life program Worksheets
Development	1. Students will work in groups of four to plot locations of food found on the island.	Worksheet Protractor

Second Life Lesson Plans Map Reading and Contours

<p>- Exploration (25 mins)</p>	<ol style="list-style-type: none"> 2. Each student in the group was assigned individual tasks: Task 1. Student #1: Banana tree from Rubber tree Task 2. Student #2: Mangrove tree from Banana Tree Task 3. Student #3: Bamboo from Boat Task 4. Student #4: Boat from Bamboo 3. Students will find the location of the food through compass bearings and coordinates on the map. Students can also check these coordinates with their friends assigned with the same task. 4. Students will then help in locating other members' assigned tasks when they completed their individual task. 5. Students answer the following questions: <ol style="list-style-type: none"> a. What should be included in the map? b. Answers: Scales and contours 6. Students to discuss their experiences in completing the tasks (e.g., how they felt during the task) reflection and sharing sessions. 	
<p>Conclusion (15 mins)</p>	<p>Teacher can assess if students had attained correct answers through class discussions, and thus identifying common mistakes made among students (e.g., calculation of bearings are to start from North direction)</p> <p>Teacher to conclude lesson.</p>	<p>Worksheet</p>

Reflections:

The scenario of the shipwreck allowed students to be engaged in the activity and made instructions clearer. However, students did not have sufficient time to complete the lesson. Firstly, students were still not familiar in navigating in Second Life. Secondly, there were some administrative problems as teacher was not able to lock student's screen thus some students were distracted and were not paying attention when teacher was demonstrating. A suggestion is to ask students to come to the front and sit on the floor when instructions were given. Secondly, teacher should teach students on the skill on calculating and finding compass bearing before the lesson as most students had difficulties in understanding.

*Second Life Lesson Plans
Map Reading and Contours*

Lesson Plan (Lesson #2)

Subject	Geography
Level/Stream	Class 11
Topic	Topic: Map Reading
Lesson Title	Map Skills
Learning Objectives	Students will be able to: Draw and interpret contours of physical landforms based on 2D and 3D views
Pre-requisite Knowledge	Students should understand: Basic elements of map literacy
Pedagogical approach/critical thinking skill	Drawing /sketching 2-D views of topography
Second Life Skill(s)	Field Study <ul style="list-style-type: none"> ○ To conduct an in-depth study of interpreting land topography based on contour patterns

Duration (mins)	Instructions	Resources
Introduction (15 mins)	<ul style="list-style-type: none"> • Teacher to recap on the learning points learnt in previous lesson (e.g., importance of coordinates, compass directions and compass bearings to locate locations). • Previously, students suggested that contours should be added in the map to show the shape of the land surfaces (topography). This is important as students can then locate and avoid steep slopes to get to their destination faster. • Teacher will then assign students in groups of ten and the leader of each team. Each group would be assigned different landforms with the leader controlling 	Powerpoint slides Computer Second Life program Worksheets

*Second Life Lesson Plans
Map Reading and Contours*

	<p>movements of the contour plane. Teacher should also highlight to students to sketch diagrams from different views – camera plan view and avatar view. To view from 2 different views at the same time is not possible in Real Life, therefore resulting in misconceptions in understanding topographic concepts. Each pair of students will share a set of worksheet.</p> <p>Students will also switch roles to draw the landscape or aerial view after 10m. This allows them to sketch different views of the landform.</p> <ul style="list-style-type: none"> • Teacher is to explain the sequence of the lesson – exploration, pair sharing, class discussions and giving instructions for the activity. • Teacher is to demonstrate on adjusting the contour planes and drawing contour lines. • Teacher is to give clear instructions on the specific pages of the worksheet each pair of student is to complete and also, checking for students’ understanding level of the questions on the worksheet. 	
<p>Development</p> <p>- Exploration (25 mins)</p>	<ul style="list-style-type: none"> • Students to have an in-world hands-on experience. In their pairs, a student will use his/her camera to obtain (and maintain) an aerial view while the other student will attain the avatar view. After 10 meters, both students are to switch tasks with each other. • During this period of time, teacher will continue to monitor students’ learning and to identify at least two pairs of students who 	<p>Worksheet</p>

*Second Life Lesson Plans
Map Reading and Contours*

	<p>had done exemplary work or made common mistakes.</p> <ul style="list-style-type: none"> • After completing the landscape and aerial views of the landform, students will observe the contour lines and identify the landform drawn, while describing the contours and determine the steepness of the slope. 	
Conclusion (15 mins)	<p>Teacher can assess if students had attained correct answers through class discussions, and thus identifying common mistakes made among students</p> <p>Teacher to conclude lesson.</p>	Worksheet

Reflections

Second Life had allowed students to visualize and understand contour lines. Students have the advantage of having two views in front of them which is not possible in Real Life, and therefore resulting in misconceptions and failures of understanding of topographic concepts.

However, as the concepts of drawing contour lines were new to them, they did not manage to complete the drawing. It will be better if teacher could explain the drawings and gives clear instructions before the actual lesson as students were confused with mass instructions. Some leaders also had problems in logging on to Second Life and thus another leader was chosen. Therefore, there were delays. Thirdly, the planes were not labelled with group name therefore, students had problems locating the landform assigned to them. Consequently, students will continue to the activities in the next lesson.

*Second Life Lesson Plans
Map Reading and Contours*

Lesson Plan (Lesson #3)

Subject	Geography
Level/Stream	Secondary 1 Express
Topic	Topic: Map Reading
Lesson Title	Sketching the Topography of a Landscape
Learning Objectives	Students will be able to: 1. Draw contour patterns representing physical features based on 2D and 3D views.
Pre-requisite Knowledge	Students should have already attained 1. Mastery of basic map literacy skills
Pedagogical approach/critical thinking skill	Drawing /sketching 2-D perspectives of topography.
Second Life Skill(s)	<ul style="list-style-type: none"> • Field Study <ul style="list-style-type: none"> ○ To conduct an in-depth study of interpreting land topography based on contour patterns

Duration (mins)	Instructions	Resources
Introduction (15 mins)	<ul style="list-style-type: none"> • Teacher is to remind students of their assigned groups and tasks. • Teacher is to explain the sequence of the lesson – exploration, pair sharing, class discussions and giving instructions for the activity. • Teacher will then demonstrate on how to complete the tasks, such as adjusting contour planes, and to draw contour lines. 	Powerpoint slides Computer Second Life program Worksheets

*Second Life Lesson Plans
Map Reading and Contours*

	<ul style="list-style-type: none"> Teacher is to give clear instructions on the specific pages of the worksheet each student is to complete and also, checking for students' understanding level of the questions on the worksheet. 	
<p>Development</p> <p>- Exploration (25 mins)</p>	<ul style="list-style-type: none"> Students to have an in-world hands-on experience. In their pairs, a student will use his/her camera to obtain (and maintain) an aerial view while the other student will attain the avatar view. After 10 meters, both students are to switch tasks with each other During this period of time, teacher will continue to monitor students' learning and to identify at least two pairs of students who had done exemplary work or made common mistakes After completing the landscape and aerial views of the landform, students will observe the contour lines and identify the landform drawn, while describing the contours and determine the steepness of the slope. 	Worksheet
Conclusion (15 mins)	<p>Teacher can assess if students had attained correct answers through class discussions, and thus identifying common mistakes made among students</p> <p>Teacher to conclude lesson.</p>	Worksheet

Reflections

Students were able to complete tasks with more confidence as this was their second attempt. Most work was well completed. The addition of the group number to the plane helped students to locate the landform, therefore avoiding confusion. Additionally, communication was observed as students discussed with their partner on the drawing and with the group leader to move the plane. This allowed them to work together as a group.

*Second Life Lesson Plans
Map Reading and Contours*

It will be better if teacher is to borrow a visualizer and selects pre-identified pairs to come forward and share their work. Criteria for selection of pairs are that their work should be exemplars for learning, in either a positive or developmental sense.

Second Life Lesson Plans
Map Reading and Contours

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