LESSON 4

LEARNING AREA	SCIENCE V: Communicating the risks of Storm Surge and other extreme events
I. LEARNING OBJECTIVES	
A. Content Standards	Reading interpreting, and translating maps – in particular, hazard maps.
B. Performance Standards	The learner shall be able to learn how to correctly interpret maps (especially hazard warning maps). The learner should be able to use information on a map to project the timing and location of landfall of a tropical cyclone. The learner should be able to identify predicted or estimated degree of hazard at a particular location by interpreting the hazard map. The learner should be able to interpret a map and translate hazard information into text/message form.
C. Learning Competencies	At the end of the session, the learners are expected to: • Interpret different types of maps • Reflect on why some maps may be ineffective (and hard to understand) • Combine maps and words in delivering an effective message **CODE: S5FE-IVf-6**
II. CONTENT/ SUBJECT MATTER	Using Maps
III. LEARNING RESOURCES	
References	1.) BEAM 5. Unit 6. 16 Blowing in the Wind. Distance Learning Modules. DLP 51. 2.) Science and Technology I: Integrated Science Textbook for First Year. Villamil, Aurora M., Ed.D. 1998. pp. 207-210. * 3.) Science 8 Learner's Module. Campo, Pia C., et al. 2013. pp. 149-151. 4.) NFE. Typhoons in the Philippines. 200
1.Teacher's Guide	Communicating the Risks of Storm Surge and Other Extreme Events *Online Toolkit and Tutorial, page 13, 20*
2.Learner's Materials pages	
3.Textbook/s	
B. Other Learning Materials	Online Toolkit and Tutorial; ppt; meta cards; marking pens

IV. PROCEDURE	
Teachers Activity	**Pupil's Activity**
A. ACTIVITY **A.1 Preliminary Activity/Motivation** Greeting and Prayer. Short introductory activity (Dora and the Map).	Caption: Dora and the Map
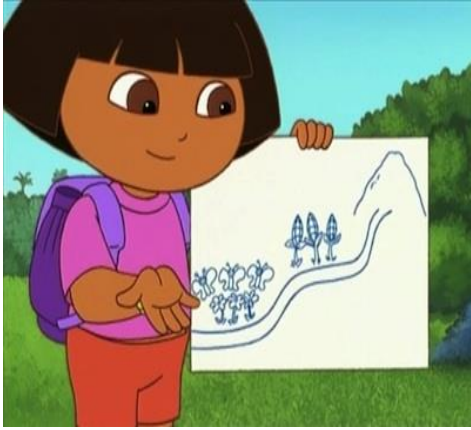
What do you think Dora's map is?
Why is the map important to Dora?

It is a map of a hiking trail.
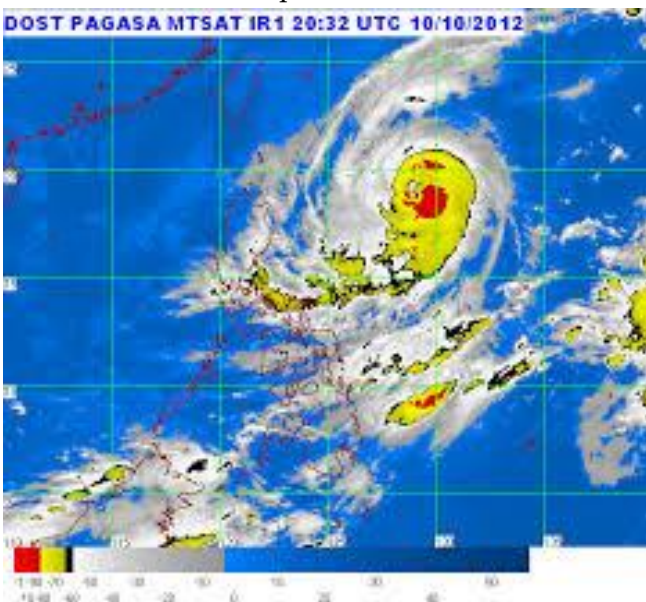To help her find her way through the mountains.

A.2 Review

Last time we took up how to translate, localize, personalize and dramatize a bulletin, Am I right class?
What are some of the key lessons you learned?

(Students share.)

A.3 Motivation

Class, look at this map for a minute.

Can you identify information that this map it trying to communicate?
Why?

No ma'am/sir.

It is difficult. We do not know how to read and interpret it.

Yes class, I for one have a hard time understanding it.
Okay, let us try to check whether we can interpret maps if words are incorporated on it.

A.4 Main Activity

Show a map of the locale, such as shown below. Be sure the map has a scale bar. (Note: if the teacher feels that identifying hazards to the student's own hometown may cause too much anxiety, then feel free to substitute a map from another locale.)

2
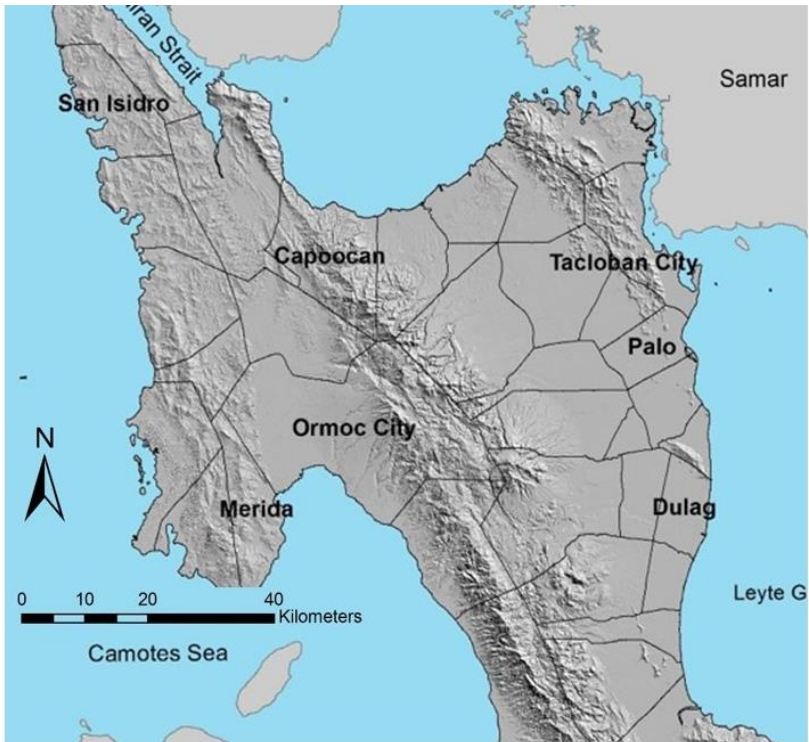
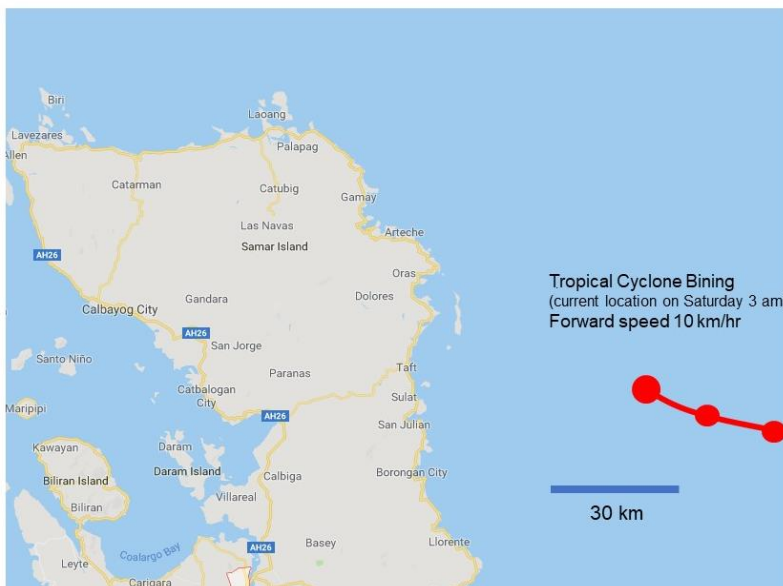|	
Look at the map class. Is it the map of? Are you sure? Why?	Map of Leyte ma'am/sir. Yes ma'am, because I can see my hometown, my grandmothers town and etc.
What other information does it show? (let the students freely share their thoughts then, if no one else brings it up, point to the scale bar). How about this? What information does this provide. How can you use it?	
	It tells you how far things are from each other.
Okay, what is the distance between Tacloban and Capoocan?	
Okay look at this next one. Tell something about the picture. What other information can you get in the picture?	Maybe 40 km or a little more. Ma'am it's the map of Samar province showing that a typhoon will arrive.

(If the students do not bring up the speed of the tropical cyclone, point to it). What about this, what is this saying?	The typhoon is traveling 10 kilometers per hour.

Where will the typhoon make landfall?	Oras City.
How long will it take to get to that city? Very good, how did you figure out that it is 5-6 hours?	About 5 or 6 hours. (Explains how the figure obtained.)
So, when will the typhoon hit Oras city?	About 6 am, Saturday.

B. ANALYSIS

Questions after the activity:

Do you think everyone will be able to use the map without difficulty?

Why would some people have difficulty using a map?

If you could add a short message to the map that will help people understand it, what would your message say?

(Students will compose a short message that can accompany the map.)

C. ABSTRACTION / GENERALIZATION

Please refer to Online Toolkit and Tutorial, page 13-14.

Class, do you think using maps are helpful? Why did you say so?

How do you think can you effectively use maps as your guide on warning a community?

Yes. Because , it can be our guide for warning a population about an incoming cyclone and storm surge,

We should translate the map into a message for the community, telling them when to expect the storm surge and what areas would be most affected.

Class, would it be enough to translate the map into a message telling them what will happen during a storm surge? Ok, so what else could you do?

Students share ideas.

Very good! A map is a powerful way of describing a forthcoming extreme weather event. Maps can show the predicted track of an incoming typhoon, or they can show predicted levels of storm surge.

Agencies can assume that necessary information's are contained in a map however many people are not sure how to interpret the maps and some may not even understand it.

Therefore, if the main mode of warning a population about an incoming cyclone and storm surge, you should translate the map into a message for the community, telling them when to expect the storm surge and what areas would be most affected.

Instead of relying on maps alone, think of combining maps with words. The key is to write the message so that the people will still get the information they need if the map is missing or the message is missing.
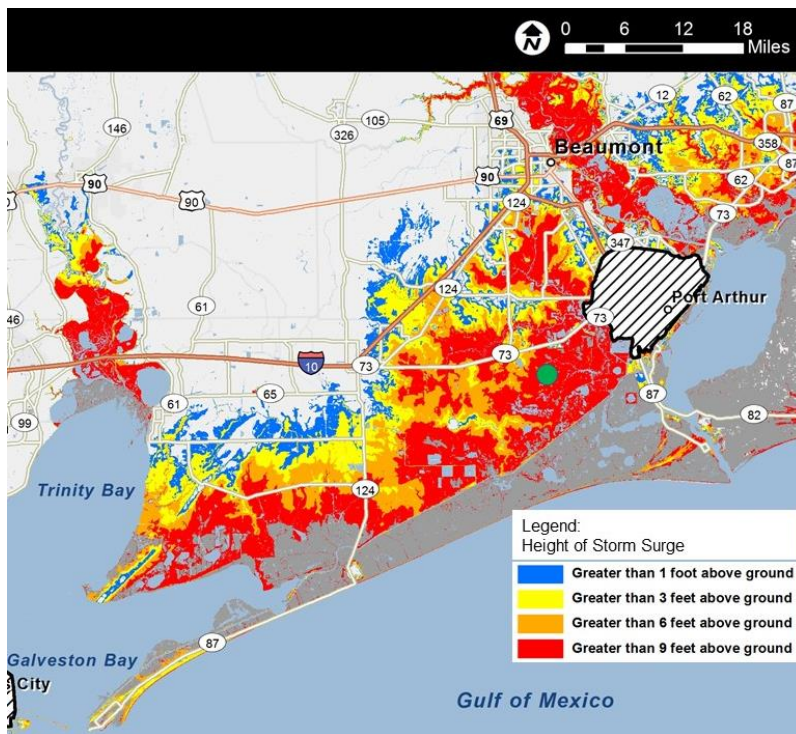
D. APPLICATION

Exercise 2, page 17 (Online Toolkit and Tutorial)
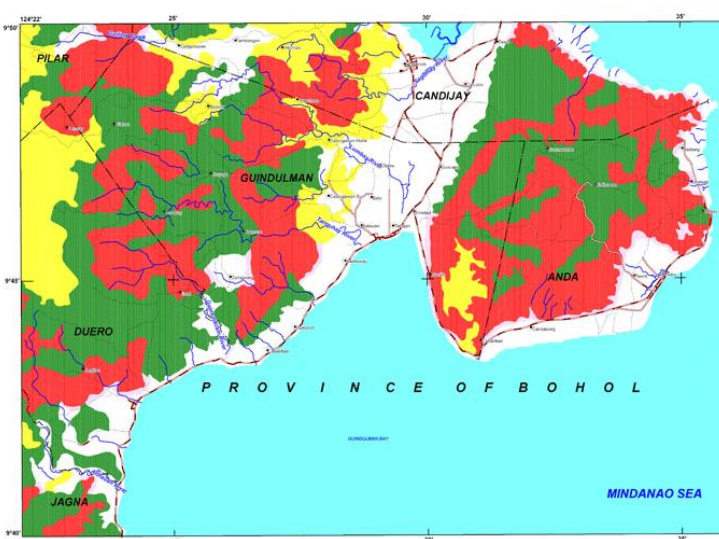
Answer the following questions:

1.   What is the importance of the section labeled LEGEND?

2.   Is there a storm surge in your area?

3. How severe will the storm surge be in your area?

The teacher can use the storm surge map in the Toolkit or supply any other storm surge hazard map such as that shown below.

V. Evaluation	
What are some things you learned, today, about using maps? Why might a map be ineffective sometimes? What can you do to make a map easier to use?	
VI. Assignment	
The students can take home a different map and interpret what it means. It can be another storm surge hazard map, or it can be a mapping of a different kind of hazard (such as shown below). The student should be able to tell what and how severe the hazard will be in a particular location.	

Legend: red =   high landslide susceptibility
           green = moderate landslide susceptibility
           yellow = low landslide susceptibility

V. REMARKS	Projected for a 40-minute lecture (but it may exceed that time).

This Lesson Plan can be cited and referenced as:

Lejano, R., E. Casas, Jr., Yanger, M. J.. and M. Pormon (2019). Hazards, Risk, and Resilience: Lesson Plans for Teaching Risk Communication in Primary Schools. New York University and the University of the Philippines Visayas Tacloban College, New York City and Tacloban City.

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