



## FutureFit Project Nepal Gorkha Earthquake

### **ABOUT THIS TEACHING GUIDE**

This lesson is project-based and designed to supplement a 12-15 lesson Earth Science unit. The lesson and associated materials can be used standalone or in conjunction with existing curriculum materials. It includes independent and group activities that facilitate concept reinforcement, FutureFit skills development, and project-based learning.

### **PACING, SEQUENCE, AND OPTIONS**

Used in its entirety, this FutureFit Project provides enough material for five 45-minute periods of instruction. If time constraints prohibit the complete 5-day lesson, select the Short Lesson to get an abbreviated 3-day version that does not include a project. For a

lesson focusing only on activities which supplement and reinforce the core subject concepts, select the Concept Check version of the lesson.

## HOW TO USE THIS TEACHING GUIDE

Daily activities are divided into the following categories:

- **Prepare (2-5 minutes)**

Use these short opening activities at the beginning of class to present refresher, skill challenge, or other short activities.

- **Present (5-20 minutes)**

Use this portion of the lesson to deliver new subject material and project information, and to model any instructions or activity required for Produce or Participate elements.

- **Produce (5-30 Minutes)**

Use this portion of the lesson to allow students to work independently or in small groups on activities and other project elements.

- **Participate (5-30 Minutes)**

Use this portion of the lesson to allow students to share out any project, research or presentation materials.

- **Practice (5-30 minutes)**

Use this optional portion of the lesson, if desired, to give students homework activities.

## DAY 1

### PREPARE

2-5 Minutes

If necessary, refresh concepts using any or all of the following materials:

- **[Earthquake Quiz](#)**

Pre-assessment or review and refresh:

- **Plate Tectonics and Earthquakes Activity**

Plate tectonics refresher

- **Eyewitness: Volcano & Earthquake**

Use pages 10-14 of Eyewitness: Volcano & Earthquake as a refresher on the Ring of Fire earthquake zone

## PRESENT

6-10 minutes

Show students the video on the disaster recovery efforts undertaken by the International Federation of the Red Cross in the aftermath of the Gorkha earthquake. The video documents the first year of reconstruction, from Day 0 to the end of Year 1. The video reinforces the FutureFit skills of empathy for others and the service mentality.

- **2015 Nepal Gorkha Earthquake: Day 0 to Year 1**

Video - 2015 Nepal Gorkha Earthquake Red Cross Disaster Recovery Efforts



## PRODUCE

15-20 minutes

Distribute the KWL Chart and ask students to use a resource like Google, FactMonster, or Infoplease to research the basic facts of the Gorkha earthquake. Students can replicate the basic KWL chart as a Google Document and save it to drive after filling it out, if preferred.

- **KWL Chart**

KWL Chart - Gorkha Earthquake Research



## PARTICIPATE

5 minutes

As a check for completeness of research, students should share out the facts and discovered during the research activity, allowing the entire class to fill in any missing information.

## PRACTICE

10-20 minutes

If appropriate, ask students to locate some Nepalese landmarks from Lonely Planet and record the geo coordinates using Google Maps. Students can accomplish this using their smartphones.

- [Lonely Planet - Nepal](#)



## DAY 2

### PREPARE

5 minutes

Have students complete the Earthquake Magnitude Matching Game. Teaching tip: Explain to students that even with the enormity of the disaster around the Gorkha quake, it doesn't even crack the top 30 on the Richter scale.

- [Earthquake Magnitude Matching Game](#)

Earthquake Magnitude Matching Game

### PRESENT

15 minutes

Review information gathered from yesterday's research, and then introduce the following web resources to be used in gathering further information for student projects:

- The International Federation of the Red Cross Nepal earthquake disaster relief efforts (presentation to community organization raising money for disaster relief)
- The U.S. Geological Survey Earthquake and seismic wave simulator (presentation earthquake building and construction guidelines)
- The BBC World Service's archive coverage of the Nepal earthquake.
- [IFRC Nepal Earthquake Disaster Relief Efforts](#)

IFRC Nepal Earthquake Disaster Relief Efforts



- [\*\*USGS Earthquake Seismic Wave Simulator\*\*](#)

USGS Earthquake Seismic Wave Simulator



- [\*\*BBC World Service Archive Coverage of Nepal Earthquake\*\*](#)

BBC World Service Archive Coverage of Nepal Earthquake



## PRODUCE

10 minutes

After modeling briefly, allow students to interact with the USGS seismic wave simulator in order to reinforce the concept of how seismic waves propagate from and epicenter. The example animation covers the Hayward Fault earthquake in California.

- [\*\*USGS Seismic Wave Animation - Hayward Fault\*\*](#)

USGS Seismic Wave Animation - Hayward Fault



## PARTICIPATE

5 minutes

Solicit questions and feedback about the project resources, and give students the opportunity to choose a project.

## PRACTICE

20 minutes

Students should draft an outline of the main points they want to cover in their presentation, and a list of questions with which to perform an in-depth research activity. They can use a KWL chart, or record their information in a Google Document or Google Sheet.

- [\*\*KWL Chart\*\*](#)

KWL Chart - Project Research Organization

## DAY 3

### PREPARE

10 minutes

Have students pair up or work in groups to perform the San Francisco Earthquake house of cards activity, or demonstrate the activity for the class.

- **Earthquake!**

House of Cards - San Francisco Earthquake Activity

5 minutes

Review the web resources discussed the previous day, and check in with students on the completion of the previous day's Practice activity. Ensure all students have their outlines and research plans prepared.

### PRODUCE

25 minutes

Allow students to use this time to use the web resources to do their project research. Note: If the Short Lesson version is being taught, students can hand in their research documents or share out the information in a different class period.

- **KWL Chart**

KWL Chart - Project Research



### PARTICIPATE

2 minutes

Allow students to share on progress, blockers and challenges,

### PRACTICE

30-45 minutes

Students should prepare their project materials for presentation to the class.

## DAY 4

### PREPARE

5 minutes

Write or project the following on the board/whiteboard/monitor: “Where are the emergency exits and rally points for the school? In the event of a disaster, how would you get out of the building?” Solicit answers, and then provide correct information.

## PARTICIPATE

35-40 minutes

Students who are prepared should share their presentations with the rest of the class.

## DAY 5

### PREPARE

Print or project the following infographics documenting the charitable response to the Nepal earthquake disaster recovery efforts. Note to students that the effort to raise and distribute funds and material was worldwide and brought together a variety of organizations from both the public and private sectors.

- **FedEx Nepal Earthquake Disaster Relief Response**

FedEx Nepal Earthquake Disaster Relief Response



- **IFRC Nepal Earthquake Disaster Relief Infographic**

IFRC Nepal Earthquake Disaster Relief Infographic



- **Samaritan's Purse Nepal Earthquake Disaster Relief Efforts**

Samaritan's Purse Nepal Earthquake Disaster Relief Efforts



## PARTICIPATE

35-40 minutes

The remainder of the class time should be used for any remaining student presentations.

