Louisiana Believes

Distance Learning Support for OpenSciEd Grade 8
Unit 6.4 Plate Tectonics Field Test Unit

This resource is designed to support teachers in implementing distance learning for OpenSciEd Unit 6.4, Unit 2 on the Louisiana Guide for Piloting OpenSciEd Grade 8. It is intended as a supporting document and should be used in conjunction with the OpenSciEd Unit 6.4 Instructional Resources. The resources contained in this document have been adapted from OpenSciEd with permission under Creative Commons 4.0 licensing.

The OpenSciEd Remote Learning Resources linked below contain detailed information about adapting specific routines to a remote learning environment and a wide variety of options including those for students who do not have internet access:

- Fostering Productive Norms
- Anchor Phenomenon Routine
- Navigation Routine
- Supporting Discourse
- Problematizing Routine

This guidance document is considered a "living" document as we believe that teachers and other educators will find ways to improve the document as they use it. Please send feedback to STEM@la.gov so that we may use your input when updating this guide.

Updated September 8th, 2020

DEPARTMENT of EDUCATION
Louisiana Believes

Norming Language	
Term	**Description**
Virtual Class Pre-Work	Assignments that students should do prior to virtual class meetings in order to be prepared to engage in discussions, there may be multiple assignments throughout a given lesson
Virtual Class Post-Work	Assignments designed for students to apply learning from virtual class meetings, there may be multiple assignments throughout a given lesson
Virtual Class	Live sessions with students through any digital conferencing platform, teachers may choose to allow students without internet to call in during these sessions and record virtual class sessions to share with those who cannot join
Thinking Deeper Documents	Progress trackers for students to use throughout each lesson to record and revise their thinking about science concepts related to the phenomenon; contain assignments for students to complete before, during, and after virtual classes, discussion boards, and home investigations
Lesson Slideshows	Lesson progression specific to each lesson used to guide student work; used during pre-work, post-work, virtual classes, home investigations, and discussion boards; can be shared with students in their entirety at the beginning of the lesson or broken into small portions and shared as needed
Discussion Boards	Assignments designed for students to share ideas and engage in discussion with one another over time rather than a live environment; students will use their Thinking Deeper Documents to brainstorm prior to submitting; teachers may choose to allow students without internet to text in responses and may screenshot/download and share portions of or full discussions via text (ex. through apps like Remind)
Home Investigations	Investigations with readily available materials designed for students to perform at home; teachers may choose to substitute videos or photos of data collection for students who cannot complete investigations at home

Lesson Set Overview: Lessons 1-8

Lesson Set 1: Lessons 1-8		
Provided Resources Students Will Need	**Additional Resources Students Will Need**	**Additional Materials for Students Without Internet Access**
Lesson Slideshows for **each** lesson: L1, L2, L3, L4, L5, L6, L7, L8 Thinking Deeper Documents for each lesson: Lesson 1 TDD, Lesson 2 TDD, Lesson 3 TDD, Lesson 4 TDD, Lesson 5 TDD, Lesson 6 TDD, Lesson 7 TDD, Lesson 8 TDD Additional Documents: Case Locations Document (Lesson 2) Exit Ticket (Lesson 2) Exit Ticket (Lesson 3) Lesson 3 Assessment Lesson 8 Assessment Optional: Sample Parent Letter	Discussion Boards - *teacher made* (Lessons 1, 2, 4, 6) DQB Assignment - *teacher made* (Lesson 1) Consensus Model - *after each update* (Lessons 1, 5) DQB - *after each update* (Lessons 1, 5 Video of modeling plate movement activity - *teacher made* (Lesson 7)	**Prior to Lesson**: Scary Day on Mt. Everest (Lesson 1) News Report: What Happened on Mt. Everest (Lesson 1) Seismic Explorer - print out bird's eye view and cross section view from 2 different locations Mantle System Demo Video (Lesson 6) **After Lesson Completion:** Consensus Model (Lessons 1, 5) Discussion Board (Lessons 1, 2, 4, 6 Virtual Class Recordings (Lessons 1, 3, 4, 5, 6, 7)

Students should ideally join VIRTUAL CLASS on the following days:
    Days 2 & 4 - Lesson 1   Day 8 - Lesson 3   Day 11 - Lesson 4   Day 13 – Lesson 5
                Day 15 - Lesson 6 Day 16 - Lesson 7 Day 18 - Lesson 8		

Formative and Summative Assessment Opportunities: Patterns Discussion Board and Exit Ticket - Lesson 2 Exit Ticket and Lesson 3 Assessment - Lesson 3 Sharing Models Discussion Board - Lesson 4 Progress Tracker at the end of Virtual Class - Lesson 4 What We've Figured Out Discussion Board - Lesson 6 Lesson 8 Assessment		

Lesson Set Overview: Lessons 9-14

Lesson Set 2: Lessons 9-14		
Provided Resources Students Will Need	**Additional Resources Students Will Need**	**Additional Materials for Students Without Internet Access**
Lesson Slideshows for **each** lesson: L9, L10, L11, L12, L13, L14 Thinking Deeper Documents for each lesson: Lesson 9 TDD, Lesson 10 TDD, Lesson 11 TDD, Lesson 12 TDD, Lesson 13 TDD, Lesson 14 TDD Additional Documents: End of Lesson 10 Assessment End of Lesson 14 Assessment Optional: Sample Parent Letter	Discussion Boards - *teacher made* (Lessons 9, 12, 14) Volcano Formation Consensus Model - *teacher made from discussion board ideas* (Lesson 9, 10)) Exit Ticket Assignment - *teacher made* (Lesson 9) Updated DQB - *after completion* (Lesson 10) Everest Consensus Model (Lessons 10, 11), Spreading Model (Lesson 10) Exit Ticket Assignment - *teacher made* (Lesson 13)	**Prior to Lesson**: Video 1 (Lesson 9) Series of Animations (Lesson 9) Print out colored maps from Seismic Explorer Station Videos: Station 1, Station 2, Station 3, Station 4, Station 5, Station 6 (Lesson 13) Time lapse videos: Glacier , Shoreline 1, Shoreline 2, Sand dunes, Water 1, Water 2, Worms (Lesson 13) **After Lesson Completion:** Discussion Board (Lesson 9, 12, 14) Virtual Class recordings (Lessons 9, 10, 12, 13, 14)

Students should ideally join VIRTUAL CLASS on the following days:

Day 1 - Lesson 9   Day 3 - Lesson 10   Day 6 & 9 - Lesson 12

Day 11 - Lesson 13   Day 13 - Lesson 14

Formative and Summative Assessment Opportunities:

Discussion Board or Exit Ticket - Lesson 9

Lesson 10 Assessment

Discussion Board - Lesson 12

Landscape Data Sheet or Exit Ticket - Lesson 13

Lesson 14 Assessment

Lesson 1 (4 days) - Anchoring Phenomenon

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Discussion Board Assignment (Notice/Wonder) - *teacher made*
- Discussion Board Assignment (Earthquake Data) - *teacher made*
- DQB Assignment - *teacher made*
- Consensus Model - *after completion*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Discussion Board Assignment (Notice/Wonder) - *teacher made*
- Discussion Board Assignment (Earthquake Data) - *teacher made*
- DQB Assignment - *teacher made*
- Videos:
  - Scary Day on Mt. Everest
  - News Report: What Happened on Mt. Everest
- Consensus Model - *after completion*
- Virtual Class Recordings - *after completion*
- Discussion Boards - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2 and 4

Lesson 1 (4 days) - Anchoring Phenomenon

	Day 1	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (10 min) INTRODUCE THE MT. EVEREST PHENOMENON Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Students will watch 2 videos and record notices and wonders in the chart.
Part 2 (10 min) READ ABOUT MT. EVEREST EARTHQUAKE Slide B		VIRTUAL CLASS PREWORK: 1. Students will read an article and add to their notice wonder chart.
Part 3 (5 min) SHARE NOTICINGS/WONDERINGS AND INITIAL IDEAS Slide C	1. Create Discussion Board Assignment (discussion question on classroom platform, shared google doc, etc.) 2. Review Discussion Board submissions.	VIRTUAL CLASS PREWORK/DISCUSSION BOARD: 1. Students will share one notice from video, one notice from reading, and one wonder to the class discussion board.
Part 4 (15 min) CONSTRUCT INITIAL MODEL INDIVIDUALLY Slide D-F	NOTE: Students can draw the model electronically using the drawing feature on Google docs or another app. They may also choose to draw on paper. If drawing on paper, students can take a picture and insert it into their document.	VIRTUAL CLASS PREWORK: 1. Develop a model to explain Mt. Everest's growth and movement. 2. Use a different color to explain the earthquake in the model. 3. Answer questions to reflect on the model.

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**

Part 5-7 (30 min)
 	
DEVELOP AN INITIAL CLASS CONSENSUS MODEL
 	
MOTIVATE THE NEED FOR MORE DATA
 	
GET FAMILIAR WITH SEISMIC EXPLORER
 	
Slides G-L
	VIRTUAL CLASS
	1. Students will share their initial models with the class. They will see what they have in common with classmates and what they have that's different.
	2. Develop a class consensus model. Teacher draws the model during discussion. (Be sure to share a picture of the finished model with students.)
	3. Transition students to thinking about whether this was a one-time event, or possibly part of a larger system. Students to share how they would know whether this earthquake event was part of a pattern, as opposed to a random event.
	4. Teacher will show students the Seismic Explorer map. She will Screen share her computer and guide them in understanding the map. (Slide K)
	   ▪ What do you think the different colors on the relief map represent? How can we be sure?
	   ▪ What do you think the different shading represents?
	   ▪ Much of the U.S. seems to be brown. Do we think there are no trees here, or could colors represent something else?
	   ▪ Why does there seem to be light and dark brown on the land?
	   ▪ Why is there light and dark blue in the ocean?
	   ▪ Can someone help us make sense of this key and what it shows?
	5. Tell them they will be using this website to understand patterns of earthquakes around the world.
	6. Assign Post-Work on Slide L
	
	VIRTUAL CLASS POSTWORK:
	1. Students will revise their models based on consensus discussion in class.	

Day 3		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 10-11 (15 min) MAKE AND SHARE NOTICINGS/WONDERINGS FROM SEISMIC EXPLORER Slides M-N	1. Create and assign Discussion Board Assignment (Earthquake Data)	VIRTUAL CLASS PREWORK/DISCUSSION BOARD: 1. Answer questions about the Seismic Explorer on your Thinking Deeper Document. 2. Share ideas on the Class Discussion Board
Part 11-12 (2 min) ASSIGN HOME LEARNING Slide O		VIRTUAL CLASS PREWORK: 1. Answer the questions to connect ideas about Mt. Everest to related phenomena.
Part 13 (5 min) DEVELOP QUESTIONS FOR THE DRIVING QUESTION BOARD Slide P	1. Create an assignment for students to submit a question for the DQB. 2. Review questions submitted to create a digital driving questions board.	VIRTUAL CLASS PREWORK: 1. Students will use their Thinking Deeper Document and models to come up with one question. They will submit that question to the teacher for the DQB.

	Day 4	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 14-16 (35 min) DEVELOP THE DRIVING QUESTION BOARD BRAINSTORM IDEAS FOR DATA AN INFORMATION NEEDED NAVIGATION Slides Q- T	VIRTUAL CLASS: 1. Discuss related phenomena. 2. Students share their questions to create a driving question board. (The teacher can do this electronically or on poster paper OR students can add questions directly using Google Jamboard or other similar feature.) 3. Discuss additional sources of data might we need to figure out the answers to our questions and what information we still need. 4. Students fill in the table on their thinking deeper document during discussion. 5. Reflect on the Driving Question Board and decide where to move next. *Ensure that students have access to the DQB after lesson completion.	

*Return to *

Lesson 2 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Patterns Discussion Board Assignment - *teacher made*
- Case Locations Document
- Exit Ticket

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Patterns Discussion Board Assignment - *teacher made*
- Case Locations Document
- Exit Ticket
- Discussion Board - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- None

Lesson 2 (2 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1-2 (10 min) NAVIGATION SET THE PURPOSE FOR GATHERING DATA Slides A-B	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Answer questions on the thinking deeper document to review material from the last lesson and set A purpose for this lesson.
Part 3-4 (20 min) DEMONSTRATE SEISMIC EXPLORER GATHER EVIDENCE FROM SEISMIC EXPLORER Slides C-D		VIRTUAL CLASS PREWORK: 1. Use the seismic explorer to help find patterns in earthquake data. 2. Complete the chart in their Thinking deeper document where they will gather information about earthquake patterns near the Himalayas, The US, their state, their town, and one place of their choice.
Part 5-7 (10 min) FACILITATE AN INITIAL IDEAS DISCUSSION ABOUT EARTHQUAKE DATA NAVIGATION Slide E	1. Start a discussion board for students to share an interesting pattern from their investigation.	DISCUSSION BOARD: 1. Share an interesting pattern observed in the investigation on the class discussion board. 2. Review other student responses.

Lesson Components	Day 2	
	Distance Learning Plan	
	Teacher	Student
Part 8 (20 min) EARTHQUAKE LOCATION INVESTIGATIONS Slides F-G	1. Share Case Locations Document with students. 2. Assign 3 locations for each student ensuring that all locations will be explored.	VIRTUAL CLASS PREWORK: 1. Investigate 8 different locations and record data for patterns of earthquakes in each location. Use the Case Location document to gather information and use the questions on Thinking Deeper Document to guide research.
Part 9 (6 min) GALLERY WALK Slide H		VIRTUAL CLASS PREWORK: 1. Analyze the 3 locations and record similarities and differences in the data.
Part 10 (10 min) FACILITATE A BUILDING UNDERSTANDINGS DISCUSSION Slides I-J	1. Start a discussion board for students to gather understanding of the lesson question: How are patterns in earthquakes similar or different in locations around the world?	DISCUSSION BOARD: 1. Share one similarity and one difference of patterns in earthquakes from around the world. 2. Review other classmate's responses to help you answer the lesson question: How are patterns in earthquakes similar or different in locations around the world? 3. Answer the lesson question on TDD
Part 11 (10 min) NAVIGATION Slide K-L	1. Assign the Exit Ticket to the students as an assignment in Google Classroom 2. Review Exit tickets to check for understanding and provide feedback as needed.	1. Complete the exit ticket assignment and submit it to your teacher for review. 2. Complete the Home learning assignment in your thinking deeper document and be ready to discuss it in a later lesson.

Return to Lesson Set Overview

Lesson 3 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Exit Ticket
- Lesson 3 Assessment

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Exit Ticket
- Lesson 3 Assessment

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 3 (2 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (5min) NAVIGATION Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Answer questions to review what we learned so far.
Part 2 (15 min) CLOSE READING ON WHERE EARTHQUAKES OCCUR Slides B-C		VIRTUAL CLASS PREWORK: 1. Complete the close reading to understand where earthquakes occur. 2. Answer reflection questions about the article.
Part 3 (10 min) REVISIT CLASS MAP Slide D		VIRTUAL CLASS PREWORK: 1. Using the reading, label the map with plate locations and movement.
Part 4 (5 min) EXIT TICKET Slide E	1. Assign the Exit Ticket. 2. Review student submissions to check for understanding and provide feedback as needed.	VIRTUAL CLASS PREWORK: 1. Complete the Exit ticket and submit.
Part 5 & 6 (10 min) NAVIGATION WHAT IS HAPPENING AT MT. EVEREST? Slide F		VIRTUAL CLASS PREWORK: 1. Complete the second reading on your thinking deeper document to understand how movement is measured at Mt. Everest. 2. Annotate world map to predict locations of plates.

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 7-9 (30 min) REVISIT WORLD RELIEF MAP UPDATE OUR PROGRESS TRACKER NAVIGATION Slides G-J	VIRTUAL CLASS MEETING: 1. Facilitate initial ideas discussion to share ideas from the reading that could help explain the patterns for where earthquakes occur. 2. Students share where they labeled the plates and explain why they chose to label them in those locations. (Option for small groups to share-out in break out rooms before whole class discussion.) 3. Use the clear overlay with the map to show location and direction that plates move. (You may need to take a picture of the overlay and map together prior to the Virtual Class meeting.) 4. Discuss how plate movement and locations relate to Earthquake patterns. 5. Students complete the progress tracker question independently then discuss as a class. a. Why do earthquakes happen in patterns on earth? 6. Students answer navigation questions. 7. Announce assessment that will follow the virtual class meeting.	
Part 10 ASSESSMENT Slide K	1. Assign Lesson 3 Assessment to the students.	VIRTUAL CLASS POSTWORK: 1. Complete Lesson 3 Assessment and submit it to your teacher.

Return to Lesson Set Overview

Lesson 4 (3 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Sharing Models Discussion Board - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Seismic Explorer - print out bird's eye view and cross section view from 2 different locations
- Sharing Models Discussion Board - *teacher made*
- Discussion Board - *after completion*
- Virtual Class Recording - *after completion*

In this **Lesson**, students should join virtual meeting on the following days to engage in learning:
- Day 3

Lesson 4 (3 days) – Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (5 min) NAVIGATION Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Answer Navigation questions about plates and how we can investigate them.
Part 2 (10 min) EXPLORE PLATES THROUGH PHOTOGRAPHS Slides B-F		VIRTUAL CLASS PREWORK: 1. Complete the left side of the T-chart in your Thinking deeper document by recording noticings in each picture.
Part 3 (4min) RECOGNIZE UNCERTAINTY ABOUT WHAT IS BELOW THE SURFACE OF PLATES Slide G-H		VIRTUAL CLASS PREWORK: 1. Complete Picture Analysis questions on the Thinking Deeper Document. 2. Record initial thoughts on what is beneath the surface of plates on the right side of the T-chart.
Part 4 (7min) READ ABOUT BEDROCK Slide I & J		VIRTUAL CLASS PREWORK: 1. Read and annotate "What's Beneath the Surface" on the thinking deeper document
Part 5 (10 min) DEVELOP INITIAL MODELS OF PLATES Slide K-M		VIRTUAL CLASS PREWORK: 1. Develop a model of Earth's plates from a side view or a cross section.

| Part 6 (6 min)
USING PLATE MODELS, POSE ADDITIONAL QUESTIONS AND IDEAS FOR INVESTIGATION

Slide N | 1. Create a discussion board for students to share pictures of their models. | DISCUSSION BOARD:
1. Add a picture of your model to the class discussion board.
2. Look at other classmate's models and comment on similarities, differences and any new questions. |

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 7 (8min) READ ABOUT THE DEEPEST MINE IN THE WORLD Slides O-P		VIRTUAL CLASS PREWORK: 1. Explain initial ideas about why people would dig into bedrock. 2. Read and annotate Deepest Mine reading in the Thinking Deeper Document.
Part 8 (5min) DISCUSS DEEP MINES AND POSE NEXT STEPS FOR INVESTIGATION Slide Q		VIRTUAL CLASS PREWORK: 1. Answer the reflecting on the reading questions.
Part 9 (15min) USE SEISMIC EXPLORER TO GATHER CROSS-SECTIONAL (DEPTH) EARTHQUAKE DATA Slides R-T		VIRTUAL CLASS PREWORK: 1. Use the Seismic Explorer to look at cross sections of 2 locations in the world to see the depth of earthquakes and understand what is beneath bedrock. 2. Record sketches and data on for each.

Day 3		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**

Part 10 (20 min)
 	
DISCUSS NEW DATA FROM SEISMIC EXPLORER AND NAVIGATION
Slides U-V
	VIRTUAL CLASS:
	1. Discuss what plates are and how looking at Earthquake data beneath the surface helped us understand what is beneath the bedrock.
	2. Students will add the following 2 questions to their Progress Tracker
	    • What exactly are Earth's plates?
	    • What did looking at earthquake data get us?	

Return to Lesson Set Overview

Lesson 5 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Updated Consensus Model - *after completion*
- Updated DQB - *after completion*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Virtual Class Recording - *after completion*
- Updated Consensus Model - *after completion*
- Updated DQB - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 5 (2 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (2 min) NAVIGATION Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Answer the Navigation question in the Thinking Deeper Document to get an idea of where we are going.
Part 2 (5 min) BRAINSTORM WHAT NEEDS TO BE ADDED TO MODEL Slide B		VIRTUAL CLASS PREWORK: 1. Complete the chart to brainstorm what needs to be added to our model from everything we learned up to this point.
Part 3 (20 min) WHAT IS BELOW THE PLATES? Slide C		VIRTUAL CLASS PREWORK: 1. Read and annotate the article "What would we find if we kept digging deeper than the deepest mine?" using the close reading strategy. 2. Follow directions within the article to label the diagram.

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 4 & 5 (25 min) CONSENSUS DISCUSSION AND REVISIT DQB Slides D & E	VIRTUAL CLASS: 1. Discuss and revise the class Consensus Model. (Make sure all students have access to the updated model.) 2. Update the DQB. (Make sure all students have access to the updated model.) 3. Brainstorm about what could be causing the plates to move independently then discuss as a class.	

Return to Lesson Set Overview

Lesson 6 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- What We've Figured Out Discussion Board - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- What We've Figured Out Discussion Board - *teacher made*
- Discussion Board - *after completion*
- Mantle System Demo Video
- Virtual Class Recording - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 6 (2 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (5 min) PREDICTIONS Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PREWORK: 1. Think Back - Review answers to the navigation questions on Lesson 5 TDD
Part 2 (5 min) REVISIT MOVEMENT DATA Slides B, C	1. Create and assign discussion board. 2. Monitor the discussion board and facilitate as needed.	DISCUSSION BOARD: 1. List ideas we learned already. 2. Comment on class discussion board 3. Observe other classmates' comments and revise list
Part 3 & 4 (30min) MOVING MANTLE DEMONSTRATION TRACE MOTION IN THE SYSTEM Slides D-F		VIRTUAL CLASS PREWORK: 1. Watch the demonstration video to see what may be happening below the surface. 2. Follow the slides to help complete all parts of number 4. (Chart, drawings, and questions)
Part 5 (5 min) NAVIGATION	*Addressed in Virtual Class meeting*	

	Day 2	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 6-8 (40 min) DEVELOPING A CONSENSUS MODEL CONNECT MOVEMENT IN THE MANTLE TO PLATE MOVEMENT NAVIGATION Slides G-I	VIRTUAL CLASS: 1. Share and discuss observations and thinking about movement in the mantle, flow of energy in the system and relationship to plate movement. 2. Develop a consensus model for Earth Model from lesson 5 to show how the plates are moving based on the discussion. 3. Discuss connections between mantle movement and the direction of plate movement. 4. Have students jot down initial ideas for the navigation question then have a few students share what they wrote.	

Return to Lesson Set Overview

Lesson 7 (1 day) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Video of modeling plate movement activity - *teacher created*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Video of modeling plate movement activity - *teacher created*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 1

Lesson 7 (1 day) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (5 min) NAVIGATION Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	Pre Work 1. Answer navigation questions to figure out what additional evidence we need to explain what is occurring at Mt. Everest.
Part 2 & 3 (25 min) DEVELOP A MODEL FOR LOCATION OF MT. EVEREST OVER TIME Slide B & C	Option 1: 1. Before virtual meeting video yourself completing the activity asking key questions. 2. During virtual meeting screen share video for students to see. 3. Follow the teacher manual lesson 7 to pause video at certain spots to ask questions and lead discussions. Option 2: 1. Complete the activity live during your virtual meeting. VIRTUAL CLASS: 1. Show pre-recorded video or model the location of Mt. Everest over time live and have students record data in the table. 2. Answer question 3 on your thinking deeper document after the virtual meeting to wrap up ideas.	
Part 4 (2 min) NAVIGATION Slide D		Post Work 1. Answer question 4 on your thinking deeper document to brainstorm how this can help us explain what is happening at Mt. Everest.

Return to Lesson Set Overview

Lesson 8 (2 days) - Putting Pieces Together and Problematizing

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Lesson 8 Assessment

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Lesson 8 Assessment

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 8 (2 days) - Putting Pieces Together and Problematizing

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (5 min) NAVIGATION Slide A-B	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	Pre Work 1. Answer navigation questions and "What can we explain now?" on TDD.
Part 2 (15 min) BUILD THE GOTTA-HAVE-IT CHECKLIST Slides C		Pre Work 1. Complete the Gotta-Have-It checklist in your thinking deeper document.
Part 3 (5 min) DEVELOP A MODEL FOR MT. EVEREST Slide D		Pre Work 1. Use your Gotta-Have-It checklist to develop a model to show how plate movement explains Mt. Everest
Part 5 & 6 (5 min) NAVIGATION Slides E-F		Pre Work 1. Complete Navigation questions to identify locations we can explain and those that are similar to Mt. Everest.
Part 7 (5 min) REVISE GOTTA-HAVE-IT CHECKLIST Slide G		Pre Work 1. Revise your Gotta-Have-It checklist to explain what happens when plates move apart.
Part 8 (6 min) INDIVIDUAL MODEL: SPREADING APART Slide H		Pre Work 1. Develop a model to show what happens when plates are spreading apart.

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 4 & 9 (30 min) FACILITATE A CONSENSUS DISCUSSION TO EXPLAIN MT. EVEREST FACILITATE A CONSENSUS DISCUSSION: SPREADING APART Slide I-K	Virtual Class: 1. Participate in a virtual meeting to review how plate movement helps us understand what is happening at Mt. Everest. 2. Participate in a virtual meeting to review what happens when plates move apart.	
Part 10 (10 min) CONSTRUCT AN EXPLANATION: SLOW AND RAPID CHANGE Slide L	*Construct an explanation could be used as an assessment if needed.	Post Work 1. Complete the construct an explanation section in your thinking deeper document.
Part 11 (5 min) NAVIGATION AND PROBLEMATIZE Slide M		Post Work 1. Answer question 12 on your thinking deeper document to navigate to where we are moving next.
Part 12 ASSESSMENT Slide N	1. Assign Lesson 8 Assessment	Post Work 1. Complete Lesson 8 Assessment that was assigned by the teacher.

Return to Lesson Set Overview

Lesson 9 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Case Locations Document
- Consensus Discussion Board Assignment - *teacher made*
- Consensus Model Created from student discussion board ideas- *teacher made*
- Exit Ticket Assignment - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Case Locations Document
- Consensus Discussion Board Assignment - *teacher made*
- Discussion Board - *after completion*
- Exit Ticket Assignment - *teacher made*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 1

Lesson 9 (2 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**

Parts 1-3 (35 min)
 	
NAVIGATION
 	
REVISIT CASE LOCATION CARDS
 	
OBTAINING INFORMATION ON VOLCANO FORMATION
 	
Slides A- C
Part 4 not included in the distance learning plan.
	1. Share Lesson Slideshow with students
	2. Share Thinking Deeper Document with students
	
	VIRTUAL CLASS:
	   1. Review Lesson 8 Navigation Questions.
	   2. Revisit all case location cards to review earthquake patterns, the presence of volcanoes, and any other facts that might help answer these questions. Case Locations Document
	   3. Watch a video and record noticings and wonderings on the chart in the TDD.
	   4. Watch a series of animations and record noticings and wonderings on the chart in the TDD.
	   5. Discuss noticings and wonderings.	

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**

Part 5 (20 min)
 	
CLOSE READING
(replaces navigation)
 	
Slide D
		VIRTUAL CLASS POST-WORK:
		   1. Follow Close Reading Strategy guidelines to read and annotate "How Volcanoes Form Why do volcanoes form in some places and not others?"
		   2. Answer all questions within the reading in the space provided and make notes on the diagram.

Part 6 (15 min) BUILDING UNDERSTANDINGS MODEL Slides E & F		VIRTUAL CLASS POST-WORK: 1. Draw visual representations of what you think is happening. 2. Write words to explain how volcanoes form. 3. Cite evidence from the video, animations, and the reading. 4. Answer question regarding evidence and patterns.
Part 7 (20 min) EARTHQUAKE CROSS-SECTION ANALYSIS Slides G & H		VIRTUAL CLASS POST-WORK: 1. Revisit Seismic Explorer 2. Use the cross-section tool to gather evidence of volcano formation as it relates to earthquake depth. 3. Fill in data table on TDD
Part 8 (20 min) CONSENSUS PROGRESS TRACKER Slide I	1. Create Consensus Discussion Board 2. Monitor and facilitate discussion as needed 3. Create the consensus model based on student feedback and post so students can reference.	DISCUSSION BOARD: 1. Participate in the discussion board by adding ideas about modeling. 2. Comment on classmate's responses. 3. Fill in questions on TDD.
Part 9 EXIT TICKET Slides I	1. Create an Exit Ticket for students to submit. 2. Review student responses for understanding and provide feedback as needed.	VIRTUAL CLASS POST-WORK: 1. Write initial ideas about how the Himalayas are different from the Andes. 2. Submit an answer to the teacher.

Return to Lesson Set Overview

Lesson 10 (2 days) - Putting Pieces Together and Problematizing

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Consensus Models: Everest Model, Spreading Model, Volcano Formation Model (created in previous lessons)
- Plate Tectonics End of Lesson 10 Assessment
- Updated DQB - *after completion*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Consensus Models: Everest Model, Spreading Model, Volcano Formation Model (created in previous lessons)
- Plate Tectonics End of Lesson 10 Assessment
- Updated DQB - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 1

Lesson 10 (2 days) - Putting Pieces Together and Problematizing

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 1-4 (45 min) NAVIGATION UPDATE GOTTA-HAVE-IT CHECKLIST REVISIT MODELS OF THREE DIFFERENT PLATE MOVEMENTS CONSTRUCT AN EXPLANATION OF EVEREST Slides A- E	Prior to Virtual Class, the teacher should. 1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students 3. Ensure that students have access to the following consensus models: Everest Model, Spreading Model, Volcano Formation Model VIRTUAL CLASS: 1.　Share out thinking to the exit ticket question from the previous lesson. 2.　Students add new ideas to the Gotta-Have-It Checklist. 3.　Teacher and students discuss. 4.　Revisit consensus models of three different plate movements, emphasizing similarities and differences across the earthquake activity and features seen at each type of interaction 5.　Discuss model and complete a venn diagram of similarities and differences 6.　Construct an explanation that tells the story of how Mt. Everest formed and what is still happening today independently. 7.　Discuss explanations.	

Lesson Components	Day 2	
	Distance Learning Plan	
	Teacher	**Student**
Part 1 (10 min) REVISIT THE DQB Slides F	1. Review new questions submitted by students for the DQB 2. Add new questions to the DQB and post for class reference.	VIRTUAL CLASS POST-WORK: 1. Revisit the DQB to assess which questions they have answered, what questions they still have, and add any new questions. 2. Write new questions on TDD 3. Turn in new questions to teacher
Part 2 (5 min) WONDERINGS Slides G		VIRTUAL CLASS POST-WORK: 1. Answer question about other types of evidence used to study Earth's surface
Part 3 (30 min) End of Lesson 10 Assessment Slides H	1. Post assessment for students to access. 2. Grade assessments.	VIRTUAL CLASS POST-WORK: 1. Complete assessment and submit to teacher

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Lesson 11 (1 day) - Anchoring Phenomenon, Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Everest Consensus Model - *from previous lesson*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Everest Consensus Model - *from previous lesson*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- None

Lesson 11 (1 day) - Anchoring Phenomenon, Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (2 min) NAVIGATION Slides A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PRE-WORK: 1. Respond to the navigation question to describe other sources of evidence needed to study how the Earth changes.
Part 2 (15 min) READ AN INTERVIEW WITH A GEOLOGIST Slides (B-C)		VIRTUAL CLASS PRE-WORK: 1. Read a transcription of an interview with a geologist. 2. Record wonderings that arise from reading the interview.
Part 3 (20 min) REVISITING CONSENSUS MODELS Slides D		VIRTUAL CLASS PRE-WORK: 1. Revisit consensus model. 2. Answer reflection questions about the model.
Part 4 (3 min) NAVIGATION Slides E		VIRTUAL CLASS PRE-WORK: 1. Answer question about how fossils of sea creatures got to the top of Mt. Everest.

Return to Lesson Set Overview

Lesson 12 (3 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Utah's Past Discussion Board - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Utah's Past Discussion Board - *teacher made*
- Discussion Board - *after completion*
- Virtual Class Recordings - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 1 and 3

Lesson 12 (3 days) - Investigation

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**

Parts 1-4 (40 min)
 	
NAVIGATION
 	
FOSSILS AROUND THE WORLD
 	
FOSSILS IN UTAH
 	
HOW DO FOSSILS FORM?
 	
Slides A-H
	1. Share Lesson Slideshow with students
	2. Share Thinking Deeper Document with students
	
	VIRTUAL CLASS:
	  1. Engage in a discussion to elicit prior knowledge about fossils.
	  2. Examine the world maps showing the locations of ancient sea fossils.
	  3. Record any interesting patterns and wonderings in the Notice and Wonder chart. Share and discuss.
	  4. Think about the fossil on Mt. Everest by considering a parallel phenomenon-evidence of fossils from ancient sea and land-creatures throughout Utah.
	  5. Record and share noticings and wonderings after examining maps of fossil locations in Utah.
	  6. Examine ancient jellyfish fossil found in Utah, and think about how it's location far away from any present-day ocean is puzzling.
	  7. Record and share noticings and wonderings after examining evidence about the jellyfish fossil.
	  8. Engage in a discussion to elicit prior knowledge regarding fossil formation.
	  9. Find out more information regarding the formation of fossils from a video while answering questions on TDD.
	10. Share answers and discuss.	

	Day 2	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (12 min) FOSSILS OF BONELESS ORGANISMS Slides I-J		VIRTUAL CLASS POST-WORK: 1. Read article and annotate article 2. Reflect on why we see fossils from different organisms in different parts of Utah and evidence that might help us to look into Utah's past.
Part 2 (15 min) UTAH'S PAST - ROCK LAYERS Slides K-Q	1. Set up and send out a class discussion board on How rock layers that were so deep beneath the Earth's surface end up so high in the mountains? 2. Check for student responses and participation. 3. Clarify misconceptions.	DISCUSSION BOARD: 1. Use an analogy to better understand that the position within a rock stratum can be used to determine the relative age of rocks. 2. Explain how rocks in the lower layers are older than the rocks at higher depths, and that the relative age of a fossil is determined by its position within the rock layers. 3. Examine rock layer evidence from Utah indicating the presence of an ancient beach or shoreline near Salt Lake City. 4. Participate in class discussion board.
Part 3 (19 min) UTAH THROUGH THE AGES Slides R		VIRTUAL CLASS POST-WORK: 1. Examine a time series of maps showing the approximate location of Utah through Earth's geologic history. 2. Use map evidence to explain the locations of both sea and land-creature fossils throughout Utah on TDD.

Day 3		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 1-4 (45 min) RETURN TO EVEREST REACHING CONSENSUS REGARDING EVEREST FOSSIL UPDATE OUR THINKING DEEPER DOCUMENT NAVIGATION Slides S-W	VIRTUAL CLASS: 1. Discuss data from Utah and make connections to Mt. Everest. 2. Examine and new evidence regarding Mt. Everest's rock layers and relative position throughout Earth's past and answer reflection questions independently. 3. Discuss new evidence to explain how a fossil of an ancient sea lily ended up high on Mt. Everest. 4. Answer questions on TDD. 5. Construct a model to explain how the fossil ended up on Mt. Everest. Reach consensus as a class regarding the presence of the sea lily fossil on Mt. Everest. 6. Share model and discuss as a class. 7. Update our TDD with what we have figured out about why we see the fossil of an ancient sea creature near the top of Mt. Everest. 8. Discuss with class. 9. Make a prediction about why there is so little of the ancient sea floor (in which the sea lily fossil was found) left on Mt. Everest. 10. Discuss ideas with the class.	

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Lesson 13 (2 days) - Investigation

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Station Videos: Station 1, Station 2, Station 3, Station 4, Station 5, Station 6
- Time lapse videos: Glacier , Shoreline 1, Shoreline 2, Sand dunes, Water 1, Water 2, Worms
- Exit Ticket Assignment - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Station Videos: Station 1, Station 2, Station 3, Station 4, Station 5, Station 6
- Time lapse videos: Glacier , Shoreline 1, Shoreline 2, Sand dunes, Water 1, Water 2, Worms
- Exit Ticket Assignment - *teacher made*
- Virtual Class recording - *after completio*n

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 13 (2 days) - Investigation

	Day 1	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (1 min) NAVIGATION Slides A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PRE-WORK: 1. Think back to what we have learned and what we are wondering.
Part 2 (10 min) MAKE OBSERVATIONS OF LANDSCAPE IMAGES Slides B-J		VIRTUAL CLASS PRE-WORK: 1. View 8 images and develop ideas of what may have happened to each landscape, focusing on what caused the layers and materials to change. 2. Fill in ideas on the image observation table located in the TDD.
Part 3 (2 min) SHARE LANDSCAPE IDEAS Slides K		VIRTUAL CLASS PRE-WORK: 1. Make a prediction about how the landscapes must have changed over time.
Part 4 (25 min) MODEL LANDSCAPE CHANGES THROUGH STATIONS Slides L	1. Check turn-in of data table from the activity for student participation. 2. Check for misconceptions.	VIRTUAL CLASS PRE-WORK: 1. View investigations that show how land can change. (Station 1, Station 2, Station 3, Station 4, Station 5, Station 6) 2. Read articles about each station. 3. Submit completed table to your teacher

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 1-3 (40 min) MAKE SENSE OF STATION LEARNING ANALYZE TIME-LAPSE VIDEOS REVISITING EVEREST Slides M-W	VIRTUAL CLASS: 1. Class Discussion. (Share ideas from stations) 2. Explain what might have caused the images to change over time. 3. View time lapse videos (Glacier , Shoreline 1, Shoreline 2, Sand dunes, Water 1, Water 2, Worms) 4. Discuss which station each event might have occurred at and the timescale at which they occurred. Students fill in data table during discussion 5. Answer and discuss the questions that follow the data table on TDD 6. Discuss how new ideas can help to explain why the layers of seafloor on Everest are disappearing. 7. Class discussion about Mt. Everest shrinking or growing and what we still need to explain. 8. Let students know about Exit Ticket Post-Work	
Part 4 (5 min) EXIT TICKET Slides W	1. Create Exit Ticket Assignment 2. Review submissions to check for understanding and provide feedback as needed.	VIRTUAL CLASS POST-WORK: 1. Answer exit ticket question and submit

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Lesson 14 (3 days) - Putting Pieces Together

In this **Lesson**, students will need the following materials to appropriately engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Building Understanding Discussion Board - *teacher made*

In this **Lesson**, students who don't have home internet need the following print-outs or files to best engage in learning:
- Lesson Slideshow
- Thinking Deeper Document
- Building Understanding Discussion Board - *teacher made*
- Discussion Board - *after completion*

In this **Lesson**, students should join virtual classes on the following days to engage in learning:
- Day 2

Lesson 14 (3 days) - Putting Pieces Together

Day 1		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (2 min) NAVIGATION Slide A	1. Share Lesson Slideshow with students 2. Share Thinking Deeper Document with students	VIRTUAL CLASS PRE-WORK: 1. Think back to your answer on the exit ticket from lesson 13.
Part 2 (10 min) EXAMINE UPLIFT AND EROSION DATA FOR MT. EVEREST Slide B		VIRTUAL CLASS PRE-WORK: 1. Examine uplift and erosion data to consider if Mt. Everest is growing or shrinking. 2. Create a model that answers the posed questions on TDD
Part 3 (15 min) BUILDING UNDERSTANDINGS: HOW MOUNTAINS GROW OR SHRINK Slide C	1. Create and assign discussion board 2. Review student responses to check for understanding and misconceptions	VIRTUAL CLASS PRE-WORK: 1. Answer questions from discussion board on TDD 2. Submit a response to the discussion board 3. Read classmates' responses and build an understanding of how all mountains are in a process of either growing or shrinking based on forces from below (mantle movement) or forces from above (weather and erosion).
Part 4 (15 min) GOTTA-HAVE-IT CHECKLIST Slides D, E		VIRTUAL CLASS PRE-WORK: 1. Think back to previous discussion questions. 2. Develop a Gotta-Have-It Checklist to account for how a fossil could form in an ancient seabed and end up on top of Mt. Everest today. 3. Draw a model that includes important ideas listed in your Gotta-a-have-it checklist.

Day 2		
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Parts 1-4 (40 min) NAVIGATION SHARE MODELS FINAL CONSENSUS MODEL EXIT TICKET: FUTURE OF MT. EVEREST Slides F-I	VIRTUAL CLASS: 1. Revisit the Gotta-Have-It Checklist to add or revise with any new thinking and to set the stage for the day. 2. Display their representations and view how others represented ideas for the three questions and discuss. Note similarities and differences on TDD and make changes if needed to models. 3. Class discussion of parts of the model that we all agree on. 4. Students track the fossils, rock layers, and movement over the three timepoints as we discuss and add to models as needed. 5. Answer exit ticket question about the future of Mt. Everest and discuss. 6. Alert students to upcoming assessment.	

	Day 3	
Lesson Components	**Distance Learning Plan**	
	Teacher	**Student**
Part 1 (30 min) Assessment Slides J	1. Send assessment to students 2. Grade end of lesson test 3. Send comments to students if needed to help clarify misconceptions	VIRTUAL CLASS POST-WORK: 1. Complete end of lesson 14 assessment 2. Submit to teacher
Part 2 (5 min) REVISIT OUR DRIVING QUESTION BOARD (DQB) Slides K	1. Check for student submissions of possible unanswered questions from the DQB 2. Respond to students as needed.	VIRTUAL CLASS POST-WORK: 1. Revisit the DQB and take stock of all the questions we've now answered. 2. If you find questions you still have not answered, send it to your teacher for follow up.
Part 3 (10 min) QUICK WRITE: REFLECT ON OUR EXPERIENCES Slides L	1. Check for student submission of completed thinking deeper document. 2. Make note of challenging and rewarding parts of this unit for future reference.	VIRTUAL CLASS POST-WORK: 1. Discuss what was challenging and rewarding about this unit and complete a quick write about their learning experience. 2. Submit completed thinking deeper document to your teacher.

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