

**MSSELL Lesson Plans
January 25-29, 2010
Week 18**

Earth's Structure

Science Objectives:

- Day 1 (Monday) – The student will identify and describe the layers of the Earth using a labeled diagram.
- Day 2 (Tuesday) – The student will identify and describe landforms on Earth using pictures.
- Day 3 (Wednesday) – The student will observe rocks and identify their materials using a concept map.
- Day 4 (Thursday) – The student will test different properties of soil using an investigation.
- Day 5 (Friday) – The student will draw a conclusion about soil supporting life using an acrostic poem.

Reading Objectives:

- The student understands explicit ideas and information in fifth-grade or higher texts (for example, main idea, implied message, relevant supporting details and facts, chronological order of events).
- The student uses simple strategies to determine meaning and increase vocabulary for reading, including the use of prefixes, suffixes, root words, multiple meanings, antonyms, synonyms, and word relationships.

ESL Strategies: Academic Language Scaffolding, Cooperative Learning, Leveled Questions, Modeled Talk, Think Aloud, Visual Scaffolding

TEKS:

Science: 4.11A Process Skills

Language Arts: 5.4A, 5.5F, 5.6A, 5.7A, 5.8B, 5.9B, 5.9E, 5.10A, 5.10G, 5.10L, 5.11B, 5.13B, 5.15A

ELPS: 1A, 1E, 2C, 3D, 4A, 4J, 5B

Target Vocabulary:

Verbs: identify, describe

Content: crust, mantle, outer core, inner core, plates, landforms, sedimentary rock, igneous rock, metamorphic rock, soil, properties, texture, retain, support life

Materials:

Day 1	Warm-up: The Earth's Structure word document, pocket folders Engage: W18D1 ppt Explore: SF textbook p. 260, newspaper or butcher paper to cover desks, Group set: cornstarch, plastic spoon, clear plastic cup, water, bowl W18D1 ppt Explain: boiled egg, Week 18 Vocabulary ppt, ScienceSaurus p. 159,176 Partner Reading Discussion Cards 1A & 1B Evaluate: journals, foldable template W18D1 ppt Copy of Week 18 homework
Day 2	Warm-up: Where do we live? Word document, pocket folders Engage: W18D2 ppt Explore: landform cards for each pair, W18D2 ppt Explain: Week 18 Vocabulary ppt, Shapes on Earth's Surface reading handout, Partner Reading Discussion Card W18D2 Elaborate: W18D2 ppt Evaluate: journals, landform picture template
Day 3	Warm-up: Science Probe #20, pocket folders Engage: W18D3 ppt Explore: Group sets of rock samples (4-5 per group) Explain: Week 18 Vocabulary ppt, Rocks and Minerals reading handout, Partner Reading Discussion Card W18D3 Evaluate: journal
Day 4	Warm-up: Properties of Soil chart, pocket folders Engage: W18D4 ppt Explore: Demonstration : sandy soil, clay soil, loam soil, clear cups, foam cups, paper towels, water W18D4 ppt Explain: EduSmart 4.11A #1, 4.11A #2 teacher question guides Week 18 Vocabulary ppt, Comparing Soils reading handout, Partner Reading Discussion Card W18D4 Evaluate: journal, foldable template

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Day 5	Warm-up: R4 p. 162-163, pocket folders Engage: W18D5 ppt Explore: W18D5 ppt Explain: EduSmart 4.11 #3, 4.11A #4 teacher question guides Soil reading handout, Partner Reading Discussion Card W18D5 Evaluate: rubric, paper to write poem Blank copy of Week 18 homework
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Provide feedback by:

- ***Restating or confirming the correct response,***
- ***Making connections to classroom experiences,***
- ***Asking a student to extend or clarify his/her response,***
- ***Scaffold by asking a question that may lead them to the answer,***
- ***Asking another student if they can help with the answer,***
- ***Asking a student to read the sentence in the text that supports their answer,***
- ***Monitoring writing activities and for content***
- ***Monitoring writing activities for grammar***

Daily Activities

Day 1: 74 minutes

DOWLS – The Earth’s Structure – word document [Pocket Folders] (7 – 10 minutes)

Each student receives a half sheet for warm-up.

Display warm-up on ELMO.

Read prompt with the students. Students explain what they know about the Earth. Let students discuss their answers with their group. Call on students randomly to share their answers.

*Have students change and add answers as you review the warm-up with the class.

Engage: Power point – How is the Earth and apple alike? (5 minutes)

Read prompt with the students. Have students discuss their responses with their partner. Use RAN strategy to call on 3-4 students.

Questions: **Describe the apple.**
 Describe the Earth.
 How are the Earth and apple alike?
 How are the Earth and apple different?

Call on students to share their responses.

Refer to the objective for the day.

Identify the cognitive verb for today.
What is a diagram?

Explore: How can you make a model of material found in the Earth? Textbook p. 260 (20 minutes)

Group Materials: newspaper to cover desk, cornstarch, plastic spoon, clear plastic cup, water, bowl

Power point - Discuss each slide with the students. (Review power point)

Discuss with students that scientists use models to learn about something. This model is to see how the rock below the Earth’s surface acts.

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1. Put 5 spoonfuls of cornstarch in a cup. Add 3 spoonfuls of water. Stir.

Question: **Describe the mixture in the cup.**

2. Pour the mixture into your hand.

3. Close your hand and squeeze.

Questions: **Describe the mixture when it was squeezed in your hand.**

Infer what caused the mixture to change.

Draw a conclusion about the mixture acting like both a solid and a liquid.

Explain: Science Saurus and Soft-boiled egg

CRISELLA

Vocabulary Preview [Power Point] **(2 minutes)**

Show students Week 18 Vocabulary powerpoint slides 1-4, stop where designated

ScienceSaurus p. 159 Earth's Layers (4 minutes)

Set timer for 2 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card 1A and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

Identify how many layers the Earth has.

Identify the name of the outer layer of Earth.

Identify the material that the crust is made of.

Hard-boiled Egg (1 minute) – Crack the egg before class, but keep the shell intact. The cracks represent the plates or cracking of the Earth's surface.

Science Saurus p. 176 – Earth's Moving Plates (4 minutes)

Set timer for 2 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card 1B and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

True or False: The Earth's crust is one solid piece.

Define the word plate.

Explain how the Earth's crust is like a cracked eggshell.

Identify where most earthquakes and volcanoes occur.

Evaluate / Product: Notebook Foldable Circles – Layers of the Earth [Journal] **(20 minutes)**

Foldable – Students will fold circles in half and glue the top half of foldable template in journal.

Explain to the students they are creating a foldable to show their knowledge of the layers of the Earth. This is the assessment for today. Students need to work on foldable individually.

Review power point with students before they begin to work on the product.

Closure: (3 minutes) **Identify the layers of the Earth.**

Describe the Earth's crust.

Identify the layer that we live on.

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Homework: (5 minutes) Briefly preview weekly homework.

Day 2: 83 minutes

DOWLS: Where do we live? – word document [Pocket Folders] **(7 – 10 minutes)**

Each student receives a half sheet for warm-up.

Display warm-up on ELMO.

Read prompt with the students. Students identify which layer of the Earth we live on. Let students discuss their answers with their group. Call on students randomly to share their answers.

*Have students change and add answers as you review the warm-up with the class.

Engage: Power point – Mountains **(5 minutes)**

Have students observe the mountains.

Questions: **Identify the object in the picture.**
Identify the layer of Earth that the mountain is found on.

Randomly call on students to share their responses.

Refer to the objective for the day.

Define the cognitive verb identify.
Define the cognitive verb describe.

Explore: Landform cards **(15 minutes)**

Materials: set of landform cards for each pair of students

Do not mention the word landform until the Explain section.

Give each pair of students a set of the landform cards. Have students observe and discuss cards with their partner. Have students name the pictures if they can.

Use power point as you go.

Question: **Explain what all of these pictures have in common.**

Explain: Shapes on Earth's Surface Reading Handout

CRISELLA

Vocabulary Preview [Power Point] **(5 minutes)**

Show students Week 18 Vocabulary powerpoint slides 1-6, stop where designated

L1 Clarification for plate: **Placa es una gran sección de la corteza terrestre.**

Shapes on Earth's Surface Handout (10 minutes)

Set timer for 6 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

Define the word landform.

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Identify the layer of the Earth where landforms can be found.
Identify the layer of Earth that people live on.
Identify and describe a landform that can be found in Texas.
Identify the difference between a plain and a plateau.
Identify a landform that is shaped by water.

Elaborate: Power Point – Landforms [Journal] **(15 minutes)**

Materials: whiteboard and marker for each student

Students will identify the landform. The pictures will be on the power point and these will all be quick writes on the whiteboards.

Evaluate / Product: Notebook Foldable – tabbed landform pictures [Journal] **(20 minutes)**

Tabbed landform pictures – Students will cut tabs first. Then glue un-cut part of part to their journal. Students will then lift tab and write the appropriate landform for the picture. Model for students how to make the cuts and glue down their page.

Explain to the students they are creating tabbed pictures to show their knowledge of landforms. This is the assessment for today. Students need to work on chart individually.

Review power point with students before they begin to work on the product.

Closure: (3 minutes)

Identify a landform.
Identify a landform in Houston.
Identify the layer of the Earth where landforms can be found.

Day 3: 70 minutes

DOWLS: Science Probe #20 p. 151 [Pocket Folders] **(7 – 10 minutes)**

Each student receives a half sheet for warm-up.

Display warm-up on ELMO.

Read prompt with the students. Students identify things that could be rocks. Let students discuss their answers with their group. Call on students randomly to share their answers.

*Have students change and add answers as you review the warm-up with the class.

Engage: Power point - Earth's crust **(5 minutes)**

Have students observe picture.

Questions: **Describe the Earth's crust.**
What do you think the crust made of?

Refer to the objective for the day.

Identify the cognitive verb for today.
Explain what it means to observe.

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Explore: Rock samples **(15 minutes)**

Materials: 4 or 5 rock samples per group

Students are going to observe different rock samples. Have several students bring their rock sample up to the ELMO.

Questions: **Describe your rock sample.**
Identify a property of your rock sample.

Explain: Rocks and Minerals Reading Handout

CRISELLA

Vocabulary Preview [Power Point] **(5 minutes)**

Show students Week 18 Vocabulary power point slides 1-8, stop where designated

Rocks and Minerals Handout (8 minutes)

Set timer for 5 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

Define the word rock.

Identify three types of rocks.

Define the word sediment.

Describe how sedimentary rocks are formed.

Look at the illustrations and describe the appearance of sedimentary rocks.

Evaluate / Product: Concept Map [Journal] **(20 minutes)**

Students will copy and complete the concept map in their journal.

Explain to the students they are creating a concept map to show their knowledge of rocks. This is the assessment for today. Students need to work on concept map individually.

Review power point with students before they begin to work on the product.

Closure: (5 minutes)

Identify the three types of rocks.
Explain what minerals have to do with rocks.
Identify the type of rock that has sediments.
Describe sedimentary rocks.

Day 4: 85 minutes

DOWLS: Properties of Soil - chart [Pocket Folders] **(7 – 10 minutes)**

Each student receives a half sheet for warm-up.

Display warm-up on ELMO.

Read prompt with the students. Students read and interpret data from a chart. Let students discuss their answers with their group. Call on students randomly to share their answers.

*Have students change and add answers as you review the warm-up with the class.

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Engage: Power point – Compare Different Soils **(5 minutes)**

Have students observe the slides. Allow the students to discuss what they observe to their partners.

Questions: **Describe the soil.**
Identify a property of the soil.

Refer to the objective for the day.

Explain what it means to test.
Describe an investigation.

Explore: How much water can soil hold? – Demonstration **(10 minutes)**

Materials: sandy soil, clay soil, loam soil, clear cups, foam cups, paper towels, water
(Poke 8 holes in bottom of foam cup. Place a circle cut out of paper towel in the bottom of the cup)

Review power point with students. Have students copy chart into their journal so they may record the data.

1. Put 50 mL of soil in clear plastic cup. Label the soil sample. Have students observe each type of soil.
Question: **What did you observe about the different soils?**
2. Place soil in foam cups. Place foam cup inside the plastic cup.
3. Pour 50 mL of water on each soil sample. Wait ten minutes. Observe the amount of water in the clear plastic cup.

Review power point with students and respond to questions.

Explain: EduSmart 4.11.A #1 and #2 and Comparing Soils reading handout

EduSmart 4.11.A #1 – What’s up with soil? (15 minutes)

Students will view this section of EduSmart. At each section break, ask the appropriate questions using the questioning strategies.

EduSmart 4.11.A #2 – Water Retention Experiment (15 minutes)

Students will view this section of EduSmart. At each section break, ask the appropriate questions using the questioning strategies.

CRISELLA

Vocabulary Preview [Power Point] (7 minutes)

Show students Week 18 Vocabulary power point slides 1-11, stop where designated

Comparing Soils Reading Handout (6 minutes)

Set timer for 4 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

Define the word soil.
Identify a synonym for the word properties.
Identify two properties, or characteristics that describe soil.
(texture, ability to retain water)
Describe the properties of sand.

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Evaluate / Product: Notebook Foldable – Soil Investigation [Journal] **(15 minutes)**

Foldable – Students will glue foldable template in journal.

Explain to the students they are creating a foldable to show their knowledge of the soil investigation. This is the assessment for today. Students need to work on foldable individually.

Review power point with students before they begin to work on the product.

Closure: (5 minutes)

Identify a property of soil.
Describe the texture of sand.
Identify the soil that retains the most water.

Day 5: 88 minutes

DOWLS: Region IV p. 162-163 [Pocket Folders] **(7 minutes)**

Each student receives a half sheet for warm-up.

Display warm-up on ELMO.

Read prompt with the students. Students study a chart about properties of soil and then decide where would be the best place to plant seeds.. Let students discuss their answers with their group.

Call on students randomly to share their answers.

*Have students change and add answers as you review the warm-up with the class.

Engage: Power point – Plant **(5 minutes)**

Have students observe the power point slide.

Question: **Describe the plant.**
Identify what the plant needs to live.

Use RAN strategy to call on several students.

Refer to the objective for the day.

Define draw a conclusion.
Explain what a poem is.

Explore: Power point – Living organisms **(10 minutes)**

Have students observe the pictures in the power point. Allow students to discuss their observations with their partner.

Questions: **Identify a living organism in the pictures.**
Explain what all of the pictures have in common.
Explain how soil helps each of the living organisms.

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Explain: EduSmart 4.11.A # 3 and #4 and Soil reading handout

EduSmart 4.11.A # 3 – Soil Matters (15 minutes)

Students will view this section of EduSmart. At each section break, ask the appropriate questions using the questioning strategies.

EduSmart 4.11.A # 4 – Summary (10 minutes)

Students will view this section of EduSmart. At each section break, ask the appropriate questions using the questioning strategies.

Soil Reading Handout (6 minutes)

Set timer for 4 minutes as students partner-read the selection.

Partners will read the discussion questions on the Partner Reading Discussion Card and then re-read the selection a second time, looking for the answers.

After re-reading, partners will discuss answers.

Define the word soil.

Describe what soil is made of.

Define the word humus.

Explain the significance, or importance, of soil.

Evaluate / Product: Word Cinquain – Soil (20 minutes)

Let the students know that they are going to be an author and write a poem about soil.

Students will complete the plan for their cinquain of soil. The students then begin writing their cinquain. Use cinquain rubric with this product.

Review rubric with students before they begin to work on the product.

Explain to the students they are completing a cinquain to show their knowledge of the properties of soil. This is the assessment for today. Students need to work on cinquain individually.

When cinquain is complete and graded choose samples of student work (1 or 2 per class) and post them in the classroom with description and rubric.

Closure: (5 minutes)

Identify a property of soil.

Explain texture.

Identify a synonym for the word retain.

Explain how soil supports life.

Hypothesize what would happen if we did not have soil.

Homework: (10 minutes) Display homework on the ELMO. Walk students through the process of how to work through the problems using strategies. Relate the problems back to the activities and investigations from the week. Choose 1 or 2 problems and work the problems by thinking aloud so the students can observe the process of how to work through the problem. Use your strategies!