Components of Activity

Earth 15& Earth 16

WHAT THIS ACTIVITY IS ABOUT: This activity is about cross-cutting concepts in science.

Crosscutting Concepts represent common themes that span across science disciplines. These concepts identify universal properties and processes found in all the science disciplines.

INSTRUCTIONS:

1. **Briefly scan through each paragraph before starting.**
2. **Carefully read the 1st paragraph. Underline and/or circle key ideas and words.**

   Circle either YES or NO for each of the cross-cutting concepts on that page that apply.
3. **Carefully read the 2nd paragraph. Underline and/or circle key ideas and words.**

   Circle either YES or NO for each of the cross-cutting concepts on that page that apply
4. **Return to the 1st paragraph. Write a brief response for each cross cutting concept marked YES.**

   At bottom of page, circle the number of the cross-cutting concept which BEST fits the paragraph.
5. **Return to the 2nd paragraph. Write a brief response for each cross cutting concept marked YES.**

   At bottom of page, circle the number of the cross-cutting concept which BEST fits the paragraph.
6. **At the bottom of each page, describe WHY you selected that cross-cutting concept as the BEST fit.**
7. **Complete a VENN diagram on the back page for the two topic paragraphs.**
8. **Write a 50 word essay. Summarizing your discoveries, ideas, and conclusions about the paragraphs.**

Earth 15 Types of Models

There are an almost limitless number of types of models. Listed elsewhere at Honeycutt Science, students can discover a variety of model-types used across the natural sciences. In recent years, a robust set of digital and math-based models have been developed to better understand Earth. An example is The Earth System Modeling Framework (ESMF), ESMF is open-source software for building climate, numerical weather prediction, data assimilation, and other Earth science software applications. This topic explores the variety of model-types, and examines specific model opportunities to better understand Earth. (topic) *Does this paragraph mention, describe, imply, refer to, or convey:*

1. (YES) (NO) any **patterns**?
   in what way >> _____
   _____
2. (YES) (NO) any **cause and effect**?
   in what way >> _____
   _____
3. (YES) (NO) a **quantity, numeric scale, or proportion**?
   in what way >> _____
   _____
4. (YES) (NO) a **system, or organized structure**?
   in what way >> _____
   _____
5. (YES) (NO) about **energy or matter?** (*Especially flows, cycles, and conservation*)?
   in what way >> _____
   _____
6. (YES) (NO) the **structure or function** of something?
   in what way >> _____
   _____
7. (YES) (NO) concepts of **stability and/or change**?
   in what way >> _____
   _____

Circle the number which BEST represents the paragraph? (1) (2) (3) (4) (5) (6) (7).

Why did you choose this number? >> _____
_____

Earth 16 Earth Chemistry

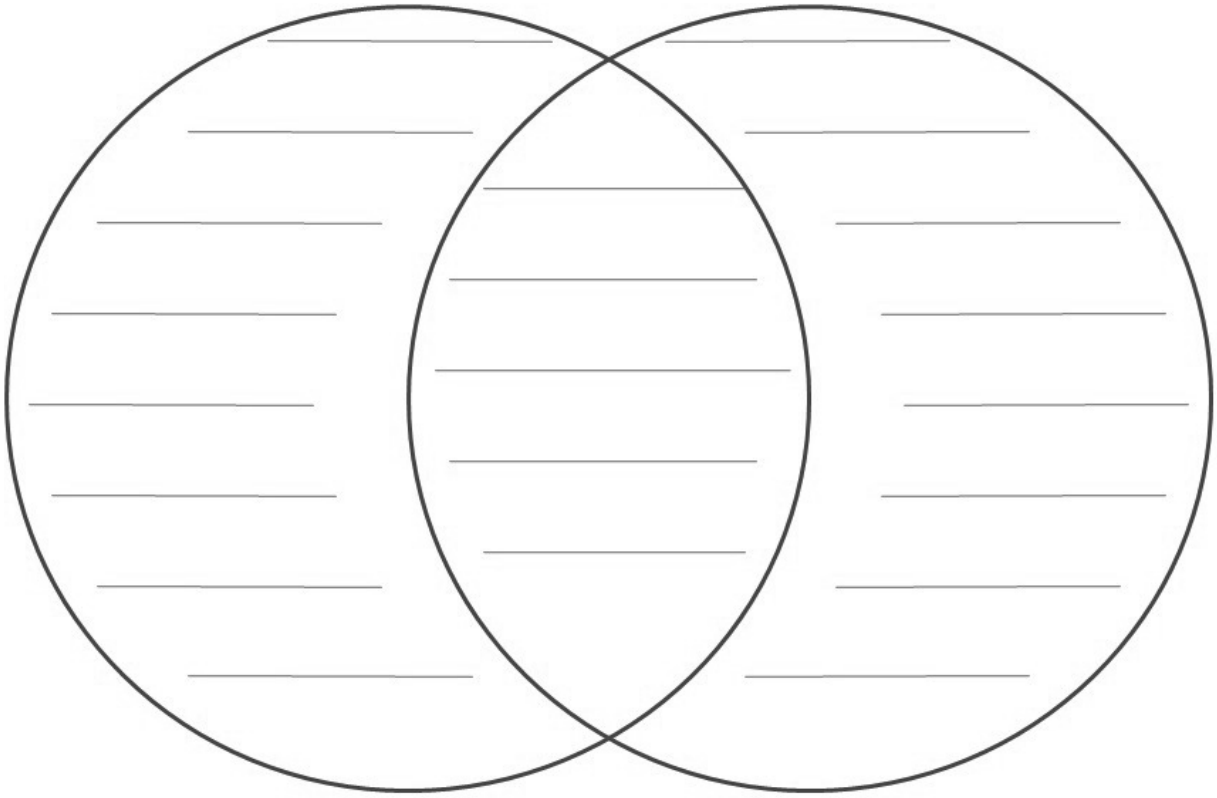
With an atmosphere containing 78% nitrogen and 21%oxygen, the Earth is the only planet in the solar system capable of initiating and sustaining life-forms; the various chemical elements that make up the Earth, from the crust, down to the mantle and core, have a little something to do with that. Eight elements make up 98% of Earth's crust and its core. (topic) *Does this paragraph mention, describe, imply, refer to, or convey:*

1. (YES) (NO) any **patterns**?
   in what way >> _____
   _____
2. (YES) (NO) any **cause and effect**?
   in what way >> _____
   _____
3. (YES) (NO) a **quantity, numeric scale, or proportion**?
   in what way >> _____
   _____
4. (YES) (NO) a **system, or organized structure**?
   in what way >> _____
   _____
5. (YES) (NO) about **energy or matter?** (*Especially flows, cycles, and conservation*)?
   in what way >> _____
   _____
6. (YES) (NO) the **structure or function** of something?
   in what way >> _____
   _____
7. (YES) (NO) concepts of **stability and/or change**?
   in what way >> _____
   _____

Circle the number which BEST represents the paragraph? (1) (2) (3) (4) (5) (6) (7).

Why did you choose this number? >> _____
_____

Types of Models **Earth Chemistry**



Write a 50 Word Essay about the topic paragraphs here …

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