


ALABAMA
DEPARTMENT OF EDUCATION

Makes Sense Strategies Toolkit
applications for
Grades 6-8 Science

Part 1: Using *Smart Sheets* to teach high-frequency science topics

Part 2: Using *Smart Sheets* to science vocabulary

 **Edwin Ellis, Ph.D.**
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VOCABULARY

Organizer SMARTsheets

- Hierarchy**: 1 Main Idea, 2 Main Ideas, 3 Main Ideas, 4 Main Ideas, 5 Main Ideas, 6 Main Ideas, 7 Main Ideas, 8 Main Ideas
- Compare / Contrast**: Venn, Matrix (compare), Matrix & conclusions, Matrix & double conclusions
- Cause / Effect**: CE boxes, CE webs
- Sequence**: Steps, Cycles, Sequence of Events

Essential Understandings SMARTsheets

- Literature**: Story Grammar & Sequence, Character Analysis, Literary Analysis, Story Problems, Questions, Inferences, Predictions, Text Personal
- Writing**:
 - Vocabulary: Level 2, Level 3, Level 4, Level 5, Resources, Supplemental, Narrative, Descriptive, Expository, Persuasive
 - Word Cards, Semantic Tables, Word Comparisons, Word Connections, Features Analysis, LINCIS mnemonics, Scavenger Hunts, Multiple Meanings
- History & Science**: Generative Ideas, Person Group Place Event, Process Theory Ideology Debate Issue Policy Conflict Problem Invention Object
- Math**: Mathematical Concepts, Computational Processes, Rules / Theorems
- Social / Motivation**: Behavior Inventory, Character Building, Perspective Taking, Self-control, Goal Setting & Self-advocacy, Behavior Analysis
- Project-based Learning**: Planning Investigations, Conducting Investigations, Making Presentations, Evaluating Project Processes & Outcomes

SMARTplanners for Teachers

- Instructional Design**: Content area Units & Lessons, Library/Strategy Units & Lessons, Anticipation Guides, Scaffolding Tactics, Reflective Reviews

SMARTplanners for Leaders

- MSS Implementation Resources**: Schoolwide Implementation Strategies, Articles, www.MakesSenseStrategies.com, Acknowledgements

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VOCABULARY

Essential Understandings SMARTsheets Vocabulary

HOME

WORD WALLS & CASTLES

2-Word Walls, 4-Word Walls, 2-Word Castles, 4-Word Castles

COL:R Backline COL:R Backline COL:R Backline COL:R Backline

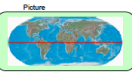
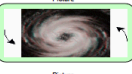


Reaction Hider's Reaction Hider's Reaction Hider's Reaction Hider's

Backline Backline Backline Backline

Earth's layers Earth's layers Earth's layers Earth's layers

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Term	Definition	Picture	Knowledge Connection
Equator	An imaginary circle around the earth everywhere equally distant from the North Pole and the South Pole		The equator runs through the top part of South America, and is located at 0 degrees. Alabama is 33 degrees north of the equator.
Counterclockwise	Counterclockwise motion goes in a circle in the opposite direction from the way a clock moves. Hurricane winds blow in a counterclockwise direction.		A clock's hands move clockwise. If we were to move the hands in the opposite direction, then we would be moving the hands counterclockwise.
Cyclonic	Refers to closed, rotating wind. It moves counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.		Alabama is always being affected by tornadoes. Tornadoes have cyclonic winds.
Northern Hemisphere	The half of the Earth that is located above the equator		The United States is located in the Northern Hemisphere. We live in the United States so that means we live in the Northern Hemisphere.

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Earth's layers Earth's layers Earth's layers Earth's layers

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alive Definition: "Having and not having the same thing" Example: "The cat is alive." Dead or never was alive Biotic factors (plants, animals & logs) My pesky little sister is a biotic factor.	biotic factor Definition: All living things in the environment Example: animals, plants, germs, bacteria, etc.
Non-living Definition: "Having and not having the same thing" Example: "The rock is non-living." Dead or never was alive Abiotic factors (e.g., water, sunlight) Biotic factors (e.g., plants) must have abiotic factors (e.g., water, sunlight) to stay alive.	abiotic factor Definition: NON-living things in the environment Example: Hurricanes, water, stone
ecosystem Definition: "Having and not having the same thing" Example: "The rain, sun, and plants in my garden are an ecosystem." Earth has many different ecosystems.	ecosystems Definition: Living & non-living things in a specific environment & how they interact Example: The rain, sun, and plants in my garden are an ecosystem.
home Definition: "Having and not having the same thing" Example: "The house is my home." Homeless Habitat for Humanity builds houses for homeless people.	habitat Definition: Place or area where something lives Example: A habitat to come home to everyday

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Essential Understandings SMARTsheets Vocabulary

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SEMANTIC TABLES

Related Words (primary): Semantic Map (simple), Semantic Web 1, Semantic Web 2

COL: R, Backline, COL: R, Backline, COL: R, Backline, COL: R, Backline, COL: R, Backline

Phonics, Prepositions, Fire Fighter

Semantic Table 1, Semantic Table 2, Semantic Table 3

COL: R, Backline, COL: R, Backline, COL: R, Backline, COL: R, Backline, COL: R, Backline

Phonics, Transposition, Southward Tables, 2009-10, Kids of the Blue

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Ways living things get & process food

Is a type or part of ...
OR
Is a member of this group ...

TOPIC

Photosynthesis

Key things to remember about this topic: Leaf traps light energy using chloroplasts; gets water via transpiration. Leaf makes chlorophyll and then mixes it with water. Carbon dioxide from air entering via stomata is mixed in to produce sugary plant food. Byproduct (oxygen) is expelled from leaf as waste.

Is important because: Plants need sun, water, & air to generate food. Plants produce the oxygen animals need to breathe.

Draw a picture about the topic: [Diagram of a plant showing photosynthesis process]

Is like: Making a cup cake. Get mix from store, stir in water, add heat energy (bake in stove) and then add icing = sugary human food.

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Part of the process needed for plants to make food to live

Is a type or part of ...
OR
Is a member of this group ...

TOPIC

Transpiration

Features: plant roots act like tiny water pipes that stick down in the ground and connect to leaves. dry air sucks water out of the (evaporation), creating suction all the way down the pipes to the leaf. water is sucked from soil into the roots and pulled up to the leaf.

Example: dry air in home pulls more water from houseplant leaves, so soil in pot dries out faster.

Non-Example / Don't Confuse With: Don't confuse with "expiration" which is when something ends or dies.

Is like: Is like sucking a straw to get water from a cup into your mouth.

Knowledge Connections: This makes me think why I have to water the grass so much during hot summer months. All those blades of grass are causing a lot of water to get sucked out of the ground and then evaporate.

Draw a picture: [Diagram of a plant showing transpiration process]

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WORD CONNECTIONS 1 2

Word Reminds Me Of Word Connections Word Box Is About / Is Not About Connection Table

Word Relationships Best Guesses Personal Connections REAL World Connections RELATE to Real World

COL:R Backline COL:R Backline COL:R Backline COL:R Backline COL:R Backline COL:R Backline COL:R Backline COL:R Backline

System Pair When Out Moments Central Spider & Fly Experience Rising

None None None Sub-Trend Properties-Water Crying







Simple Backline

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All of these terms are related to this topic...

Physical properties used to describe matter

New Word	Definition	Personal Connection (this word makes you think of...)
 Brittle	Something that is hard, but easily broken.	Peanut brittle is hard, but can easily break into pieces.
 Clarity	The state of being clear or easy to see through.	The ocean has great clarity when you can see straight down to your feet.
 Luster	The shine or gloss created by reflected light from the surface of a material.	A diamond has great luster, as it shines bright in the sunlight.
 Malleable	Capable of being influenced or shaped; easily affected by hammering or pressure.	Clay is very malleable as I can mold it into many shapes.
 Texture	The way something feels when touched because of what it is made of.	A cat's tongue has a rough texture when it licks your hand.
 Viscous	A substance's resistance to flow or pour easily.	Cake batter is very viscous when you can hardly pour it into the baking pan.