

ALABAMA
DEPARTMENT OF EDUCATION

Makes Sense Strategies Toolkit
applications for
Grades 9-12 Science

Part 2: Using Smart Sheets to science vocabulary

Copying definition = **little or no memory of term**
 Rote memorization = **temporary memory**
 Definitions... **Addresses distinctive features**
Student-friendly language
(avoid defining terms using terms that also need defining)

Students **MUST** elaborate new terms to remember them...
 → Multiple-uses of term (in OWN words) in applied contexts
 → Connected to real experiences
 → Visualizing / drawing / illustrating
 → Personal knowledge connections

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VOCABULARY

Organizer SMARTsheets

- Hierarchic: 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: Level 1, Level 2, Level 3, Level 4, Level 5, Resources, Supplemental, Narrative, Descriptive, Expository, Persuasive
- Vocabulary: 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 Library, 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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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 Flairies Scientific Shapes Hurricanes Food Chain Earth's Layers

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VOCABULARY

Term	Definition	Picture	Knowledge Connection
composition			
decomposition			
endothermic process			
exothermic process			

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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

Rotation Hunter's Nation Geometric Shapes Humans Food Chain Native Americans Ducks Ecosystems

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biotic factor
Definition: All living things in the environment
Example: animals, plants, germs, bacteria, etc.

abiotic factor
Definition: NON-living things in the environment
Example: Hurricanes, water, stone

ecosystems
Definition: Living & non-living things in a specific environment & how they interact
Example: The rain, dirt, sun, and plants in my garden are an eco-system

habitat
Definition: Place or area where something lives
Example: A habitat to come home to everyday

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SEMANTIC TABLES

Related Words (primary) Semantic Map (simple) Semantic Map 1 Semantic Map 2

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Preceptor Precipitation Precipitation Precipitation

Free Fire Free Fire Free Fire Free Fire

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Phonograph Phonograph Phonograph Phonograph

Native Americans Native Americans Native Americans Native Americans

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Transpiration Transpiration Transpiration Transpiration

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Kind of Flow Kind of Flow Kind of Flow Kind of Flow

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Free Fire Free Fire Free Fire Free Fire

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Phonograph Phonograph Phonograph Phonograph

Native Americans Native Americans Native Americans Native Americans

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Transpiration Transpiration Transpiration Transpiration

COL/R Backline COL/R Backline COL/R Backline COL/R Backline

Kind of Flow Kind of Flow Kind of Flow Kind of Flow

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Ways living things get & process food

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

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

Is important because...

Draw a picture about the topic:

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

