



The Framing Routine



Learning Goal

- I can implement the Framing Routine to fidelity with my students.

Essential Questions

- How can I increase the content literacy of my students regardless of their reading level?
- How can I provide the instructional scaffolds some students need to learn while maintaining the rigor for more prepared students?

Agenda

Background

Parts of the Device

Build a Draft

Examples

Cue-Do-Review

Upload a Draft and Take Knowledge Check

The FRAME Routine

Key Topic

is about...

[Empty box for notes related to the key topic]

Main idea

Main idea

Main idea

Essential details

Essential details

Essential details

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

[Empty box for essential details]

So What? (What's important to understand about this?)

[Empty box for reflection]

The FRAMEing Routine

Used to help students remember the meaning of or relationships among critical content

Transforms abstract main ideas and key topics into a concrete representation

Helps students think and talk about the key topic and related essential information

Supporting Research

Diverse classes grades 4-12

Teachers found it easy to learn

Students gained an average of 10 to 15 percentage points on tests and tasks

Increase in writing fluency (number of words, coherency of ideas, reduced mechanical errors)

Student Quotes

- “Doing the frame was the most powerful learning moments. It forced me to pay my full attention to the video and learn about water. Also, it helped to catch every detail and it was effective.”
- “The frame was one of the most powerful learning moments because it helped me figure out why water is so important.”
- “Doing the EdPuzzle frame, this really renewed my note taking skills.”
- “The frame notes because they taught me a lot of things.”
- “That frame thing actually helped a lot at first i was thinking this is kinda weird, because we just normally do the EdPuzzles. It really helped me too actually understand what i read.”

Frame

- Graphic organizer
- Teacher completes draft, often modified during instruction
- Used by students for taking notes

Linking Steps

- Steps followed in completing the device with students

Cue-Do-Review Sequence

- Instructional sequence that makes Framing a routine

The Cue-Do-Review Sequence

- Cue
 - Students that the routine will be used.
- Do
 - The routine's **Linking Steps**.
- Review
 - The information and process.

The Cue-Do-Review Sequence

- Cue
 - A visual device called the Frame is presented and explained to students as a way to help them understand how critical information is organized.

The Cue-Do-Review Sequence

- Do
 - During the initial presentation, the teacher follows a set of procedures called the Linking Steps that help the teacher explain how the Frame will enhance learning.

The Cue-Do-Review Sequence

- Review
 - The teacher uses the Frame to check and bolster student understanding of the topic.

The FRAME Routine

Key Topic

Progressive Era

is about...

a period of social change in the U. S.

Main idea

Social Problems

Main idea

Tools for Social Change

Main idea

Social Changes

Essential details

Unsafe food

Essential details

Muckrakers wrote
about problems

Essential details

Meat Inspection Act

Monopolies

Bully pulpits forced
new laws

Anti- trust Act

Unsafe and unfair
working conditions

Activists organized
protests

Commerce and Labor
Departments

Limited voting rights

Demonstrators
created public pressure

Voting rights
expanded

So What? (What's important to understand about this?)

To really create social change, many people
have to be organized, outspoken, and persistent!

The Linking Steps

- **F**ocus on the topic
- **R**eveal main ideas
- **A**nalyze details
- **M**ake a “So What?” Statement
- **E**xtend understanding

The FRAME Routine

Key Topic
Progressive Era

is about...
a period of social change in the U. S.

Main idea
Social Changes

THE KEY TOPIC
The name of the key topic being studied.

Essential details
at Inspection Act

- Monopolies
- Bully pulpits forced new laws
- Anti-trust Act
- Unsafe and unfair working conditions
- Activists organized protests
- Commerce and Labor Departments
- Limited voting rights
- Demonstrators created public pressure
- Voting rights expanded

So What? (What's important to understand about this?)

To really create social change, many people have to be organized, outspoken, and persistent!

The FRAME Routine

Key Topic

Progressive Era

is about...

a period of social change in the U. S.

Main idea

Social Problems

Main idea

Tools for Social Change

Main idea

Social Changes

Essential details

Unsafe food

Monopolies

Unsafe and unfair
working conditions

Limited voting rights

Activists organized
protests

Demonstrators
created public pressure

Commerce and Labor
Departments

Voting rights
expanded

“IS ABOUT” STATEMENT

A brief explanation of what
the key topic is about.

So What? (What's important to understand about this?)

To really create social change, many people
have to be organized, outspoken, and persistent!

The FRAME Routine

Key Topic

Progressive Era

is about...

a period of social change in the U. S.

Main idea

Social Problems

Main idea

Tools for Social Change

Main idea

Social Changes

Essential details

Essential details

Essential details

MAIN IDEAS

The main ideas behind the key topic. Can be subtopics or brief phrases representing components of the key topic or items that are sequentially related to each other and the key topic. The actual number of main ideas may vary.

Inspection Act

Anti-trust Act

Commerce and Labor
Departments

Working rights
expanded

So What? (What's important to understand about this?)

To really create social change, many people
have to be organized, outspoken, and persistent!

The FRAME Routine

Key Topic

ESSENTIAL DETAILS

Details that are essential for students to know and remember about each main idea.

a period

Main idea

Social Problems

Tools for Social Change

Social Changes

Essential details

Unsafe food

Essential details

Muckrakers wrote about problems

Essential details

Meat Inspection Act

Monopolies

Bully pulpits forced new laws

Anti-trust Act

Unsafe and unfair working conditions

Activists organized protests

Commerce and Labor Departments

Limited voting rights

Demonstrators created public pressure

Voting rights expanded

So What? (What's important to understand about this?)

To really create social change, many people have to be organized, outspoken, and persistent!

The FRAME Routine

Key Topic
Progressive Era

is about...

SO WHAT?
OR
WHAT'S IMPORTANT TO
UNDERSTAND ABOUT THIS?

A statement designed to help students understand:

- how the current topic is related to the overall unit.
- how the topic can be used to solve or understand a real-world problem.

Limited voting rights

Demonstrators
created public pressure

Voting rights
expanded

So What? (What's important to understand about this?)

To really create social change, many people
have to be organized, outspoken, and persistent!

The Purpose of the Linking Steps

Guide the teacher to:

- Present the information in the Frame to students in an effective manner.
- Involve students in constructing the Frame.
- Focus student attention on learning.

- Thinking about your last assessment or upcoming material, what are some topics, concepts, main ideas that are difficult for students to understand

The FRAME Routine

Key Topic Plant Structures & Functions

is about...

How structures of plant tissues and organs support a plant's life processes

Main idea

Vascular tissue

Essential details

Transports water, minerals and sugars

Driven by **Transpiration...**

Powered by **Cohesion** and **Adhesion**

Made of **Xylem** and **Phloem**

Main idea

Roots

Essential details

Anchor (hold) plants in the ground

Absorb minerals (nutrients) and water from soil

Contains **Xylem** = carries water

Contains **Phloem** = carries sugars

Main idea

Stems

Essential details

Supports plant (like a person's skeleton)

Transports water, nutrients from roots to leaves

Contains **Xylem** = carries water

Contains **Phloem** = carries sugars

Main idea

Leaves

Essential details

Where **Transpiration** happens = evaporation of water through leaves

Where **photosynthesis** happens = plants make sugar for food

Contains **stomata** = lets gasses (CO₂ & H₂O) in and out

Contains **guard cells** = open and close stomata

So What? (What's important to understand about this?)

Plant structures (like vascular tissue, roots, stems and leaves) keep plants alive to **produce food and oxygen for people** other living things.

The FRAME Routine

Key Topic
Classroom Procedures

is about...

having a successful day in science lab

Main idea

before

Main idea

during

Main idea

after

Essential details

Prepare materials

Essential details

Use indicated voice level

Essential details

Clean up your area

Be seated before the bell

Follow directions the first time they are given

Put INB away

Do bellwork

Engage in learning

Push in chair

Sit and read/review quietly

Quietly transition

So What? (What's important to understand about this?)

You will have a pleasant learning environment that leads you to a successful year.

Extension: put a check next to what you know you can do

Write what you struggle with and your plan to improve it on your exit ticket

Key Topic Chemical Reactions



is about...

Chemical changes are a result of chemical reactions. All chemical reactions involve a change in substances and a change in energy. **LAW OF CONSERVATION:** Neither matter or energy is created or destroyed in a chemical reaction---only changed.

<u>Main Idea</u> Synthesis reactions	<u>Main Idea</u> Decomposition reactions	<u>Main Idea</u> Single displacement reactions	<u>Main Idea</u> Double displacement reactions	<u>Main Idea</u> Combustion reactions "burning"
Essential details	Essential details	Essential details	Essential details	Essential details
two substances (generally elements) combine and form a compound.	compound breaks up into the elements or in a few to simpler compounds	one element replaces another in a compound.	In a compound, metal replaces a metal, and a nonmetal replaces a nonmetal	Compound (usually hydrocarbon) combines with oxygen
reactant + reactant → 1 product $A + B \rightarrow AB$	1 Reactant → Product + Product $AB \rightarrow A + B$	element + compound → product + product $A + BC \rightarrow AC + B$ (if A is a metal) OR $A + BC \rightarrow BA + C$ (if A is a nonmetal) remember the + cation always goes first!	Compound + compound → product + product $AB + XY \rightarrow AX + BY$	Reactant fuel + oxygen → water + carbon dioxid + heat $C_xH_y + O_2 \rightarrow CO_2 + H_2O$
Ex: $2H_2 + O_2 \rightarrow 2H_2O$ Ex: $C + O_2 \rightarrow CO_2$	Ex: $2H_2O_2 \rightarrow 2H_2O + O_2$	Ex: $H_2O \rightarrow H^+ + OH^-$ NOT $2H^+ + O^{2-}$ or H_2	Ex: $AgNO_3 + NaCl \rightarrow AgCl + NaNO_3$	Ex: Match head $P_4S_3 + 5O_2 \rightarrow 2P_2O_5 + 3SO_2$ Wood cellulose $CH_2O + O_2 \rightarrow H_2O + O_2 + \text{smoke} + \text{ash}$ (noncombusted wood)

So What? (What's important to understand about this?)

Each reaction needs to be balanced in order to be correct. There needs to be the same amount of each element in the products as there was in the reactants. I can identify the types of chemical reactions, identify signs that a reaction has occurred, explain what happens in this reaction, and describe how the Law of Conservation of Mass applies.

The FRAME Routine

New Deal Programs

is about...

ways that FDR tried to tackle the problems of the Great Depression.

Main idea

Relief

Essential details

CCC - provided jobs to young men planting trees, working on flood control projects, building bridges and parks

FERA - gave relief to unemployed and needy

WPA - provided jobs building parks, schools, airports; employed writers, artists, and musicians

Main idea

Recovery

Essential details

NRA - helped devise standards that regulated prices, production, and wages

AAA- paid farmers to grow certain crops

TVA- built dams to provide cheap electric power, set up schools and health centers

PWA- built ports, schools, and aircraft carriers

Main idea

Reform

Essential details

FDIC - Insured savings accounts in banks approved by the government

Social Security Act- set up pensions for elderly, unemployed, disabled, and dependent children

FLSA - set minimum wages and maximum hours for businesses engaged in interstate commerce

So what? (What's important to understand about this?)

In an attempt to end the Great Depression, New Deal programs greatly expanded government's role in the U.S. economy.

Key idea

Name _____

Transformations

Are about

Movement of figures in a coordinate plane

Reflection

Rotation

Translation

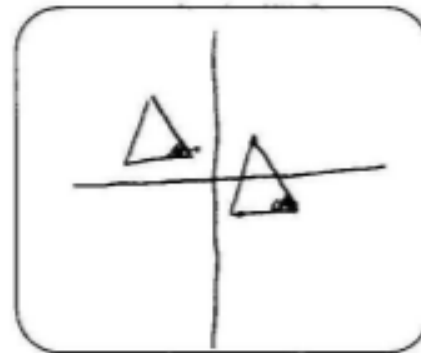
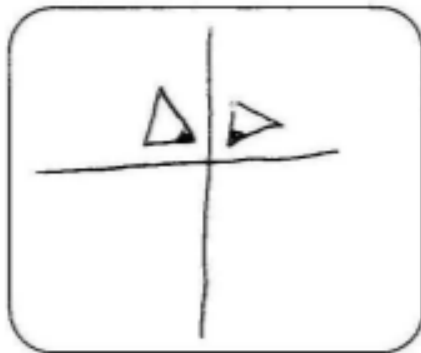
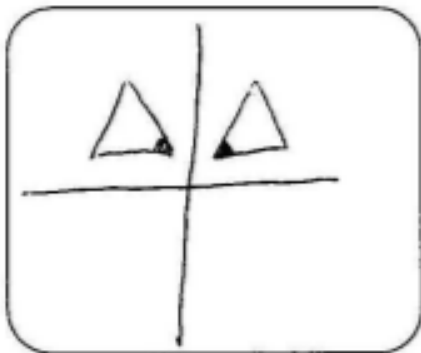
Definition

A transformation that flips an image across a line where each part of the figure is equal distance from the line.

A transformation that turns a figure about a point.

A transformation that slides a figure into a position in which it looks exactly the same.

Example



So what (what's important to know about this?)

Understanding of transformations helps me to understand art, architecture, as well as tiling on bathroom and kitchen walls and floors.

Name:

Date:

Punnett Squares (Single Trait)

are about ...

using a tool to predict the probability that offspring will inherit certain traits from their parents.

Order

Main Idea

Details

1

Figure out what the question wants to know

- Genotype or Phenotype or both?
- question might be asking what the chance is that a child inherits a disease or blue eyes
- chance = probability, expressed in % (ex. 25% chance of inheriting the disease) or fractions (ex. a $\frac{3}{4}$ chance of having brown eyes, $\frac{1}{4}$ offspring will be homozygous recessive)

2

Identify Parent's Genotypes

- read the description of the parents and turn the description into a 2 letter combination
- homozygous = 2 of the same letters, heterozygous = 1 uppercase, 1 lowercase
- trait will determine letter to be used (ex. freckles, F = dominant gene = freckles, f = recessive = no freckles)

3

Set up the P square

- using the gene combination FROM THE GENOTYPE, only one letter per side of square
- father's genes go along the top, mother's genes go down the side

4

Fill out the P square

- Each box inside the square will have 2 letters, one from the father and one from the mother (put the letter in the box that is closest to the edge of the square)

5

Interpret the P square

- look at each offspring and decide what their genotype is (homozygous dominant, heterozygous, homozygous recessive)
- use the genotype to decide what trait the offspring will have (dominant, recessive, combination)

6

Answer the question

- look back at what the question was asking and provide the appropriate information for the answer (see step 1 for examples)

Topic
Hooking suckers

is about...

Cigarette companies target teenage girls to get them addicted to smoking

Main Idea

Main Idea

Main Idea

WHEN...

Cigarette companies target teenage girls

THEN...

Girls much more likely to begin and keep smoking

BECAUSE...

Smoking seems like a cool thing to do

Essential Details

Essential Details

Essential Details

Conduct research to see who is easiest to influence

Studies show teenage girls less self-assured/lower self-esteem

Magazine pictures depict beautiful women smoking

Target girls via teenage magazines

Studies show teenage girls more likely to be influenced by media

Pictures depict beautiful men adoring the women as they smoke

Try & get girls addicted, physically & psychologically

Studies show teenage girls more likely to be influenced by media

Message: If you smoke, you'll be beautiful too & everyone will like you better

Women will spend thousands \$ over their lifetimes

Teenage girls don't understand hazards, so more likely to try smoking

Message: If you smoke, you'll feel better about yourself

So what? What is important to understand about this?

We need to be aware of how companies (not just cigarette companies) will exploit youth to get their money

The FRAME Routine

Key Topic Photosynthesis

is about...

Plants using the sun's energy to make food for animals

Main idea

Reactants (what goes in)

Main idea

Products (what comes out)

Main idea

How plants do this

Essential details

Sunlight (only gets reaction going)

Essential details

Sugar (glucose, $C^6H^{12}O^6$)

Essential details

trap sun's energy in chlorophyll

Water (H^2O)

Oxygen gas (O^2)

chlorophyll is found in chloroplasts in plant cells

Carbon Dioxide (CO^2)

2 reactions: Light-dependent & Calvin Cycle

Works best between 0° and 35°

So What? (What's important to understand about this?)

Humans (and all animals) need oxygen to breathe and sugar to eat and burn for energy to stay alive. Plants produce these so humans (and animals) need plants.

The FRAME Routine

Key Topic
DNA

is about...

the molecule that stores genetic information

Main idea

Parts of DNA strand

Main idea

DNA vs. RNA

Main idea

Replication

Essential details

Nucleotides (A, G, C, T)

Essential details

DNA has Thymine but
RNA has Uracil

Essential details

Double helix unzips and
forms 2 templates

Hydrogen bonds

DNA is a double helix *but*
RNA is a single strand

Free nucleotides pair up with
nucleotides on template

Phosphate backbone

DNA stays in the nucleus
but RNA can go outside
the nucleus

2 new identical strands
are formed

Sugar = Deoxyribose

So What? (What's important to understand about this?)

DNA carries the information for cells to multiply so people can grow, heal and reproduce.

The FRAME Routine

Key Topic

Scientific Method

is about...

A way to ask and communicate answers to scientific questions by making observations and doing experiments (also called an investigation)

Ask questions

Research

Plan Experiment

- About something you observe
- About something you can measure
- Begins with: How, What, When, Which, Why or Where?

- Understand the appropriate background information
- Learn what has already been communicated about the question

- Design an investigation
- Use previously published investigations to assist in your design

Do Experiment

Generate Explanations

Communicate

- Gather data during the investigation
- Analyze, and interpret data from the investigation

- Describe the results and use appropriate evidence, reasoning, and justification from the investigation/experiment
- Create a conclusion

- Share the results of the experiment with others

So What? (What's important to understand about this?)

The scientific method is important because it helps us to be able to effectively solve problems and trust the results of any experiment that we have done or that we have studied.

Options for Extending Understanding (pg. 21 – 22)

- Prioritize main ideas and essential details according to importance.
- Prioritize main ideas according to other criteria (e.g., Which had the greatest impact on their lives? Which were the most controversial? Which were the most misunderstood?).

Options for Extending Understanding

- Speculate what might have happened under a different set of circumstances.
- Forecast what happened next.
- Connect how main ideas relate to:
 - each other
 - information previously learned
 - past experiences
 - the real world

Pgs. 21 & 22