Hierarchic graphic organizers

Often, a “big idea” can be broken down into several component parts, or small ideas. Each of these “small ideas,” in turn, can be further analyzed and subdivided even further into its component parts. These kinds of information structures are referred to as hierarchic because the information can be organized into a hierarchy of levels (big idea, small ideas, parts of the small ideas, etc.). For example, a rubber ball is actually composed of molecules. Each molecule is composed of atoms, and each atom has its own parts (nucleus, electrons, protons, etc.).

The hierarchic thought pattern can be visually represented in numerous ways. This program features various webs, circles, frames and flow charts.

4 Types of Hierarchic Graphics

Semantic Webs

Circles

Frames

Flow Charts
A “whole-to-part” hierarchy shows how a concept can be subdivided into parts. In contrast, a “part-to-whole” hierarchy shows how various parts can be combined to form a larger concept. These can, in turn, be combined to form a still larger concept, and so on.

Hierarchic graphics can be particularly helpful tools when students are trying to understand the relationships between different parallel ideas and their relationship to a larger picture. They also help students keep track of details, and reduce the confusion about which details are associated with which main idea.

Among the four options for depicting hierarchic structures (webs, circles, frames, and flow charts), you will likely find that you have a favorite and that you tend to use it the most. Keep in mind that your favorite format is not necessarily the favorite of your students or most helpful in facilitating understanding of complex information. Generally, it's best to begin with just one of these formats (e.g., Main Idea Analysis Frame), and use it repeatedly until students become very familiar with how hierarchic information is structured. Later, you can begin using one of the other formats until students become competent with it.

Ultimately, it is very desirable for students to become competent at all four formats because this promotes a form of “cognitive flexibility” and students gain a deeper understanding of the various ways in which the same information can be structured, as well as recognize these patterns of thinking in various contexts.

Using Semantic Webs to depict hierarchic relationships
The Semantic Web depicts the big idea at the center of the web, with main ideas associated with this big idea branching off from it. Essential details then branch off from each main idea. The following figure shows a Semantic Web with three spaces for main ideas. A major advantage of the web is that it can accommodate multiple main ideas, as illustrated in the figure below.
American History Example

Semantic Webs may be used to note key events of an era and why they were important.

Web developed by Kathy Thoresen, Simmons Middle School, Hoover, AL
Science Example
Semantic Webs could be used to delineate components and characteristics of phenomena.

Radioactivity

Gamma Rays
- have no mass
- have no electrical charge
- can pass through most materials; thick concrete or metal plates can stop

Beta Particles
- has a single negative charge
- identical to an electron
- can pass through paper, but not wood, heavy clothing, or metal plate

Alpha Particles
- 2 protons & 2 neutrons bound together
- have a positive charge of 2
- emitted from nucleus of atom at very high speeds
- easily stopped by paper or person's skin

Using Frames to depict hierarchic relationships
Frames also depict hierarchic information, but in a more linear format than webs. While less sophisticated learners seem to respond equally well whether information is presented to them on a Semantic Web or a Frame, responses that involve students constructing these graphics is another story. You may find that many less sophisticated learners are more readily able to construct Frames than Semantic Webs. This may be because the Frames provide a more predictable, or set, structure whereas Semantic Webs begin with a blank page.

* For an in-depth guide to using strategic instruction via Frames, see The Framing Routine by Edwin S. Ellis. Call (205) 553-5990 for information about this guidebook.
Simple Frames

Simple Frames (illustrated below) provide space at the top of the graphic for one main idea with supporting or related details listed under it. For less sophisticated learners, it is often preferable to begin with a simple frame that provides only one main idea and set of supporting details. Later, as students become familiar with this way to structure information, you can work with frames that address multiple main ideas (these are illustrated further below).
American History Example
Frames can be used to clarify issues in a dispute

Multiple Main Idea Frames
The Multiple Main Idea Frame provides space for three or more main ideas with supporting points for each. Using a top down orientation, the large space at the top of the graphic provides space, labeled What is this whole idea about? to note the big idea of the lesson. Main ideas are listed in the large spaces, and then there is for each main idea a set of boxes where essential details are noted in the area labeled What Are the Main Ideas and Details?

The bottom of the graphic contains a space labeled So what? What’s important to understand about this? that is designed to cue the learner to focus attention back to the overall concept and what is important about it. Thus, the graphic reflects a whole-to-part-to-whole information structure. The figure below depicts the main ideas; however, there may not always be exactly three main ideas in your lesson. Sometimes there may be only two, and sometimes there may be multiple topics.
Social Studies Example
Frames may be used to explore different dimensions of a concept

Key Topic

Government Systems

is about
different ways governments are structured or organized

Main idea

Unitary

Confederal

Federal

Essential details

‘uni’ = one as in only one power at the "top"

Independent states have their own power

Compromise between national & state governments

Central government has ultimate power

Central government handles only power granted to it by the states

A mix of unitary & confederal, but federal law is supreme

State & local government have limited or no power

Republicans would like for the U.S. gov. to be a lot more like this

Federal law cannot override state & local law unless they conflict with federal law

Most countries have this form of government

No nations have this now

United States today

* Articles of Confederation

* Confed. States of Am.

BIG IDEA (What is important to understand about this?)

Some approaches to government are better than others.
### American History Example

Frames could be used to note key leaders of an era and what they did that was important.

<table>
<thead>
<tr>
<th>Muckrakers</th>
<th>What is this whole idea about?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>people who wrote about the problems of big business and government</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main idea</th>
<th>Main idea</th>
<th>Main idea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frank Norris wrote about farmers' problems</td>
<td>Upton Sinclair problems in meat packing industry</td>
<td>Ida Tarbell business monopolies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Supporting points</th>
<th>Supporting points</th>
<th>Supporting points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain co. fixing prices</td>
<td>Selling dirty, unsanitary meat</td>
<td>Price fixing</td>
</tr>
<tr>
<td>Railroads over charging to ship grain</td>
<td>Diseases</td>
<td>Over charging</td>
</tr>
<tr>
<td></td>
<td>Excessive waste</td>
<td>Forcing small businesses to close</td>
</tr>
<tr>
<td></td>
<td>Famous book: The Jungle</td>
<td>Very low wages for workers</td>
</tr>
</tbody>
</table>

**So what? What is important to understand about this?**

IF Muckrakers had not made everybody aware of the abuses & the need for new reform laws, THEN the U.S. today might be very different.
Language Arts Example
Frames could be used to facilitate recognition of literature themes

What is this whole idea about?

Lion King themes

What are the main ideas and details?

Circle of life

Facing fear

Good vs. evil

Supporting points

Supporting points

Supporting points

Main idea

Main idea

Main idea

Food chain

Lion

ground

animal

plant

Simba defends Nala in elephant graveyard

Mufasa confronts Scar in a cave

Simba in stampede

Simba & Nala encounter hyenas in the elephant graveyard

Simba learns to face his fear & face Scar

Scar plots & kills Mufasa tries to kill Simba

Balance in the environment (break in cycle upsets it)

Simba vs. Scar (showdown at Pride Rock)

Father-to-son life cycle

Mufasa confronts Scar in a cave

Simba vs. Scar (showdown at Pride Rock)

Good vs. evil

So what? What is important to understand about this?

Lion King's messages: Life exists in a circle

Good triumphs over evil if there is sufficient fortitude

Graphic developed by Darren Kykendoll, Stafford Elementary School, Tuscaloosa, AL
Psychology Example
Frames could be used to facilitate understanding of important concepts

What is this whole idea about?

Mental illness

What are the main ideas and details?

Neurosis

Main idea

Supporting points

Usually learned

Most common symptom is severe worry or anxiety

Feel like something terrible is going to happen

Phobia - strong fear of something with little or no reason

Paranoia - afraid someone is trying to hurt them

Psychosis

Main idea

Supporting points

Loses touch with reality

Schizophrenia - out of touch with reality; many symptoms; person is in world of his own

Biological bases

* brain chemical imbalance

* sometimes inherited

Psychosis

Supporting points

Can be learned or have biological base

Often doesn't like himself or others

Low energy; low motivation; radical change in behavior; forgetful; highly emotional

Long term vs. acute

Depression

Supporting points

Can get help from friends, family, psychologists, & psychiatrists

Symptoms overlap

Important to recognize symptoms

Mental illness can be learned or have a biological basis

1 in 5 teenagers suffer from depression; leading cause of suicide

Mental illness can be learned or have a biological basis -- Can get help from friends, family, psychologists, & psychiatrists -- Symptoms overlap -- Important to recognize symptoms
The example below depicts an eight main idea frame. This example shows how a fifth-grade teacher used the frame to facilitate reading comprehension. Students read the magazine *Time for Kids* and summarized each article in the issue. The title of each article is listed as a main idea and details from the article are listed as details.

**Time for Kids**

what’s in the news this week  (September 19, 1997)

1. The Death of a Princess
   - Princess of Wales
   - From England
   - People's Princess
   - She helped a lot of charities

2. Spotlight
   - Cynthia Cooper
   - Houston Comets
   - WMBA
   - #14

3. The Great Classroom Crunch
   - Overcrowded w/kids
   - There wasn't enough room
   - You can barely walk in the halls

4. 5 highest temperatures
   - El Aziza, Libya
   - Death Valley, CA
   - Tirat Tsvi, Israel
   - Concurry, Australia
   - Seville, Spain

5. Welcome Back, Pack
   - Alpha -- leader
   - Wolves are coming back
   - You can barely walk in the halls

6. Party On, Darth
   - Jake Lloyd
   - Plays Darth Vader in first 3 movies
   - In theaters in 1999

**BIG IDEA (What is important to understand about this?)**

Princess Diana & Mother Teresa’s deaths were most important news
Box Frame
The Main Idea Analysis frame can be modified so that instead of providing a series of boxes to list specific details, a single, larger box is provided.

Social Studies Example  This Box Frame was used to depict main ideas and details associated with various phases of a famous person’s life.

<table>
<thead>
<tr>
<th>What is this whole thing about?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Booker T. Washington’s Journey</strong></td>
</tr>
<tr>
<td><strong>Main Idea</strong></td>
</tr>
<tr>
<td>It was difficult for a 16-year-old African American boy to travel</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Main Idea</strong></td>
</tr>
<tr>
<td>Problems not over when he arrived at Hampton Institute</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Main Idea</strong></td>
</tr>
<tr>
<td>Even after Washington was accepted, he had many problems</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

So what? What’s important to understand about this?
Theme: Winners never quit and quitters never win OR It isn’t the problem, it is how you handle it that makes the difference

You may find that some of your students, particularly those with cognitive disabilities, prefer the Main Idea Analysis Frame to Semantic Webs. This may be due to the more concrete and linear manner in which Main Idea Analysis Frames depict the information. While simple webs work well (e.g., when limited to two to three levels) with students with cognitive disabilities, extending these webs to more than three levels sometimes results in confusion. Likewise, many students with cognitive disabilities seem to prefer constructing hierarchic structures when the frames are already present (as in the Whole-to-Part frame). Generating a web from “scratch” is considerably more difficult for some students than when they are attempting to depict the same hierarchic information on a blank Main Idea Analysis Frame.
Using Flow Charts to depict hierarchic relationships

Like Semantic Webs and Main Idea Analysis Frames, Flow Charts also depict “whole-to-part” hierarchic information. Thus, you have a range of options from which to choose.

**American History Example**

Flow Charts could be used to note shifts in historical trends and important information about each

- The change in leadership *from Federalists (Adams) to Democratic-Republicans (Jefferson)*

- **New style of leadership**
  - More democratic government
  - Informal *laissez-faire*
  - end to party quarrels
  - downsize national gov.

- **Frugal & Simple Government**
  - repealed Sedition Act & Whiskey Tax
  - downsized military
  - maintained use of Bank of U.S.
  - continued to pay off state debts

- **Stronger Court System**
  - Judiciary Act 1789
  - Marbury *vs.* Madison
  - judicial review

- Democrat-Republicans were able to decrease the size of government, yet more clearly define the roll of the courts
Psychology Example
Flow Charts could be used to explore various features of a concept

What is this whole thing about?

Basis for a person's characteristics

Culture
- How people live: music, art, values, attitudes, customs, child rearing practices, religious beliefs, etc.
- Culture is learned; passed on to children
- Characteristics of a culture are often borrowed or are a mixture of cultures from many places
- Ideas can be spread (media); depends in part on environment

Environment
- Determines the types of jobs that are available, as well as many leisure activities
- Determines the types of clothes you wear
- Determines the types of foods that are available
- Determines the types of housing you live in

Genes
- Determines body features (skin color, type of hair, eyes, height, body shape, etc.)
- Determines ability of body to protect itself against some diseases
- Mixing genes produces merged characteristics (dominant genes)
- 9 major groups

So what? What is important to understand about this?
Who you are and what you are like results from a combination of three factors - your culture, your environment, and your genes. All of these can produce differences in you and your children.