

## Indicators of Success for Writing in Mathematics

Goals for students include the following:

- Students can communicate their ideas clearly using a variety of writing formats such as conjectures, proofs, mathematical arguments, graphic organizers, and affective writing.
- Students use appropriate mathematical vocabulary.
- Students integrate pictures, words, and numbers meaningfully to support and demonstrate their understandings and ideas.
- Students provide effective rationales for their ideas.
- Students provide examples to support their mathematical ideas.
- Students are able to revise and rework their writing based on feedback from peers and/or teachers.
- Students can make connections to real-world applications.

# Observation Checklist for Writing in Mathematics


<b>Teacher Comments</b>							
Makes connections to real-world applications							
Revises and reworks her/his writing based on feedback from peers and/or teachers							
Provide examples to support her/his mathematical ideas							
Provides effective rationales for her/his ideas							
Integrates pictures, words, and numbers meaningfully to demonstrate her/his ideas							
Uses appropriate mathematical vocabulary							
Communicates her/his ideas clearly using a variety of writing formats							
<b>Student Name</b>							

R = Rarely S = Sometimes F = Frequently C = Consistently

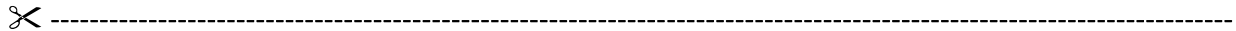
## My Math Writing

- Is my writing easy to understand?
- Do I include math words?
- Have I used pictures and/or numbers to explain my thinking?
- Have I explained how I know my mathematical ideas?
- Have I included examples to show my ideas?

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## Indicators of Success for Writing

- Is my writing well organized and easy to follow?
- Have I included mathematical vocabulary?
- Have I used mathematical vocabulary correctly?
- Have I used pictures and/or numbers effectively to explain my thinking?
- Have I explained the reasons for my mathematical ideas?
- Have I included examples to help the reader understand what I am saying?

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# Five-Frames

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# Ten-Frames




## My Math Pictures

- Are my pictures clear and easy to read?
- Do I include titles and numbers?
- Do I use arrows and labels to explain my pictures?
- Does the picture show my thinking?

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## My Math Pictures

- Are my pictures clear and easy to read?
- Do I include titles and numbers?
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- Does the picture show my thinking?


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## Indicators of Success for Effective Pictures in Mathematical Writing

- Are my pictures clear and easy to read?
- Do I use titles and numbers effectively to communicate the message of the picture?
- Do I use arrows and labels appropriately to highlight different features of the picture?
- Does the picture effectively support what I want to say?


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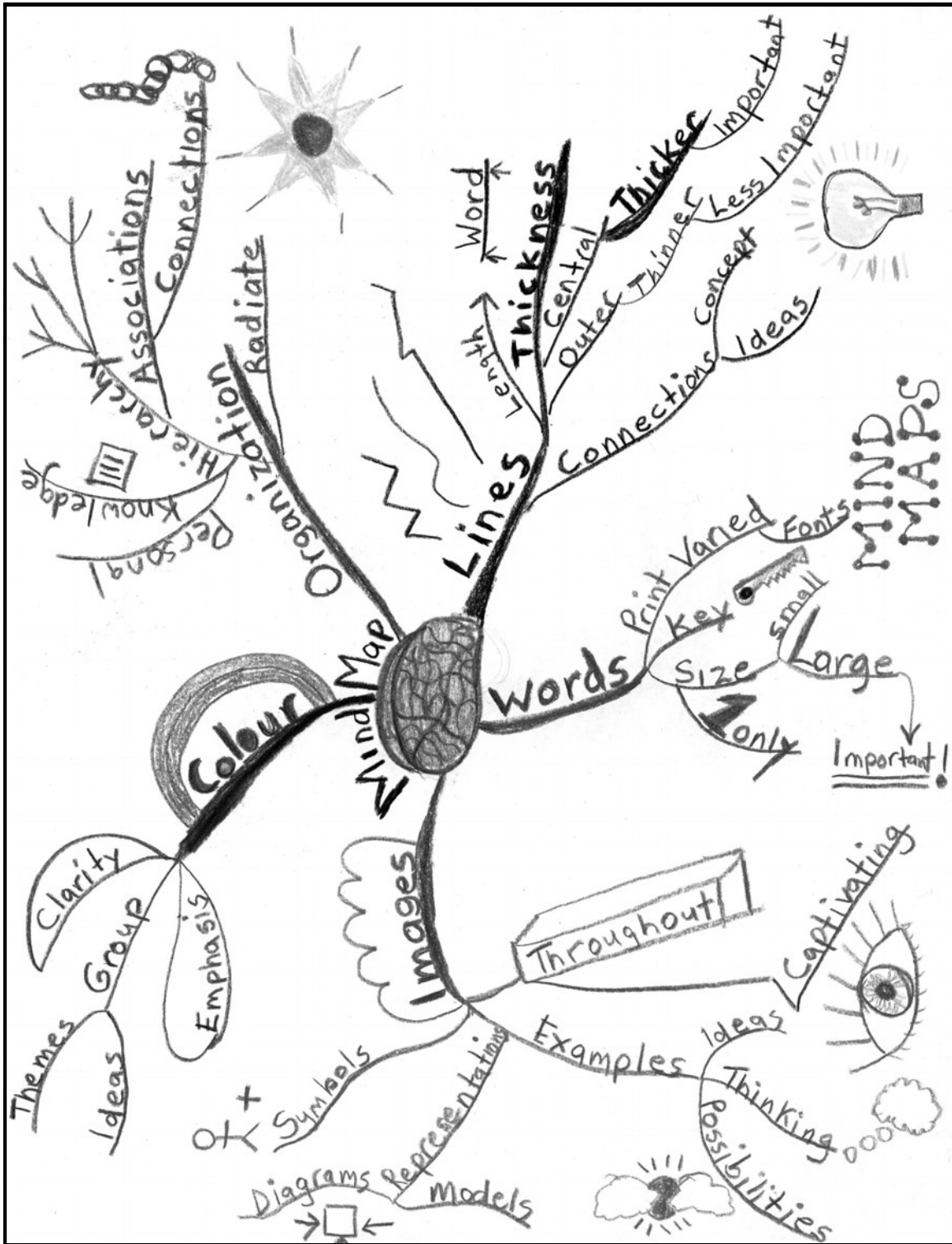
## Indicators of Success for Effective Pictures in Mathematical Writing

- Are my pictures clear and easy to read?
- Do I use titles and numbers effectively to communicate the message of the picture?
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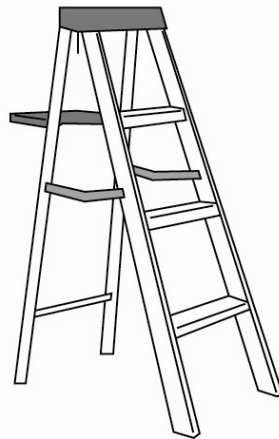
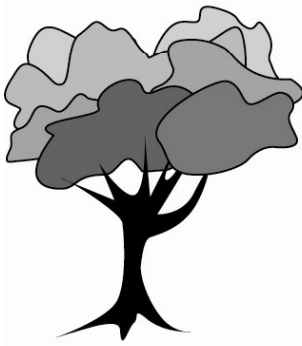
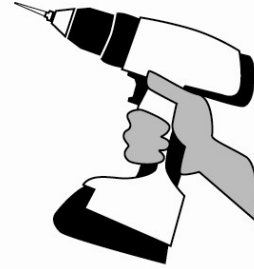
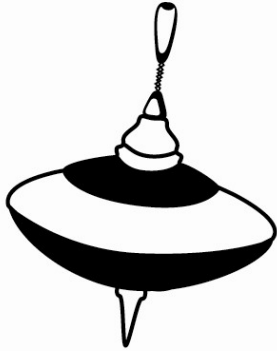
# Mind Map Visual Overview



# Concept Map Visual Overview




Mathematics is like...because...



## My Math Mind Map

- I place the main idea in the middle of my map.
- I use pictures and key math words to describe the main idea.
- The math information I share in my map makes sense.
- I use colour and different branches to organize my map.
- I include cross-links.
- My math mind map is easy to read.

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## Indicators of Success for an Effective Mind Map

- All key math concepts/ideas I include are related to the main topic and radiate from a clear central image.
- Connections and information that I include in my mind map make sense.
- I use colour and branches to organize my ideas.
- I use key math words correctly to communicate my ideas.
- I include cross-links to correctly connect different math ideas.
- My math mind map is well organized and easy to read.

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## My Math Concept Map

- I place my main topic at the top. I place more specific concepts below.
- I use different linking words and concepts.
- My linking words show how the different math concepts go together.
- I use cross-links to connect different concepts in my map.
- The concepts I include describe the main topic.

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## Indicators of Success for an Effective Math Concept Map

- I place my main topic at the top, leading to more specific concepts at the bottom.
- I use a variety of linking words and math concepts.
- My linking words correctly describe how the concepts connect to each other.
- I use cross-links that correctly connect concepts from different sections in my map.
- I include additional concepts that support the main topic.

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