Combining sources to form an argument

An introduction to concept mapping
What is a concept map?

• A visual representation of understanding
  – It conveys what you know
  – And what you don’t

• A useful way to organize complex ideas and relationships
What does a concept map look like?

- **Growth rate**
  - Positive correlation with **Cell size**
  - Negative correlation with **Growth efficiency**
  - Is a control of **Soil respiration**

- **Cell size**
  - Positive correlation with **Ribosome content**

- **Ribosome content**
  - Negative correlation with **Soil respiration**

- **Soil respiration**
  - Controlled by **Growth efficiency**

- **%C**
Concept Mapping
Step 1: Prepare a list of paper summaries

- Growth rate is positively correlated with cell size
- Cell size is negatively correlated with %C content of cells
- There is a tradeoff between growth rate and growth efficiency
- Growth efficiency is a control of soil respiration rates
- Ribosome content is positively related to growth rate
Concept Mapping
Step Two: Creating Nodes

- Identify the key concepts in your summaries
- Place each concept in a rectangle or node

Tip: Each concept should be one to a few words

Note: Summaries may contain more than one concept or node
Concept Mapping
Step Two: Creating Nodes

Example: Growth rate is positively correlated with cell size
Concept Mapping
Step Three: Create relationships

• You can use one- or two-sided arrows to demonstrate the relationship between concepts

• Label the arrow with a description of how the concepts are related
Concept Mapping
Step Three: Create Relationships
Example: Growth rate is positively correlated with cell size
Questions

• Based on the concept map, can you hypothesize any relationships?
• How are they supported by the data?
• How would you arrange your arguments in support of this hypothesis?
Growth rate

Cell size

Ribosome content

% C

Soil respiration

Positive correlation

Negative correlation

Is a control of

Growth efficiency

Positive correlation

Negative correlation