Working Draft

The Structure of an Argument

What do you think?

That's your ***claim***.

We define a claim as a statement that something yet to be proved is true or valid.

Notes: There is variation across disciplines in the extent to which a **claim** can be proved as "true." Some questions that seem settled to adults, such as whether a whale is a fish or a mammal, can be topics about which younger students can construct claims because, within the context of a given classroom, a statement that whales are mammals might not yet be proved as true or valid. At earlier grade levels or beginning English proficiency levels, new standards often use the term *opinion* instead of *claim*. In math, a claim might be a logical conjecture, a generalization, and/or a proposed solution strategy.

How do you know that this information

(your evidence or grounds)

supports your claim?

That's the ***reasoning*** behind or ***justification*** for your claim.

What makes you think that?

That's your ***evidence*** or ***grounds*** for your claim.

Notes: The information used to support claims looks different in different disciplines. Textual **evidence** is particularly important in English language arts and history, though evidence extends beyond texts, as well. For example, in history, evidence might include photographs, audio recordings, and artifacts. Observational and experimental evidence play a crucial role in scientific argumentation. In math, procedural explanations, such as a list of steps used to solve a problem, often serve as the underlying **grounds** for a claim.

Notes: Again, the way that evidence or grounds are linked to claims differs across disciplines. For example, in history, the evaluation of evidence – considering the source of the evidence, understanding the historical context in which the evidence was created, and corroborating evidence – is a crucial practice. In science, assessing the accuracy and reliability of evidence is important. In math, particular types of **reasoning** offer stronger **justification** for claims than others. For example, use of principles and properties serve as stronger justification for claims than multiple non-strategic examples do.

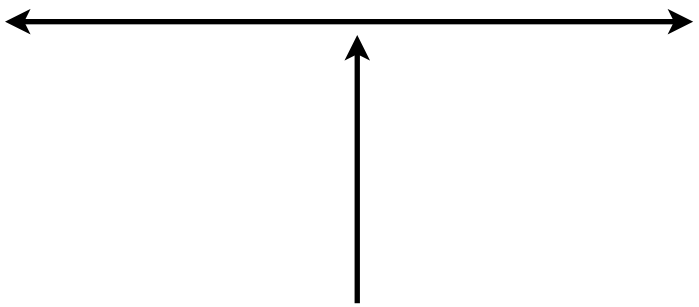
- Thompson, K. & Rutherford-Quach, S. (2014 September). Sources used in developing this framework include Erduran, Simon, & Osborne (2004), McNeill & Krajcik (2012), Osborne (2010), and Toulmin (1958). We thank Tina Cheuk, Jack Dieckmann, Mark Freed, Kenji Hakuta, Amanda Kibler, Claudia Rodriguez-Mojica, Diego Román, and Mark Smith for feedback on this framework.

Working Draft

The Structure of an Argument: Note-taking Sheet

What does s/he think?
(***claim***)

What makes him/her think that?
(***evidence/grounds***)



How does s/he know that this information (evidence or grounds) supports his/her claim?
(***reasoning/justification)***

Relationships among ideas (e.g., cause-effect, contrastive, conditional):

Linguistic markers or alternative expressions used to convey relationships among ideas (e.g, *and, or, so, but, when, if, because, as a result of, one reason that, despite the fact that*):

Argumentation Analysis Tool

The following formative assessment tool is designed to help you gather examples of how students engage in argumentation in your classroom. As a student talks (or writes), you can use this tool to notice and record what they are doing or saying that is related to constructing arguments. Or you may record what a student says or collect a piece of student writing and use this tool to analyze their argumentation later.

We define argumentation as articulating a **claim**[1] and providing support for that claim through evidence and/or reasoning. In order to engage in argumentation, students need an effective prompt and time to think about their arguments, so carefully consider how you will structure the task with which you use this tool.

The disciplinary Practices this tool address include:

CCSS-ELA Practice 3: Construct valid arguments from evidence and critique the reasoning of others

CCSS-Math Practice 3: Construct viable arguments and critique the reasoning of others

NGSS Practice 7: Engage in argument from evidence

ELP Standard 4 (for ELPA21 Consortium states): Construct grade-appropriate oral and written claims and support them with reasoning and evidence.

Dimension 1: Makes a claim[2]

Clearly demonstrates: The student *clearly articulates a claim,* as appropriate for the given context.

Partially demonstrates*:* The student attempts to articulate a claim but the *claim may be vague***.**

Begins to demonstrate*:* The student *does not articulate a claim**,** but a claim or position is suggested* in the evidence/reasoning provided.

***Does not demonstrate*:** The student *does not attempt to make a claim* and *a claim cannot be inferred.*

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1 Our definition of a claim is *a statement that something yet to be proved is true* (Black's Law Dictionary, 10th ed.)

2 The claim may not need to be stated in words, *if* it is clear from a drawing or from other features of the activity structure what the student's position is and how the student connected his or her ideas to ideas previously articulated by others (i.e., "I agree with …").

Note: The Conversation Analysis Tool (Zwiers, Rutherford-Quach, & Hakuta, 2013), the Mathematical Argumentation Analysis Tool (Moschkovich, Dieckmann, Zwiers, Rutherford-Quach, 2014), and the Writing Analysis Tools (Rutherford-Quach, Zwiers, Pearson, Hasser, Bailey, 2014) all informed the creation of this tool, and we thank the authors of those tools.

Dimension 2: Provides support for the claim.

Clearly demonstrates: The student provides *strong support* for the claim.

Partially demonstrates: The student provides *some support* for the claim.

***Begins to demonstrate*:** The student provides *minimal support* for the claim.

Does not demonstrate: The student provides *no support* for the claim.

The way in which support for claims is provided varies across disciplines and grade levels. We have provided additional considerations for supporting claims in history, math, and science in the linked supplement.

Minimal support	**Some support**	**Strong support**
• An attempt to provide support for the claim is made, but the support does not clearly relate to the claim. For grades 6-12: • The **quality of the support for the claim** (i.e., reliability, accuracy, source) is not evaluated. For grades 9-12: • **Counterclaims** are not considered.	• **Only evidence/grounds**("What makes you think that?") **OR reasoning/justification** ("How do you know that your evidence/grounds supports your claim?") **is provided.** • The evidence/grounds selected clearly relates to the claim, but the relationship is not explicitly described through reasoning/justification. For grades 6-12: • An attempt to evaluate the **quality of the support for the claim** (i.e., reliability, accuracy, source) may be made, but key questions are not addressed. For grades 9-12: • **Counterclaims** are not considered or are given minimal attention.	• **Evidence/grounds** is provided. (The question, "What makes you think that?" is answered.) • **Reasoning/justification** is provided. (The question, "How do you know that your evidence/grounds supports your claim?" is answered.) • The evidence/grounds selected clearly relates to the claim, **and** the relationship is explicitly described through reasoning/justification. For grades 6-12: • The **quality of the support for the claim** (i.e., reliability, accuracy, source) is evaluated. For grades 9-12: • **Counterclaims** are considered.

Dimension 3: Uses language to convey key relationships among ideas

Clearly demonstrates: The student *effectively conveys* ***key relationships among ideas***[3] and makes his or her argument and support clear, using *appropriate* ***linguistic markers***[4] *or* ***alternative expressions***[5] *that signal coherent reasoning*.

Partially demonstrates: The student *at times* conveys key relationships among ideas and makes his or her argument and support clear. However, the student may *rely on a limited number of linguistic markers, alterative expressions, and/or convey only one type of relationship between key ideas*.

Begins to demonstrate: The student *attempts* to convey key relationships among ideas and make his or her argument and support clear. However, *linguistic markers or alternative expressions may be used erroneously and/or the relationship among key ideas may be unclear*.

Does not demonstrate: The student *does not convey key relationships among ideas or make his or her argument and support clear.*

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3 Relationship among ideas may include cause-effect, contrastive, conditional, and/or sequential relationships.

4 Linguistic markers for cause-effect relationships might include: *because, so, when, as a result of, therefore*. Linguistic markers for contrastive relationships might include: *but, although, however, on the other hand*. Linguistic markers for conditional relationships might include: *if* and modal verbs (i.e., *could, would, might, may*). Linguistic markers may include coordinating conjunctions (such as *and, but, yet*), subordinating conjunctions (such as *because, when, if*), and prepositional phrases (*as a result of*).

5 Alternative expressions include other ways that relationships between ideas are conveyed besides explicit linguistic markers such as those listed above. For example, in the sentences, "Birds and dinosaurs share some characteristics. The most likely reason for these similarities is that they are related," the phrase "the most likely reason" functions as an alternative expression connecting two ideas.

Argumentation Analysis Tool Supplement: Special Considerations for Supporting Claims By Discipline

	Minimal support	**Some support**	**Strong support**
History	There **is minimal or no** is **attention to *sourcing*, *corroborating evidence*, and *understanding the historical context*** in which the evidence was created.	There is **some attention to *sourcing*, *corroborating evidence*, and *understanding the historical context*** in which the evidence was created, but key questions remain unanswered.	There is **sustained attention to *sourcing*, *corroborating evidence*, and *understanding the historical context*** in which the evidence was created.
Math	Reasoning to support the claim relies on **external authority**, such as teacher, peer, text; and/or rote procedure	The student uses **informal reasoning** to support the claim, such as: non-strategic examples (e.g., says that 5 or 10 examples is "enough"); symbols, objects; movements; and visual examples (e.g. tables, graphs, diagrams, drawings) without solid explanation	The student uses **formal reasoning** to support the claim, such as: principles, properties, definitions, axioms, theorems, and/or previously established results; counterexamples; constraints; verification of results; structure, regularity, and patterns; symbols, objects, movements; and/or visuals (e.g. tables, graphs, diagrams, drawings) with solid explanation
Science	There is **minimal or no attention to the *precision* and *reliability* of evidence.**	There is **some attention to the *precision* and *reliability* of evidence.**	There is **attention to the *precision* and *reliability* of evidence.**

(back)

ELP Standard #4: An ELL can construct grade-appropriate oral and written claims and support them with reasoning and evidence

Grade	Proficiency Level 1	Level 2	Level 3	Level 4	Level 5
K	express a feeling or opinion about a familiar topic	express an opinion or preference about a familiar topic	express an opinion or preference about a familiar topic or story	express an opinion or preference about a variety of topics or stories	express an opinion or preference about a variety of topics or stories
1st	express a preference or opinion about a familiar topic	express an opinion about a familiar topic	express an opinion about a familiar topic or story, and give a reason for the opinion	express opinions about a variety of texts and topics, and give a reason for the opinion	express opinions about a variety of texts and topics, introducing the topic and giving a reason for the opinion, and providing a sense of closure
2nd-3rd	express an opinion about a familiar topic	express an opinion about a familiar topic or story	express an opinion about a familiar topic or story, giving one or more reasons for the opinion	express opinions about a variety of topics, introducing the topic and giving several reasons for the opinion	express opinions about a variety of topics, introducing the topic, giving several reasons for the opinion, and providing a concluding statement
4th-5th	express an opinion about a familiar topic	construct a simple claim about a familiar topic and give a reason to support the claim	construct a claim about familiar topics, introducing the topic and providing a few reasons or facts to support the claim	construct a claim about a variety of topics: introduce the topic, provide several reasons or facts to support the claim, and provide a concluding statement	construct a claim about a variety of topics: introduce the topic, provide logically ordered reasons or facts to support the claim, and provide a concluding statement
6th-8th	express an opinion about familiar topics	construct a claim about familiar topics and give a reason to support the claim	construct a claim about a familiar topic: introduce the topic and provide several supporting reasons or facts in a logical order, and provide a concluding statement	construct a claim about a familiar topic: introduce the topic, provide sufficient reasons or facts to support the claim, and provide a concluding statement	construct a claim about a variety of topics: introduce the topic, provide compelling and logically ordered reasons or facts that effectively support the claim, and provide a concluding statement
9th-12th	express an opinion about familiar topics	construct a claim about familiar topics: introduce the topic and give a reason to support the claim, and provide a concluding statement	construct a claim about familiar topics: introduce the topic, provide sufficient reasons or facts to support the claim, and provide a concluding statement	construct a claim about a variety of topics: introduce the topic, provide logically ordered reasons or facts that effectively support the claim, and provide a concluding statement	construct a substantive claim about a variety of topics: introduce the claim and distinguish it from a counter-claim, provide logically ordered and relevant reasons and evidence to support the claim and refute the counter-claim, and provide a conclusion that summarizes the argument presented