**Deepen Your Knowledge About Claims and Evidence**

*A claim is the thesis, main idea, or point that an arguer is trying to make. It is the part of an argument that needs to be justified and answers the question, “What point are you trying to make?” Claims are debatable—they are not statements of fact.*

*Evidence is the facts or data that support a claim. An arguer provided evidence to persuade someone about the correctness of the claim. Evidence answers the question, “What’s your proof?”*

**How Does Using Appropriate Evidence with Claims Help My Students?**

It’s important for students to remember that claims generally are not clear statements of fact. Statements of fact lend themselves to explanations, which typically aren’t debatable, or subject to persuasive techniques. **Arguments need to be justified—they don’t carry the same certainty as explanations.**

The more that students remember that claims need to be justified through argumentation, the more prepared they will be to evaluate the strength of an argument. Claims can often be identified by verbs and verb phrases such as “should,” “must,” and “ought to,” as well as superlatives like “greatest,” “worst,” and “most.” When students see or hear those words, they can begin to think to themselves, “This is an argument. What do I need to do to figure out if it’s a good one?”

A good place to begin is to determine whether the evidence an arguer is using (provided he has any at all) is relevant to and supports the claim. In the game, the type of evidence that a student uses needs to match the type of argubot that she is preparing for a duel (see “Deepen Your Knowledge About Argument Schemes” for more information). But there’s a more fundamental relationship between claim and evidence than the argument scheme**: evidence needs to be related to the claim, and it needs to support it.** That is, evidence should not contradict the claim. A student doesn’t have much of an argument if the evidence she uses is irrelevant, or undermines

**Two Examples:**

Following is an example from the game of an *argument from authority*. In this game mission, the colony is deciding which animals would make the best pets in the colony. One colonist argues:

*The academy should bring a box turtle from Earth for a pet****.*** *The President of the Mars Pet Society said box turtles make the BEST pets.*

The claim is that “The academy should bring a box turtle from Earth for a pet,” and the evidence in support of the claim is that “The President of the Mars Pet Society said box turtles make the BEST pets.” This is a valid piece of evidence: it is on the same topic (box turtles) and it supports the claim (the academy should have a turtle…turtles are the best, according to an expert).

Next is an example of an argument from observation and more similar to the types of arguments you might have in an earth science class. The students are debating as to whether a rock sample is metamorphic, igneous, or sedimentary. One student argues, “This is a sedimentary rock. It’s possible to scratch the rock using my fingernail, it smudges when I rub it on my clothes, and there’s a small fossil inside of it.

In this argument, the student used three valid pieces of evidence: each is characteristic of a sedimentary rock (and therefore on the same topic), and (taken together) none of the characteristics suggest that it could be one of the other two types of rocks.

**What This Means for My Students**

When evaluating arguments, there are six steps your students can follow:

1. *First: Remember that this is an argument:* someone is trying to persuade me (or I’m trying to persuade someone) that a claim they are making is correct. *But don’t assume the argument is strong!*
2. Identify the claim the argument is based on
3. Identify the evidence used to support the claim, and determine whether it is relevant and supports the claim
4. Identify what backing, if any, supports the evidence
5. Based on that evidence, identify the argument scheme
6. Ask critical questions to check the assumptions that the argument is based on\*\*

**\*\***You can learn more about critical questions in the “Deepen Your Knowledge About Critical Questions” document.

**MODELING & FORMATIVE ASSESSMENT**

You should consider starting this activity with the whole class if you are just beginning to focus on the need to ensure that evidence is relevant to and supports the claim. Modeling your thinking processes—using the six steps above as appropriate—will help your students hear what types of questions they might ask themselves when determining whether evidence is relevant and supportive

Otherwise, use this activity with smaller groups who might need more guidance on thinking carefully about whether evidence is appropriate for a claim.

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| **Argument** |
| The colony is deciding what the best form of transport is for students: skateboards, moving sidewalks, or walking.  *Argument:* Academy students should use moving sidewalks to move around. Several people have observed that moving sidewalks on Earth have moving parts.  *Possible critical questions:*   * Are these two cases really similar? |

Start by modeling how students might identify an argument scheme based on a claim and evidence, before asking critical questions. Below is an example:

*Okay, what’s this argument about? This says that the colony is “deciding” what the best form of student transportation is. To me, that sounds like they haven’t made a decision yet, so I’m guessing that’s what the argument is about. And it looks like they have three choices: skateboards, moving sidewalks, or walking.*

*Let me look at one argument that’s being made: Academy students should use moving sidewalks to move around. Several people have observed that moving sidewalks on Earth have moving parts. What’s the claim here? I see the word “should,” and that’s often I word that I see in arguments—someone is trying to convince me about something. Okay, I think this is the claim, so I’ll underline it and write “claim.”*

*Now, is there any evidence here? The next sentence talks about people on Earth having observed that moving sidewalks have moving parts. Well, it’s the only other sentence, and it’s about the same topic as the claim, so this might be evidence. I’ll underline that, too, and write “evidence.”*

*Okay, now I want to see if this is a good argument. Again, someone is trying to persuade me about something: in this case, that moving sidewalks are the best form of student transport. One of the first things I can do to judge if this is a good argument is to figure out whether the evidence is appropriate. And I can do that by asking myself two questions: Is the evidence relevant to the topic of the claim? Does the evidence support the claim?*

*I’ll start with the first question: Is the evidence relevant—is it on the same topic? Let me see—what’s the topic of the claim? It’s “moving sidewalks.” Okay, well the evidence also seems to be about moving sidewalks, though it has some additional information about “moving parts.” So, I’ll say this is relevant to the topic.*

*Second question—does the evidence support the claim? What’s the claim again? “Moving arguments are the best form of student transport.” Does this evidence support that claim? It says, “Moving sidewalks on Earth have moving parts.” Well, it’s related, but I don’t see how that helps me make the point that moving sidewalks are the best transport. “Moving parts” seems kind of obvious, and that doesn’t really give me any information about why moving sidewalks are better than skateboards or walking. In fact, it seems a little silly.*

*So, I don’t think this is a good argument because even though the evidence is on the same topic as the claim, it really doesn’t support what this person is claiming.*

Have students do the same activity with the next two arguments, either in pairs/groups or as a class.

For a slightly more advanced version, have students suggest examples of more appropriate evidence when they find weak arguments.

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| **Argument** |
| The colony is deciding which resources should be the first to be saved in an emergency: the planting system, the argubots, or the research equipment.  *Argument:* We should save the research equipment first. One authority claimed that research equipment should be polished and cleaned regularly.  *Problem with evidence:* Not relevant |
| **Argument** |
| The colony is deciding which instrument would be the best to learn for first year students: guitar, trombone, or fiddle.  *Argument:* People should learn to play the fiddle. Expert music teachers say that the guitar is the best instrument for beginners to learn.  *Problem with evidence:* Contradicts |
| **Argument** |
| The colony is whether students should be able to visit Earth for the spring break.  *Argument:* No, students should not be allowed to visit Earth for spring break. The mechanics’ observations show that we don’t have enough fuel for a shuttle to make the return trip back to Mars.  *Problem with evidence:* None—evidence is relevant and supportive |