Adapted Language Frames for Argumentation Leading to a Scientific Explanation

Adapted from Foss and Frey, The Art of Argumentation. Science and Children 47 (3), 28-31 (2009)

Supports when creating an Explanation	
Claim *Testable statement or conclusion that* ***answers the*** *original question.*	• I claim_____. • Specific frame: e.g. The "burrowing owl" population is decreasing due to _____. • Open frame: The _____is _____ due to_____. • My question was_____. My claim is _____.
Evidence ***Appropriate*** *and* ***sufficient*** *to support the claim. (investigation., observations, reading, or other sources)*	• Evidence for my claim is_____ and _____. • I observed _____. • The evidence is enough to support the claim because _____. • The evidence is the right evidence for my claim because_____.
Reasoning *Justification for why the data counts as evidence.* ***Use scientific background*** *information to link claim and evidence.*	• Science reading about _____is similar to my claim and the evidence. • Two other sources _____and _____had similar results. • Therefore, the evidence for my claim is supported by _____ and _____.
Offering a counter-claim or rebuttal *Scientists include disagreements with current ideas when making a claim.*	I disagree with _____claim because_____.
Supports when questioning someone else's claim	
Asking for evidence: Clarify	• I have a question about_____. • Does _____have more _____? • What causes _____to _____? • Can you show where you found the evidence for _____? • Why did you select the evidence used?
Inviting Speculation	• I wonder what would happen if_____? • I have a question about _____. • Let's find out how we can test samples for _____? • We want to test _____to find out _____. • If I change _____then I think _____will happen. • I wonder why_____? • How would this be different if _____? • What do you think will happen if _____?
Supports when reaching a group or class consensus about a claim.	
Reaching Consensus	• I agree _____because_____. • We agree on _____. We do not agree on _____.