Discussion Planning Tool Example-8.3 Lesson 5

A. Before the discussion (Analyzing and reflecting on the lesson in the teacher guide):

1. What is the question students are trying to answer through this discussion?

    - *How do the magnet and wire work together to move the speaker?*

2. What is the intended outcome of the discussion? (coming to consensus on something we just experienced? Figuring out improvements to our model? Designing an investigation? Getting students to realize they have new questions?)

    - *Agreeing on a common model and the components of that consensus model.*

3. What are the key elements of the model or explanation you want the students to grapple with? (create an explanatory model for this phenomenon for yourself)

    - *coil attached to a battery*
        - *two different current directions*
        - *poles color-coded to current directions*
    - *magnet showing poles*
    - *speaker adjacent to coil showing vibrations*
    - *force arrows color-coded to current directions*

4. What other ideas might students have? What questions might they ask?

    - *Heat in the coil or electricity in the coil. Heat makes coil a magnet?*
    - *Sound waves traveling up the wire*
    - *Loose connection between the wire and the battery = vibrations of wire on its own*
    - *Electromagnet weaker or not a magnet at all, or not attract the same things.*
    - *Electromagnet different magnet somehow (hook a quarter to electricity, would it become a magnet.)*

B. Leading the Discussion (Considering talk moves and strategies in teacher guide)

1. What will you say to launch the discussion?

    - *Refer back to initial consensus model.*
    - *Check-in to remember we have learned so much in our first four lessons.*
    - *How do the magnet and wire work together to move the speaker?*
    - *Highlight their interest in the magnet and coil and forces between them.*

2. What are some things you will say to encourage your students to work with one another's ideas?

    - *What did we try during the investigations that supports that idea? Is that idea supported by what we found out in our investigations?*
    - *Remember that we have great ideas that may not have been shared.*
    - *How can we represent this (magnet and electromagnet; relate to speaker)*
    - *How can we show both types of forces in the same diagram?*
    - *Are there still places where we disagree? Can we clarify these?*
    - *Is there more evidence or clarification needed before we can come to agreement? What is that?*

3. If students seem to think they have explained the phenomenon but you know they need to go deeper, what kinds of questions could you ask to help students see the need to extend or revise their explanations?

    - *Are there still places where we disagree? Can we clarify these?*
    - *Is there more evidence or clarification needed before we can come to agreement? What is that?*
    - *Referring the students back to the checklist or the model tracker.*
    - *Is your group member's idea represented on the consensus model?*

4. What will you say to help close the discussion to synthesize what it is you all agree on and/or what new questions you have?

    - *Reviewing the major parts of the model we have.*
    - *Making sure they all have it recorded in its final form.*
    - *We know that the current switches, we know there are pushes and pulls but we don't know how or why this happening the space between the magnets.*