

Your kids have asked great questions, now what?

Information on assisting students with research questions

After generating questions based on their Notice and Wonder recordings, students then learn to expand and/or modify their questions using the [Question Formulation Technique](#) (QFT). While it may not be necessary with every session on generating questions, teaching students to write high quality questions is an important step. Once the questions are recorded, the next step is for students to sort them based on how they will be answered. Do they need to look back at historical research, read more, conduct more observations, etc. The QFT allows students to deepen their questioning, and then determine which questions you are going to tackle first.

There is no right or wrong order in this step. Often it may depend on the urgency which a particular question holds or selecting a question that, when answered, you know will inspire further questioning that will lead in the direction you intend to lead your class. In my class, I often begin with a lesson on how to properly conduct an Internet search. Teaching your students how to assess the validity of a website or how to look for historical data that will aid in your research later is well worth the time it takes. Even if it is just answering some of those burning questions, knowing how to conduct an Internet search properly and effectively is an important foundation to lay down early. One example of a question used to begin a lesson on how to conduct an Internet search might be something like-

“What are those black balls on the trees?” (actual student question when observing galls on an oak tree)

When sorting, students had placed this question under “research”. They were aware (thankfully, although often classes are not) that Google would not know which ball or tree they were referring to. Our first step was to gain enough information about the phenomena to allow us to even begin an Internet search. I selected this question because I knew that by identifying the galls growing on the oak trees, they would need to learn more about the tree, local insect population,

the plant/animal interaction of the habitat, and learn how to make careful observations of their surrounding as they focused on how the galls were being used by so many animals. Once they had identified the tree that the gall had formed on, and discussed how to make our question more specific, a Google search of –

“What are the black growths on the oak trees?”

got us the answer we were seeking.

After walking through a few more of our “Google-able” questions, I might then ask the class to ponder which of our questions could be investigated by making our own observations. Which questions did we have the capabilities to observe and collect data on? After pondering the questions they began with, you can then use those to develop a driving question.

Ex:

“Which birds visit our playground?”

This type of question allows the class to then look back, now more critically, at which questions would assist in developing a protocol for an investigation. Which questions should be answered before beginning? Which questions may be answered as the investigation progresses? Questions that were still interesting, but may not lead to information that would assist in answering the driving question can be placed into a “personal research pile”. Often students may become curious about one segment of the research, a particular animal, event, phenomena, etc. This way students can have time and space within the project to follow their curiosities as far as they can. That ability to research is also valued as an important skills set and addition to the project.

With the driving question identified, and Google-able/research questions either answered or otherwise acknowledged (remember, it is ok to reflect on those questions that may remain unanswered) as the class begins to plan their investigation.