“What is Science” Questions

*(to accompany Science Probe 9 pgs. 4-8)*

1. What is an observation? How do scientists observe things that are not directly observable?
2. Explain (in broad terms) how the invention of the microscope paved the way for future discoveries to be made.
3. What is TEKW? What does it have in common with modern science? What are some differences?
4. Canadian colonization impacted Indigenous communities in many ways. Residential schools caused families to be separated and unable to pass down their languages to successive generations: as a result, many Indigenous languages are, or threaten to become, extinct. In addition, diseases like smallpox claimed the lives of many members of these communities. How might this have impacted Indigenous peoples’ collective understanding of the natural world around them?
5. Briefly explain two examples of ways in which Indigenous Knowledge has been applied in modern medicine.
6. Compare and contrast scientific laws, theories, and hypotheses. How do the scientific definitions of “law” and “theory” differ from the everyday definitions? Use everyday and scientific examples to support your response.
7. Ivan works at Blobble Tea House and has come to the conclusion that Chinese girls with ponytails always order the same thing (taro milk tea with pearls, 80% sugar and no ice).
   1. Is this a law, a theory, or a hypothesis?
   2. Come up with a hypothesis to explain his law.
   3. Come up with an experiment to test his theory.
8. Summarize what is meant by “Science is progressive.”
9. Over time, the theory of evolution has, itself, evolved. Elements have been added or altered. Does this mean that the theory is false? Explain.