Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ #\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour\_\_\_\_\_\_\_

**Station #5: Patterns Systems Anchoring Experience**

(20 point formative assessment)

**Unit Essential Question:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson Question:** What is one way to understand how complicated systems work?

**Objectives:**

* Students will develop a system model.
* Students will use a model to communicate interactions within and between subsystems.

**Anchoring Experience Directions:** Read the scenario below and follow the step-by-step directions; be sure to answer all questions in complete sentences with a restate.

**Scenario:** The last time you went camping, your canoe floated away because it was tied improperly, and you had to hike miles back to the campsite. You now are planning your next trip but want to know how to tie your canoe up properly, so you are going to do some research.

**Part I Directions:**

1. The group leader should get their assigned Chromebook; ask the teacher to login for you.

2. Go to the Farkas blog and click on the link to watch the video: ***Learn to Tie a Bowline Knot in 1 Second.***

3. Have the materials handler ask for the rope and stopwatch.

4. Use the video directions, the rope, and the stopwatch to tie a good knot, in five minutes.

**\_\_\_\_\_ Teacher check-in; after five minutes please raise your hand for knot inspection.**

5. Did the video help you learn how to tie the knot? **YES NO**

6. Explain why the video was helpful, or why it was not:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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7. Identify a distraction in the video, or something unrelated to the knot: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Use the Chromebook to return to the Farkas blog; click on the link title ***Model One*** to access more knot tying directions.

9. Again, use these directions, the rope, and the stopwatch to tie a good knot, in five minutes.

**\_\_\_\_\_ Teacher check-in; after five minutes please raise your hand for knot inspection.**

10. Was ***Model One*** useful in helping you learn how to tie the knot? **YES NO**

11. Explain why ***Model One*** was helpful, or why it was not:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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12. Describe anything else that could be added to ***Model One*** to help you tie the knot:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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13. Use the Chromebook to return to the Farkas blog; click on the link titled ***Model Two*** to access more knot tying directions.

14. Again, use these directions, the rope, and the stopwatch to tie a good knot, in five minutes.

**\_\_\_\_\_ Teacher check-in; after five minutes please raise your hand for knot inspection.**

15. Was ***Model Two*** useful in helping you learn how to tie the knot? **YES NO**

12. Explain why the ***Model Two*** was helpful, or why it was not:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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13. Describe anything else that could be added to ***Model Two*** help you tie the knot:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_­­­­\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**\_\_\_\_\_ Teacher check-in**

14. Which model was more useful when knot tying? **The Video Model 1 Model 2**

15. Explain your choice in question #1: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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16. What does “simplify” mean? Look it up and define: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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17. Why is simplifying the scenario important when explaining how something works? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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18. Is it possible to oversimplify an explanation? **YES NO**

19. Explain your answer to question 19: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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