

K-W-L (Educator Guide)

(What do you **KNOW**? What do you **WANT** to know? What did you **LEARN**?)

Students will be using the K-W-L strategy as they research topics related to the constraints Dr. Som introduced in the first section of the Spark 101 video, *Fruit Fly Surveillance*. Once the students have learned about each topic they will be better prepared to design an observation system.

The K-W-L strategy asks students to document their knowledge of a topic. First students document what they already know about the topic. Second, students document what they want to know about the topic. Then after doing research, students document what they learned from the research. This strategy allows students to connect prior learning to new researched information. By having students think about what they want to learn before doing the research this strategy empowers the student to be in control of their own learning.

TEACHER DIRECTIONS

- > Describe the K-W-L strategy and purpose with your students.
- > With students in groups of three, Give each group three K-W-L charts, one for each topic of research. Explain that each group member will select one of the three research topics as their focus.
- > Direct students to work together as a group to brainstorm what they know about each topic and record it in the K column of the charts.
- > Still in groups, direct students to brainstorm what they want to know about each topic and record it in the W column of the chart.
- > Then direct students to research individually on their chosen topic. It is suggested to do this research as homework, however if time and resources are available, this could also be done in class with a computer lab or on mobile devices.
- > After students have completed the research and documented their learning, direct groups to discuss their findings.

STUDENT DIRECTIONS

- > Select one of the three research topics as your focus. (Each member of group will have a different topic.)
- > With group members, brainstorm what you know about each research topic and record this list under the K column of the chart.
- > With group members, brainstorm what you want to know about each research topic. Keep in mind the constraints given by Dr. Som for the design of the observation unit. Record this list under the W column of the chart.
- > Individually research your chosen topic recording your findings under the L column of the chart. Remember to keep in mind the constraints of the observation system given my Dr. Som.
- > Discuss your research findings with the other members of your group.

K-W-L (Student Template)

(What do you **KNOW**? What do you **WANT** to know? What did you **LEARN**?)

Directions

1. Select one of the three research topics as your focus. (Each member of group will have a different topic.)
2. With group members, brainstorm what you know about each research topic and record this list under the K column of the chart.
3. With group members, brainstorm what you want to know about each research topic. Keep in mind the constraints given by Dr. Som for the design of the observation unit. Record this list under the W column of the chart.
4. Individually research your chosen topic recording your findings under the L column of the chart. Remember to keep in mind the constraints of the observation system given my Dr. Som.
5. Discuss your research findings with the other members of your group.

Research Topics (Each group member choose one)

- Circadian Cycles
- Different Kinds of Camera Lenses
- Types of Lighting

| K What do you already know about the topic? | W What do want to know about the topic? | L What did you learn about the topic? |
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