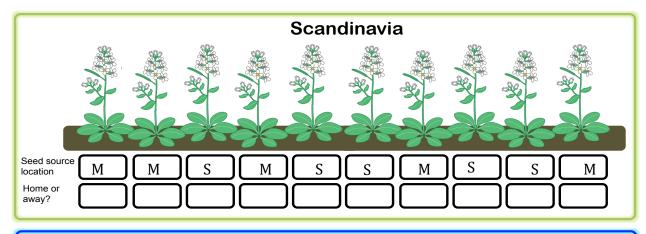
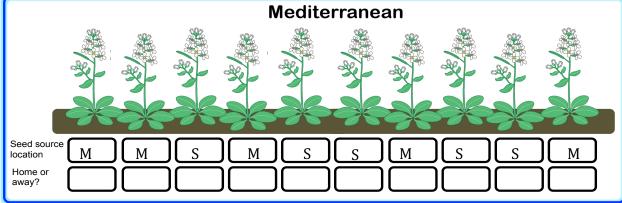
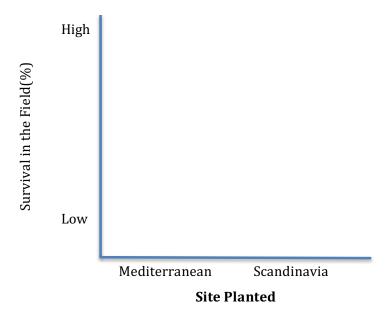
Part 1A. Natural Selection - Local Adaptation

- 1. A) Think about whether each seedling is in its home or its original (away) location. Write "home" or "away" in the second row of boxes below each plant.
 - B) Now draw your survival predictions. Based on what you learned in the background information about local adaptation, which plants *do you think* will survive in each field plot? Put an X over the plants from each population that you predict will not survive. Think about whether the seedlings will have higher survival at home or away.





2. Based on your answer to the previous question, draw a graph of predicted results.



3. Write a caption to be included under the graph.

4. Why was Arabidopsis thaliana a good choice to use in this research project?

Part 1B. Natural Selection - Freeze tolerance

5. The scientific question for this part of the experiment is: Are there differences in freeze tolerance between Scandinavian and Mediterranean populations of *Arabidopsis*?

What is the researcher's hypothesis?

6. Referring to Figure 1 on page 5 of the assignment page, make a claim that answers the scientific question.

7.	What evidence was used to write your claim? Reference specific parts of the graph.
8.	Explain your reasoning and why the evidence supports your claim. Connect the data back to the biology of the plant and what you learned about freeze tolerance and its effects on survival.
9.	This data helps explain why Mediterranean plants have lower survival when planted in Scandinavia. What are two variables that could be investigated that might explain why Scandinavian plants have lower survival when planted in the Mediterranean.