Discovery 7: The Moving Centers
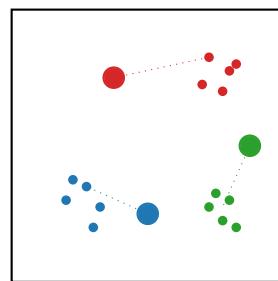
Watch How Order Emerges from Chaos

Watch the Pattern
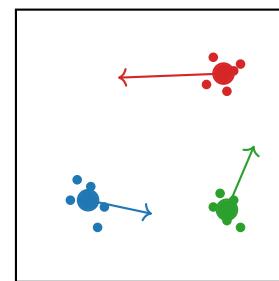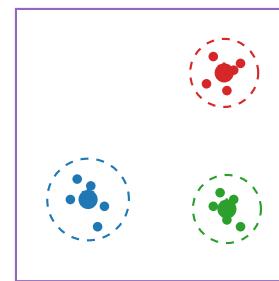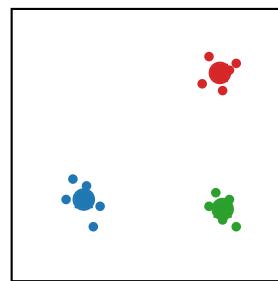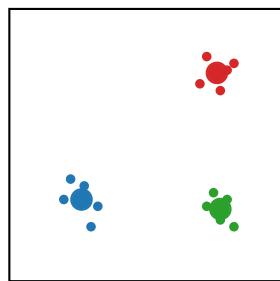
Step 0: Start   **Step 1: Points Choose** **Step 2: Centers Move**

Step 3: Choose Again **Step 4: Move Again** **Done: 3 Groups Found!**
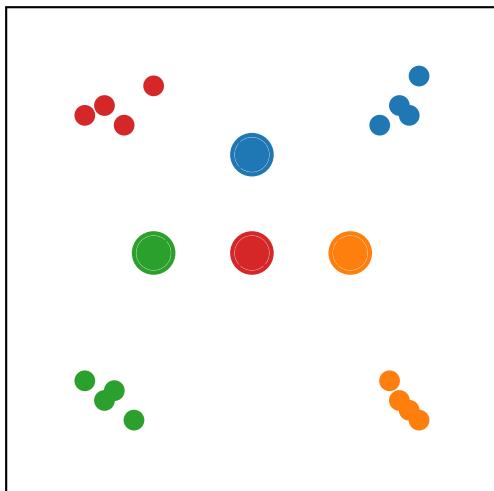
Centers stop moving!

What's the pattern? Describe the dance!
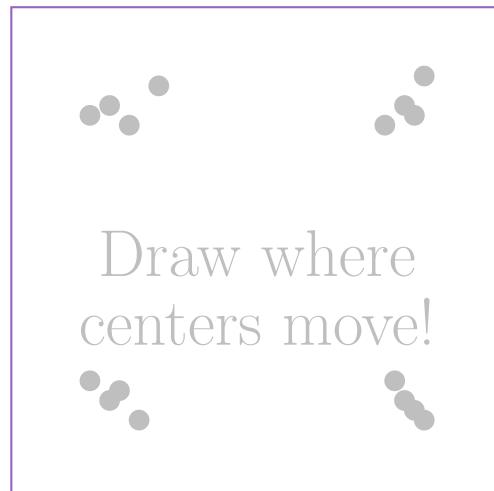
Your Turn: Predict the Moves

Where will the centers go?

Given: After Step 1   You Predict: After Step 2

Draw where
centers move!

The Rule: _____

_____

Discovery Questions

1. Why do centers move toward their points?
_____

2. When would centers stop immediately?
_____

3. What if we started with different positions?
_____

4. Could the dance go on forever?
_____

The Big Idea

This "dance" has a name: K-Means

K = number of centers you want

Means = average position (where centers move to)

The dance: Points choose nearest, Centers move to middle

Next Class: See this dance with thousands of points!