Paper

Readings from *Molecular Biology of the Cell* (pp. 211–214)
- Chromatin Loops Decondense When the Genes Within Them Are Expressed
- Chromatin Can Move to Specific Sites Within the Nucleus to Alter Gene Expression
- Networks of Macromolecules Form a Set of Distinct Biochemical Environments inside the Nucleus

Relevant Techniques
- FISH (pp. 472–473)

Questions
1. What was known about the localization of chromosomes within the nucleus prior to this study?

2. What was the main question being addressed in this paper?

3. The authors chose to focus first on the sub-telomeric T-band, 11p15.5, consisting of a well-characterized gene-dense region, which they found to localize outside of the territory limits. What were the possible explanations for localization of this region outside of its chromosome territory that the authors explored?

4. What did they find was the best explanation for localization of genomic regions outside of the chromosome territories? What evidence did they use to demonstrate this? What type of experiment could strengthen their analysis?

5. What did the authors observe when they looked at mouse cells? What does this tell us?

6. How does fluorescence *in situ* hybridization (FISH) work? What is it used to show? What is a strength/weakness of this analysis?

7. What is one additional question that you have after reading this paper? Design an experiment that could be used to address that question.