

Biology 1R Modeling the Cell Cycle Group Performance Assessment

Purpose: model the events of the cell cycle (interphase, mitosis and cytokinesis) using the materials listed below.

Materials:

1 long piece of yarn (tied)	2 short pieces of pink thread	2 short pieces of pink pipe cleaner
2 short pieces of yarn (tied)	2 short pieces of blue thread	2 short pieces of blue pipe cleaner
2 pennies	2 long pieces of pink thread	2 long pieces of pink pipe cleaner
4 pieces of straw	2 long pieces of blue thread	2 long pieces of blue pipe cleaner

Procedure:

- During the first half of the activity, students will work in groups to decide how to use the materials to model the events of interphase, mitosis (prophase, metaphase, anaphase and telophase) and cytokinesis. Each student must be able to model each phase. Rehearse with your group. Kindly critique each others demonstrations.
- During the second half of the activity, I will use the scoring rubric below to determine each groups grade. When I come to your group, each member will pick a phase card out of a “hat”. Then the group will model the phases of the cell cycle in their proper order with each student modeling (without the help of other group members) the phase they randomly selected.

Scoring Rubric:

Total Score = Sum of individual scores divided by 2 = _____ out of 10

Criteria	4	3	2	1
Appropriate materials chosen	The group represents all of the relevant cell parts using appropriate materials.	The group represents most of the relevant cell parts using appropriate materials.	The group represents some of the relevant cell parts using appropriate materials.	The group represents none of the relevant cell parts using appropriate materials.
Sequence	All of the phases are modeled in the correct order.	Most of the phases are modeled in the correct order.	Some of the phases are modeled in the correct order.	None of the phases are modeled in the correct order.
Terms	The group uses correct terms to refer to all of the relevant cell parts.	The group uses correct terms to refer to most of the relevant cell parts.	The group uses correct terms to refer to some of the relevant cell parts.	The group does not use correct terms to refer to any of the relevant cell parts.
Events	The group models the correct events for all phases.	The group models the correct events for most phases.	The group models the correct events for some phases.	The group does not model the correct events for any of the phases.
DNA Terms: chromatin, double chromosome, chromatid centromere & “singled” chromosome	The group correctly identifies all of these items in the model.	The group correctly identifies most of these items in the model.	The group correctly identifies some of these items in the model.	The group does not identify these items in the model.

