

Edible Dormice Materials Prep Sheet

This activity requires you as an educator

Activity 1 – Dormouse Telomeres vs. Other Rodents

Prep the DNA Strips

1. Print the DNA paper strips from various rodents on blue colored paper to represent stained DNA since DNA is usually clear in color.
2. Shuffle up the strips of DNA before passing them out to students in order to randomize who gets DNA cheek swabs from dormice and other rodents.

Do not pass the DNA paper strips out in order by type or age of the rodents.

Activity 2 – Influence of Diet on Telomere Length in Edible Dormice

Prep the vials of simulated edible dormouse blood.



1. Number clear microcentrifuge tubes or small test tubes with a Sharpie (one per student). Microcentrifuge tubes can be purchased here: <https://www.wardsci.com/store/product/8880742/microcentrifuge-tubes>
2. Add a red pH indicator, such as phenol red or a grocery store alternative (e.g. cherry juice or beet juice), to all the clear microcentrifuge tubes. They should be about halfway full. Phenol red can be purchased here (~100 mL for a class of 30): https://www.wardsci.com/store/catalog/product.jsp?catalog_number=470301-966

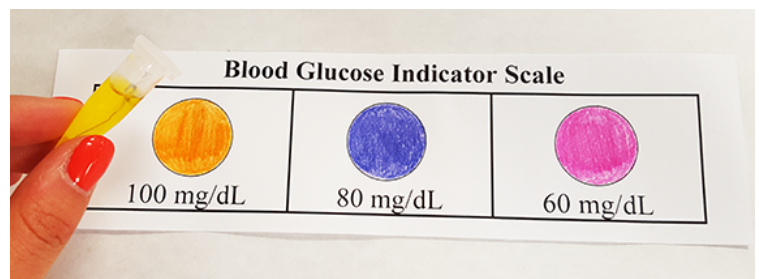
Prepare the “GTI” vials



1. Number colored microcentrifuge tubes with a Sharpie (one per student).
2. Add a weak clear-colored base to about half of the colored tubes and record which ones you added the base to on a separate sheet of paper. They should be about halfway full.
3. Add a weak clear-colored acid to about half of the colored tubes and record which ones you added the acid to on a separate sheet of paper. They should be about halfway full. If pH buffers are used as the weak acid and weak base, they can be purchased here: <https://www.wardsci.com/store/product/17654566/ph-buffer-capsule> (Note, do not add the Hydrion Color Key Buffer Preservative or the buffers will turn different colors).

Prepare the Blood Glucose Indicator Scales

1. Depending upon what indicator you use, color in the circles in the key for the “Blood Glucose Indicator Scale” similar to the one pictured here for phenol red.
2. Cut this page into three pieces and provide each group of students with a reference key.



Prepare the yarn “Edible Dormouse Telomere” strands

1. Using yarn or string, create DNA with telomeres. This involves using paint or a colored Sharpie marker to color one end of the yarn or string to represent the telomere. Longer telomeres should correspond to well fed dormice (If phenol red is used, yellow-orange / acidic pH) and shorter telomeres should correspond to poor diets in the dormice (If phenol red is used, hot pink / basic pH).
2. Number each yarn or string telomere so they correspond to the colored tubes. For example, if you put a weak acid into tubes 1, 4, 7, 9, 12... you should number the longer telomeres the same numbers. Likewise, if you put a weak base into tubes 2, 3, 5, 6, 8, 11... you should number the shorter telomeres the same numbers.

