

# miniHatch INFOSERIES

## Monitoring Egg Mass



Did you know eggs lose mass during incubation?

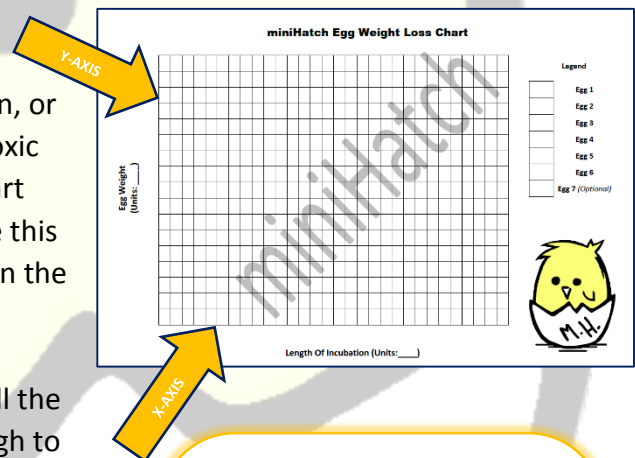
From fresh, an egg will lose 13-15% of its mass. Use this special activity to monitor the growth of your embryos during incubation. This loss in mass is due to the evaporation of some of the egg's fluids during the incubation process.

Materials:

- Pencil or Non-toxic Felt
- Hatching Eggs
- Incubator & Supplies
- Scale, precise to  $\pm 0.1g$
- Graph Papers or Charts

Procedure:

1. Mark all eggs with a unique number for identification, or write a colour on the egg using your pencil or non-toxic felt pen. Use your miniHatch™ Egg Weight Loss Chart and assign a unique colour to each number. Provide this to your students. Have them complete the legend on the chart.
  2. Measure the mass of each egg before commencing incubation. Fit the scale on the left axis to include all the fresh mass of the eggs. Ensure you begin high enough to leave room for 13-15% loss of mass at the end.
  3. On the x-axis, have students number each line from Day 0 to 21. The fresh mass is the mass on day 0.
  4. Measure each eggs' mass every 3-4 days during incubation. Have students plot the mass on their chart, each egg with its unique colour.
  5. On day 19, have your students draw a line of best fit among the marks for each egg. Those with a declining slope of 13-15 % are the eggs that will contain an embryo and may potentially hatch.
- You can calculate the slope by dividing the rise (negative) by the run (the change in days).



**For older students...**

Have students predict the hatching mass of their eggs by plotting the mass line to day 21 from the fresh mass. Measured masses should follow this line with proper development. The line should indicate a loss of 14%.

$$\text{Slope} = \frac{\text{Rise}}{\text{Run}} = \frac{\Delta y}{\Delta x} \approx 14\%$$

*Remember, always wash your hands and clean all surfaces that contact poultry products!*