**Blue/Green/Red Chicks (Coloring Embryos)**

Did you ever wonder how to distinguish breeding groups prior to hatching? Have a better way to track growth of chicks? Then this activity is for you.

**Grade Level:**

9-12, groups of 2-4

**Materials Needed:**

Egg Candler

11-14 day fertilized egg

Rubbing Alcohol

Cotton Swabs

Band-Aids

Food Coloring (Red/Green/Blue Preferred)

3cc syringe with 21guage needle

T-pin (A Drill also works)

Masking Tape (to use as 1/16 to 1/8 inch gauge)

Water – (for cleaning)

Pan (For Water)

**Duration:**

45 – 60 minutes

**Procedure:**

**Note: Eggs should not be out of incubator longer than 30 minutes.** Leaving eggs out of incubation for longer than this time can disrupt growth and possibly hinder the chick from hatching. **For best results, this should be done with naturally white chicks.**

During the proper incubation sequence (approx. day 11-14) candle the eggs. Discard any infertile eggs.

Swab the small end of the egg with rubbing alcohol to sterilize the area where the shell will be punctured. Allow the rubbing alcohol to dry.

Make a small hole in the shell with a sharp pin, (T-pin or Drill) making sure you only penetrate the egg no more than 1/16 to1/8 inch

Air Cell

Injection Site

Assemble the needle and syringe, keeping them as sterile as possible.

Fill the syringe with ½ cc or .5 ml of food coloring.

Inject the dye. To prevent the dye from coming out of the egg, inject the liquid very slowly. Make sure the needle does not puncture more than 1/16 to1/8 inch

When the injection is complete, clean the area with paper towel and put the plastic tape from a band-aid over the hole. *(Very little tape is needed, as the hole is very small.)*

When completed, return eggs to the incubator and clean up workspace.

Lab Write up

 **Hypothesis :** Will the entire chick be the color that you injected the egg with?

What color did you use: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What are 2 reasons to dye chick embryos?

2. Why do we want to inject a chick between the 9th and 12th day?

3. Is it legal to sell colored chick? How do you feel about that?

4. Injecting dyes into an egg will not affect what three things of the chicks?

5. What is one thing you would change to make this lab better?