



Make Your Own Incubator

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The egg-to-chick program can be a useful tool for teaching. It can also be a fun construction project for students. This can be done by making your own incubator instead of buying one.

Parts list

- Lamp Kit
- Hot Water Heater Thermostat
- Hardware Cloth
- 40-Watt Light Bulb
- Thermometer/Hygrometer
- DC Power Adapter
- Computer Case Fan
- Styrofoam Cooler
- Picture Frame
- Plastic Dish
- Duct Tape
- Wire Nuts
- Corks

Procedure

1. Cut two large holes and one small hole in one end of the cooler. The lamp kit will be attached to the upper large hole. The lower large whole will be used for ventilation. The small hole will allow the DC power cord to run into the cooler (Fig. 1).
2. Attach the computer case fan, thermometer/hygrometer, and hot water heater thermostat to

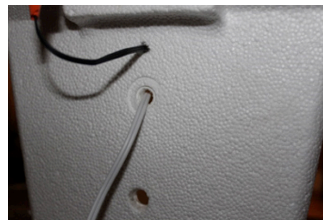


Figure 1: Two large holes and one small hole at one end of the cooler.

- the side of the cooler using nuts and bolts or zip ties.
3. Wire the DC power supply to the computer case fan.
4. Wire the lamp kit to the hot water heater thermostat.
5. Finish assembling the lamp kit and screw the light bulb in. Attach it to the cooler.
6. Place the plastic dish in the bottom of the cooler. This will be filled with water during the incubation of the eggs.
7. Place hardware cloth over the plastic dish and over the light bulb (Fig. 2).
8. Take glass from a picture frame and trace the outline onto the cooler lid. Cut out the area inside this line. Place the glass over the new hole and tape it down (Fig. 3).

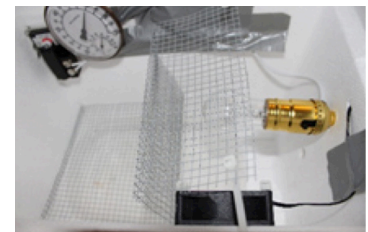


Figure 2: Hardware cloth covering plastic dish and light-bulb inside of the cooler.



Figure 3: Cooler lid with glass viewing window.

9. Take corks and trace around them on two locations on the lid (Fig. 4). Cut out the holes and place corks into the holes. The corks can be removed if the humidity level becomes too high inside the incubator. Humidity levels should be maintained at 55 percent relative humidity.



Figure 4: Cooler lid with glass viewing window and two cork-sized holes for ventilation.

10. Poke holes around the bottom of the cooler on the short sides (Fig. 5).



Figure 5: Small holes poked around the bottom of the cooler for ventilation.

11. Final set up:
- Set the thermostat to 99 to 100 degrees.
 - Plug in the lamp cord and DC power pack.
 - Add water to the plastic dish.
 - Place the lid on the cooler.
 - Put tape around the large holes and places where the cords go through the cooler.
 - Let the arrangement settle for 1 hour to see what the temperature and humidity levels read. You can adjust the cooler openings or the thermostat as needed to maintain proper levels.