FLINN SCIENTIFIC

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# Supplementary Information—Preparation of 0.8% Agarose Gel

## Materials

Agarose
Balance, 0.01-g precision
Casting trays with well combs
Cotton, non-absorbent or foam plug
Erlenmeyer flask, borosilicate, 250 mL
Gloves, heat-protective
Marker or wax pencil
Microwave, hot water bath or stirring hot plate
Stirring rod
TAE electrophoresis buffer
Weighing dishes, small or weighing paper

## Safety Precautions

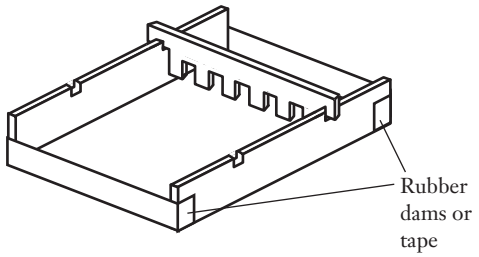
Wear chemical splash goggles and heat protective gloves when handling hot liquids. Be careful not to superheat the solution because it will NOT boil until stirred, whereupon it will boil over.

## Preparation of one 0.8% agarose minigel

1. Stir 0.48 g of agarose into 60 mL of the electrophoresis buffer in a borosilicate Erlenmeyer flask. Stopper with a non-absorbent cotton or foam plug.
2. Mark the height of the solution on the Erlenmeyer flask.
3. Dissolve agarose by heating in a microwave, hot water bath, or on a hot plate. **Caution:** Be careful not to superheat the solution because it will NOT boil until you disturb or disrupt it, whereupon it may spontaneously boil out.
   *a.* Microwave—30–40 seconds, stir, repeat.
   *b.* Hot water bath—do not boil the water.
   *c.* Hot plate—do not boil or scorch the agarose solution.
4. Heat until the solution is clear and agarose appears to be fully dissolved. **Stir frequently,** and do not allow solution to boil.
5. Use heat protective gloves to remove the flask from the heat source.
6. Check the liquid level of the solution. Add distilled water to the original liquid level, if needed.
7. To prevent damage to the casting trays, allow the agarose to cool to 55 °C before pouring.

## Prepare the casting trays while waiting for the agarose to cool.

1. Attach the rubber dams to the ends of the casting tray.
2. Place the well-forming comb in the groove at one end of the gel box.
3. Ensure the casting tray is on a level surface. Slowly pour the melted agarose into the assembled casting tray being careful not to create bubbles in the gel. Use a stirring rod or pipet tip to push any bubbles to the edge of the casting tray. Add only enough agarose to equal the height of the indentations in the well-forming comb—do not fill the tray to the top.
4. Allow the gel to sit undisturbed for at least 20 minutes until the gel is firm to the touch. The set gel will appear opaque and somewhat white. 60 minutes is optimal.




5. Once the gel is thoroughly set, carefully remove the well-forming comb by rocking it gently from side to side and then pulling it upward. Remove the end dams and carefully slip the gel out of the form.
6. Slide each gel into a separate resealable bag, add 5 mL of buffer, and refrigerate. **Note:** A solidified gel can be stored under buffer in a laboratory refrigerator for up to two weeks.

## Part II. Divergence and Rift Valley Formation Observations/Drawings

## Questions (Use a separate sheet of paper to answer the following questions.)

1. Based on your observations for Part II, describe what happens as continental plates diverge.
2. List an example of where the type of movement seen in Part II (divergence) occurs.
3. Label possible weak points in your final drawing for Part II. How is the formation of these weak points different from those seen in Part I?