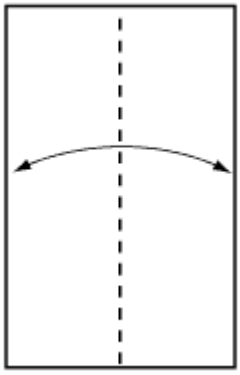
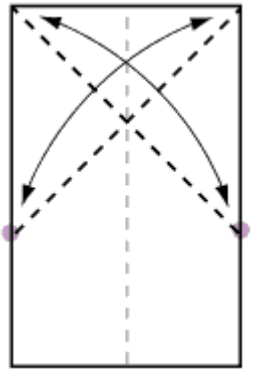
Jumping Frogs

For this lab, you will need a jumping frog. Follow these instructions carefully to construct your own frog:

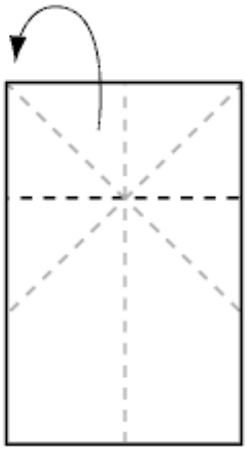
1. Choose an index card, or a piece of paper or cardstock [the more rigid the better for jumping] the same size as an index card. All class members must use the same type of paper.



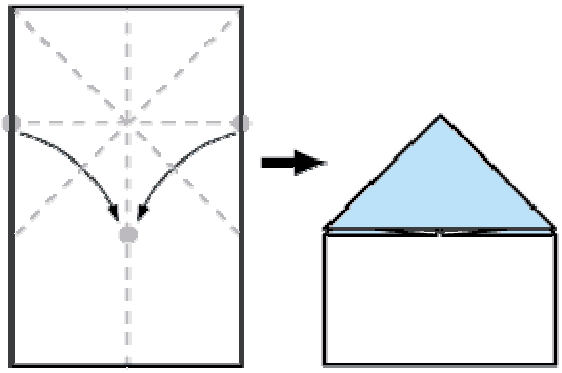
2. Fold the card in half, then open up again.



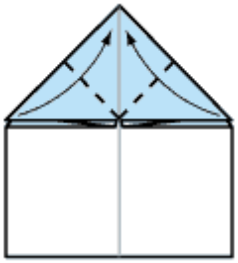
3. Fold one top corner to the opposite edge of the paper, then unfold. Repeat with the other top corner.



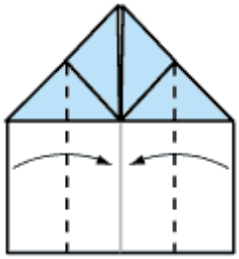
4. Where the diagonal creases meet in the middle of the card, fold the paper backwards. Crease well, then reopen.



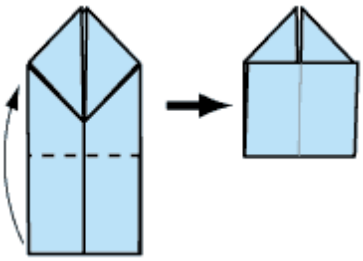
5. Hold the paper at the sides of the crease you just made in #4, then bring these points to the center line. Flatten again [the creases should help!!]. You should have formed a triangle at the top of your card.



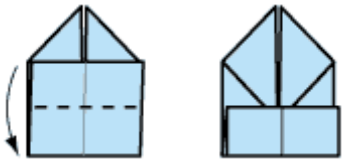
6. Fold the outer points of the triangle up toward the top point to form a diamond.



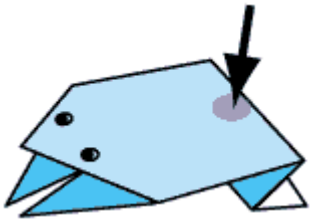
7. Fold the sides of the card into the center line. [The closer to the center, the sturdier and the better jumper your frog will be!]



8. Fold the bottom of the model upwards so that the bottom of the card lines up with the center of the diamond.



9. Next, fold the same part in half, downward.



10. Ta-Da! Your frog is now finished! ☺ To make it jump, turn it over, then press lightly on the back as shown.

Name, Date, Hr/Per_____

Lab: Frog Race

Record ALL measurements to the nearest millimeter [0.1 cm] and include units!!!

1. Practice making your frog jump by pushing gently on its back. Start the frog at the starting line, marked at one end of the table, and have a partner use a stopwatch to measure the time it takes the frog to cross the finish line. After three trials, record your fastest time to the nearest 0.1 seconds.

Trial 1 Time (sec)	Trial 2 Time (sec)	Trial 3 Time (sec)

my fastest time: _____

my group's winner_____,

with time=_____

2. Look around the room at the different start and finish lines. Would it be fair to declare a class champion based on their time alone? _____ Explain.

3. We could go back and change all of the tracks to make them equal, or we can let math do it for us. Measure the distance of your track to the nearest millimeter [0.1 cm].

   my track's distance_____cm

4. To see which frog in the room is actually the fastest, you will compare your frog's speed with the speeds of the other class member's frogs.

   Side note: Car speeds are normally measured in _____ per _____. The word "per" means that the first measurement is being _____ by the second measurement.

   Our frog's speed will be measured in _____ per _____. The first measurement is a record of our group's _____, and the second measurement is our _____.

5. On the board, record your group's track distance and best time to the nearest millimeter [0.1 cm]. When all groups have done the same, then copy the class results to the table below.

   Speed Equation: _____

Name of Group Winner	Track Distance	Time	Speed

6. Which person has the fastest frog in the room? _____