



**CALIFORNIA STATE SCIENCE FAIR  
2011 PROJECT SUMMARY**

<b>Name(s)</b> Sawyer Koenig; Sydney Koenig	<b>Project Number</b> <b>J2205</b>
<b>Project Title</b> <b>Can We Affect the Hatch Rate by Audio Stimulation?</b>	
<b>Abstract</b> <b>Objectives/Goals</b> If you add the audio stimulation of a hen(s) clucking to incubating eggs you will have an increase in the hatch rate verses either eggs incubated in silence or eggs incubated with ambient noise. <b>Methods/Materials</b> Our materials included the eggs (99), incubators (3), and audio players (2) to play the audio stimulation. We gathered the eggs from the breeds of chickens we wanted to have chicks from, then we added an equal number of each breed's eggs to the incubators and rolled the eggs three times each day until day 19. We recorded the chicken sounds from our chicken barn and started playing it every day for the last ten days of the experiment, we also added the music stimulation to another incubator for the last ten days. We recorded the hatching results from each incubator and calculated the hatch rate for each incubator. <b>Results</b> Our experiment was a success. We discovered that the music stimulated eggs were the first to hatch and had the highest hatch rate of 74%. The eggs stimulated with a recording of chickens clucking hatched second and had a hatch rate of 70%. Our control incubator with no stimulation only resulted in a 27% hatch rate. <b>Conclusions/Discussion</b> After our experiment we conclude that both the audio stimulation types improved the hatch rates of our chicken eggs. We also feel the fact that both stimulated incubators started hatching before the non-stimulated incubator is also proof that our hypothesis was correct.	
<b>Summary Statement</b> Can we get more eggs to hatch by playing chicken sounds next to the incubators during days 12 to 21.	
<b>Help Received</b> Mother helped type the report, Dr. Fetherston supervised our experiment, Dad helped us collect eggs and set up incubators.	