Student's Worksheet

Lesson 2

Lesson Topic: Quality Assurance in Table Tennis (Ball and Table)

Objectives:

- To understand the concept of quality assurance
- To connect physics concepts to the quality assurance process

Work:

Start with the given stencil working in groups of two. Using the stencil, create the device needed to make the measurements. The stencil is available from the Teacher.

The standard table yields a uniform bounce of about 23 cm when a standard ball is dropped onto it from a height of 30 cm. Repeat the experiment 3 times and record your observations here. Your stencil allows you to measure if the ball bounced 23 cm or more.

First attempt – Did the ball reach 23 cm: Yes / No?

Second attempt – Did the ball reach 23 cm: Yes / No?

Third attempt – Did the ball reach 23 cm: Yes / No?

Now repeat the measurements using a ruler to get a better estimate of the height reached. If there are balls of other type available (other ping-pong balls, Styrofoam balls, etc.), use them and record results here too. (Use a standard ping-pong table for this experiment)

Attempt	Ball 1 (height reached in cm)	Ball 2 (height reached in cm)	Ball 3 (height reached in cm)	Ball 4 (height reached in cm)
1st				
2nd				
3rd				

Graph the class results on chart paper. Observe any trends.

General Discussion and Sources of Error:

1. What did the graph of classroom results reveal? Were the results consistent? What factors might have influenced the results? How could you change your procedure to ensure consistent results?

2. If your ball bounced more, what can you do to the surface of the desk to reduce the bounciness?

3. If the ball bounced less, what can you do to increase the bounciness of the table?