BALL BOUNCE

Purpose: Students will predict and measure the rebound of 4 different sports balls to determine which ball will rebound the highest.

Suggested Grade Level: 5

Science SOL: Scientific Investigation, Reasoning, and Logic 5.1

Equipment/Materials Needed:
1. Per group: 1 meter stick, tennis ball, golf ball, kickball, whiffle ball, calculator, worksheet

Advance Preparation:
1. Make one copy of the directions and record sheet <u>per group</u>.
2. Make each student a copy of the graph and questions.
3. Divide the students into groups of 4.
4. Give each group the equipment listed above.

Directions:
1. Explain that each student will have one of the sports balls to drop.
2. Have the group choose roles: Dropper, Recorder, Measurement Holder and Measurer (change role for each sports ball drop).
3. Instruct students to take turns dropping their ball from the top of the meter stick.
4. Ask the first person to predict in centimeters how high their rebound will be.
5. Have the recorder write down the prediction.
6. Instruct the first person to drop their ball beside the meter stick which is held vertically by the Measurement Holder.
7. Have the Measurer call out the height for the recorder to write down.
8. Instruct the dropper to drop the ball two more times.
9. Have the group use a calculator to average the height of the dropped ball.
10. Repeat steps 3-8 above for each ball, changing member roles each time.
11. When groups are done, give each member of the group the graphing worksheet and have them create a graph based on the results of the predictions and the average. Each student should create a key and label their own graph.
12. Have students complete the questions on the back of the graphing page.

Teaching Suggestions:
1. You may want to have students only have one ball at a time instead of having all 4 readily available at their station.

Modifications/Variations:
1. Have each student keep the same role throughout the activity to lessen confusion.
2. Use the same ball and change other variables - ex: drop onto carpet, wood, floor, concrete, change the height of the drops, etc.
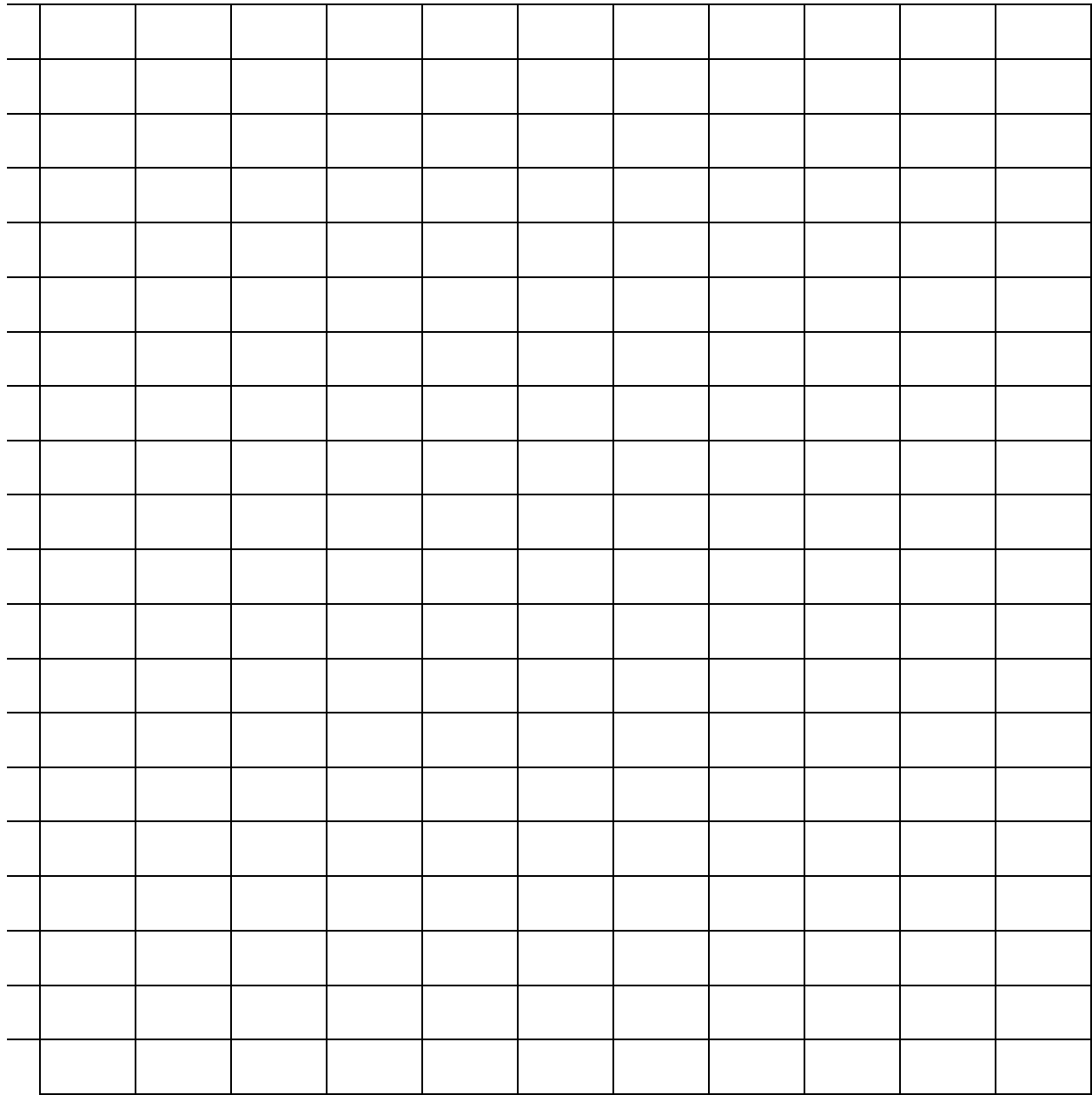
Name: _____

BALL BOUNCE: Record sheet

Golf ball

Prediction _____

        Trial 1 _____

        Trail 2_____

        Trial 3 _____

        Total _____

Divide the total by 3 to get the average.

Average _____

Playground ball

Prediction _____

        Trial 1 _____

        Trail 2_____

        Trial 3 _____

        Total _____

Divide the total by 3 to get the average.

Average _____

Whiffle ball

Prediction _____

        Trial 1 _____

        Trail 2_____

        Trial 3 _____

        Total _____

Divide the total by 3 to get the average.

Average _____

Tennis ball

Prediction _____

        Trial 1 _____

        Trail 2_____

        Trial 3 _____

        Total _____

Divide the total by 3 to get the average.

Average _____

Name:_____

BALL BOUNCE GRAPH

	Pre.	Avg.		Pre.	Avg.		Pre.	Avg.		Pre.	Avg.
	Golf Ball			Playground Ball			Whiffle Ball			Tennis Ball	

KEY

PREDICTION ☐

AVERAGE ☐

Name:_____

BALL BOUNCE QUESTIONS

1. Which ball bounced the highest on average?

_____

_____

_____

_____

2. Why do you think this ball bounced the highest?

_____

_____

_____

_____

3. Is there any variable that you could change to make one of the other balls bounce as high as or higher than the highest ball? Explain your rationale.

_____

_____

_____

_____

_____

_____