Quantum Leap Target Sheet

Waist-Level

1

2

3

4

5

6

BAP6151A
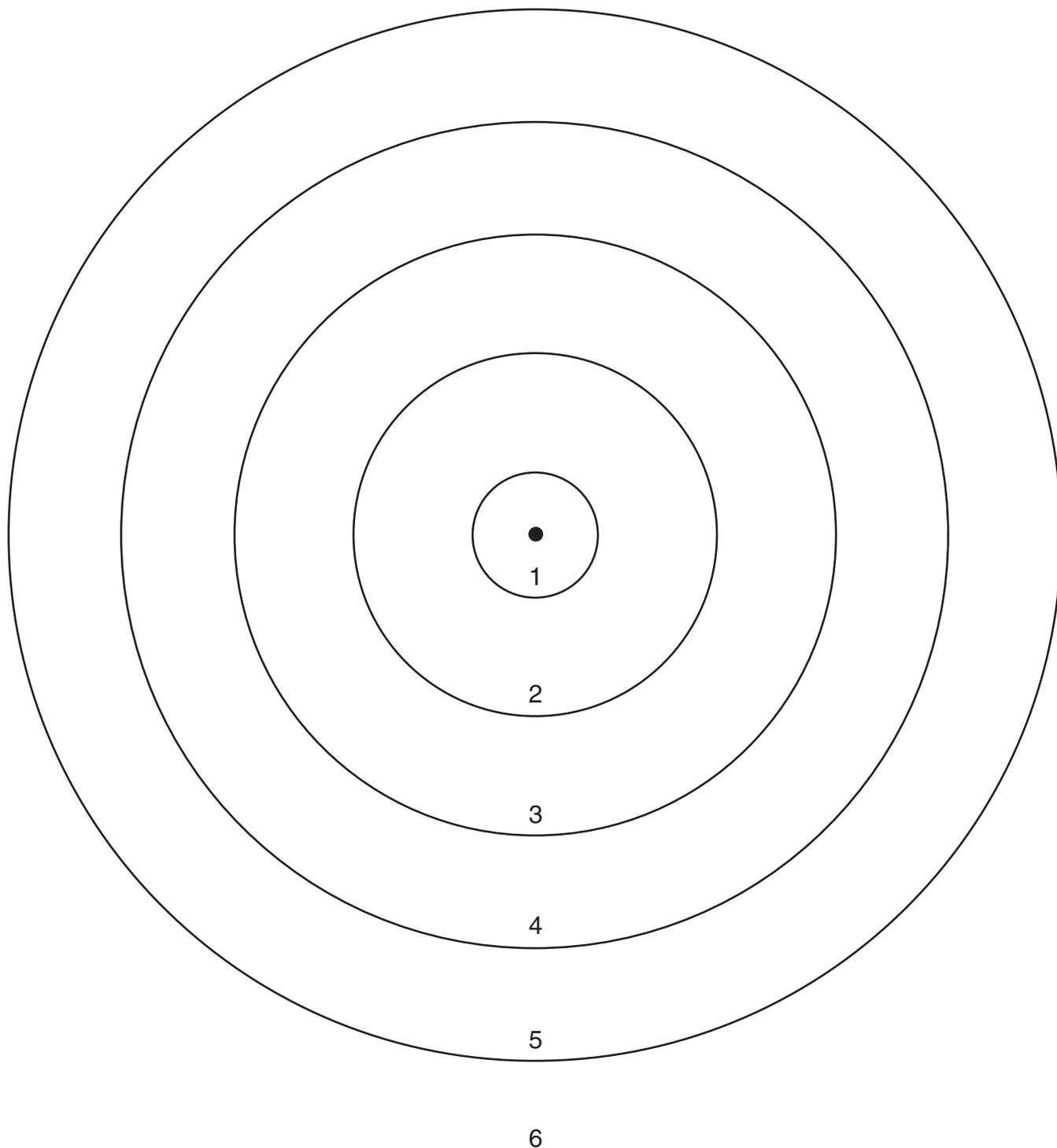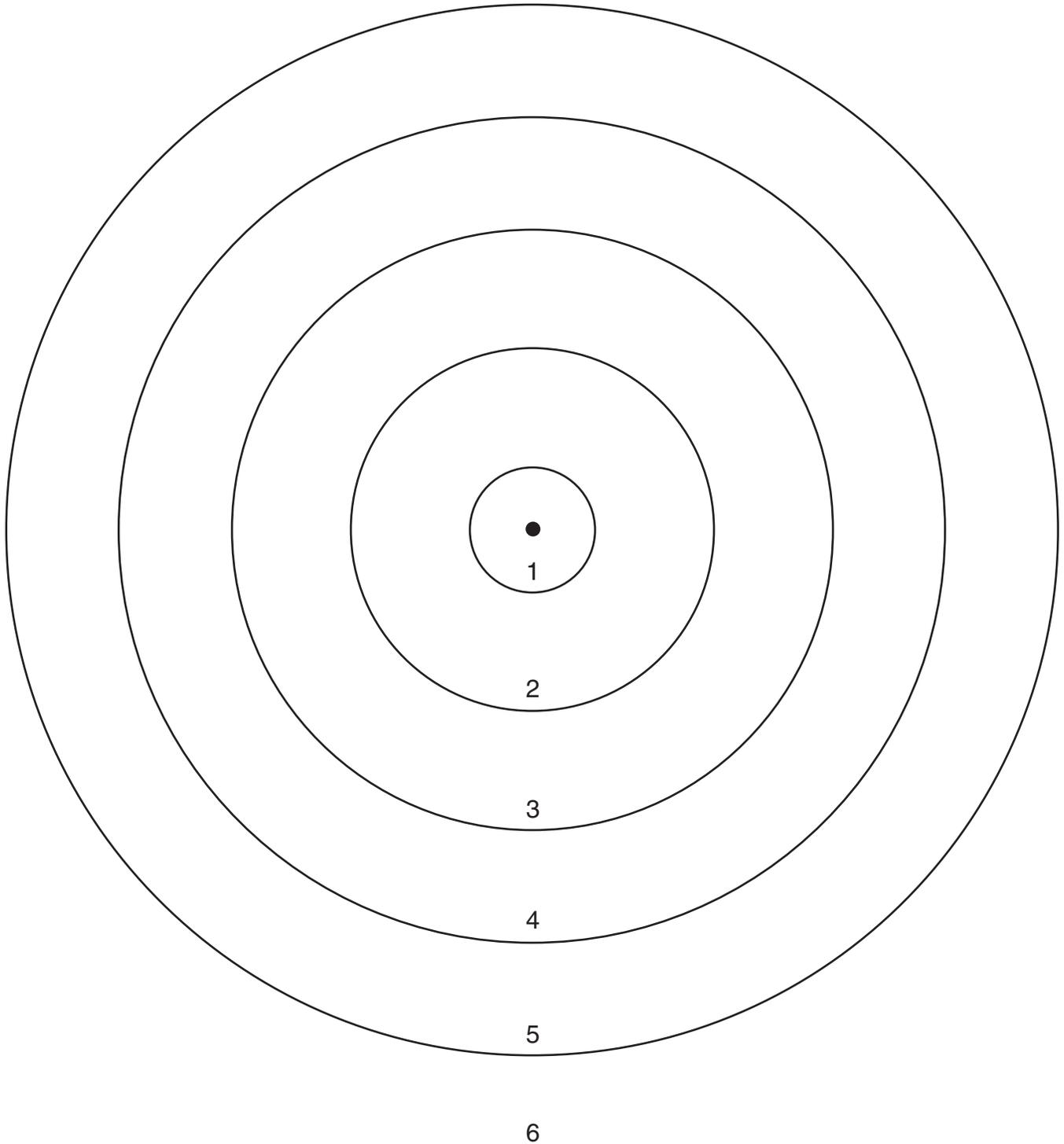
Quantum Leap Target Sheet
Eye-Level

1

2

3

4

5

6

Name_____

Quantum Leap Data Sheet

Waist-Level

Tally Box

Area #	# of Hits
1	
2	
3	
4	
5	
6	

Eye-Level

Tally Box

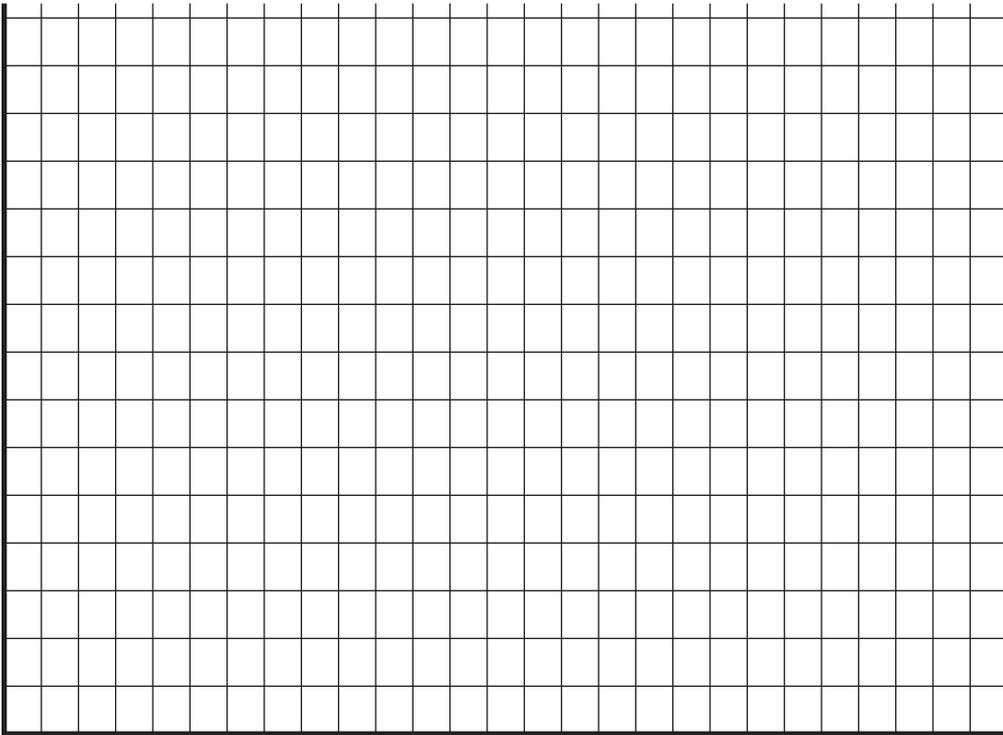| Area #	# of Hits
1	
2	
3	
4	
5	
6	

Quantum Leap Graph Sheet

Waist-Level
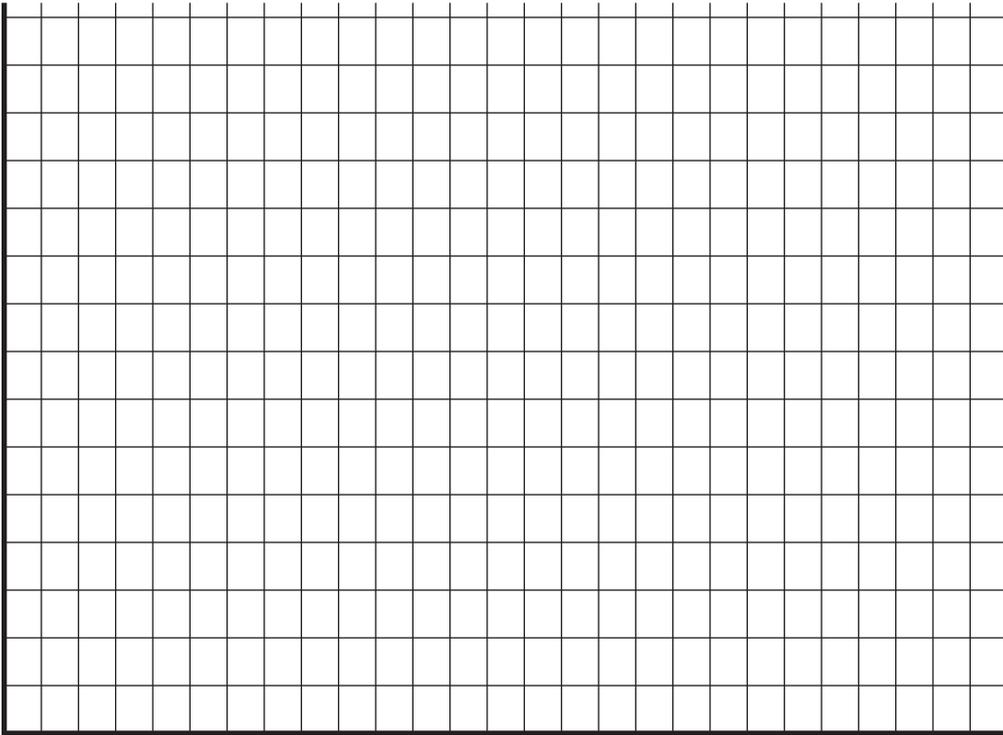
Eye-Level

Quantum Leap Post-Lab Questions

Answer the following questions in the space provided below. Attach additional paper, if necessary.

1. Which area on *each* target sheet (Areas 1–6) received the most hits?

2. Why don't all the marbles dropped from a specified height land in the same spot?

3. As the distance from the nucleus (bull's-eye) increases, what happens to the probability of finding an electron (marble)?

4. What is the overall shape that the spots made on the target sheet? What differences can be seen between the waist-level target sheet and the eye-level target sheet?

5. Compare the heights of the bars on the waist-level graph and the eye-level graph. Explain the shift in the heights of the bars toward or away from the origin (Area 1).

6. Is there any way to predict the exact location of any *one* marble drop on the target? Explain.

7. Describe the relationship between the energy of an electron (drop height), and its probable distance (area number) away from the nucleus of an atom (bull's-eye).