Fitness Testing & Assessment

PSK4U | Student laboratory assignment | 1 of 4

Prepare for your investigation

Name: _____ Date: _____ Class: _____

Research question

How do the three fitness assessments provide different information about a participant's performance, and how reliable are repeated measurements?

Learning goal: use the virtual model to gather evidence, explain fitness testing & assessment and communicate a supported conclusion.

Materials: WorksheetGalaxy virtual laboratory, this assignment, calculator or spreadsheet if needed. Virtual observations only; do not recreate hazardous procedures or perform physical fitness tests without teacher approval.

1. Define two relevant scientific terms from the Background Information tab. (K/U)

2. Write a prediction or hypothesis with a scientific reason. (K/U, T/I)

3. Identify the variable or feature compared, the measured outcome and constants or consistent observation criteria. (T/I)

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Perform the virtual laboratory

Open the corresponding virtual lab and read Background Information. Follow the investigation instructions below. Record authentic simulated results; do not invent data.

• Review the test descriptions and identify the fitness component assessed by each.

• Select a fictional participant and one assessment. Record at least three repeat trials under the same conditions.

• Calculate the mean, range, and describe the variation between trials.

• Repeat with two other assessment types. For a controlled comparison, keep the participant and protocol unchanged.

• Compare the results using the Data & Graphs tab. Explain why raw scores across different test types cannot be directly compared.

• Complete the formal lab report, including two possible sources of error and one accessibility adaptation.

Record each completed observation using the simulator’s record control when available. Use Data & Graphs to review results. Export CSV if available; attach additional rows or screenshots when needed.

Record the exact settings and any changes to the method.

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Observations & results

Enter the actual results. Keep trial IDs consistent between continued tables. Attach the full exported data or extra sheets when the procedure requires more rows. Include units as displayed.

Data table 1

Trial / item	Participant	Assessment	Condition	Effort	Result

Qualitative observations / sample calculation (show units where applicable)

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Analysis, conclusion & assessment

4. Present a labelled graph of a measured relationship, or an annotated diagram / comparison chart for qualitative investigations. Attach it separately. Explain the pattern using recorded evidence. (C, T/I)

5. Which assessment measures each fitness component? Why are the three raw scores not directly comparable? (K/U, A)

6. How consistent were the repeated trials? Discuss measurement reliability using your results. (K/U, A)

7. Describe two sources of error and how you could minimize them. (K/U, A)

8. Describe an inclusive adaptation and explain how it changes score interpretation. (K/U, A)

Conclusion and evaluation: answer the research question, revisit the prediction using evidence, identify a model limitation and propose an improvement. (T/I, A)

Submit this assignment plus your completed Lab Report (printed or saved as PDF from the lab) and any supporting data/figures.

K/U: accurate concepts /10	T/I: method, data, reasoning /12	C: clear tables, units, report /8	A: explanation, conclusion, transfer /10

Total: /40