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NEW ZEALAND

Classroom Preparation Guide

Checklist for setting up measurement stations:

Q8: Height

- ◯ Two tape measures stapled to the wall
- ◯ Textbooks for students to place on heads when measuring (not rulers)

Q9: Right foot length

- ◯ Measurement card (provided); taped and trimmed to size (consider laminating it first)

Q10: Left wrist circumference

- ◯ Tape measure

Q11: Left thumb circumference

- ◯ Piece of string (about 10cm long)

Q14: School bag weight

- ◯ Digital scales (e.g. bathroom)

Q18: Standing on left leg

- ◯ Stopwatch, timer or clock
- ◯ Ruler

And last, but not least:

- ◯ Devices to complete the survey online

Q8: What is your height, without shoes on? Answer to the nearest centimetre.

In pairs, follow these steps:

1. Have your partner take off their shoes.
2. Get your partner to stand with their back to the wall against the tape measure.
3. Take the textbook and place it on the wall above their head. Make sure the textbook's spine touches the wall.
4. Slide the textbook down until it touches your partner's head.
5. Look at the bottom of the textbook's spine and read their height off the tape measure (to the nearest centimetre).
6. Get your partner to write down their height on their data card.
7. Swap places!

Things to think about...

Measurement accuracy:

- Why might it be better to use a textbook rather than a ruler on top of heads?
- Why might it be better having the tape measure attached to the wall?
- Before 2007, this question was asked differently: *How tall are you? Answer to the nearest centimetre.* Why do you think this question was changed?

Measurements we'll get:

- Who might be interested in this data?
- What do you think the shortest and tallest heights will be for students your age?
- If you plotted a graph of heights for students your age, what shape do you predict the distribution will be?

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Q9: What is the length of your right foot, without a shoe? Answer to the nearest centimetre.

In pairs, follow these steps:

1. Have your partner take off their shoes.
2. Get your partner to stand with the back of their right foot to the wall and on top of the measurement card. Make sure the measurement card is touching the wall.
3. Read their foot length off the measurement card (to the nearest centimetre).
4. Get your partner to write down their right foot length on their data card.
5. Swap places!

Things to think about...

Measurement accuracy:

- Why might it be better to use a measurement card rather than a ruler?
- Would keeping shoes on affect all measurements in the same way?
- Why might it be better to measure against a wall?
- Would it matter if we measured the left foot?

Measurements we'll get:

- Who might be interested in this data?
- What other body measurements do you think foot length might be related to?
- Do you think foot lengths for students of a certain age are changing over time?
- If you plotted a graph of foot lengths for students your age, what shape do you predict the distribution will be?

Foot Measurement Card (cm)

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Q10: What is the circumference of your left wrist? Answer in centimetres to one decimal place.

In pairs, follow these steps:

1. Find the "bumpy" bones on your partner's left wrist.
2. Place the measuring tape over the top of these bones and around their wrist.
3. Read their wrist circumference off the measuring tape (to the nearest millimetre).
4. Get your partner to write down their left wrist circumference on their data card.
5. Swap places!

Things to think about...

Measurement accuracy:

- Why do the "bumpy" bones matter?
- Would it matter if we measured the right wrist?
- Why do we measure to the nearest millimetre?

Measurements we'll get:

- Who might be interested in this data?
- What other body measurements do you think wrist circumference might be related to?
- What do you think the smallest and biggest wrist circumferences will be for students your age?

Q11: What is the circumference of your left thumb? Answer in centimetres to one decimal place.

In pairs, follow these steps:

1. Take one end of the piece of string and wrap it around your partner's left thumb halfway between the two knuckles.
2. Use your fingers to mark where the string meets the end.
3. Stretch out the string straight on a ruler and measure the length of the string that equals their thumb circumference (to the nearest millimetre).
4. Get your partner to write down their left thumb circumference on their data card.
5. Swap places!

Things to think about...

Measurement accuracy:

- Why do we use a piece of string rather than a measuring tape?
- Would it matter if we measured the right thumb?
- Why do we measure to the nearest millimetre?
- Why do we need to stretch the string straight?

Measurements we'll get:

- Who might be interested in this data?
- What other body measurements do you think thumb circumference might be related to?
- Do you think left thumb circumferences will be related to which hand students write with?

Q14: What is the weight of your school bag today? Answer in kilograms to one decimal place. (Weigh your school bag with all your books and other materials you brought to school today.)

Follow these steps:

1. Make sure all your school books, lunch, PE gear, devices, and materials that you have brought to school today are in your school bag.
2. Weigh your school bag using the digital scales to the nearest 100g.
3. Write down the weight of your school bag on your data card.

Things to think about...

Measurement accuracy:

- How much does your bag weight change from day to day?
- How does doing the survey before or after you have eaten change the weight of your bag?

Measurements we'll get:

- Who might be interested in this data?
- If you plotted a graph of students' bag weights, what shape do you predict the distribution will be?
- How do you think bag weights have changed over the years?

Q18: How long can you stand on your left leg with your eyes closed? Answer in seconds.

In pairs, follow these steps:

1. Have a stopwatch, timer or clock ready to record the time to the nearest second.
2. Get your partner to stand on their left leg and shut their eyes. Immediately start timing them.
3. As soon as they stop standing only on their left leg, tell your partner the number of seconds. No second attempts!
4. Get your partner to write down their time on their data card.
5. Swap places!

Things to think about...

Measurement accuracy:

- Why do we only allow one turn and not multiple attempts?
- What might affect your balance? Sports practice, tiredness, illness?

Measurements we'll get:

- Why might someone be interested in balance or coordination data?
- If you plotted a graph of people's times for this game, what shape do you predict the distribution will be?