The Pedometer Role Play

Australian Curriculum Content Descriptor - Mathematics > Measurement and Geometry > Using units of measurement > Connect decimal representations to the metric system (ACMMG135)

Topic - Metric distance measurement conversions, centimetres to metres and metres to kilometres.

Characters - Narrator, Quinn and Cleo

Activity Duration - 5 to 50 minutes

Suggested Delivery - Have 3 students perform the role play out the front of the class. Then have the class work in groups of 3 to repeat the role play. Consider repeating 3 times so each student gets a turn at using all the mathematical language.

Equipment - 3 copies of the script per team.

Extension Activity 1 - Challenge students to change the numbers of steps and the distance of each step. Have the students adjust the calculations as appropriate and perform the role play again.

Equipment - 3 copies of the script per team, pencil.

Extension Activity 2 - Using tape measures and pedometers, have students rewrite the role play using measurements they have gathered themselves.

Equipment - 3 copies of the script per team, pencil, 10m tape measure, 1 pedometer per group.

The Pedometer Role Play Script

Narrator: Quinn has been given a pedometer for his birthday. A pedometer is a device that counts how many steps you take each day. Quinn is about to walk from his house to his friend Cleo's house.

Quinn: (Calling on phone) Briiiing briiiing.

Cleo: (Answers phone) Hello Cleo speaking.

Quinn: Hey Cleo it is Quinn, what are you up to?

Cleo: Not much, I was just out in the garden.

Quinn: I'm going to walk over, I have something to show you.

Cleo: Great I'll see you when you get here.

Quinn: Cool, see you soon.

Narrator: Quinn looks at his pedometer and sets the step counter to zero. He leaves for Cleo's house and arrives a short time later.

Quinn: (Knocks on the door) Knock knock.

Cleo: Hey how are you? What is this thing you wanted to show me?

Quinn: It is my new pedometer, I got it for my birthday.

Cleo: What on earth is a pedometer?

Quinn: Well, ped means foot, and a meter measures, so it is a device that measures footsteps.

Cleo: Did you measure the distance here?

Quinn: Not really, a pedometer measures steps not distance. If you look at this screen (Quinn shows Cleo the pedometer) you can see that I took 2,816 steps to get here from my house.

Cleo: I bet we could use that to work out the distance.

Quinn: How?

Narrator: Cleo takes out a tape measure from the garage and lays it along the edge of the hallway.

Cleo: Quinn, I want you to take 10 normal steps along the hallway, starting from the zero on the tape measure.

Narrator: Quinn lines up at the start of the tape and takes 10 comfortable steps, just as he would when walking to Cleo's house.

Cleo: Ok Quinn, how far did 10 steps take you?

Narrator: Quinn looks at the tape measure and reports back to Cleo.

Quinn: The tape measure says 750 centimetres.

Cleo: Ok, so there are 100 centimetres in 1 metre so 750 divided by 100 is 7.5 metres which is the same as 750 centimetres.

Quinn: Right, so 10 of my steps is 750 centimetres or 7.5 metres.

Cleo: Yes. If we divide 7.5 by 10 for the 10 steps you took, that means each of your steps is 0.75 metres long which is the same as 75cm.

Quinn: I get it now. If we multiply my number of steps by 0.75 metres, that will tell me the distance from my house to your house in metres.

Narrator: Cleo takes out her phone and uses the calculator feature.

Cleo: Right, 2,816 steps multiplied by 0.75 is 2,112.

Quinn: So it is 2,112 metres from my house to your house.

Cleo: There are 1,000 metres in 1 kilometre, so if we divide 2,112 by 1000 we get 2.112 kilometres.

Quinn: That is it. So there are 2,816 steps which equals 2,112 metres or 2.112 kilometres from my house to your house.

Cleo: I hope you are fit because you still have to walk 2,112 metres home.

Quinn: That's not too bad it is only 2.112 kilometres.

Narrator: Cleo rolls her eyes.

The End