**Walking for water plan**

**Introduction**

In this activity, students learn about Aysha, a girl from Ethiopia and how far she has to walk for water. They then create a step counter to track their own steps and are challenged to walk the same number of steps as Aysha does in 1 day over 4 days.

**Time:** 60 minutes+

**Learning objectives**

* To develop empathy and understanding for others
* To design and program a step counter using micro:bit
* To use the step counter and undertake a ‘walking for water’ challenge

**Materials needed:** lesson slides, large sheets of paper, MakeCode editor, micro:bits, battery packs, Walking for water sample files, materials to attach step counters (e.g. bands or elastic and tape).

**Aysha’s story (10 minutes)**

* Show the video telling Aysha’s story (**slide 2**).
* Discuss Aysha’s daily walk for water as a class, using the questions on **slide 3** as a guide.
* Estimate as a class the number of steps Aysha walks every day.

**Walking for water challenge (10 minutes)**

* Introduce the waling for water challenge **(slide 4).**
* Use **slide 5** to discuss the tasks to complete and give out large pieces of paper for students to complete their design.

**Step counter algorithm (15 minutes+)**

* Show students a prototype of the step counter (a micro:bit with the example hex file running on it).
* Ask them to consider how they think the code is working.
* Invite them to write their own algorithm for a step counter, supporting them as appropriate and using the example on **slide 6** if helpful.

**Coding their step counter (15 minutes+)**

* Ask students to write their program using the MakeCode editor and their algorithm, working through problems and regularly testing and debugging their code **(slide 7).**
* Give appropriate support depending on your students’ level.
* Example code is given on **slide 8** or can be downloaded.
* Once they have a working program, ask students to download it to their micro:bit.
* Allow students to choose suitable materials (if you have them) to attach their step counter to their shoe, ankle or wrist and try out their step counter.

**Walking for water challenge (over the course of 4 days)**

* Give students a suitable time period to carry out their walking for water challenge.
* They can record their steps each day in any way you agree.

**Evaluating their step counter and challenge (10 minutes)**

* Invite students to share the results from their challenge (awarding prizes if you wish).
* Review and discuss what they have learnt during this project **(slide 9).**