




# Trend Task: Torch

Approach: Station  
 Focus: Writing instructions  
 Resources: Assembled torch without batteries, 2 batteries

Year: 4 & 8

## Questions / instructions:

Check that you have a torch  and two batteries  . If not, tell the teacher.

Put the batteries in the torch to make it go. If the light does not go, tell the teacher.

Write instructions so that a young person would know how to put the batteries in the torch to make it go.

### Instructions included:

|  | year 4             | year 8         |
|--|--------------------|----------------|
| taking the top off   | 35 (25)            | 64 (70)        |
| putting the two batteries in   | 82 (80)            | 93 (88)        |
| awareness that battery orientation matters   | 59 (60)            | 83 (80)        |
| getting the batteries in the same orientation  | 38 (34)            | 68 (66)        |
| conventional orientation of batteries<br><i>(positives towards the bulb or negatives towards the spring)</i> | 27 (29)            | 50 (63)        |
| putting the top back on  | 71 (65)            | 82 (79)        |
| switching the torch on   | 58 (48)            | 71 (67)        |
| <b>Total score:</b>  | <b>6-7</b> 15 (16) | <b>50 (50)</b> |
|  | <b>5</b> 15 (8)    | <b>18 (13)</b> |
|  | <b>4</b> 25 (19)   | <b>13 (21)</b> |
|  | <b>3</b> 20 (30)   | <b>12 (8)</b>  |
|  | <b>0-2</b> 25 (27) | <b>7 (8)</b>   |

### YEAR 4 - MID RANGE

1. Get a torch, 2 batteries.  
 2. Unscrew the top of the torch  
 3. Put the batteries in the torch  
 4. Put the top back on the torch  
 5. Switch the light on, and it will go

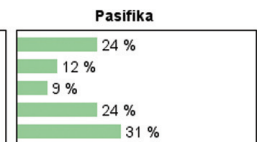
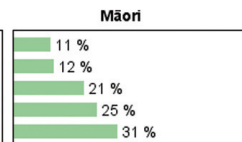
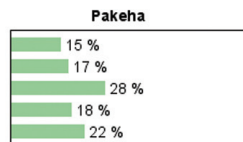
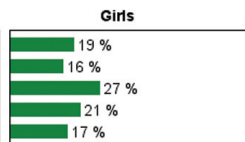
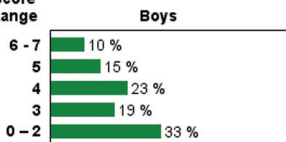
First unscrew the lid, then put the flat end of the battery in then put in the other battery. Screw on the lid and the torch should work.

First get a torch get two big batteries get the torch twist the top of the torch get the two big batteries put it in the torch get the lid of the torch twist it and put the switch on and see if it lights if it does not light look back at the instruction do it all over again.

## Subgroup Analyses:

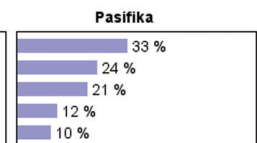
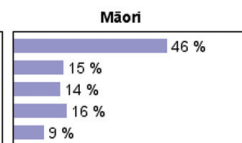
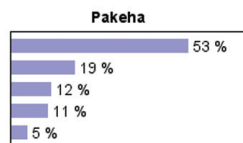
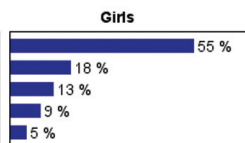
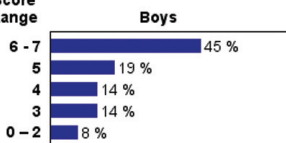
### Year 4

Score Range



### Year 8

Score Range



## Commentary:

Boys are often thought to be more interested than girls in how to make technological devices like torches work, but girls performed better than boys on this task. Thirty-five percent more year 8 than year 4 students gave instructions that achieved a score of six or seven. There was no meaningful change in performance between 2002 and 2006.

YEAR 4 - HIGH RANGE

If the batteries run out get 2 C sized batteries. Then open the top of the torch. Pick up one ~~€~~ batterie. Next put the batterie in so the + is facing the top. Repeat the action. Then screw the top of the torch back on. Turn the torch on. Now it will work. If it doesn't it means that you have done it wrong. If you have done it wrong try again.

1. First you need to get 2 energizer batteries and 1 torch.
2. You need to unscrew the light and put the batteries in make the bump bit face up then screw up the lid and turn on the torch.

1st take the top of the torch off.  
2nd Put 1 of the batteries in with the flat end at the bottom. ~~the~~ 3rd put your 2nd battery doing the same action as rule no. 2. 4th screw the lid back on. 5th Push your button and then the ~~the~~ light will go if not unscrew the lid and try putting it back on.

YEAR 8 - MID RANGE

put both batteries in the torch with the little round bump on the batteries facing up, screw the lid on <sup>the</sup> top of the torch, then push the switch <sup>on the torch</sup> up and it will go.

1. On the battery you will see on one end there is a bump, put the battery in so the bump is facing up
2. get the other battery and place it on top inside the torch and have the bump on the other battery facing up
3. Turn on the torch and see if it worked

First unscrew the lid. on the batteries you will see a flat side and a side with a little bump. Once you have found the side with a little bump put the battery in so the bumps at the bottom. Do the same with the other battery once both batteries are in screw the lid back on.

YEAR 8 - HIGH RANGE

1. Take off the lid of the torch and place in the first battery with the positive side pointing up (if you don't know the difference a positive side has a little bump on it and the negative side is flat) Now the second battery is the same with the positive side pointing up. Now screw on the lid your torch should shine.

1. Twist torch top off the torch.
2. Put 2 C-sized batteries in with the + side pointing up.
3. Twist lid back on.
4. Push button up to make it go.

1. Un<sup>get</sup> screw the top of the torch.
2. ~~Put~~ two C sized batteries and insert the first battery into the torch with the '+' facing you.
3. Repeat instruction two with the second battery.
4. Grab top part of torch (the part you unscrewed) and screw top part on. Push down hard on the top of the torch so it will be screwed on tight.
5. Once you have screwed it back together ~~the~~ switch the torch on to check if batteries are in correctly.