

Making a 1 minute timer

You will need:

- 2 clean and dry plastic drink bottles with tops (1 or 1.5 litre)
- a bag of salt (or other free running material such as dry sand)
- funnel
- empty clean and dry container (like a large bowl or ice cream container)
- heavy tape (like duct tape or electrical tape)
- large nail and a hammer
- stop watch
- blue-tac

Procedure:

1. Take the two bottle tops and set them inside each other and set the tops on a piece of wood. Then use the hammer and nail to create a hole in the centre of tops by pounding the nail right through. Smooth off any ragged edges and check that the two holes will line up.
2. Fill one bottle with salt and screw on bottle top. Check that the salt or sand will run out in a small steady stream.
3. Hold the bottle over the empty container and have a friend start the stopwatch. Let the salt run out of the bottle into the container for exactly 1 minute. When the time is up tip the bottle upright.
4. ***The salt in the container is one minute's worth.*** Empty the remaining salt in the bottle back into the bag. Carefully pour your one minute's worth of salt back into the bottle and screw the top on tightly.
5. Cut a piece of tape about 20cm long. Take the second bottle, screw on its lid tightly and line up the two lids so the holes match. Use a small dot of blue-tac to hold the connection in place. Wrap the tape around the outside of the bottle tops creating a connection. Stand the timer upright and check that the salt can flow between the bottle through the holes.
6. You should now have a timer that takes exactly 1 minute to empty one bottle's salt into the other.

