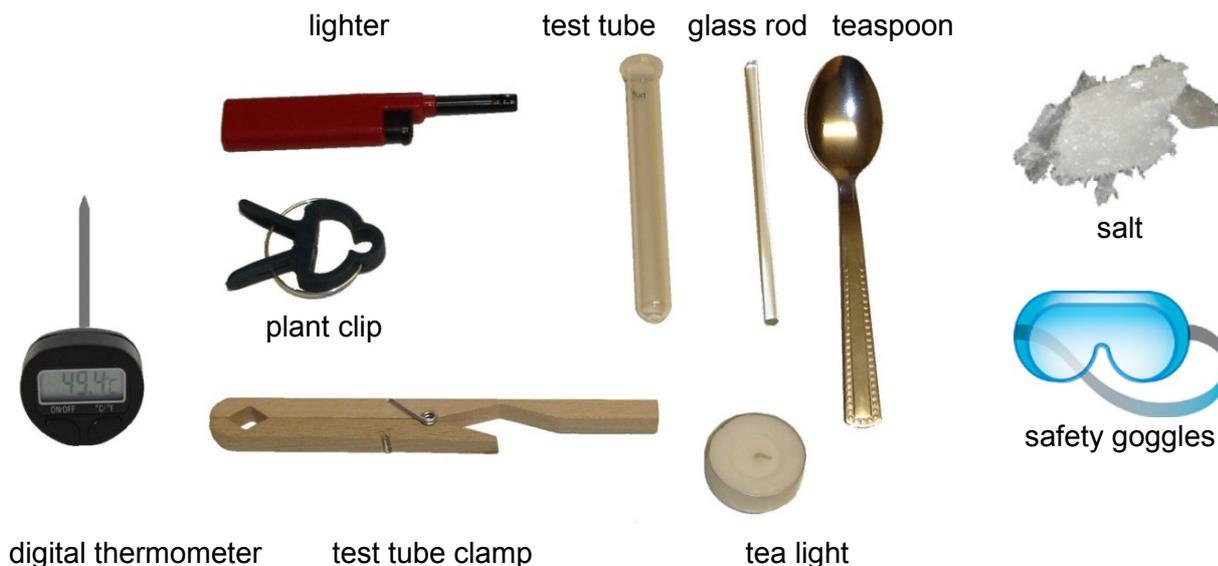


## Worksheet 4: How the heat pack stores heat – A salt that changes between solid and liquid states

### Task 1

1. Put on your safety goggles.
2. Conduct the experiment.

### Apparatus and materials



### Conducting the experiment

#### 1. Transfer the salt



Using the handle of the teaspoon, transfer the salt to a height of 1 cm into the test tube.

#### 2. Heat



Light the tea light, secure the test tube with the clamp, and hold the test tube over the flame until the salt begins to melt.

#### 3. Measure



Insert the thermometer into the test tube so that it touches the liquid, and measure the temperature.

**4. Cool down about 10 min**

Continue heating until the salt is completely liquefied. Remove the thermometer and using the plant clip, carefully set aside the test tube and let it cool down.

**5. Activate**

glass rod



Insert the glass rod and gently scrape it against the sides until the salt begins to crystallize.

**6. Measure**

Insert the thermometer into the salt and measure the temperature as the salt begins to solidify.

**Task 2**

Record all your temperature measurements.

**Measurements**

While the salt is melting, the salt has a temperature of \_\_\_\_\_ °C.

During the solidification process the salt has a temperature of \_\_\_\_\_ °C.

**Task 3**

Formulate a set of instructions for the experiment. Use the words from the language building blocks below to construct 11 sentences which make sense. Use the verbs in the given order. Nouns and prepositions from the language building blocks can be used more than once. Pay attention to a logical sequence of your sentences.

put on  
use ... to transfer  
light  
secure ... and hold  
insert ... and measure  
place ... carefully ... and allow ...  
to cool down  
can start to write  
place ... gently and scrape  
take out ... and insert  
measure  
complete

safety goggles  
handle of the  
teaspoon  
salt  
tea light  
test tube  
sensor  
temperature  
instructions  
glass rod  
thermometer

to  
into  
with  
in  
over  
for  
against  
of

height of about 1 cm  
test tube  
lighter  
clamp  
flame  
digital thermometer  
salt  
plant clip  
experiment  
solidifying salt  
sides

1. First put on the safety goggles.
2. Then \_\_\_\_\_  
\_\_\_\_\_
3. Then \_\_\_\_\_
4. Thereafter, \_\_\_\_\_  
\_\_\_\_\_
5. When the salt begins to melt, \_\_\_\_\_  
\_\_\_\_\_
6. Then \_\_\_\_\_  
\_\_\_\_\_ until it no longer feels warm to the touch.
7. In the meantime, \_\_\_\_\_
8. Later, \_\_\_\_\_  
\_\_\_\_\_
9. When the salt begins to crystallize, \_\_\_\_\_  
\_\_\_\_\_
10. Then \_\_\_\_\_
11. Finally, \_\_\_\_\_  
\_\_\_\_\_