



The research cycle

1. Form groups of three or four. Cut out the labels of the phases of the research cycle below und the examples on sheet P3b.
2. In your group, discuss which example belongs to which phase. Glue the matching phase labels and examples on the copies of sheet P3c, respectively.
3. Think of other examples for each phase and note them on the respective sheets P3c.
4. Which is the right order of the phases? Order the phases in a circle.



Idea /
Assumption



Observe carefully


Write down
observations





Question




Discuss
results



Document
results

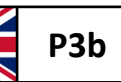
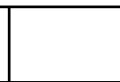
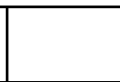
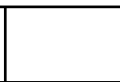
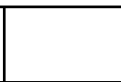
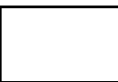
Teamwork



Experiment /
implementation

Images according to Prof. Dr. Brunhilde Marquardt-Mau included with kind permission from DKJS,
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Examples

I found that the tap water at home sometimes is shimmering in a slight reddish color when the tap has not been used for some time. I wonder why the water shows that color.

I assume that the water changes its color due to certain small particles from the water pipe. I assume that there might be rust in the water.

I want to perform an experiment. I put water into a clean vessel. I test the iron content of the water with a test strip for iron.

We note down the results of each iron test in a table in order to be able to compare the results quickly.

More eyes see more: Together with two other researchers, we perform the experiment. We simultaneously test the water from several taps.

We wonder what the results can mean. We discovered that the iron content is quite high in some samples but not in other samples. We discovered that all samples with a high iron content are from the tap with the reddish water. The reddish color seems to result from the high iron content of the water. Our assumption that the color is caused by rust is right.

We write down our observations. We label each sample and note the result of the respective iron test down.

We carefully observe what the test strip shows. Its color changes depending on the iron content of the water. We compare the color on the test strip with the color code on the box.



