

Will it dissolve in water?

Presenters

Magalhães, Cláudia; Mesquita, Cristina; Rodrigues, Maria José
Polytechnic Institute of Bragança - Portugal

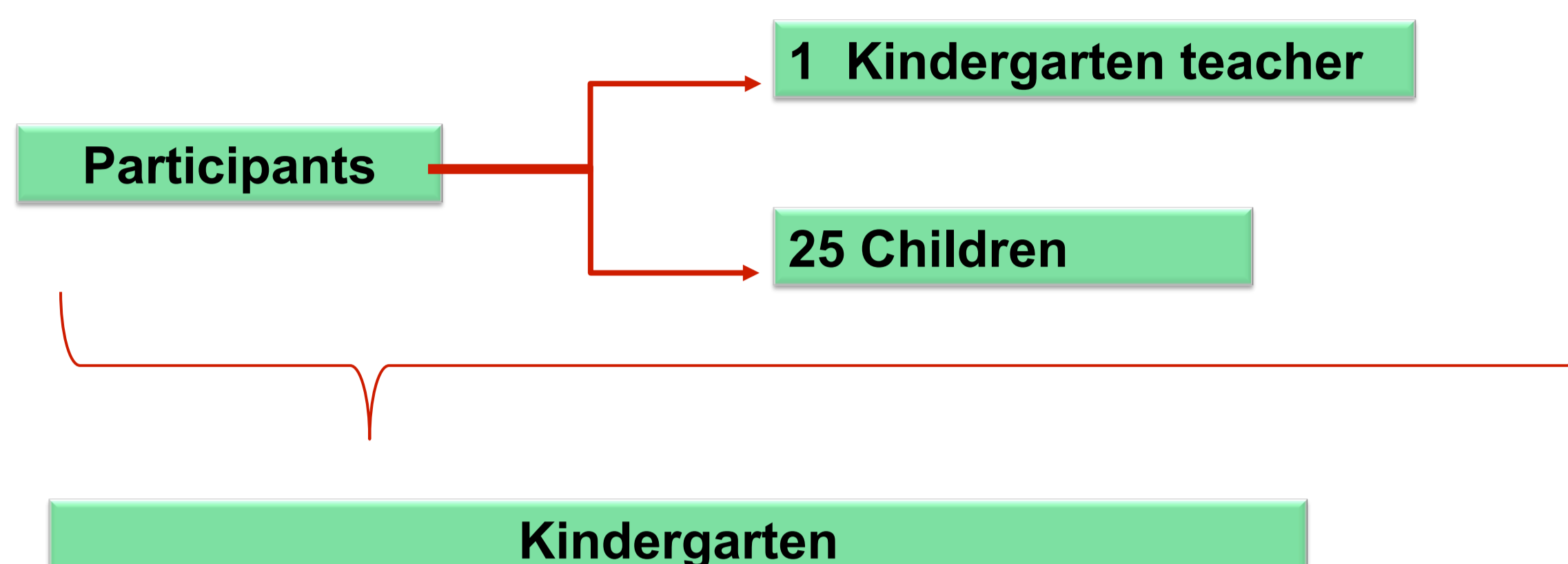
CONTEXTUALIZATION

Scientific activities, particularly the ones that involve chemical processes, are interesting and rich, disseminating the knowledge and understanding of the world as it exists and transforms. In this sense, we seek to stimulate the natural curiosity of children, arousing their desire to know more and to explain the phenomena occurring daily. This knowledge of the world occurs through several fundamental skills, such as: observing, annotating, measuring, comparing, accounting, describing and interpreting.

Water is a theme that provides a grate number of informal explorations to children, such as when mixing different materials with water. We selected the dissolution process to explore in the context of the kindergarten.

Dissolution is an important process in which one or more substances, the solutes, are homogeneously mixed with another substance, the solvent.

CONTEXT AND PARTICIPANTS



OBJECTIVE

The activity was developed with a group of 5 years old and had the objective of determining if specific substances, when in contact with water, are able to mix. A plan was made, with all the necessary steps for the development of the experimental activity.

PLANIFICATION OF THE EXPERIMENTAL WORK

1st Step: The small group was organized and some transparent bags were put on top of the table containing different substances: olive oil, coffee, rice, peas, sand, sugar, salt, flour and egg shell. The substances were identified by the group.



2nd Step: Afterwards, they started organizing the activity and, for that, they started placing the images in what we wanted to know, change and maintain in the planning sheet. To help children fill the sheet we placed the following questions:

- What do we want to know?
- What happen if we add something to the water?
- What are we going to change?
- And what are we going to maintain?
- Than they registered their previsions.



EXPERIMENTAL WORK

3rd Step: Every child used the bottle cap as a measure and, at a time, they put the substance in the water. They stirred with the spoon, observing if the substance did, or not, mix with the water. The process of observation and reflection about what happens is important for the significance building about phenomena.

MAIN FINDING OR DISCUSSION



5th Step: In the end, we placed the planning sheer and the respective records in the room wall. In order to systematize the experimental activity, together with the children, we concluded that there are substances that, after mixed with water, do not distinguish, such as salt and sugar, and others that remain to distinguish, such as sand, egg shell and peas.

4th Step: It was an interesting discovery moment, when they confronted their previsions with what they observed and registered in the record sheet, about the substances that mixed with water.

In that moment, we questioned:

- What happened to the salt?
- It mixed with the water. (Rodrigo)
- Disappeared. (Rita)
- It didn't disappear. We say that it mixed or dissolved in the water. And what about the sand?
- It didn't disappear. (Sandra)
- We can thus say that sand did not dissolve in water.

FINAL CONSIDERATIONS

The scientific work that we developed with the children allowed to integrate the remaining curricular areas. This was one of our main concerns, to perform an integrative approach of Science, Technology and Society. Both the ideas became milestones in our praxis and, because of it, we always value the process and not only the product. What really matters is that children develop competences of reflection and thought and not to only understand the content as a goal to achieve. According to Sá (2000), science is important for the children as part of the education of the child, i.e., of her personal, social and intellectual development. Only then it matters in terms of science itself.