

TRANSCRIPTION OF "BINOCULARS FOR SCIENCE AND IMAGINATION" (CHIARA SCHETTINI)

Good afternoon my name is Chiara Schettini and I am a high school science teacher and I have been working as a trainer for in-service and future science teachers for more than 20 years. This year I work with Polo formativo Marotta. STEAM Polo Formativo is a training center for teachers on STEAM activities that is authorized and financed by Italian Ministry of Education.

During the course I led about Didactics of STEAM, three primary school teachers, Elena D'Amico, Sara Barletta e Antonella Valotta carried out an action-research activity "Binoculars for science and imagination" with children aged between 5 and 7 years.

- An easy "hands-on" activity with recycled material to enhance children's creativity and thinking skills
- A first approach to the study of optics, with a tool that is not really working but that simulates binoculars' structure
- A creative study of plants with a tool that motivates children to a more careful observation of shapes and colours of nature

They divided the activity in 6 steps. In the first step children experienced real binoculars, after discussing together and with teachers on the sense of sight, on what limits it poses and how technology can overcome these limits, reflecting on and drawing the tools that we use to observe closely and from afar-

In the second step, children made their own "binoculars" with recycled cardboard exploring materials teachers gave them, choosing also colors and decorations. Binoculars were made, measuring the distance between eyes, to simulate a real binoculars

In the third step, children went with their teachers outside in the school garden and used their binoculars to observe trees and different plants.

In the fourth step, they drew and described what they observed. This was a useful tool for enhancing creativity, observation ability to describe with drawing and words what they observed-

Afterwards in circle-time each pupil described the experience with binoculars at home and even their parents tried it. Some parents did not see real objects but binoculars made them travel with imagination to other places.

So pupils decided to use their binoculars for a fantastic travel too! And then they described their experience and what they saw in their imagination.

In the last step, teachers evaluated pupils' works using observation forms and let children evaluate themselves with self-assessment forms.