

ACTIVITY DOSE PROJECT '22

Author: Annick Deboudt

School: VBS Langemark, Zonnebekerstraat 27, 8920 Langemark, Belgium



How can I look above heads by using mirrors?

Title Activity	
Age group	3rd grade primary school (10-12 yo)
Number of hours	3 x 50'
Goals/skills summary (most obvious, related to context)	<p>(The pupils can ...)</p> <ul style="list-style-type: none">- Find out how light can be reflected by metal, mirrors, ...- Use mirrors to show reflection.- Recognise that many objects in their environment enhance human functions.- Finding a solution to see objects/views that are outside their direct line of sight.- Knowing how a periscope works.- Designing your own periscope.- Using their knowledge of skills to assemble a structure: being able to fold, fix, assemble, cut and finish.
Brief description of the activity: (max 4 sentences)	
How can I use mirrors to create a tool that can be used to see above the heads?	
1) Pupils work with mirrors.	
2) What is a periscope and what was/is it used for?	
3) Meet the artist Gabriel Lester.	
4) Design your own periscope.	

CONTEXT

Motivation

I like to go to festivals. I only have one big problem. Everybody is taller than me and I have difficulties to see the stage.. How can I solve this?

Another problem... Each new residential block that is built in my neighbourhood, takes away the view of the residential block behind it. As a result, people sometimes lose the view of beautiful nature, such as a lake with beautiful water birds.

How can we ensure that people can continue to enjoy that view despite the many housing developments?

Justification of STEAM integration

ART:



Gabriel Lester: The exhibition combines my first periscope sculpture, designed in collaboration with Onco Tattje,

SCIENCE:

Reflection
Reflecting light.
Mirrors

TECHNOLOGY/ENGINEERING:

Designing a periscope (possibly extendable)

MATHEMATICS:

Light reflection
Angles

Methodology and materials needed

Materials	By class: <ul style="list-style-type: none"> ● Small mirrors ● Cardboard ● Crushing knife or scissors ● Tape
Organisation	Use of ICT (when relevant): <ul style="list-style-type: none"> ● Showing pictures of using a periscope on powerpoint ● Artworks Gabriel Lester on powerpoint.
Coaching & methodology Based on learning by doing (with different levels: from imitation to creation)	
<p>Useful coaching questions:</p> <p>Part 1 of methodology: How can you see things that are outside your direct line of sight?</p> <p>Part 2 of methodology What is a periscope used for?</p> <p>Part 3 of methodology Who is Gabriel Lester? How does he use reflection in his works of art?</p>	<p>Preface:</p> <p>Who has already played with sunlight in the classroom (reflecting on the wall or the blackboard with a watch or a bar)? How do you explain that? Sunlight hits the object and is reflected...</p> <p>Part 1: partner work with mirrors</p> <p>Light usually goes straight ahead, but a mirror can reflect light. If you look at a mirror, you can see things next to you or above you.</p> <p>Group work: One sits under the table and looks at what the other puts on the sofa. You need to use two mirrors for this. How do you need to use these mirrors? Position mirrors will be important!</p> <p>Part 2: What is a periscope and what was/is it used for? Periscope comes from the Greek: peri = around and skopeoo = to look at. Applications: <ul style="list-style-type: none"> Observation from the trenches during the war In armoured vehicles to observe the situation without leaving the safety of the tank. In submarines: see threats from the sea or from the air. </p> <p>Part 3: getting to know artist Gabriel Lester. Discussing the works of art. <ul style="list-style-type: none"> What did he make? What is his intention? How can you use it? What is it used for? What materials is it made of? How is reflection used? </p>

Designing a periscope.
Testing.
Optimisation.

Part 4: periscope designs.

In groups of 2 or 3, the pupils make their own periscope.
Here you can differentiate in terms of assignment.

Who makes :

- 1) an ordinary periscope
- 2) a periscope adjustable in length
- 3) a periscope that makes several turns

Reflection (on both teamwork and assessment):

How was the cooperation?

Does the periscope work?

Is it extendable.

He can take several turns.

Possible adaptations:

- General ideas
- Ideas for younger/older pupils ((3-6 <-> 6-9 / 9-12 <-> 12-15)

Contact

Kristof.vandekeere@vives.be, geert.neyrynck@vives.be