

Welding PA MIG/MAG with MetaQuest2 – v1:

Technology tools (version):	Hardware: Meta Quest 2
Requirements: What do you need? (Think hardware, skills, knowledge.)	Meta Quest 2 App: APK “Welding VR” https://www.klascement.net/downloadbaar-lesmateriaal/186271/vr-welding-handleiding-bij-vrapplicatie/?previous Stable Wifi connection
Optional technologies:	
Date:	15/12/2023
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Topics of the lesson(s):	WELDING through the medium of VR, virtual reality
Estimated time:	60 min

Lesson title/subject: Learn to weld PA/1G



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Intention: What do you wish for or hope to happen? (Intentions are often not measurable or tangible, but help you in developing the design process.)

Students learn the basic handling of welding machine, MIG/MAG.

1. Students learn what welding is and learn some practical applications.
2. Students learn the safety features about welding.
3. Students learn what MIG/MAG means.
4. Students learn the components from a welding machine.
5. Students know the advantages and disadvantages from MIG/MAG.
6. Students learn to weld in position PA.
7. After the theoretical introduction, the students will learn the basic handling with the application Welding on the META QUEST 2.
8. The purpose of this app is that exercising the speed welding. It takes a lot of practice to make a good weld. This means that many welds have to be made. This is a big cost that can be reduced.

Desired Outcomes: One or more measurable and tangible goals the teacher aims for with this lesson/these lessons.

The students learn to weld in position PA. Therefore, they have to learn the welding machine, the components, the settings. With this app they practice the speed at which welding takes place.

Agenda: HOW are you going to reach the goals? Description of the lesson plan / educational activities / working methods.

1. Students come to the classroom. The teachers ask the students what they know about welding.
2. The teacher gives some examples from welding constructions. The teacher can do it with a PowerPoint presentation. The students can follow the lessons with their laptop.
3. The teacher explains the safety features.
4. The teacher explains the types of welding and explains some more about MIG/MAG.
5. The teacher talks about the welding machine and its components.
6. The teacher explains the advantages and disadvantages of MIG/MAG.
7. The teacher explains the several positions in welding.
8. The teacher explains that the students will learn the basic operations with VR glasses, the META QUEST 2.
9. The teacher shows on the powerpont the several steps the student will have to do.



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10. The students can test with the VR glasses. Before they can go to make a real weld, they have practiced a lot without any problems.

Roles: Who facilitates what? Who participates? What do we expect of the students?

For students STEM from 16 to 18 years old

1. Teacher -> instructs, leads the lesson
2. Students -> take part in the class activity

Rules: Rules or principles are about how you want to learn and work together.

1. Open atmosphere -> everybody can share his/her experience with the class.
1. Have respect for everybody that is taking part in the activity. Be quiet and let everyone experience the process

Time: Describe the time path: What time do we start / finish / break? When is the time for reflection? What happens between contact times?

1. (3min) students in the classroom.
 2. (5min) Introduction to welding.
 3. (20min) The teacher talks about safety, types of welding, pro/con, MIG/MAG, welding machine and welding positions
 4. (10min) The teacher shows the steps in the VR glasses.
 5. (20min) The students try the VR glasses out and they do the practice a few times.
 6. (2min) The end of the lessons.
- Approximately +- 60 min.