

Learn to work with a column drill MetaQuest2 – v1:

MaFEA – Making Future Education Accessible
PR3 - EDUCATIONAL LEARNING PATHS

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| Technology tools (version): | Hardware: MetaQuest2 |
| Requirements: What do you need? (Think hardware, skills, knowledge.) | Meta Quest 2 App: apk “Virtuele realiteit: Kolomboormachine” https://www.klascement.net/video/111590/virtual-reality-kolomboormachine/?previous Stable wifi connection |
| Optional technologies: | |
| Date: | 08/01/2024 |
| College: | Emmaüs Aalter Belgium |
| Author: | Pierloot Jimmy |
| Topics of the lesson(s): | To work with a column drill in VR, virtual reality |
| Estimated time: | 60 min |

Lesson title/subject: Learn to work with a column drill

Lesson title/subject: Learn to work with a column drill machine

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 to work with a column drill in VR



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1. Students learn what a column drill machine is used for.
2. Students learn the components of a column drill.
3. Students learn the safety features when they work with a column drill machine.
4. Students learn to terminate the speed of the spindle with a table.
5. Students learn how to change the belt to change the speed of the spindle.
6. Students learn how to drill.

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

The students learn how to drill with a column drill machine. They have to know what components they have to use and what they have to do.

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 a column drill. Do they have prior experience?
2. The teacher explains what is typical for a column drill.
3. The teacher explains the several components from a column drill.
4. The teacher explains how you can determine the speed of the spindle with the diameter of the drill and the type of material.
5. The teacher explains how you can change the speed with the belt.
6. The teacher explains how to drill.
7. The teacher shows on the powerpoint the environment of the exercise.
8. The students can test with the VR glasses.

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.
2. Have respect for everybody that is taking part in the activity. Be quiet and let everyone experience the process



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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 drilling
 3. (20min) The teacher talks about the components, the speed of spindle, the safety features, ...
 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 lesson.
- Approximately +- 60 min.