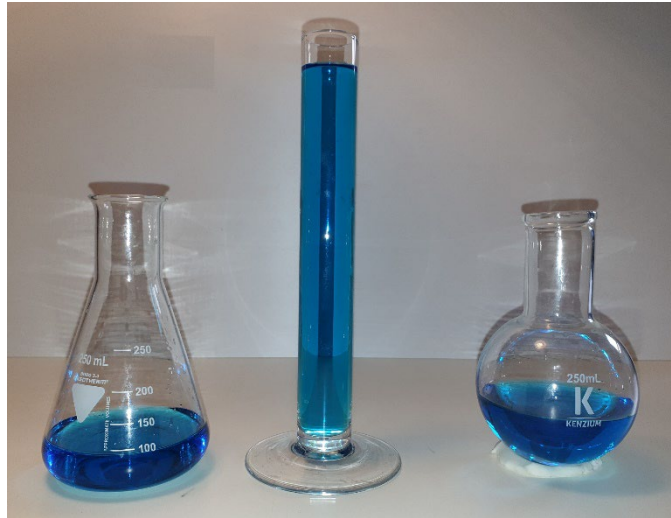




## Filling vessels

Different vessels are filled with water. In which vessel is the most water?



Today you will investigate how the filling quantity and the filling level are related, why the water is at different levels in different vessels, and how the relationship between filling quantity and filling level is represented in the graph!

This material is provided by the [FunThink Team](#), responsible institution: Ludwigsburg University of Education



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**Research assignment 1:** How does the filling level in a vessel change when it is filled evenly with water?



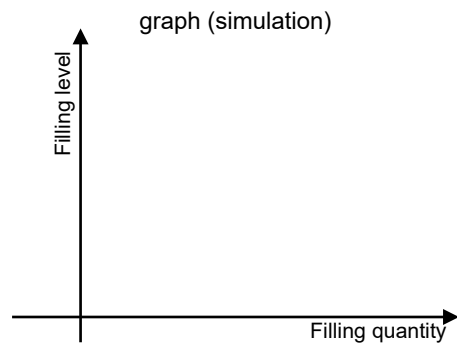
Scan the QR code and open the *Filling vessels* applet.

- a) Fill the vessel with water by clicking the *20 ml* button.  
Note the filling level in the table of values. Repeat the procedure until the vessel is full.

**Table of values:**

Filling quantity (ml)	0	20	40	60	80	100	120	140	160	180	200	200	220	240	260	280	300
Filling level (cm)	0																

- a) Check your table of values. To do this, empty the vessel with the *Empty vessel* button. Set a check mark at window 2 and at points. Repeat the filling process. After each filling of 20 ml of water, compare the point created in the coordinate system with the value you measured before.
- b) Click on *New all* and then in the 1st window on *Fill water evenly*. Observe how the vessel fills with water and the corresponding graph emerges in the 2nd window. Draw the filling graph that emerged during the simulation.



- c) Describe how the water rises in the vessel and how you see this in the graph:

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- d) Describe when the water rises quickly and when it rises slowly. How can you tell from the vessel and where can you see it in the graph?

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- e) Think about what the graph would look like if you filled the vessel with 40ml of water each time instead of 20ml. Describe:

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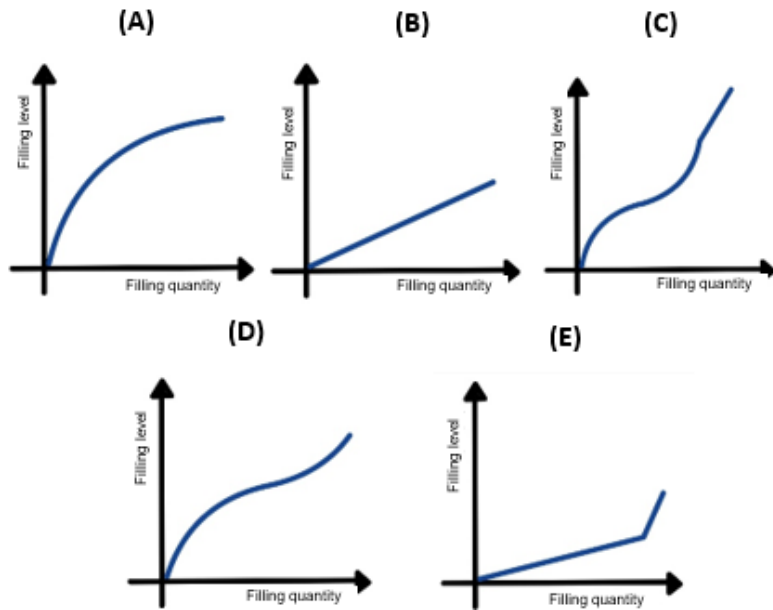
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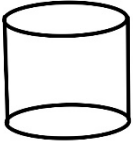
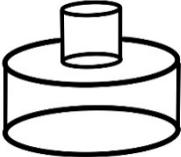
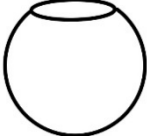
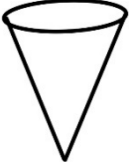

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Remember to return your tablet.

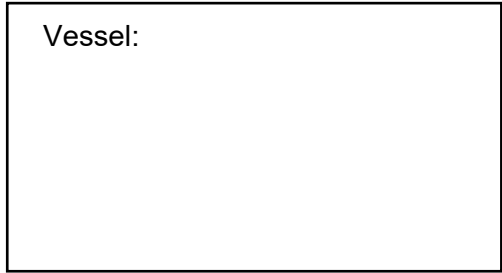
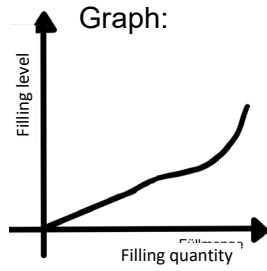
## Research assignment 4: Find the correct graph

a) Match each vessel with the corresponding graph. Explain your decision:



	Vessel	Graph	Explanation
(1)			
(2)			
(3)			
(4)			
(5)			

b) Draw a vessel to match the graph.



c) Your own vessel: Think about a shape for a new vessel. Sketch it. Draw the corresponding graph in the coordinate system.

