

IUSE Project Office Hours

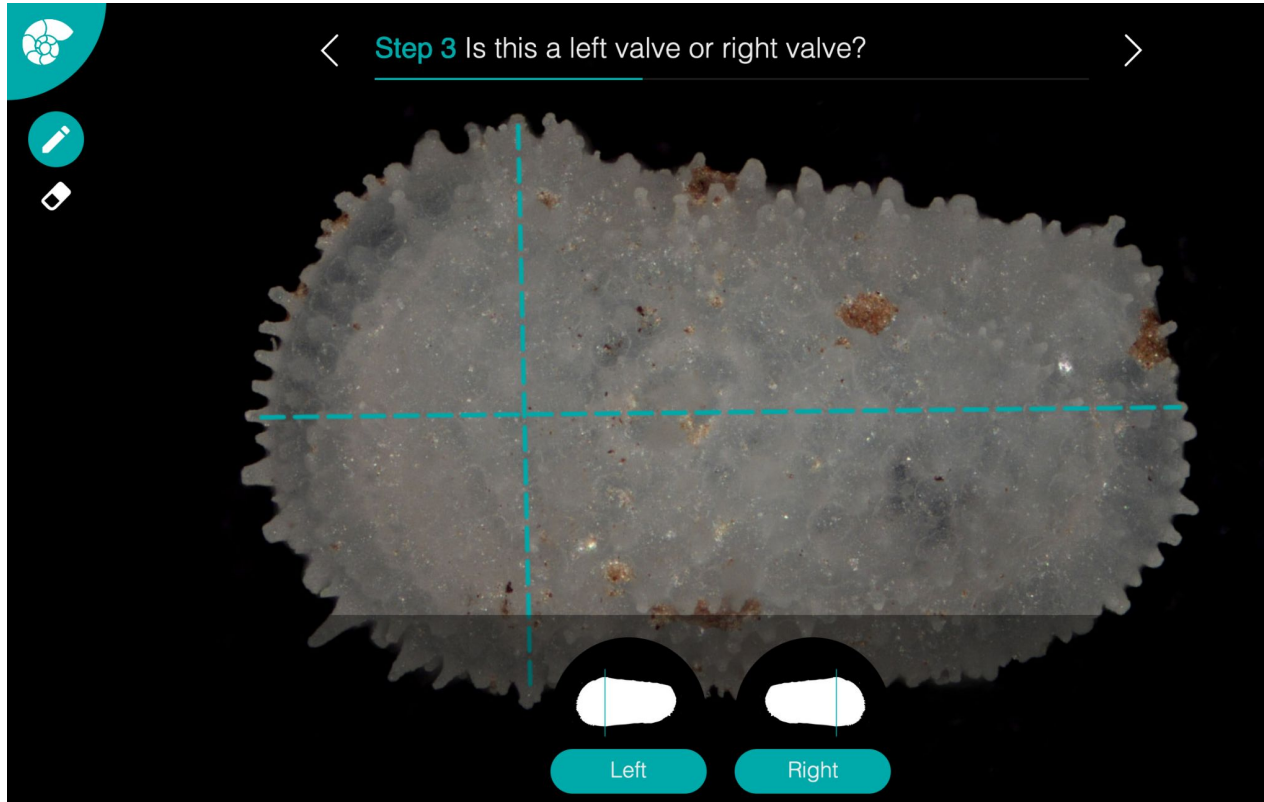
FossilSketch (IUSE Award Number 1937827), **a sketch-based intelligent tutoring system - an innovative way to teach micropaleontology in undergraduate geoscience classes**

Identification of Ostracoda to genus level

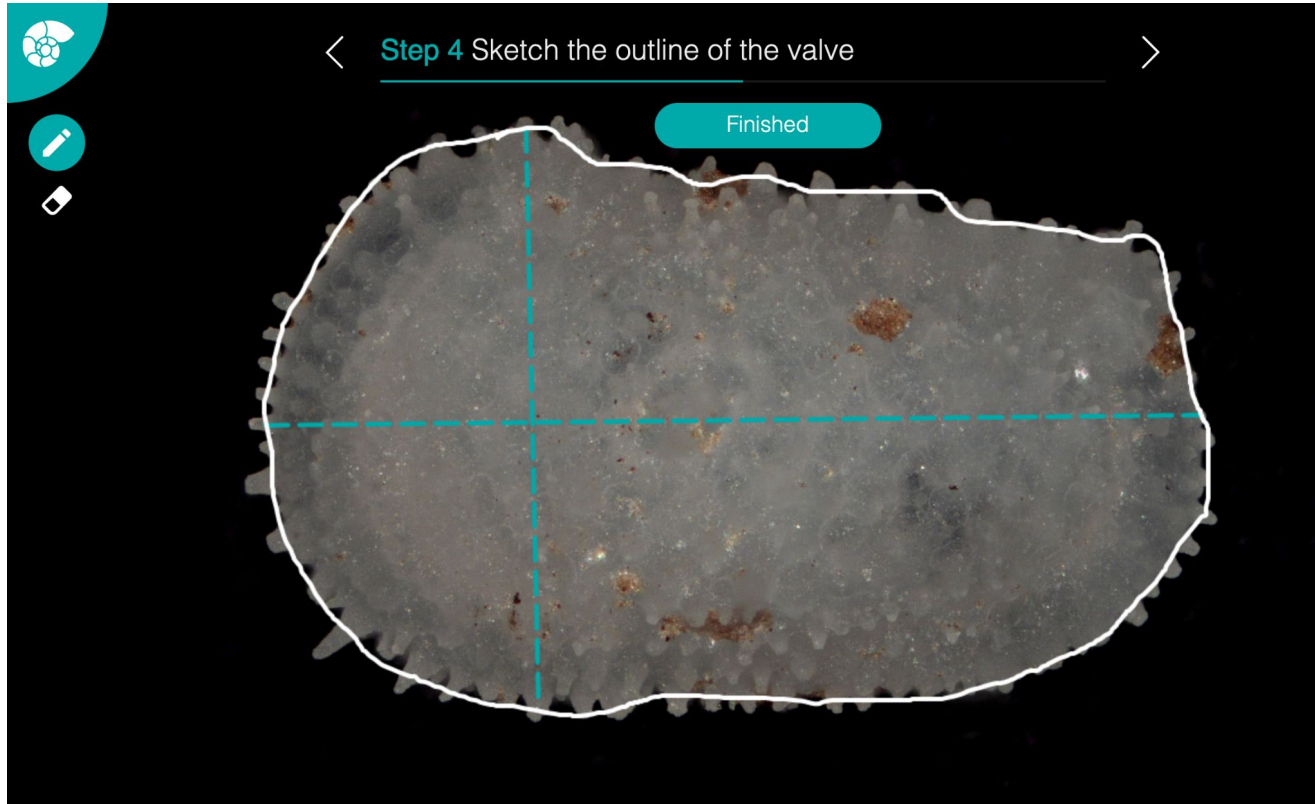
Sketch the maximum length of the valve (FossilSketch provides feedback on correctness of the location of the maximum length)



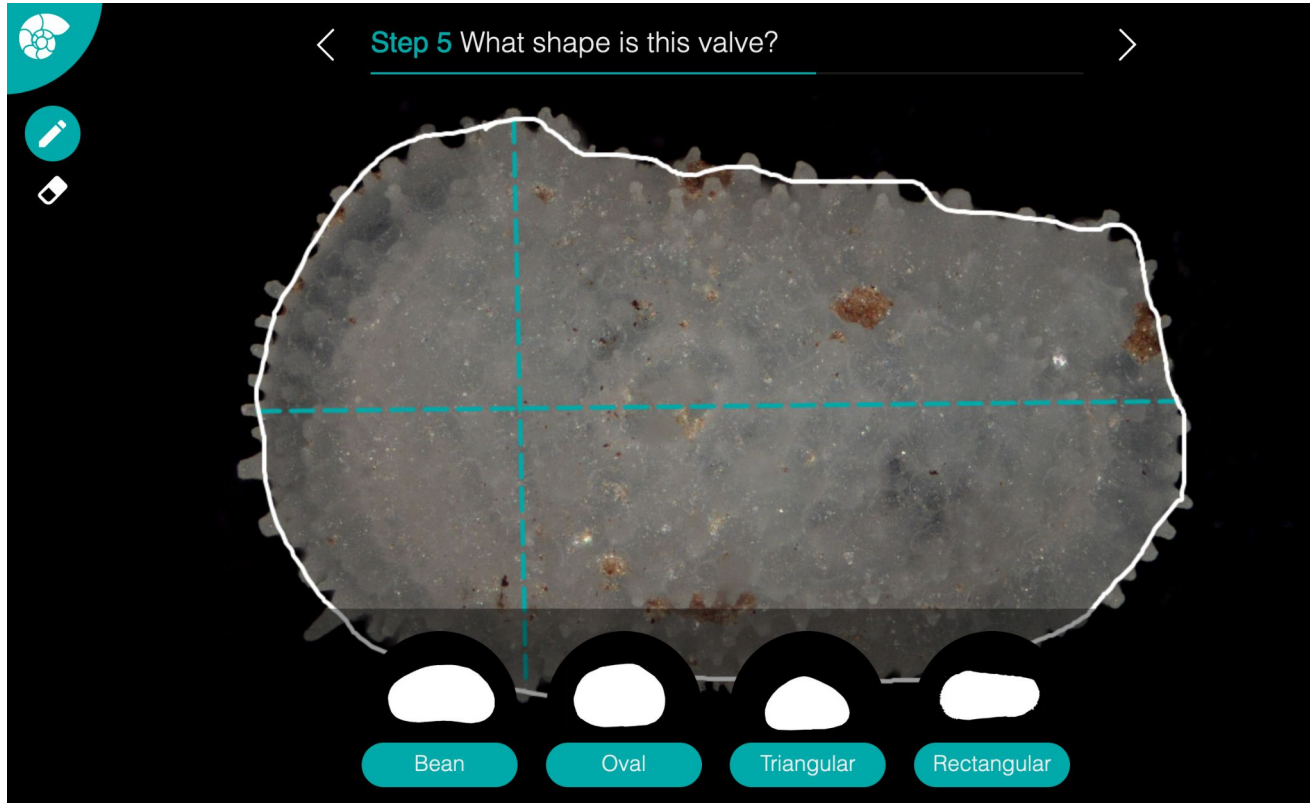
Sketch the maximum height and identify right vs left valve (FossilSketch provides feedback on correctness of the location of the maximum height and right vs left valve)



Sketch the outline of the valve (FossilSketch provides feedback on correctness of the outline sketch)



Select what kind of outline does this valve have (FossilSketch provides feedback on correctness of the selected outline)



Estimate the length of the valve using a ruler

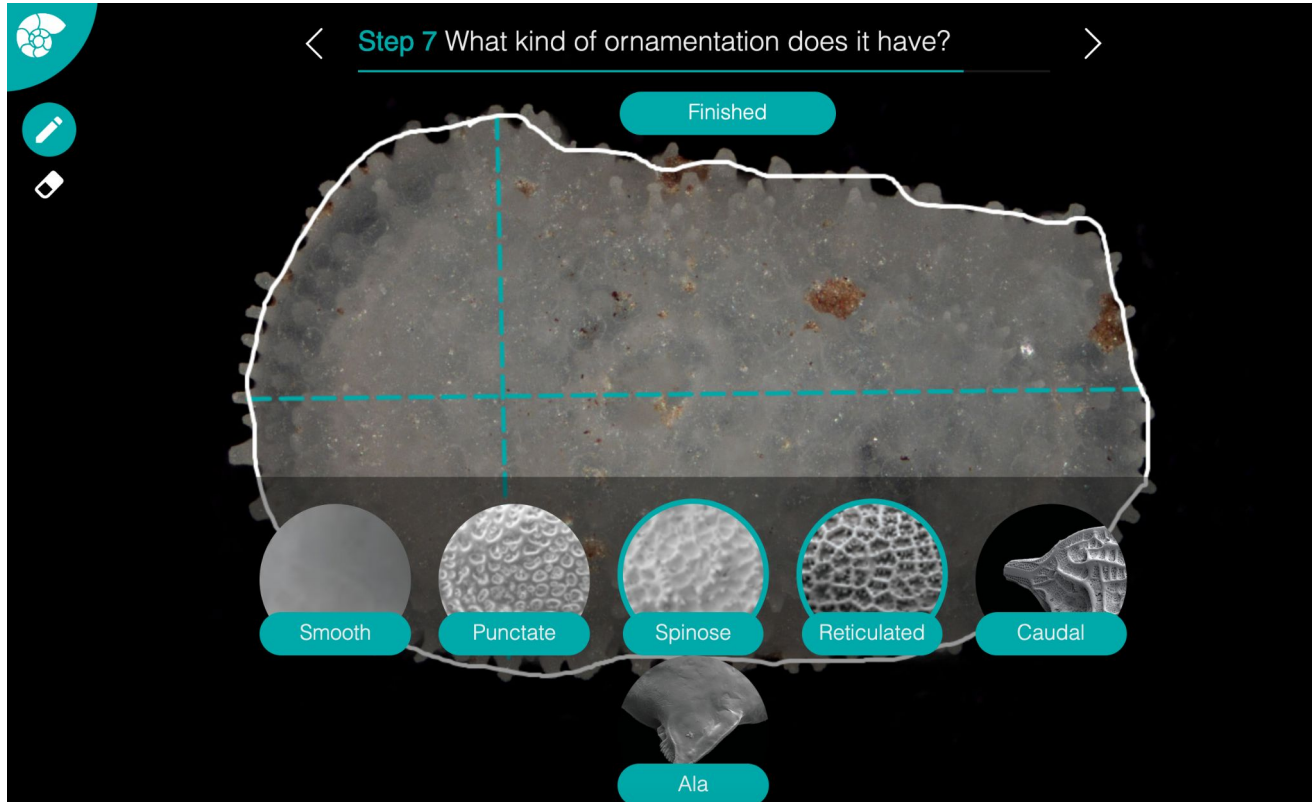
< Step 6 What is the approximate size of this valve? >

0.1mm 0.2mm 0.3mm 0.4mm 0.5mm

< 0.4 mm 0.4 - 0.7 mm > 0.7 mm

Small Medium Large

Select what type of ornamentation does this specimen have

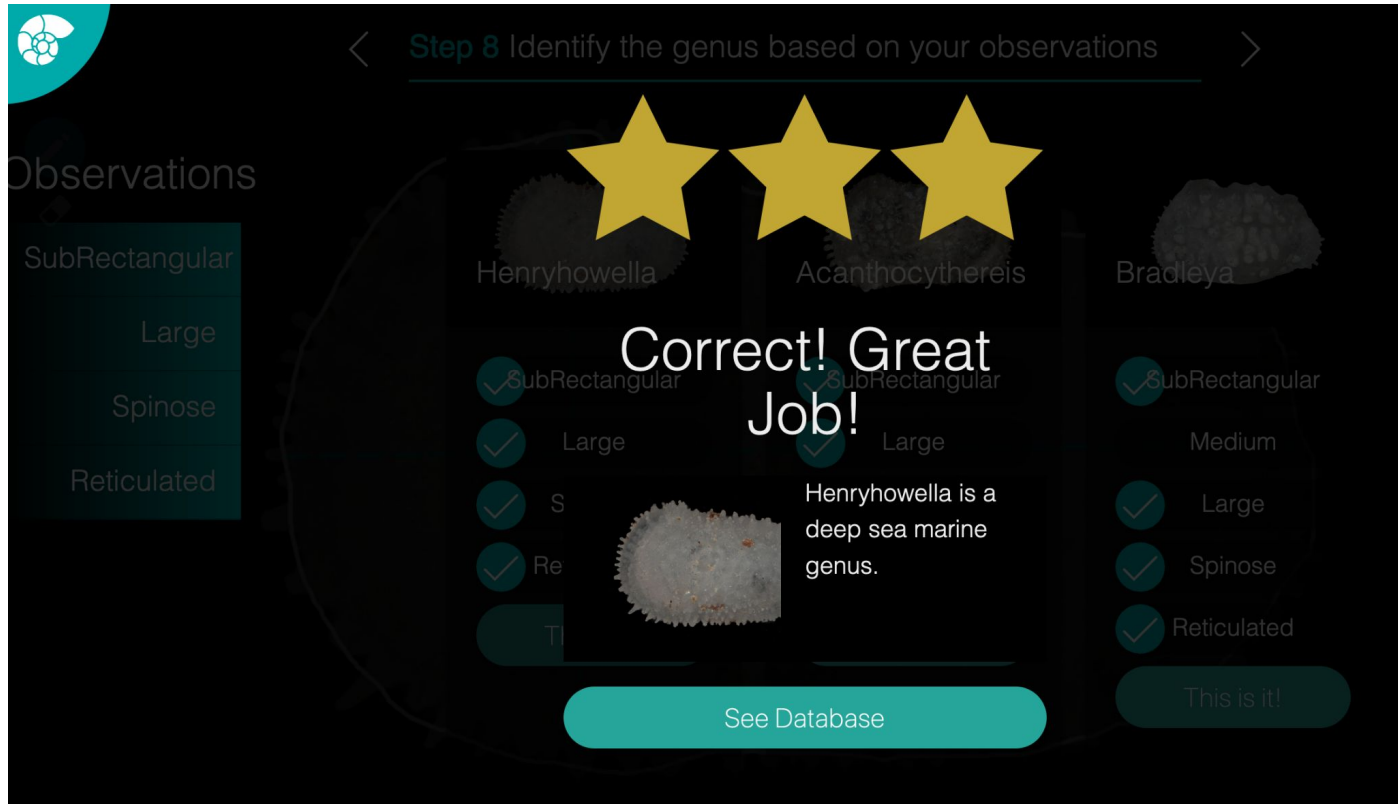


On the left, a user can see a summary of all selected features. On the right, possible genera of Ostracoda matching these selections for final identification

The screenshot shows a mobile application interface for identifying Ostracoda. At the top, a teal header contains a shell icon, a back arrow, the text "Step 8 Identify the genus based on your observations", and a forward arrow. On the left, a vertical list of observations is shown in teal boxes: "SubRectangular", "Large", "Spinose", and "Reticulated". The main area displays three columns, each representing a potential genus: "Henryhowella", "Acanthocythereis", and "Bradleya". Each column features a small image of the shell, a list of features with checkmarks, and a teal button labeled "This is it!". The "Henryhowella" and "Acanthocythereis" columns have all four features checked, while the "Bradleya" column has "SubRectangular" and "Reticulated" checked, but "Large" and "Spinose" are not.

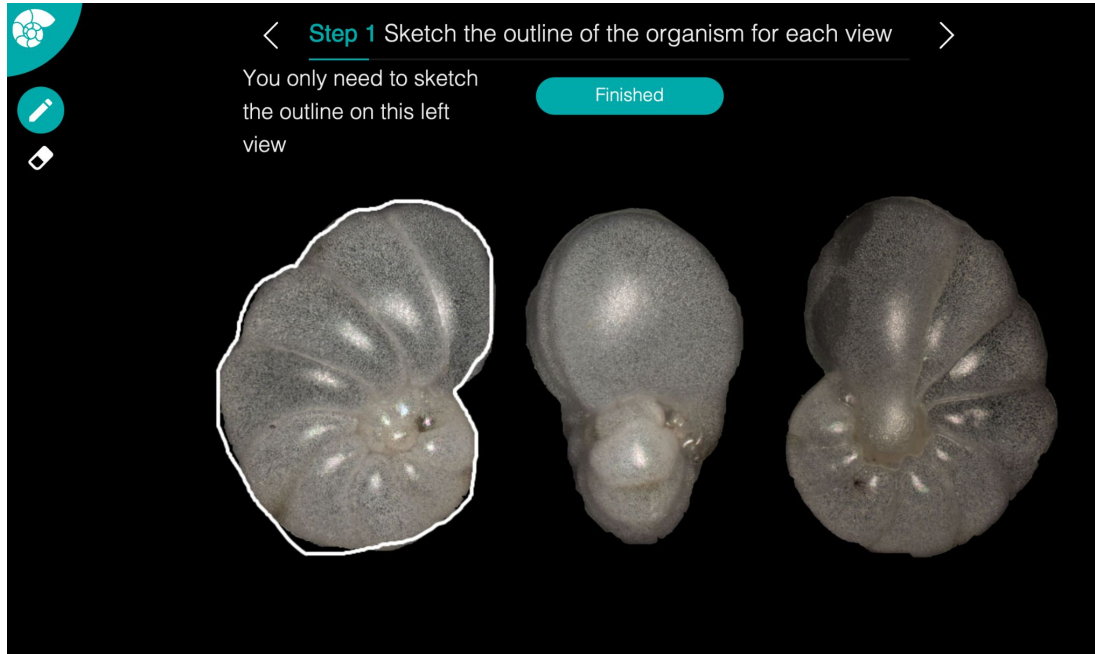
Observation	Henryhowella	Acanthocythereis	Bradleya
SubRectangular	✓	✓	✓
Large	✓	✓	
Spinose	✓	✓	
Reticulated	✓	✓	✓

FossilSketch provides feedback on identification results

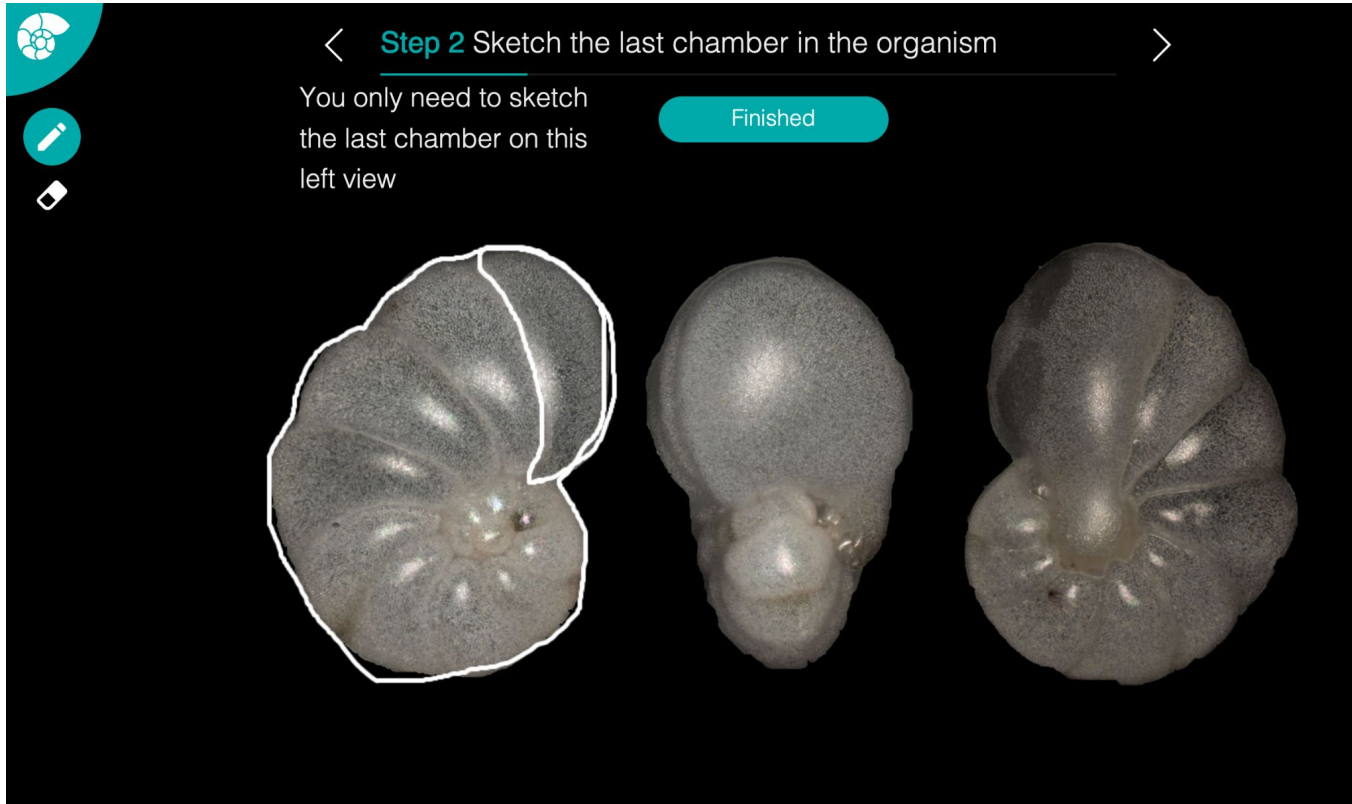


Identification of Foraminifera to genus level

Sketch the outline of the foraminifer on the left view (FossilSketch provides feedback on correctness of the outline)




Sketch the outline of the last chamber on the left view (FossilSketch provides feedback on correctness of the location of the last chamber)



Select what type of shell the organism have

< **Step 3** What type of shell does the organism have? >



Agglutinate Hyaline Porcelain

The image displays three mollusk shells against a black background. The shell on the left is agglutinate, characterized by a rough, porous, and irregular surface texture. The middle shell is hyaline, showing a smooth, glassy, and translucent appearance. The shell on the right is porcelain, which is smooth, white, and has a fine, uniform texture. Below each shell is a circular inset showing a magnified view of its surface texture, with corresponding labels: 'Agglutinate' for the rough texture, 'Hyaline' for the smooth glassy texture, and 'Porcelain' for the smooth white texture. The interface includes a navigation bar at the top with a left arrow, the text 'Step 3 What type of shell does the organism have?', and a right arrow. On the left side, there are three icons: a magnifying glass, a pencil, and a smartphone.

Select the chamber shape

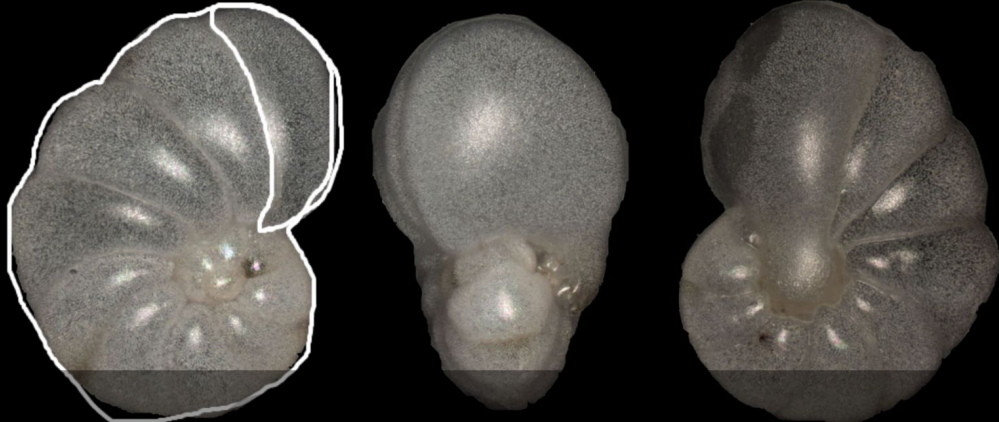
< **Step 5** What is the chamber shape? >

Broad Elongate Globose Tubular Arch

Angular

Select how many chambers are there

< **Step 6** How many chambers are there? >

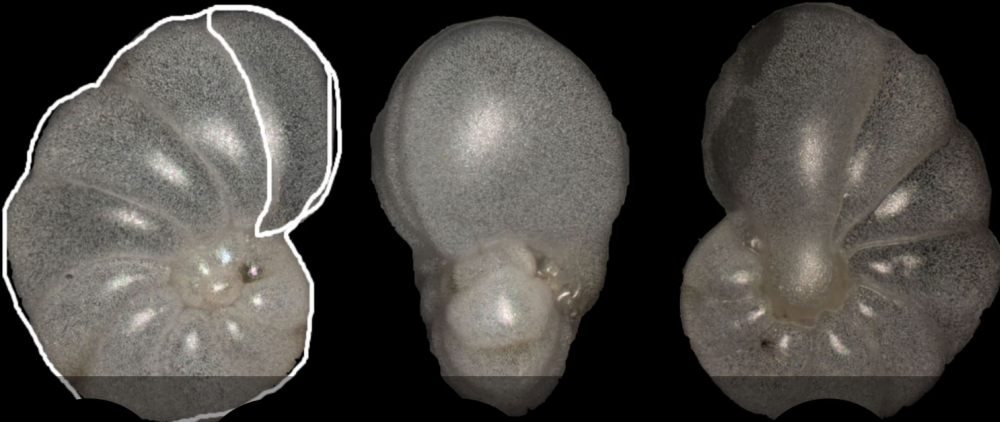


1 2-5 Many

The image shows a user interface for a quiz. At the top, a teal header contains a leaf icon, a back arrow, the text "Step 6 How many chambers are there?", and a forward arrow. On the left side, there are two teal circular icons: a pencil and a magnifying glass. The main area features three grayscale images of a nautilus cross-section. The first image on the left is a white outline of the nautilus, showing its internal structure. The second image in the middle is a top-down view of the nautilus, showing its rounded, bulbous shape. The third image on the right is a side view of the nautilus, showing its spiral structure. At the bottom, there are three teal buttons with white text: "1", "2-5", and "Many".

Select the type of chamber arrangement

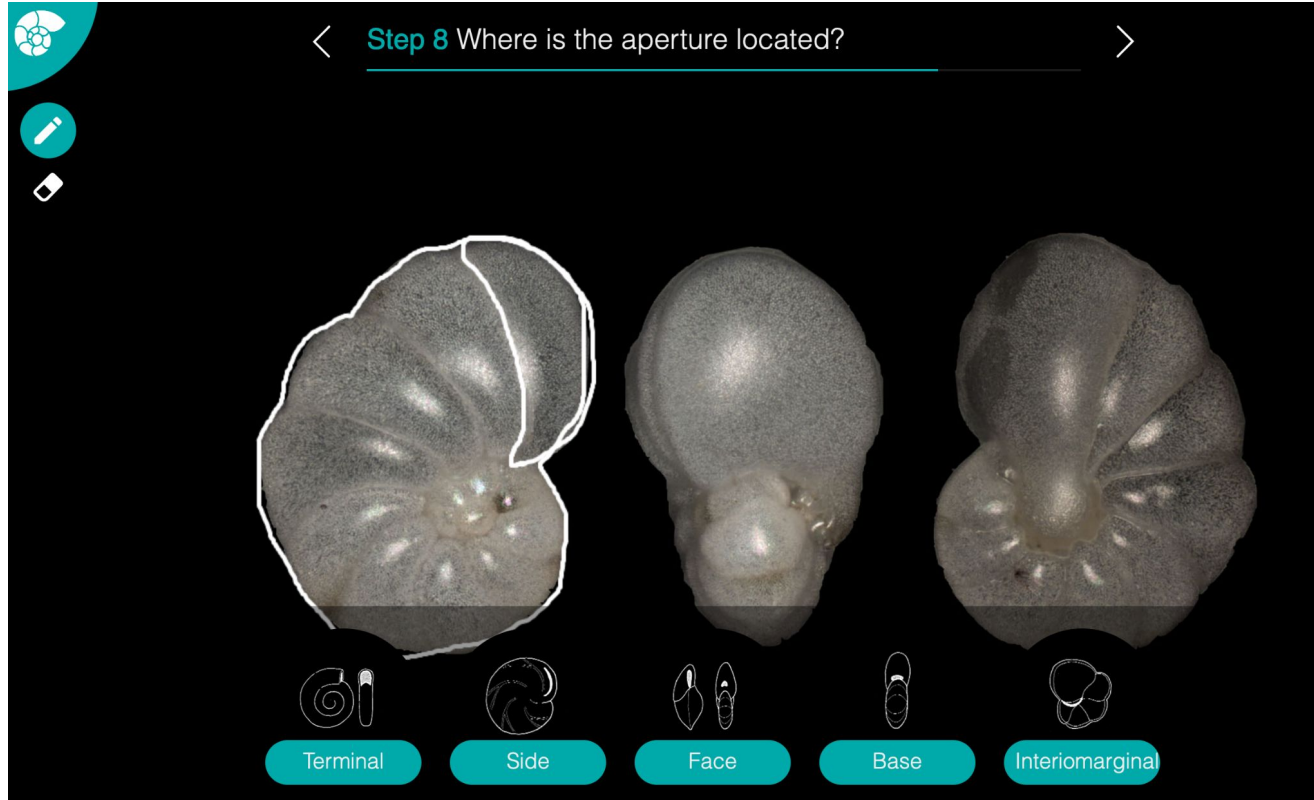
< **Step 7** What is the chamber arrangement? >



Trochospiral Quinqueloculine Biloculine Triloculine Enrolled

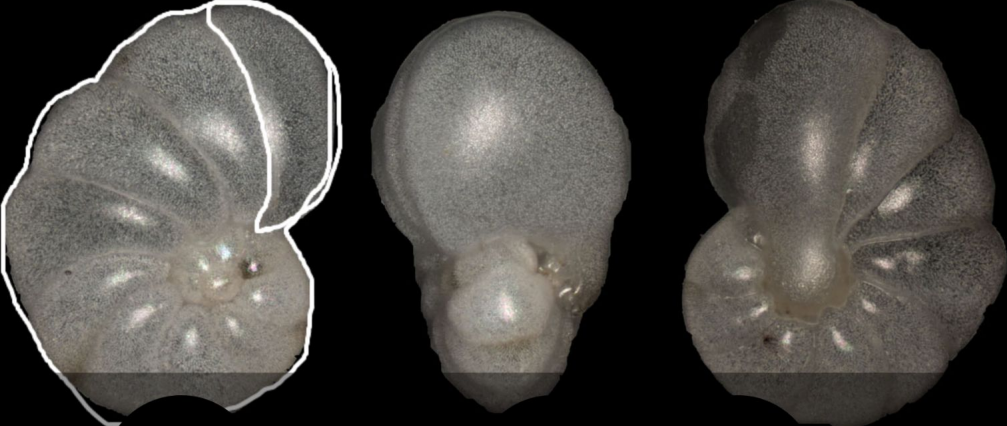
The image shows three nautilus shells with different chamber arrangements. The first shell on the left is Trochospiral, the middle one is Biloculine, and the one on the right is Triloculine. The Trochospiral shell has a white outline. Below each shell is a diagrammatic icon and a label in a teal button. The labels are Trochospiral, Quinqueloculine, Biloculine, Triloculine, and Enrolled.

Select the location of the aperture



Select the type of aperture


< **Step 9** What is the aperture's shape? >



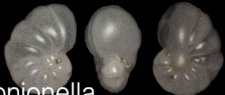


Slit Loop Arch Pores

The image shows a digital interface for identifying snail aperture shapes. At the top, a navigation bar contains a back arrow, the text "Step 9 What is the aperture's shape?", and a forward arrow. On the left side, there are two circular icons: a pencil and an eraser. The main area displays three snail shells against a black background. The leftmost shell has a large, irregularly shaped aperture outlined in white. Below the shells are four selection buttons, each with a small icon above it: "Slit" (a narrow opening), "Loop" (a curved opening), "Arch" (a crescent-shaped opening), and "Pores" (a series of small openings).

On the left a user can see a summary of all selected features and on the right possible genera of Foraminifera matching these selections for final identification. FossilSketch provides feedback on identification results

 < **Step 10** Identify the genus based on your observations >

Observations

Hyaline			
Arch			
Globose	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Many	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Trochospiral	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Interiomarginal	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
ArchAperture	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Nonionella	Buliminella	Ammonia
<input checked="" type="checkbox"/> Hyaline	<input checked="" type="checkbox"/> Hyaline	<input checked="" type="checkbox"/> Hyaline
<input type="checkbox"/> Ovate	<input checked="" type="checkbox"/> High-conical	<input checked="" type="checkbox"/> Low-conical
<input checked="" type="checkbox"/> Globose	<input checked="" type="checkbox"/> Globose	<input type="checkbox"/> Angular
<input checked="" type="checkbox"/> Many	<input checked="" type="checkbox"/> Many	<input checked="" type="checkbox"/> Many
<input checked="" type="checkbox"/> Trochospiral	<input checked="" type="checkbox"/> Trochospiral	<input checked="" type="checkbox"/> Trochospiral
<input checked="" type="checkbox"/> Intermarginal	<input type="checkbox"/> Face	<input checked="" type="checkbox"/> Intermarginal
<input checked="" type="checkbox"/> ArchAperture	<input type="checkbox"/> Loop	<input type="checkbox"/> Arch
<input type="button" value="This is it!"/>	<input type="button" value="This is it!"/>	<input type="button" value="This is it!"/>