



HUMAN RESPIRATORY SYSTEM

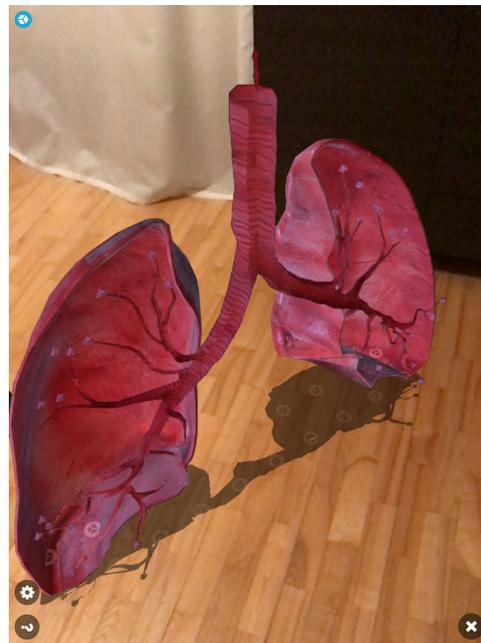
Student's worksheet

Names:

Class:

Aims: to analyze the parts and functions of human respiratory system; to explain the effects of smoking on health.

1st task - read about the moving of air into the lungs. Then scan the QR-code to open the model about respiratory system. Please make sure that there is Sketchfab app downloaded in your device(s). Then fill in the gaps in the text under the QR-code.



Observe the model in augmented reality. To do that, you need to click on the



(Android devices) or



(Apple devices) button.

When breathing in, the air moves through the nose, pharynx, and larynx. Then the air moves into the trachea, then to the bronchi and finally reaches the lungs. Paired organs of these are and

2nd task - open the following two models in two different devices. Discuss about what you see in these models. Then fill the table about the similarities and differences between the smoker's lungs and nonsmoker's lungs.

The lungs of a nonsmoker



The lungs of a smoker



Observe the model in augmented reality. To do that, you need to click on the

 (Android devices) or  (Apple devices) button.

	The nonsmoker's lungs	The smoker's lungs
Similarities		
Differences		

3rd task - discuss with your group members about how does smoking affect human's health. Please make sure that all of your group members have the opportunity to speak Write down your group's opinion in one sentence.

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HUMAN RESPIRATORY SYSTEM

Teacher's worksheet

Aims: to analyze the parts and functions of human respiratory system; to explain the effects of smoking on health.

Duration: 20-25 minutes.

Background information:

- 1) students must be divided into groups (3-4 members in each group);
- 2) Sketchfab app and a QR-code reader must be downloaded in the devices (Apple devices must use the camera to scan the QR-code, no additional QR-code reader needed).

Materials: printed student worksheets, devices (phones or tablets) - at least one device and one worksheet for one group.

Tasks on student's worksheet:

1st task - students read about the moving of air into the lungs. Then they need to scan the QR-code to open the model about respiratory system. Then they fill in the gaps in the text under the QR-code.



Model:

<https://sketchfab.com/3d-models/human-lungs-cross-6299e58c80ce41e7ae2a064c3ed2754e>



They need to observe the model in augmented reality. To do that, they need to click on the



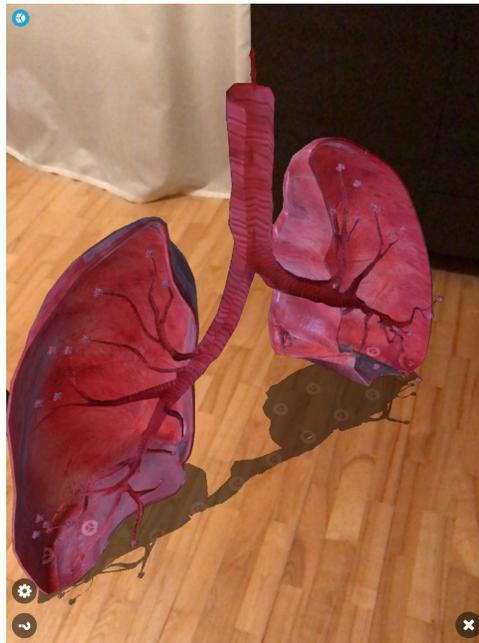
(Android devices) or



(Apple devices) button. If somehow the model does not open

after clicking on the AR button, then they should click on the settings and turn off the shadows (“AR Flood Shadow”).

To open the model in an Apple device, camera must be used to scan the QR-code.



Model in augmented reality (AR)

When breathing in, the air moves through the nose, pharynx, and larynx. Then the air moves into the trachea, then to the bronchi and finally reaches the lungs. Paired organs of these are *lungs* and *bronchi* .

2nd task - students open the following two models in two different devices. They need to discuss about what they see in these models. Then they fill the table about the similarities and differences between the smoker's lungs and nonsmoker's lungs.

The lungs of a nonsmoker



The lungs of a smoker



Model (nonsmoker's lungs):

<https://sketchfab.com/3d-models/healthy-human-lungs-animated-ad1a6c31b37547fabfc9fe37af69796b>

Model (smoker's lungs):

<https://sketchfab.com/3d-models/smokers-lungs-animated-b11586862e4c4b28af6289aeea104d9c>

They need to observe the model in augmented reality. To do that, they need to click on the

 (Android devices) or  (Apple devices) button.



Table on student's worksheet:

	The nonsmoker's lungs	The smoker's lungs
Similarities		
Differences		

3rd task - students discuss with their group members about how does smoking affect human's health. Please make sure that all of the group members have the opportunity to speak. Then they have to write down their group's opinion in one sentence.