

+ During the 4th week:

- the respiratory diverticulum (lung bud) appears as an outgrowth from the ventral wall of the foregut

+ At the end of the fourth week:

- facial prominences are formed

+ During the fifth week:

- the nasal placodes invaginate to form nasal pits (nostrils)

+ At the beginning of the fifth week:

- lung buds enlarge to form right and left main bronchi.

+ During the sixth week:

- the nasal pit penetrates into the underlying mesenchyme forming a cavity called the vestibule
- two shelflike outgrowths from the maxillary prominences called Palatine shelves are formed

+ During the 7th week :

- the maxillary prominences continue to increase in size medially Simultaneously, they grow medially, compressing the medial nasal prominences toward the midline.
- the palatine shelves ascend to attain a horizontal position above the tongue and fuse, forming the secondary palate

+ During the 8th week:

- The union of the 2 folds (grow posteriorly from the edge of the palatine shelves or process) of the soft palate occurs forming a soft palate

+ during the 11th week:

- The 2 parts of the uvula fuse in the midline forming uvula

+ At the end of the sixth month:

- approximately 17 generations of subdivisions(the start of these divisions from the bronchioles to alveolar ducts to the sac to the alveoli)have formed
- type II alveolar epithelial cells, produce surfactant.

+ During the seventh month:

a sufficient number of capillaries are present to guarantee adequate gas exchange, and the premature infant is able to survive.

+ last 2 weeks before birth:

- The amount of surfactant in the fluid increases

+ During postnatal life:

- An additional 6 divisions formed (still dividing up to ten years after birth)

Maturation of the Lungs

Pseudoglandular period	5–16 weeks	Branching has continued to form terminal bronchioles. No respiratory bronchioles or alveoli are present.
Canalicular period	16–26 weeks	Each terminal bronchiole divides into 2 or more respiratory bronchioles, which in turn divide into 3–6 alveolar ducts.
Terminal sac period	26 weeks to birth	Terminal sacs (primitive alveoli) form, and capillaries establish close contact.
Alveolar period	8 months to childhood	Mature alveoli have well-developed epithelial endothelial (capillary) contacts.
