

# Checklist

## What you should know

After studying this subtopic you should be able to:

- Explain how unspecialised cells form following fertilisation and how gradients impact gene expression for further development of the embryo.
- Outline the properties of stem cells and their different capabilities to become different cell types.
- Explain the function of stem cell niches and be able to describe bone marrow and hair follicles as examples of these.
- Describe the size differences in various human cells.
- Discuss the relationship between cell size and surface area in terms of the movement of material across a cell.

## Higher level (HL)

- Identify and describe cell types that increase surface area-to-volume ratios
- Describe specific adaptations that cells in the lung, heart, muscle and gonads have undergone to perform their functions.

