Sebi Schmied, Lerbermatt Gymnasium

# Learning Constellation on Digestion

The classroom becomes a walkable digestive system: using labelled sheets or cards, the most important organs and stations of the digestive process are placed physically in the room.

### Stations in the room (example arrangement):

- Mouth
- Esophagus
- Stomach
- Duodenum
- Pancreas
- Gallbladder
- Small Intestine
- Large Intestine
- Rectum
- Anus
- Portal Vein
- Liver
- Vena Cava
- Heart (right and left side)
- Lungs
- Aorta
- Body Cells
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Depending on time and level, stations can be added or left out.

### Roles of the students:

Each student (or small groups) receives a card with a nutrient, for example:

- Protein
- Sucrose
- Starch
- Fat
- Mineral
- Dietary fibre
- Water
- Alcohol (optional – special case)

Students simulate the journey of this nutrient through the body by moving from station to station and describing what happens to the substance at each location.

## Possible processes to address:

- Mechanical breakdown (e.g. chewing in the mouth)
- Chemical digestion by enzymes (e.g. amylase, pepsin, lipase)
- Emulsification by bile
- Absorption into the blood or lymph (e.g. via intestinal villi)
- Transport through the circulatory system (including liver passage via the portal vein)
- Processing and storage in the liver
- Metabolism in body cells
- Excretion via the large intestine or other pathways

## Didactic variations

1. Exploration in the first round
2. Students move freely (or in small groups) with their assigned nutrient through the stations and try to orient themselves.
3. Guided simulation in the second round
4. Students then present one after another what happens to their nutrient at the respective stations – paying attention to correct sequence and organs.

## Additional options

- Adding functional cards (e.g. “Enzyme XY active here”, “Absorption into blood here”)
- Integration of oxygen transport and cellular respiration via heart and lungs
- Didactic reduction for younger students: focus only on main nutrients and main organs