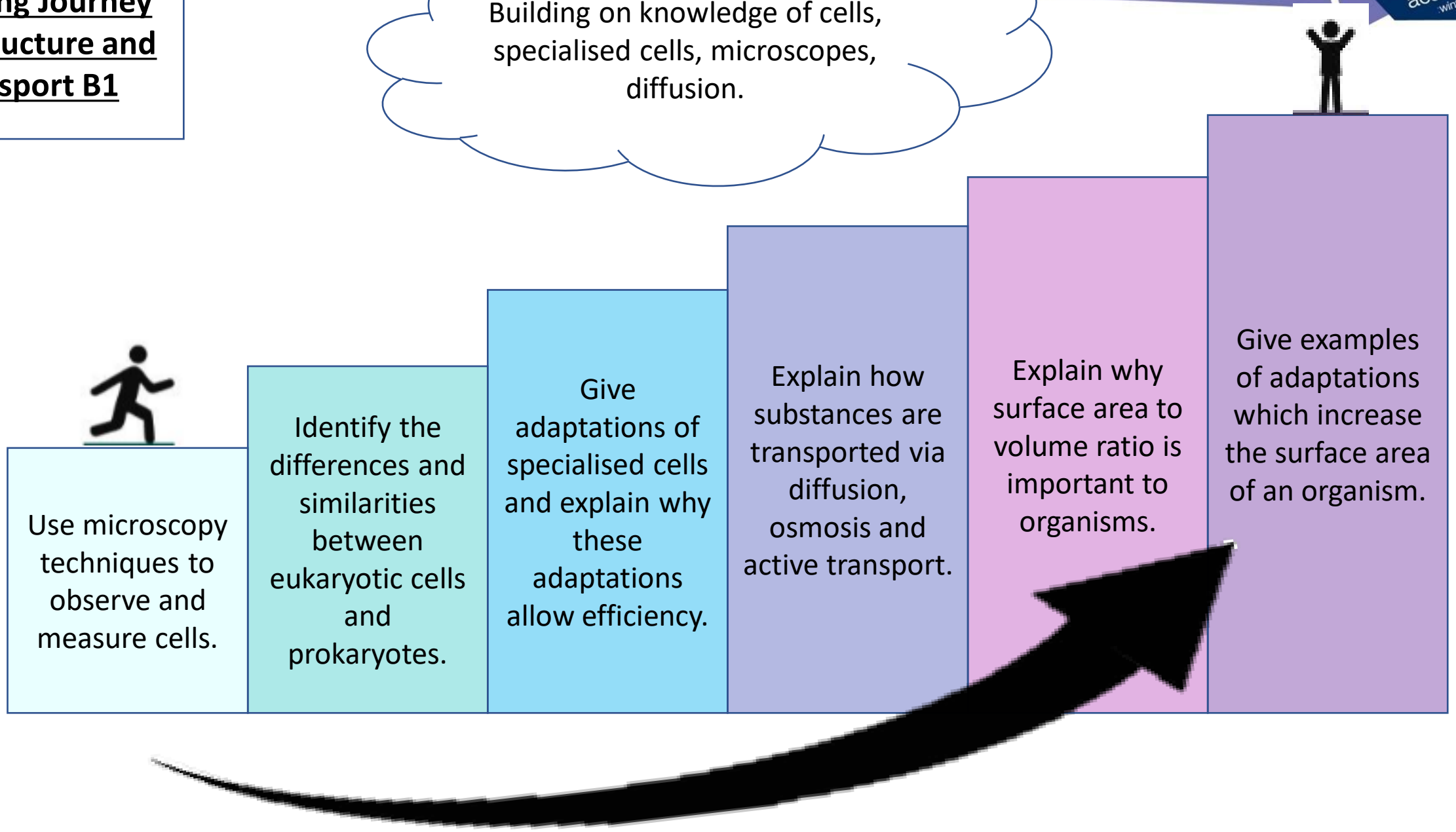
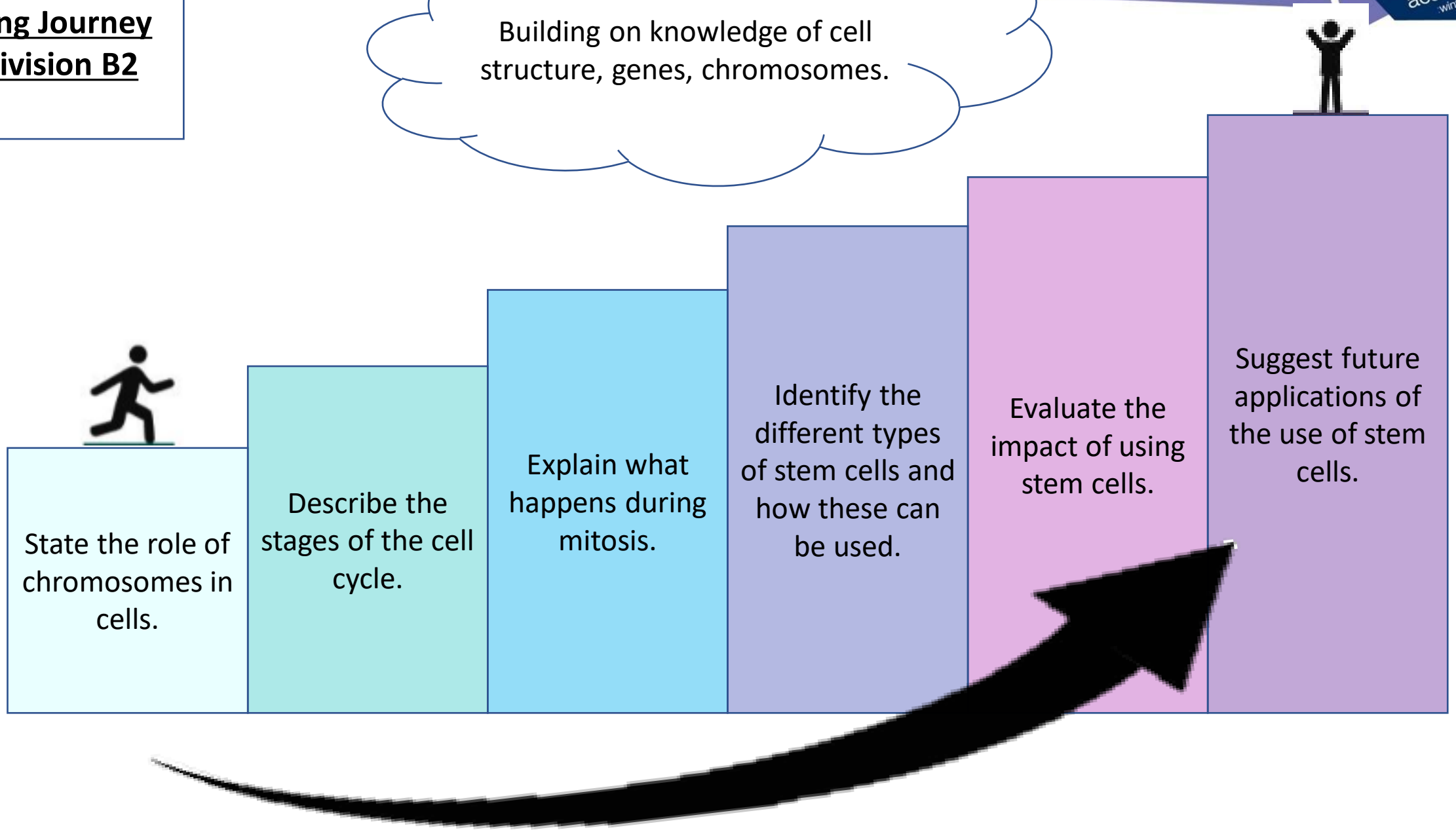
Learning Journey Cell structure and transport B1

Building on knowledge of cells, specialised cells, microscopes, diffusion.



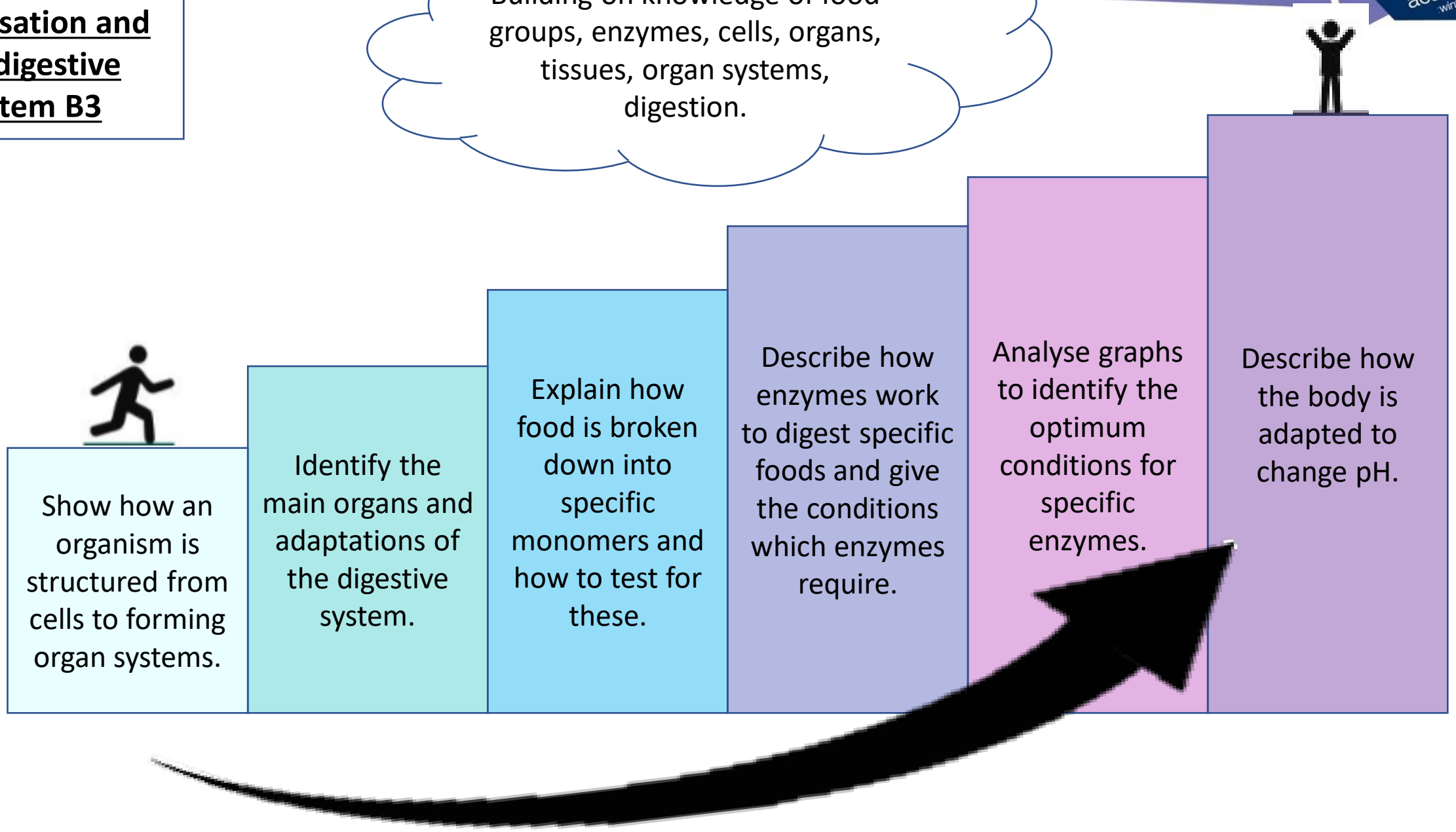
Learning Journey
Cell division B2

Building on knowledge of cell structure, genes, chromosomes.



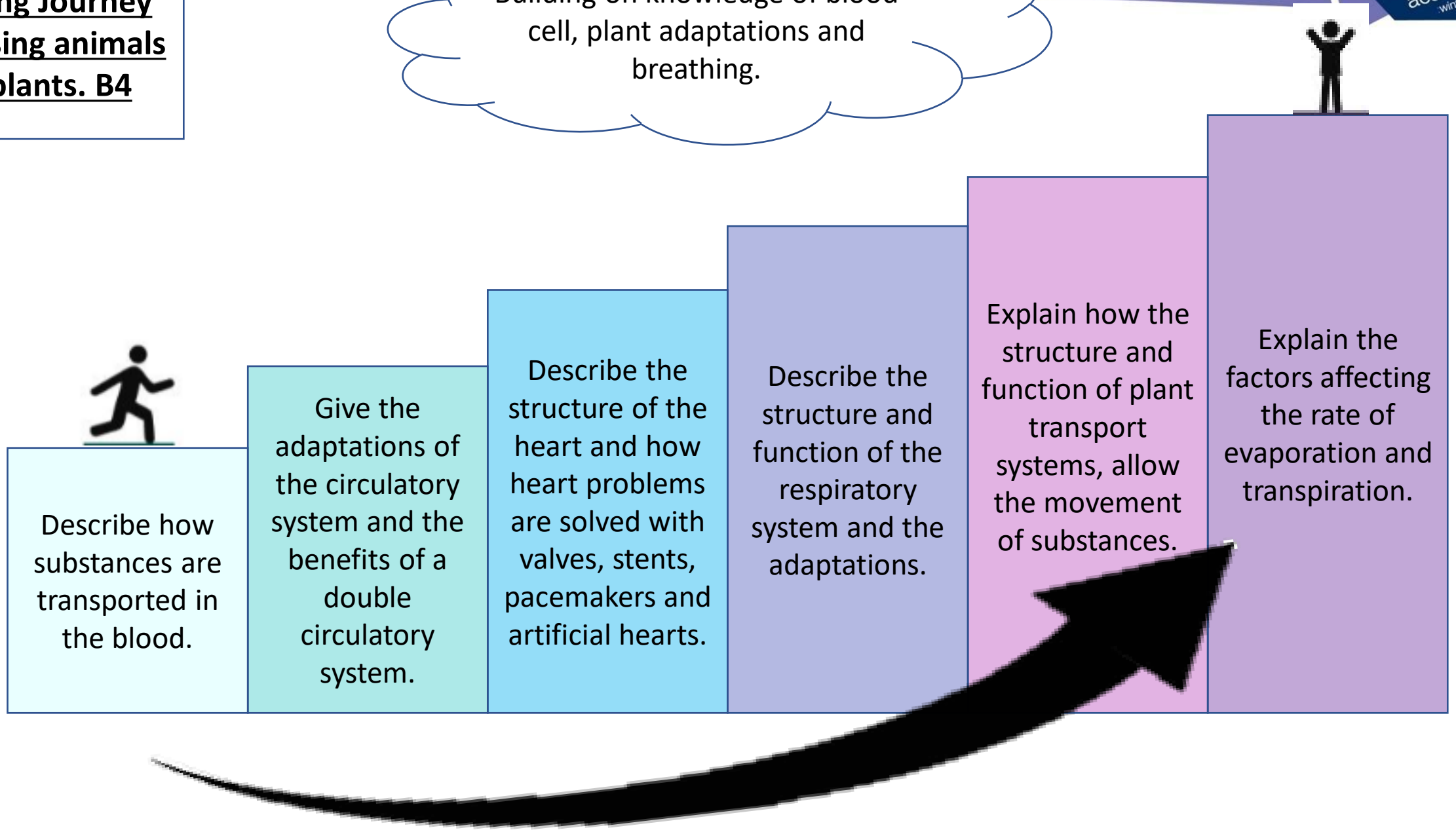
Learning Journey organisation and the digestive system B3

Building on knowledge of food groups, enzymes, cells, organs, tissues, organ systems, digestion.



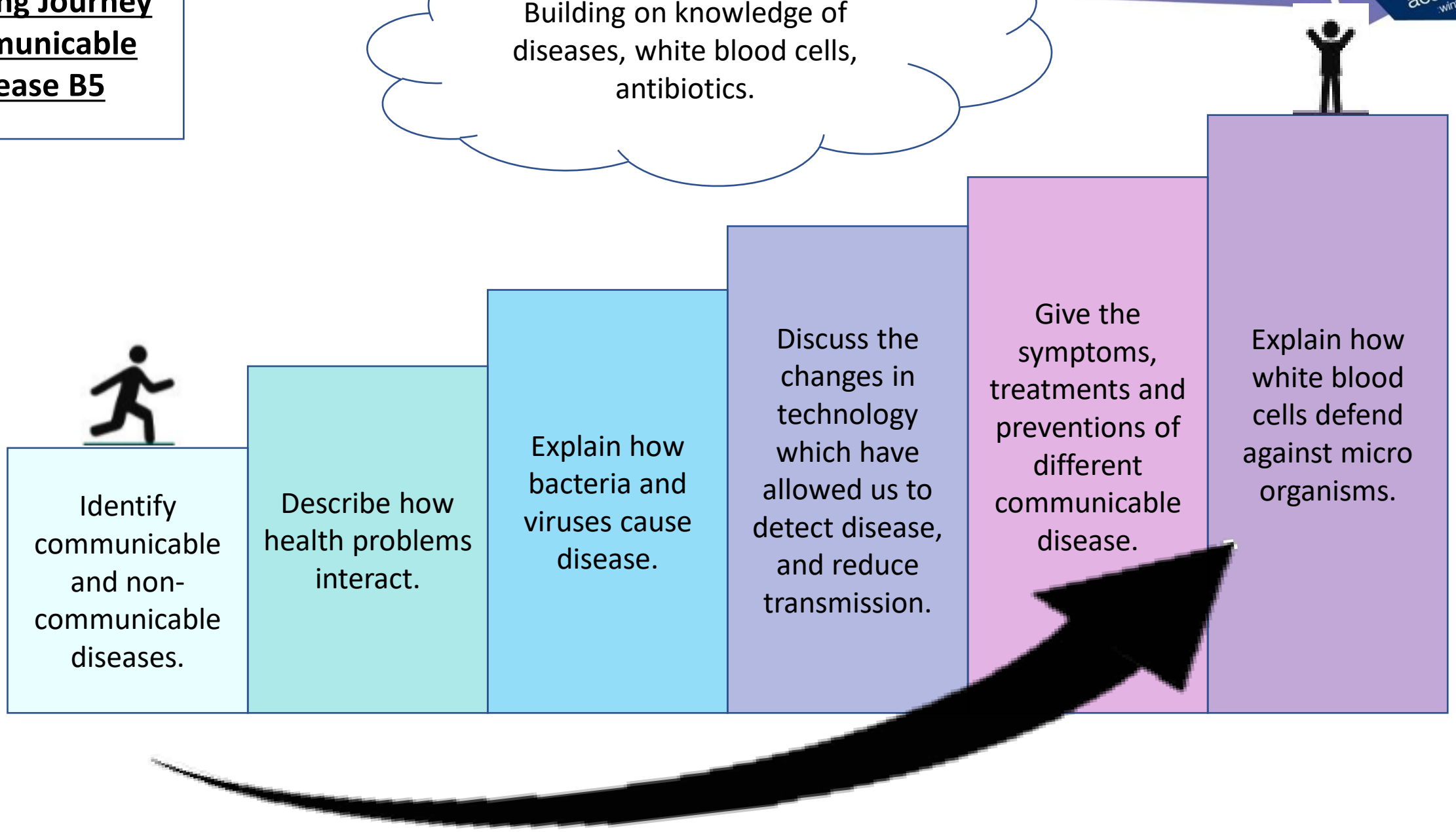
Learning Journey Organising animals and plants. B4

Building on knowledge of blood cell, plant adaptations and breathing.



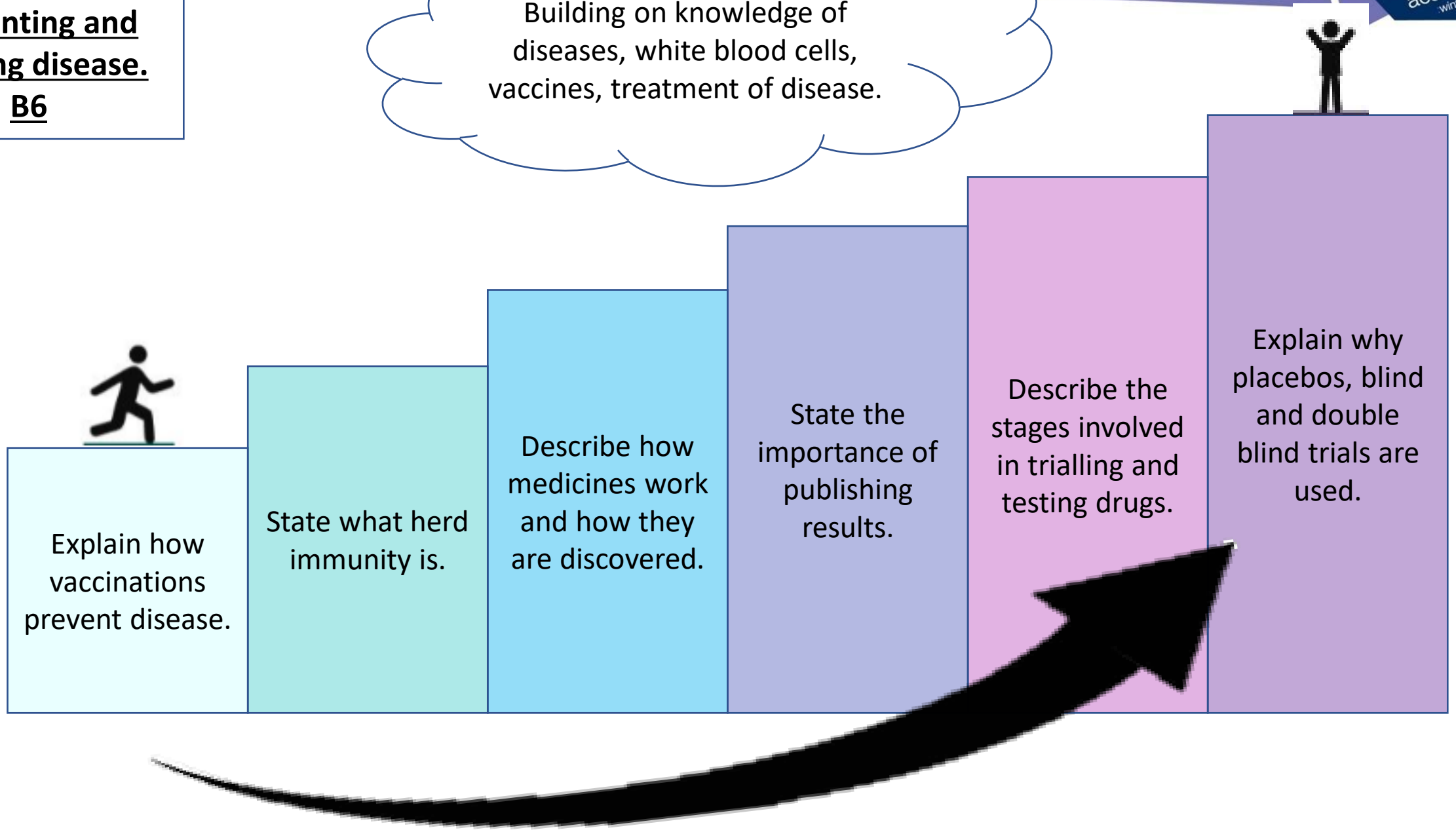
Learning Journey Communicable disease B5

Building on knowledge of diseases, white blood cells, antibiotics.



Learning Journey Preventing and treating disease. B6

Building on knowledge of diseases, white blood cells, vaccines, treatment of disease.



Learning Journey Non-communicable disease B7

Building on knowledge of smoking, healthy diets, development of the foetus.

Identify risk factors for disease and causal mechanisms.

Describe the difference between types of cancer and the treatments.

Know how smoking, diet, and exercise contribute to disease.

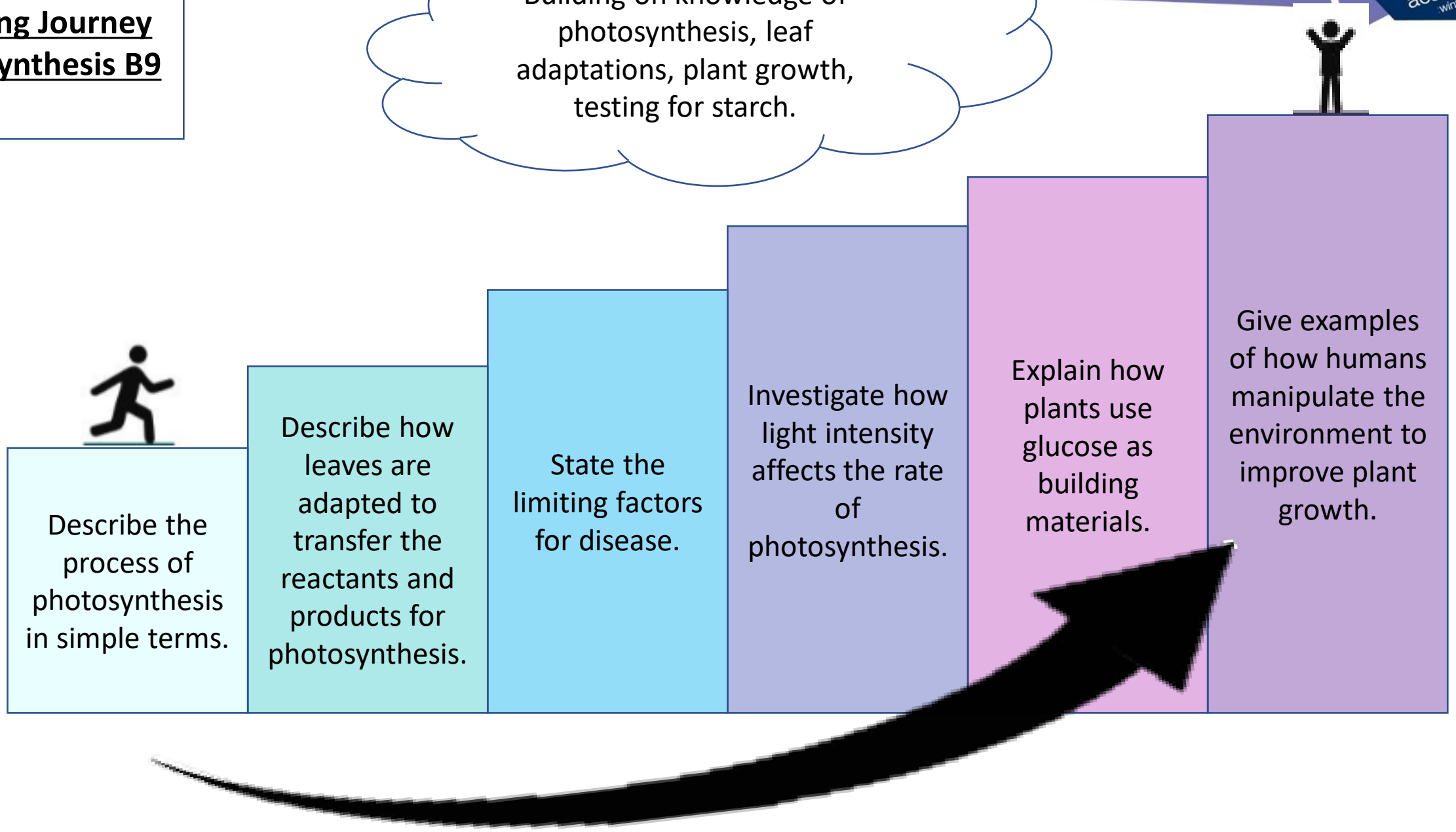
State the link between obesity and type 2 diabetes.

Explain how drinking alcohol affects pregnancy.

Give examples of different forms of ionising radiation and how this can impact on health.

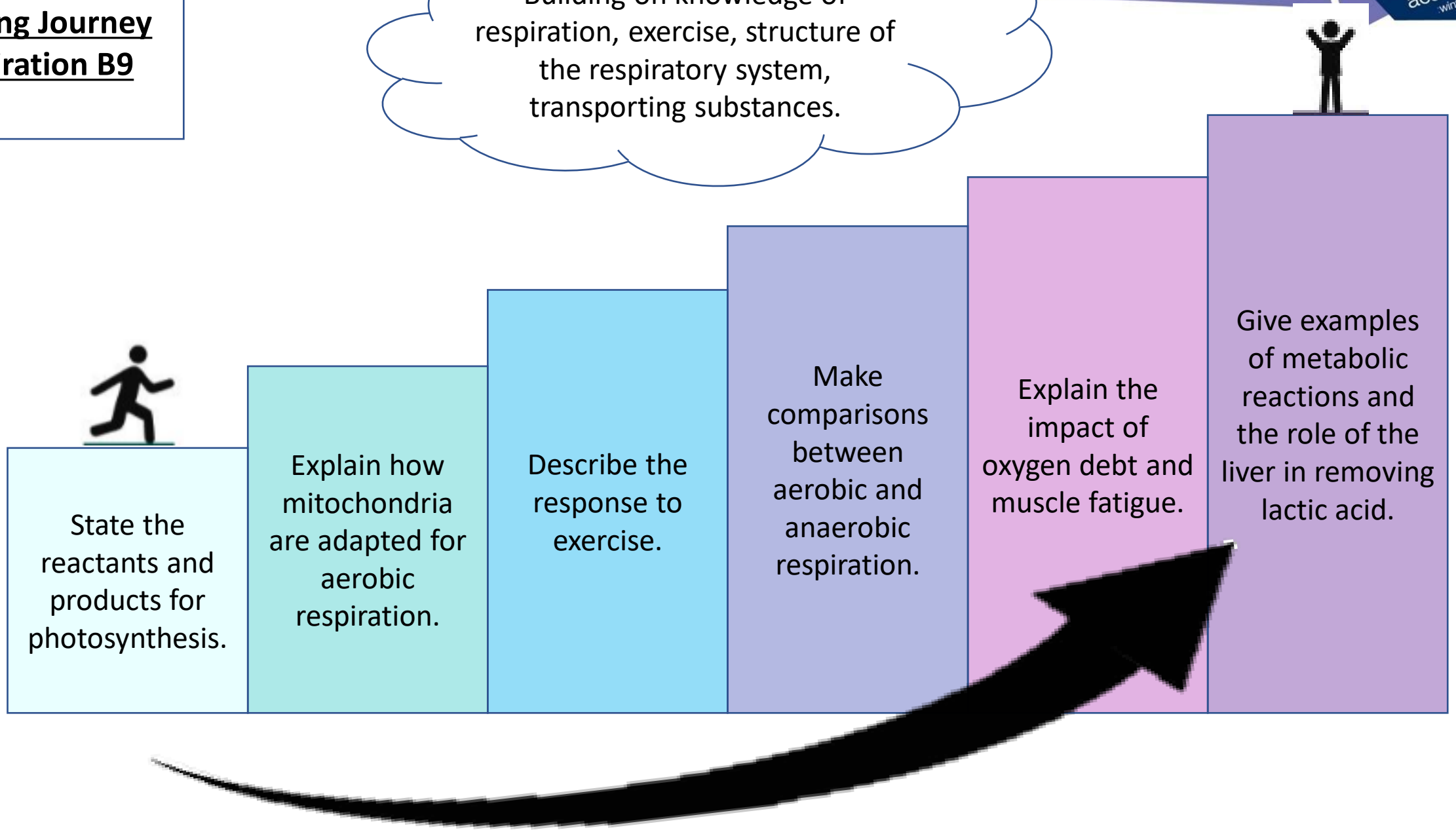
Learning Journey Photosynthesis B9

Building on knowledge of photosynthesis, leaf adaptations, plant growth, testing for starch.



Learning Journey Respiration B9

Building on knowledge of respiration, exercise, structure of the respiratory system, transporting substances.



Learning Journey The human nervous system B10

Building on knowledge of sensory receptors – the 5 senses.

Give examples of conditions which are controlled.

Describe the structure of the nervous system and how electrical impulses pass through neurones.

Give examples of reflexes and the importance of their action.

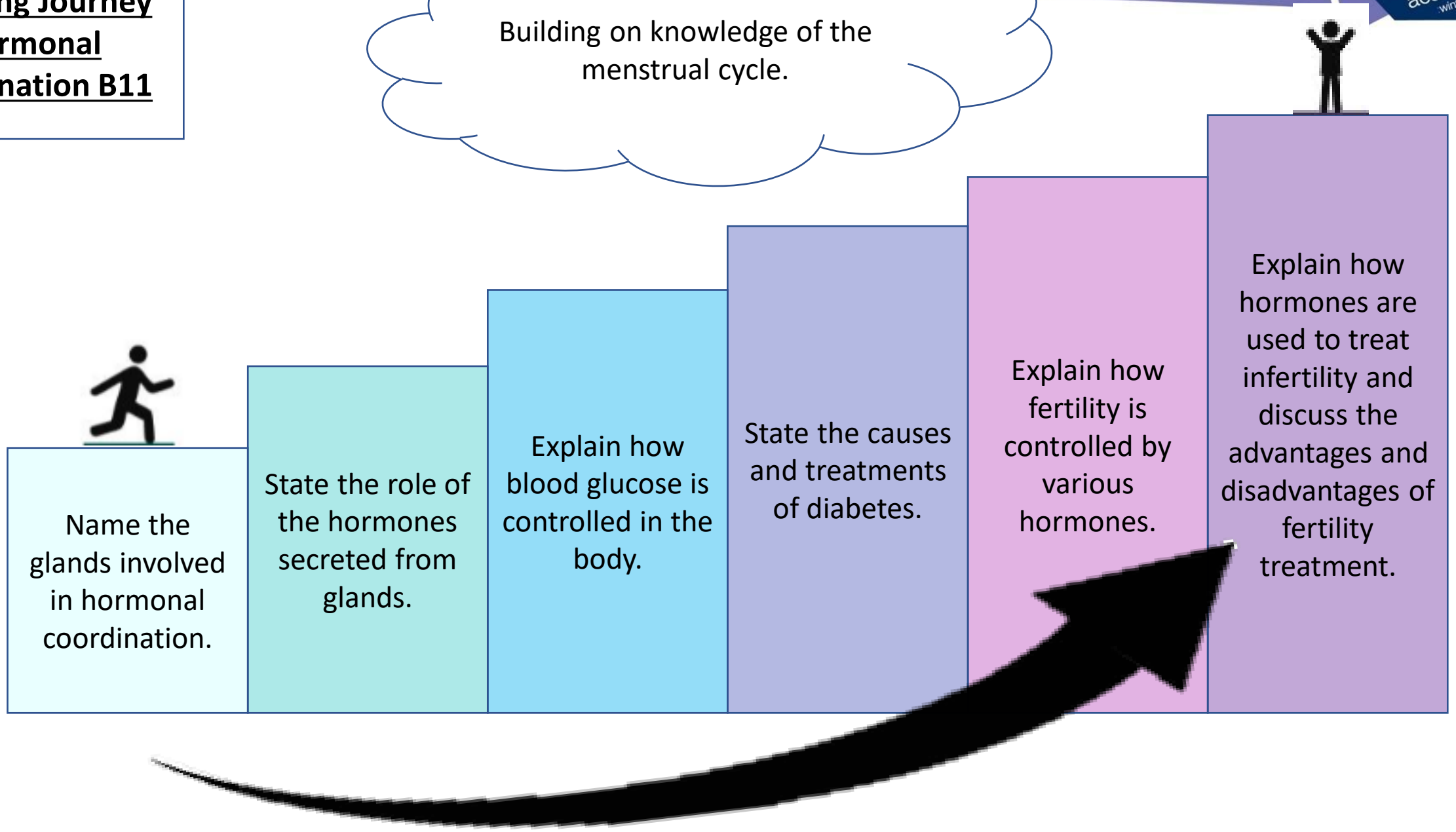
Describe the process of nervous system and reflex actions.

Explain how chemicals diffuse across the synapse.

Apply understanding, of the nervous system, in various contexts.

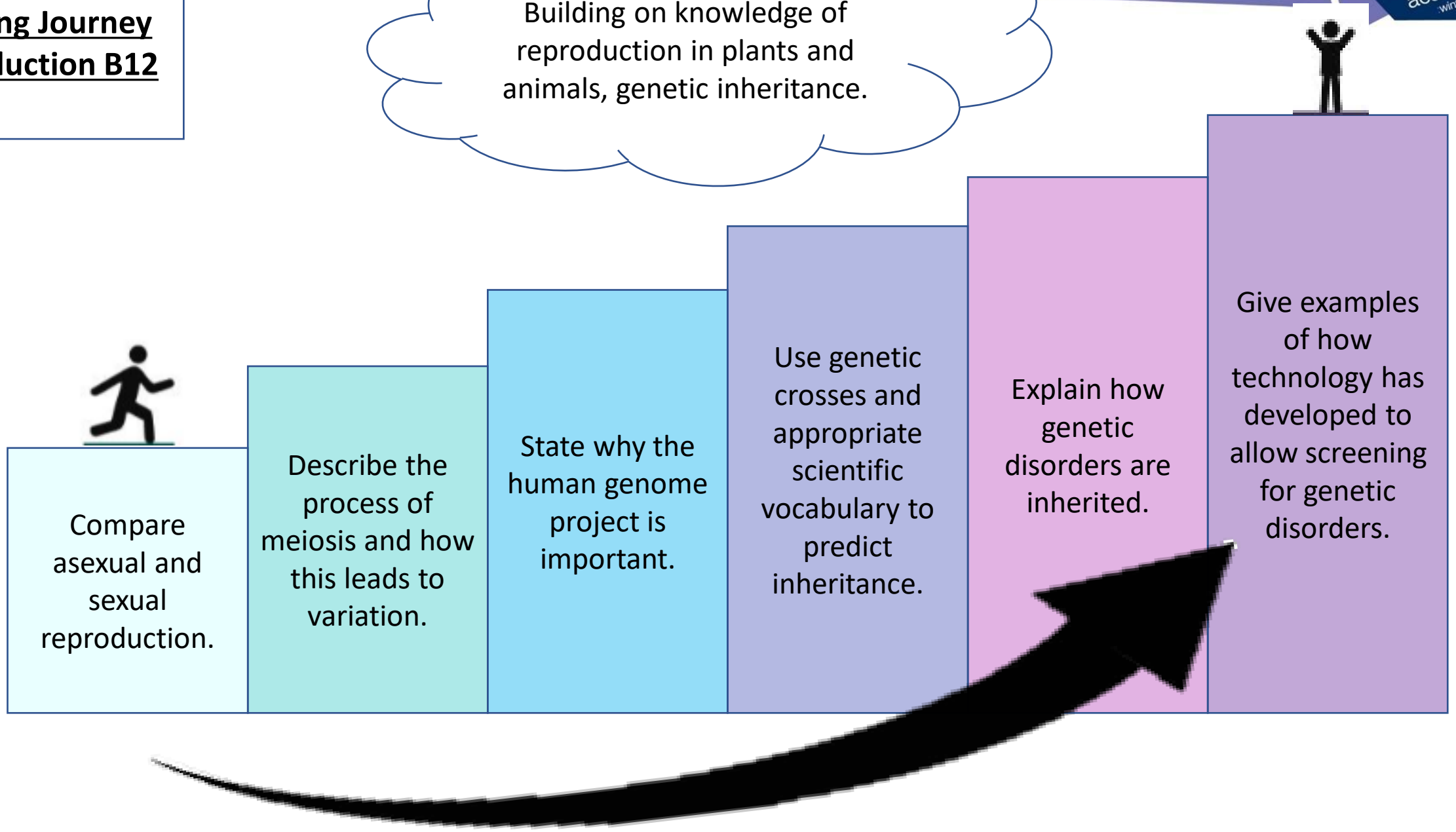
Learning Journey Hormonal coordination B11

Building on knowledge of the menstrual cycle.



Learning Journey Reproduction B12

Building on knowledge of reproduction in plants and animals, genetic inheritance.



Learning Journey Variation and evolution. B13

Building on knowledge of genes, variation, selective breeding.

Give examples of variation in a population.

Explain how variation leads to natural selection.

Give examples of how humans artificially select organisms for breeding.

Explain how specific genes are transferred in genetic engineering.

Apply understanding of genetic engineering to different contexts.

Evaluate the potential benefits and problems associated with genetic engineering and selective breeding.

Learning Journey Evidence for evolution B14

Building on knowledge of fossil formation, dinosaurs, extinction, using keys.

Give evidence, such as fossil formation, for the origins of life on Earth.

State how extinction can occur and how this links to catastrophic events.

Explain how antibiotics become resistant and how to reduce the rate of resistant strains.

Describe the principles of classification.

Give examples of new technologies which have improved the process of classification.

Explain why evolutionary trees are useful.

Learning Journey Adaptations, interdependence and competition B15

Building on knowledge of animal adaptations, structure and adaptations of the leaf, respiration, photosynthesis, quadrats.

Describe the relationship between communities and ecosystems.

Identify biotic and abiotic factors which affect communities.

Investigate distribution and abundance.

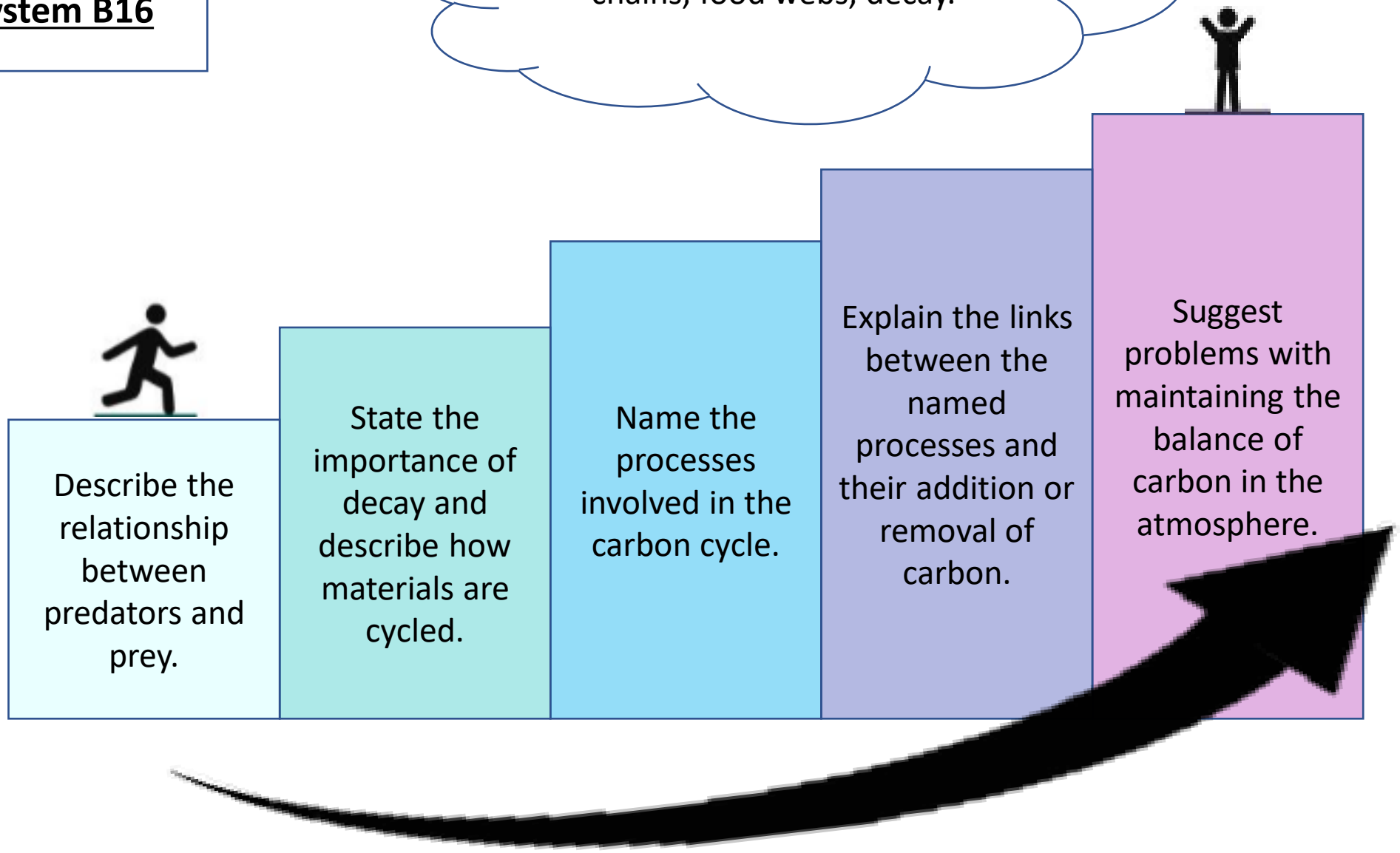
Explain what makes a successful competitor in plant and animal populations.

Identify and explain adaptations in plants and animals.

Explain adaptations in plants and animals for various contexts linking to understanding about photosynthesis, respiration or homeostasis.

Learning Journey Organising an ecosystem B16

Building on knowledge of food chains, food webs, decay.



Learning Journey Biodiversity and ecosystems. B17

Building on knowledge of pollution, global warming, climate change, recycling.