



Interdependence: Learning pathway

activate

acquire

apply

assess

analyse

Feeding relationships

- Understand food chains

- Construct a visual model to show the feeding relationships in an ecosystem**

- Use the model to predict how changing one population affects another
- Use the model to explain how energy is transferred

- Acquire
- Apply

- Make a logical argument to support a claim about energy in food chains

Competition

- Habitat

- Use a food web model to explain how a change in resources could affect a population

- Use the model to explain how a change in resources could affect a population
- Explain examples where organisms compete for resources

- Acquire
- Apply

- Draw conclusions based on information about how competition affects a population

Abiotic & biotic factors

- Habitat

- Use data and information to argue a claim about a change in population

- Support an opinion about how biotic and abiotic factors may affect populations

- Acquire
- Apply

- Interpret a graphical model of a predator-prey cycle to make predictions



Decide

Act

Decide if an unfamiliar species should be introduced into or removed from an ecosystem



Interdependence: Big ideas

Ecosystems

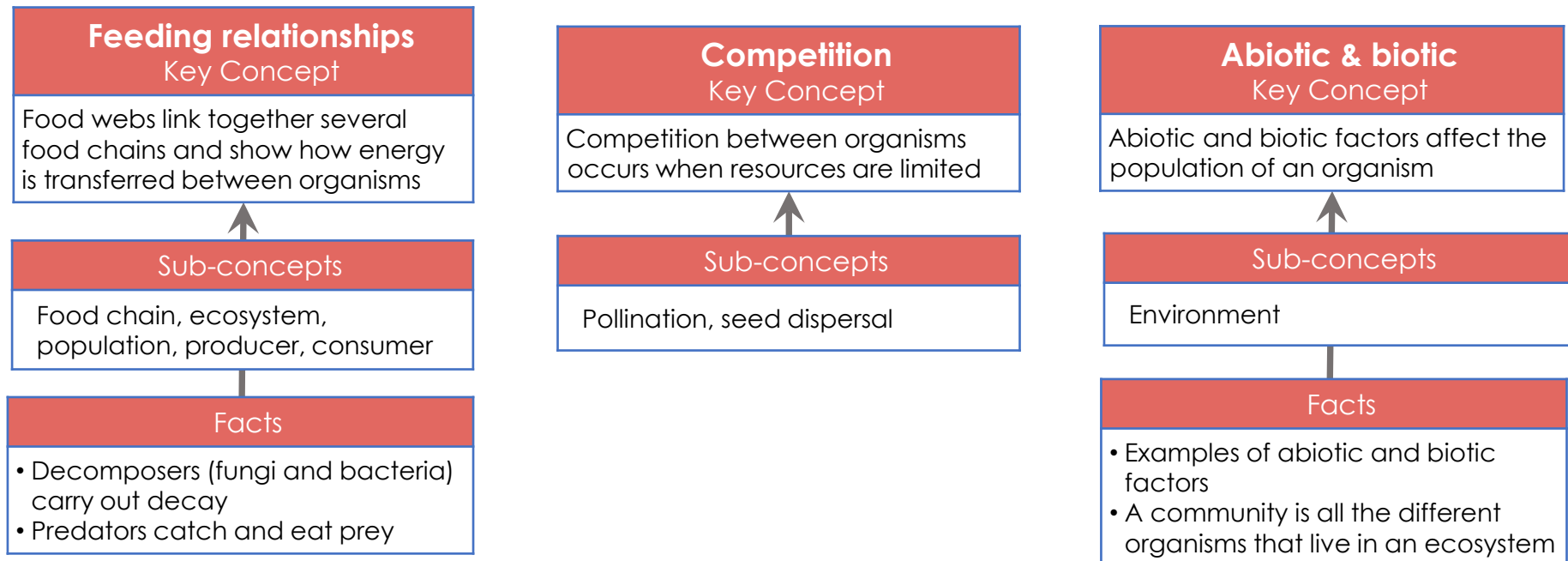
What expert understanding do we want after 5 years?

Species are interdependent

Big idea

In an ecosystem, organisms grow and reproduce by obtaining necessary resources through interdependent relationships with other organisms and the physical environment. These interactions can enhance or limit the size of populations.

How does the unit develop this?





Interdependence: Scientific thinking, maths & literacy

Ecosystems

How are investigation skills integrated with the concepts?

Abiotic & biotic

Draw conclusions

Deduce patterns and relationships in data and observations

How are maths skills integrated with the concepts?

Abiotic & biotic

Graphs

Reading values off graphs and interpolating and extrapolating



Interdependence: Curriculum links

Ecosystems

Which parts of KS3 are covered?

AQA KS3 syllabus: 3.9.1 Interdependence

Which parts of GCSE are covered?

(AQA Trilogy combined science)

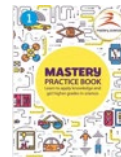
Feeding relationships	<ul style="list-style-type: none"> ✓ 4.7.1.1 Communities ✓ 4.7.2.1 Levels of organisation 	
Competition	<ul style="list-style-type: none"> ✓ 4.7.1.1 Communities 	
Abiotic & biotic factors	<ul style="list-style-type: none"> ✓ 4.7.1.2 Abiotic factors ✓ 4.7.1.3 Biotic factors 	<ul style="list-style-type: none"> ✓ 4.7.1.4 Adaptations. ✓ 7.2.1 Levels of organisation
Draw conclusions	<ul style="list-style-type: none"> ✓ WS 3.5 Draw conclusions from data 	
Maths	<ul style="list-style-type: none"> ✓ 4a Translate information between graphical and numeric form 	

What resources are there to teach this unit?

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Decide

Act Choose an example e.g. Cane toads being introduced into Australia or current dilemmas, such as introducing beetles to control the spread of ragweed in Europe. Students decide the best option and present facts, scientific ideas, data, or conclusions that support their decision