Classifying living things

Scientists have put living things into two main groups

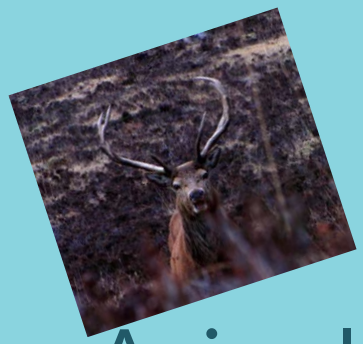
vertebrates

(animals with a backbone)

invertebrates

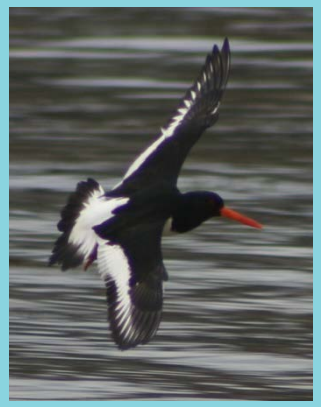
(animals without a backbone)

- *Can you think of an example of each?*
- *Which group do you belong to?*
- *Sort your pictures into vertebrates and invertebrates*



Vertebrates

Animals with a back bone can be divided into five groups.



mammals ***birds*** ***reptiles***

amphibians ***fish***

Sort your pictures into these groups

Frog image courtesy of Simon Howden / FreeDigitalPhotos.net

Mammals

- give birth to their young
- feed their young with their own milk
- have hair
- are warm blooded

Birds

- lay eggs
- have feathers
- are warm blooded

Fish

- most lay eggs, some give birth to live young
- breathe through gills
- are cold blooded
- have scales

Amphibians

- are cold blooded
- can live on land and in water
- have smooth moist skin
- lay eggs

Frog image courtesy of Simon Howden / FreeDigitalPhotos.net

Reptiles

- are cold blooded
- have dry skin covered with scales
- lay eggs

Invertebrates

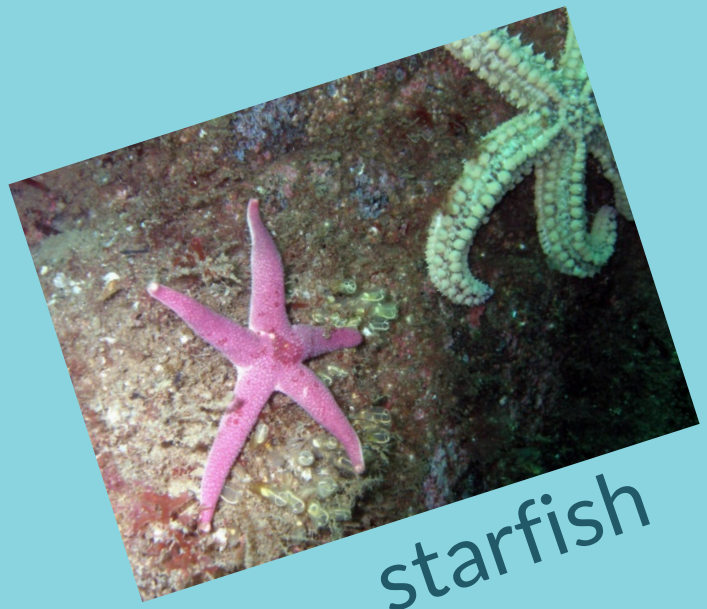
Invertebrates have no back bone.

Can you think of some examples?

sea slug

crab

Some marine invertebrates



starfish

jellyfish

Isle of Arran COAST
Community Of Arran Seabed Trust

Crustaceans

have a hard exoskeleton and jointed legs

- *Can you think of a marine creature which is a crustacean?*
- *In your group find a crustacean from your marine picture cards.*

Isle of Arran COAST
Community Of Arran Seabed Trust

Crustaceans

barnacle

shrimp

crab

lobster

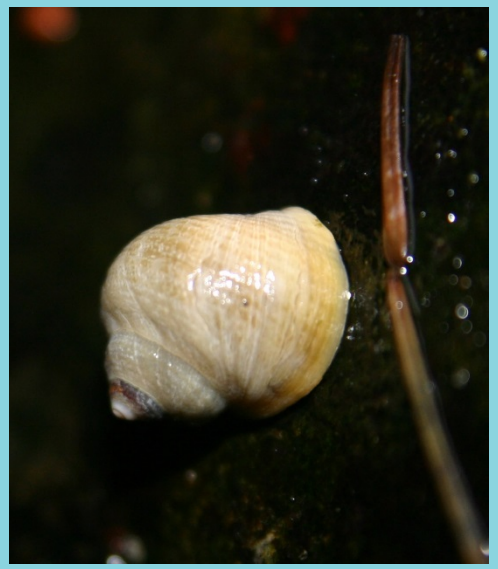
Molluscs

have a muscular foot and most have a protective shell or two shells, however some have no shell.

- *Can you think of a marine creature which is a mollusc?*
- *Find one amongst your picture cards.*

Marine Molluscs

periwinkle



limpet

mussel

octopus

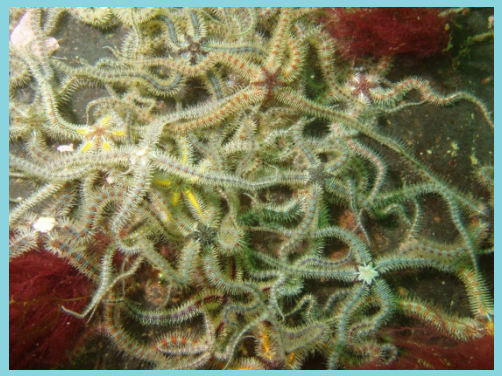
Echinoderms

have spines and move using tube feet which have suckers. Most have a central body and five or more arms, but some have no arms.

- *Can you think of a marine animal which is an echinoderm?*
- *Now find one from your picture cards.*

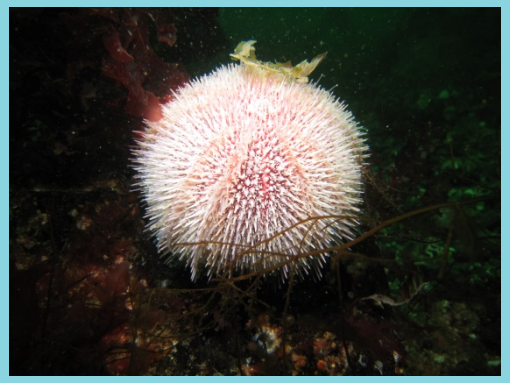
Echinoderms

(pronounced eek-i-no-derms)



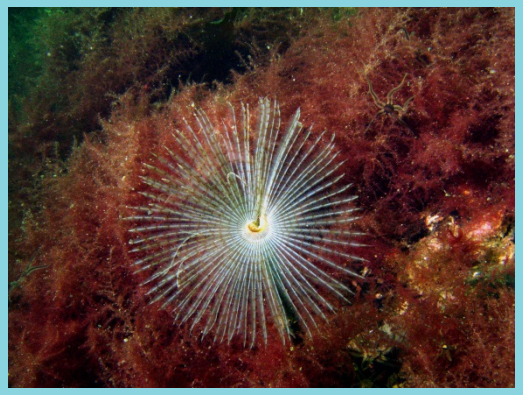
brittle star

sunstar



sea urchin

sea cucumber



feather star

cushion star

Cnidarians

(pronounced ny-dairy-ans)

Cnidarians have soft bodies and stinging tentacles which stun their prey.

Can you think of one?

Cnidarians

(pronounced ny-dairy-ans)

anemone

jellyfish

sea pens

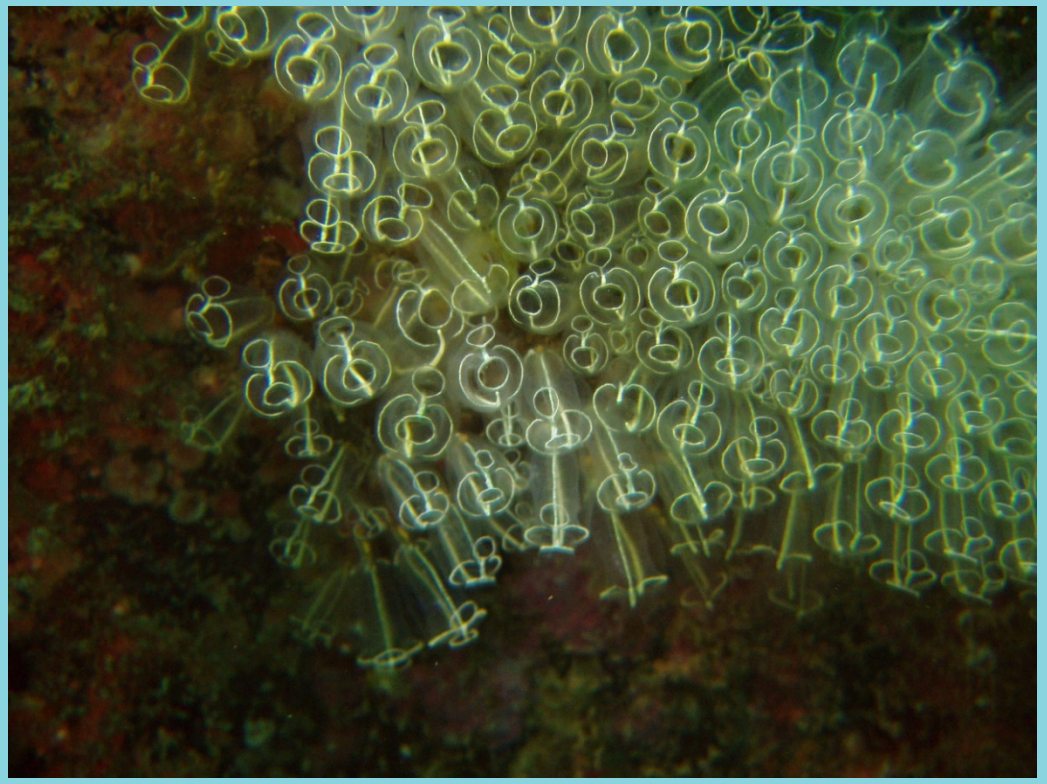
Sponges

Although sponges look like plants they are actually lots of animals living very closely together as one. To feed they suck water in and filter tiny plankton then blow the water out again.

Look at your cards to find an example of a sponge

Sea squirts or ascidians

Sea squirts sometimes live alone and sometimes in colonies with other sea squirts. They suck water in and filter tiny plankton before squirting the water out again.

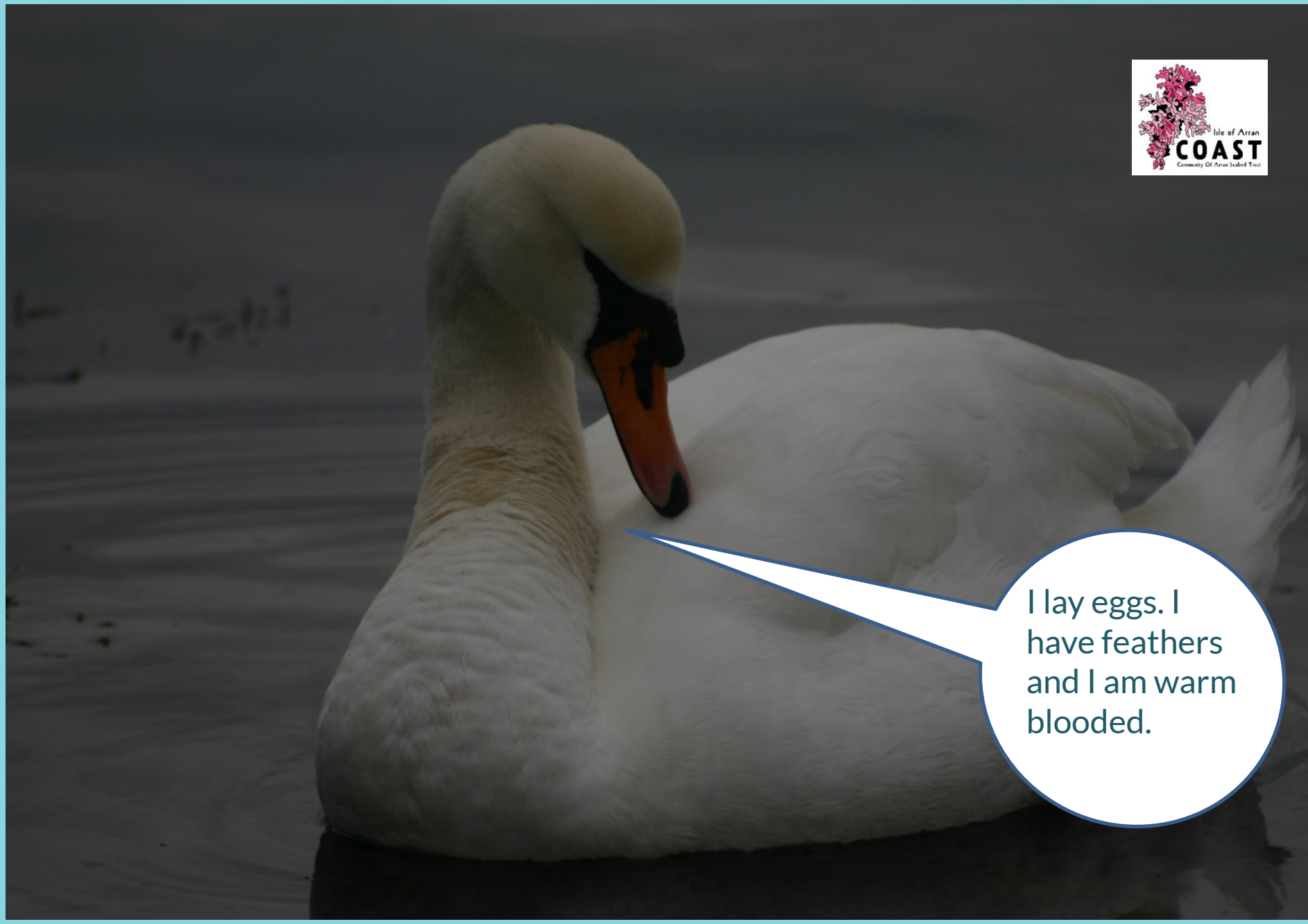


Can you guess which category these living things belong to?

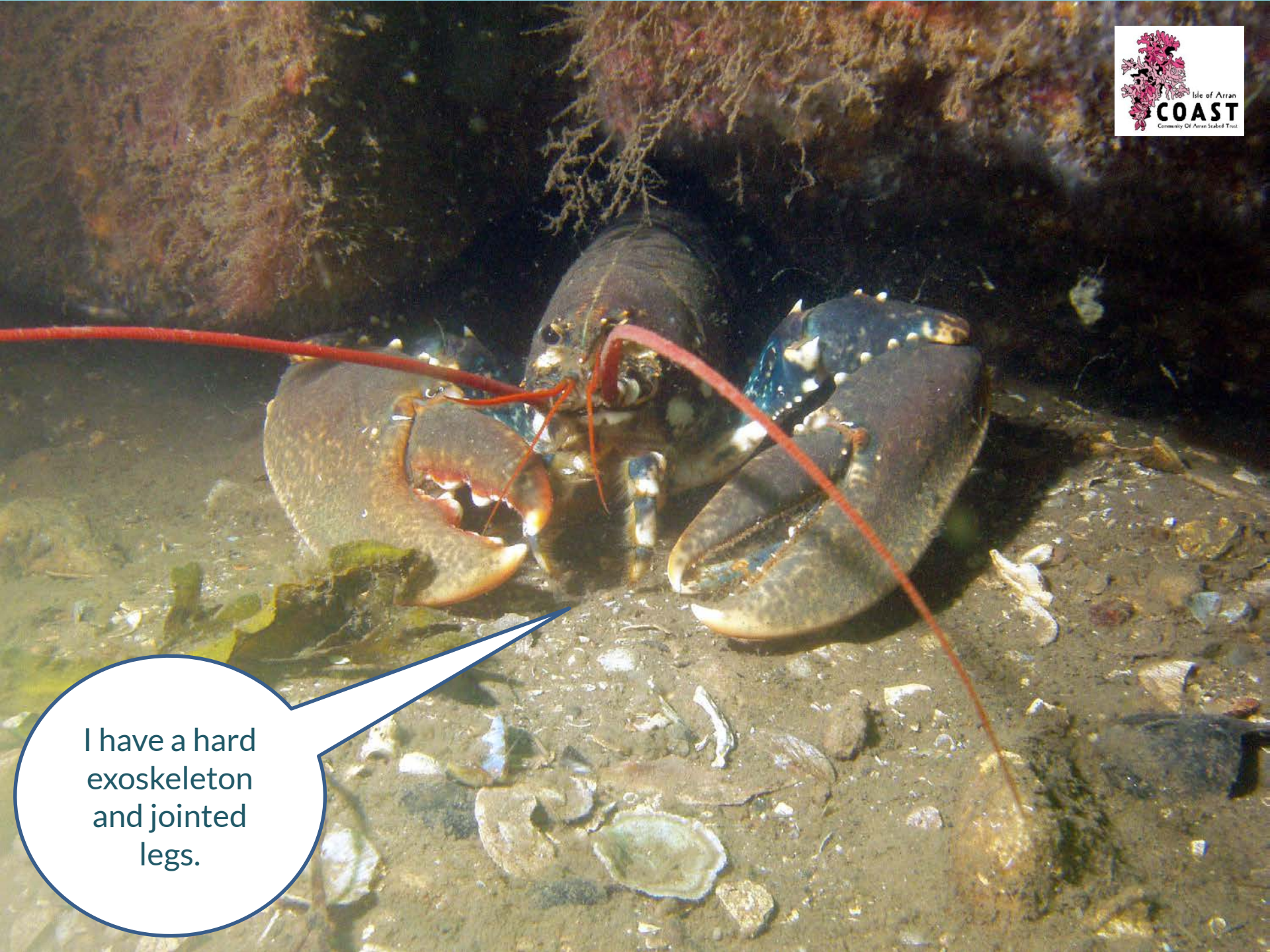
I am a seal. I give birth to live young. I am warm blooded and I have soft hair on my body.
Isle of Arran
COAST
Community Of Arran Seabed Trust

I am a cuckoo wrasse. I have scales and I breathe through my gills. I lay eggs.

I am cold blooded,
I have dry scaly skin
and I lay eggs.

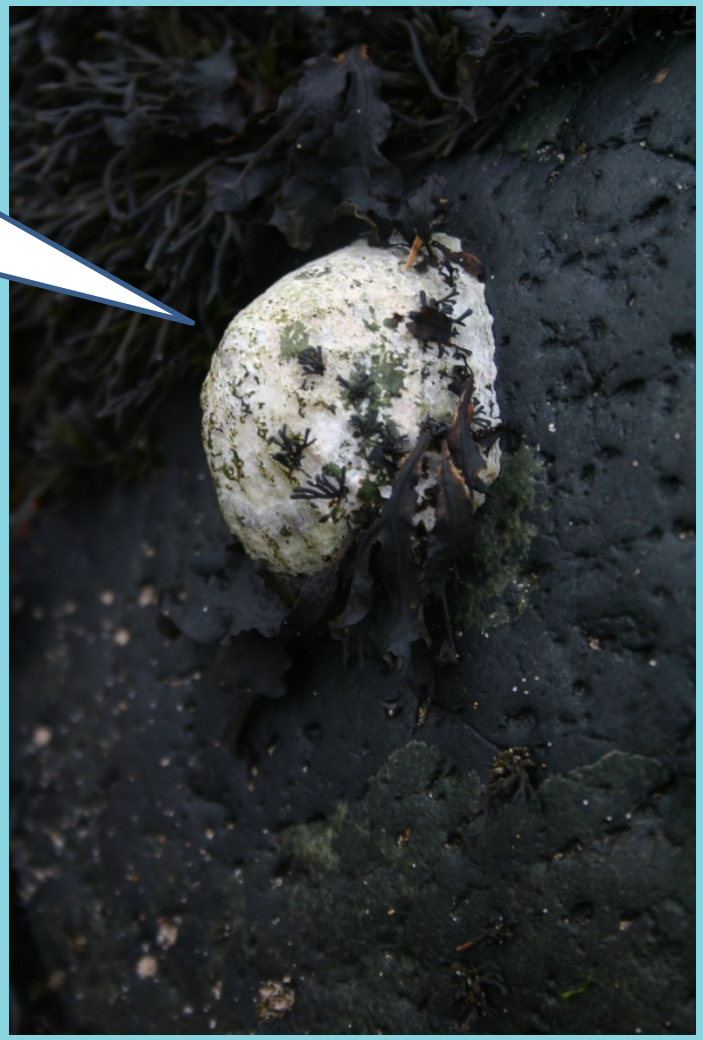

I lay eggs. I have feathers and I am warm blooded.

I am cold blooded. I live on land and in water. I lay eggs.


I have a hard exoskeleton and jointed legs.

I have a strong muscular foot and two shells.

I have a strong muscular foot and one shell.

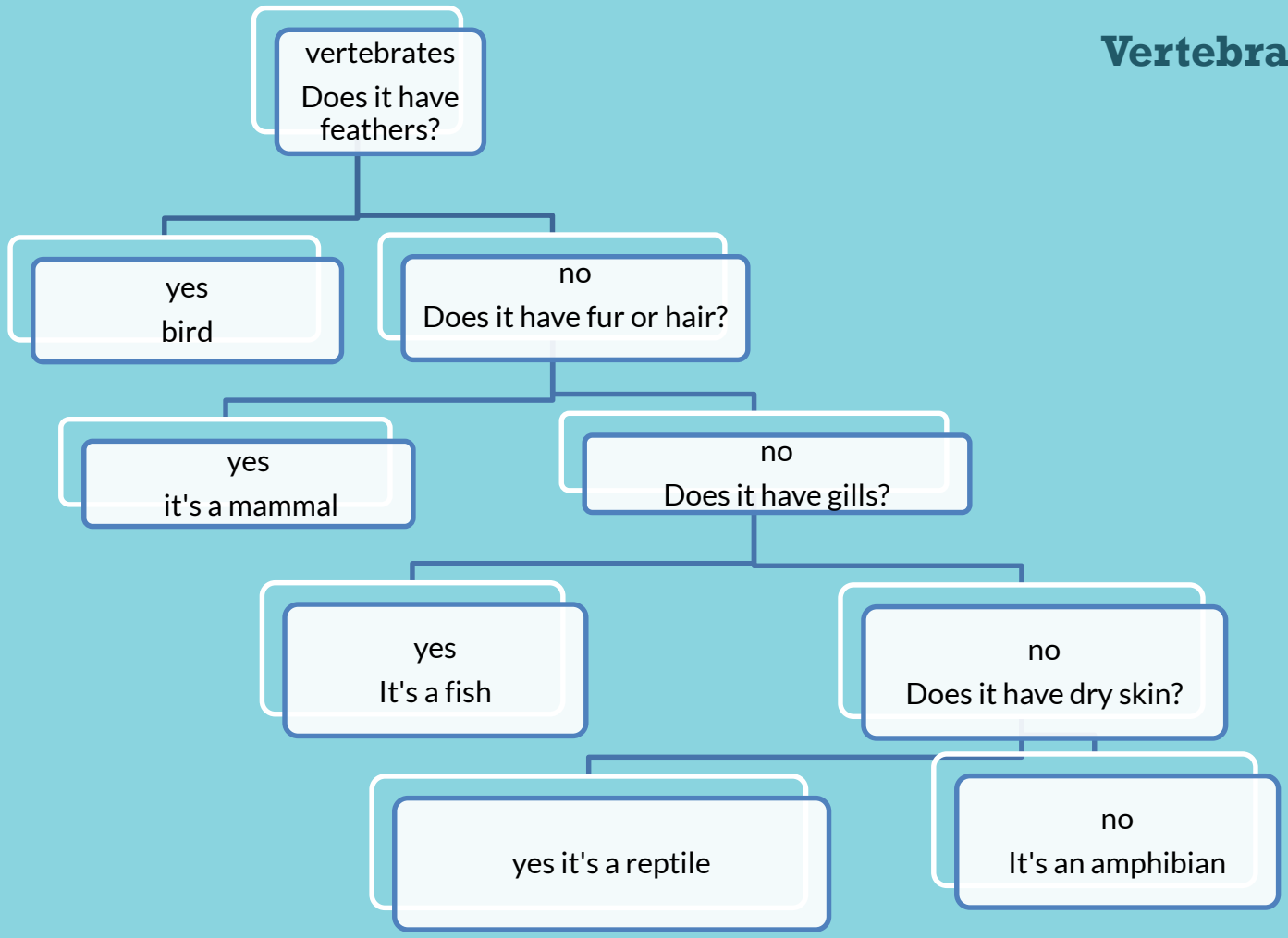


Classification keys

Classification key

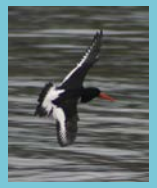
Scientists use keys to help them identify and name plants and animals they find. Choose a picture from your vertebrate cards, follow the branches of the key until you arrive at the group it belongs to.

Vertebrate key



Isle of Arran COAST
Community Of Arran Seabed Trust

Can you identify the organisms below using the key?



vertebrate

yes

Does your animal have a backbone?

no

invertebrate

Does it have fins and gills?

Does it have arms?

no

yes

Does it have feathers?

fish

yes

bird

Does it have 10 long thin, feathery arms?

yes

Are the arms broad and stumpy?

no

yes

Brittle star

Feather star

Does it have 5 arms?

Does it have 10 or more arms?

yes

no

Cushion star

Sun star

What am I?

I'm white below and red above.
My shell fits me like a glove.
I have 8 walking legs and 2 strong claws.
But you'd never have to worry about
my puny jaws.

.....

I cement my head to rocks and stuff.
It's hard to pull me off, my shell is tough.
I kick food like plankton into my mouth.
When I was young I could move north or south.

.....

I'm often seen in dips and scampi dishes.
I'm also a favourite food of bottom fishes.
A lobster looks a lot like me,
When it's still a baby floating free.