

Pictures for Talk

IN PRIMARY SCIENCE

A picture can be a very good stimulus for children to engage in effective talk in science. Using pictures is an inclusive approach which facilitates high levels of participation. Pictures can also be used as a starting point for inquiry. The discussions the children have will generate questions that they want to investigate.

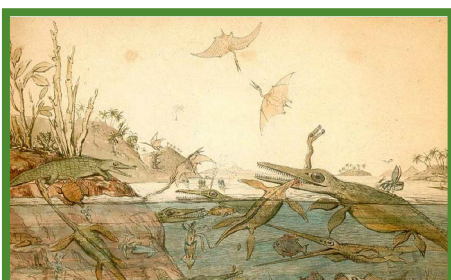
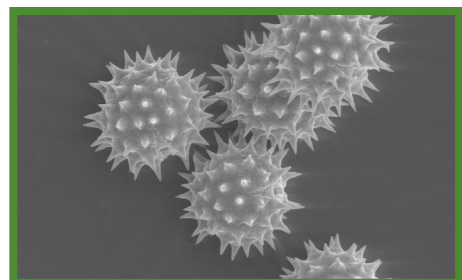
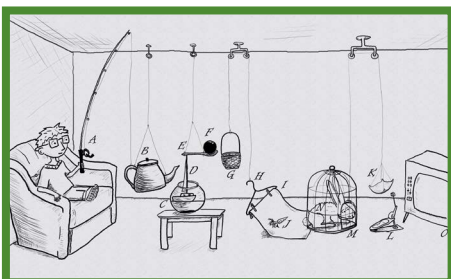
Asking the children carefully chosen questions about a picture will support them with learning to:

- construct explanations and link their ideas with evidence
- make confident challenges to the ideas of others
- explore scientific terminology and use it with genuine understanding

Pictures for talk in science activities are designed to be very open ended and usable with any age of children. The activities can be done as a quick ten minute starter, or extended into a longer and more in-depth lesson.

This pack is a collation of the Pictures for Talk featured in our Why&How? Newsletter, issues 1-11. **Click here** to view all the issues.

Pictures included in the pack:





FROM ISSUE 1

Autumn 2017

WHAT TO DO

Download the image overleaf by following the [link](#), and either display on a whiteboard or give children printed copies. Ask the children to discuss, in groups of three, the following question:

HOW DO YOU THINK THAT THE TREE GOT INSIDE THE HOUSE? WHY DO YOU THINK THIS?

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

- What can you see that is living?
- What can you see that is not living?
- What is the house made from?
- What do you think happened to its roof?
- How might the house have looked different before? What might it look like in the future?
- How long do you think the tree has been inside the house?
- What does the tree need to stay alive?



[CLICK HERE FOR A FULL PAGE IMAGE](#)

FOLLOW-ON ACTIVITY TO EXTEND THINKING AND EXPLAINING:

Ask the children to draw what they think this scene would have looked like 100 years ago. Ask them to draw what they think it will look like in 100 years time.



FROM ISSUE 2

Spring 2018

WHAT TO DO

Download the image overleaf by following the [link](#), and either display on a whiteboard or give children printed copies. Ask the children to discuss, in groups of three, the following questions:

WHAT DO YOU THINK THIS IS? WHY DO YOU THINK THIS?



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FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

Is it a living creature? How do you know?
What else could it be?

Where do you think it lives? Why do you think
this?

What does it eat? How does it catch its food?
What do you think might eat it?

What do you think the red and yellow glowing parts are? Why do they glow?

At this point, tell the children that it is a type of jellyfish but scientists know very little about it.

WHAT IS KNOWN:

It is a type of jellyfish that was discovered in 2016 at a depth of 3,700 metres in the Mariana Trench (the deepest part of the Pacific Ocean). The water pressure at this depth is 1000 times greater than at sea level.

SCIENTISTS BELIEVE, BUT DON'T KNOW FOR SURE:

Its two sets of tentacles (short and long) are to help it ambush its prey.

The red lines are part of its digestive system and the yellow spheres are for reproduction.

It glows to attract its prey.

It is an ambush predator that feeds on small fish, shrimps, sponges and coral.

It probably gets eaten by seadevil anglerfish and other large fish.

ONCE THE CHILDREN HAVE TALKED ABOUT THE ABOVE, ASK THEM:

What do you think it is like in the Mariana Trench?

How do living things survive there?

What else might live there?

How do you think scientists discovered this animal?

How will they find out more about it?



FROM ISSUE 3

Summer 2018

WHAT TO DO

Download the image overleaf by following the [link](#), and either display on a whiteboard or give children printed copies. Ask the children to work in groups of three to discuss the following questions:

DO YOU THINK ROBOTS ARE BETTER AT MAKING POPCORN THAN HUMANS? WHY DO YOU THINK THIS?

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

Is this robot alive? How do we know if something is alive?

Does this robot have senses? Which ones?

What can it do that a human can do?

What can't it do that a human can do?

What can it do that a human can't do?

The above could lead to some philosophical discussion. You could ask:

Are robots a good thing? Or a bad thing? Or neither? Why do you think this?

What things are there that humans can do that robots will never be able to do? How do you know this?



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Some background information about a household robot like this one:

It is deemed to have the intelligence of a four year old child.

It has numerous sensors to enable it to define and respond to its environment.

It reacts to ambient light, sound and movement.

It is designed to enable people to be more productive at home.



FROM ISSUE 4

Autumn 2018

WHAT TO DO

Download the image overleaf by following the [link](#), and either display on a whiteboard or give children printed copies. Ask the children to work in groups of three to discuss the following questions:

**WHAT IS HAPPENING IN THIS PICTURE?
CAN YOU EXPLAIN WHAT IS HAPPENING AT EACH OF THE LETTERS FROM A TO O?**

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

What might go wrong at each point?

What are the consequences of something going wrong?

Once the TV is on, can the person use the contraption to change the channel or switch it off again? What would they need to do first?

Talk to the children about what a machine is (a piece of equipment with moving parts that use power to do work) and that humans invent them to make work easier – can they think of any examples?

How many different machines are in the contraption in the picture?

Does this contraption make work easier for the person? Why/why not?



[CLICK HERE FOR A FULL PAGE IMAGE](#)

The picture can be used for a more focussed discussion about forces, levers and pulleys

How many examples of levers and pulleys can you find in the picture?

What can you say about the forces at points D and G?



FROM ISSUE 5

Spring 2019

WHAT TO DO

Download the image overleaf by following the [link](#), and either display on a whiteboard or give children printed copies.

Ask the children to work in groups of three to discuss the following questions. The picture was painted in 1830, but:

WHAT TIME IN HISTORY DO YOU THINK IT REPRESENTS? WHY DO YOU THINK THIS?

THE ANIMALS DRAWN HERE WOULD HAVE BEEN ALIVE HUNDREDS OF MILLIONS OF YEARS AGO. WHAT EVIDENCE DO YOU THINK THE ARTIST MUST HAVE SEEN TO BE ABLE TO DRAW THEM?

WHERE MIGHT THE EVIDENCE HAVE BEEN FOUND?

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

Ask the children to look closely at the animals.

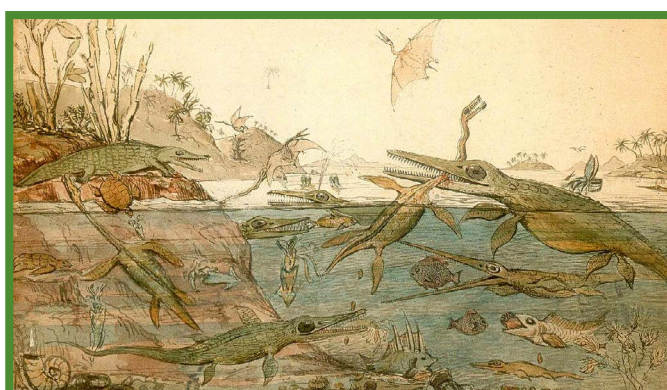
What similarities are there to animals you might see today? Are there any differences?

How many different animals can you see? Can you sort them into groups?

What other living things are in the picture?

Can you create a possible food chain from animals in the picture?

What do the animals need to stay alive?



'Duria Antiquior – A more ancient Dorset' is a watercolour painted in 1830 by the geologist Henry De la Beche based on fossils found by Mary Anning, and was the first pictorial representation of a scene from deep time based on fossil evidence.

[CLICK HERE FOR A FULL PAGE IMAGE](#)

FOLLOW-ON DISCUSSION IDEAS

Why might these animals (or their descendants) no longer be seen today?

The artist used fossil evidence discovered by Mary Anning. What type of scientist was Mary Anning?

Ask the children to find out more about her life and work.

Why might her life be considered unusual at that time?

For more information and ideas for teaching about fossils and geology, visit [The Big Jurassic Classroom](#).



FROM ISSUE 6

Summer 2019

'Last House on Holland Island' Baldeaglebluff, "Last House on Holland Island", 23rd May 2010, online image, Flickr, 20th May 2019.



[CLICK HERE FOR A FULL PAGE IMAGE](#)

WHAT TO DO

Download the image overleaf by following the [link](#) and either display on a whiteboard or give out printed copies. Ask the children to discuss, in groups of three, the following questions:

WHAT DO YOU THINK HAS HAPPENED TO THIS HOUSE OVER TIME?

WHY DO YOU THINK THIS?

WHAT DO YOU THINK MIGHT HAPPEN NEXT?

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

The picture is called 'Last House on Holland Island' (it was taken in May 2010 by an American photographer).

Why do you think the photographer gave it this name? What further evidence might be useful to help you answer this question?

What materials were chosen to make this building. Why do you think they were they chosen? What problems do you think the house has faced? Do you think that these problems could have been prevented? Why do you think this?

Ask the children to look closely at the photograph.

Is the house floating? Why do you think this?

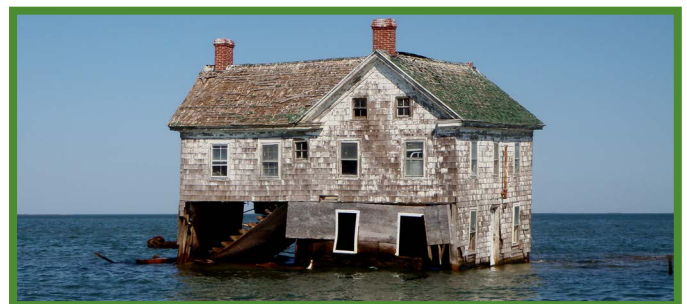
What type of birds are on the roof of the building? Why might they choose this place?

FOLLOW-ON DISCUSSION IDEAS:

The house was built in 1888. What do you think the house would have looked like 100 years ago? What might it look like in 10 years' time? Why do you think this?

Download and look at the two pictures below that follow on from the main image:

- Is the house floating in the first image?
- Why do you think the house was burned down after it collapsed? What does this tell you about the materials from which it was made?





FROM ISSUE 7

Autumn 2019

WHAT TO DO

Download the image overleaf by following the [link](#) and either display on a whiteboard or give out printed copies. Ask the children to discuss, in groups of three, the following questions:

WHAT DO YOU THINK LAID THESE EGGS?

WHY DO YOU THINK THIS?

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

The eggs were laid by a cobra. The most common type of female cobra lays between ten and thirty eggs at once. They lay them on the ground, usually in a dip or hole. The shells of the eggs are softer than a chicken's. The cobra guards the eggs from predators (e.g. the mongoose or wild boar) until they hatch, which takes around two months. The biggest type of cobra is a King Cobra which can be up to six metres long and can swim and climb trees as well as move extremely fast along the ground.

**What do you notice about the shells of the eggs?
(focus on size, colour, texture, hardness)**

Where are the eggs?

What kind of animals lay eggs?

Why did the animal lay so many eggs?



[CLICK HERE FOR A FULL PAGE IMAGE](#)

FOLLOW-ON DISCUSSION IDEAS

Find pictures of cobras guarding their eggs and of the hatchlings emerging from their eggs. Discuss what threats there are to the eggs and to the hatchlings (predators, weather) and how the parent cobra protects their eggs, and how the hatchlings protect themselves (they are independent and fully venomous from birth).



FROM ISSUE 8

Spring 2020

WHAT TO DO

Download the image overleaf by following the [link](#) and either display on a whiteboard or give out printed copies. Ask the children to discuss, in groups of three, the following questions:

WHY DO YOU THINK THE LEMONS ARE FLOATING AND THE LIMES ARE SINKING?



[CLICK HERE FOR A FULL PAGE IMAGE](#)

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

What similarities do lemons and limes have?

What might be different about them that means the lemons are floating and the limes are sinking?

What other fruits are similar to lemons and limes? What do you think would happen to slices of other similar fruits?

THE CHILDREN MAY SUGGEST REASONS SUCH AS:

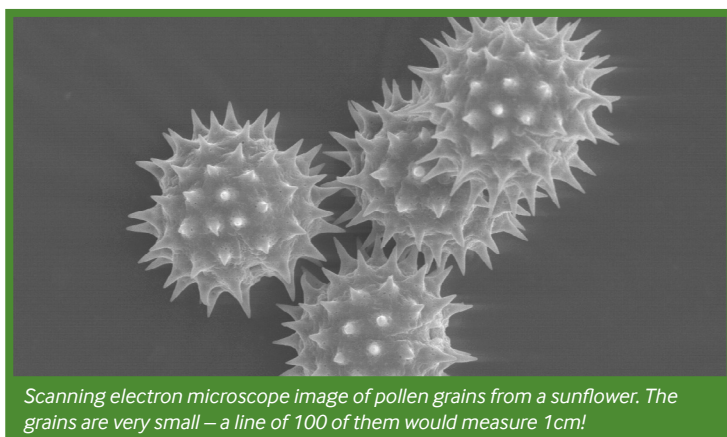
- The slices of lemon are bigger/thicker than the slices of lime
- The skin and/or pith on the lemons is thicker/thinner than the skin on the limes
- The thickness of the skin relative to the size of the whole fruit is different
- The composition of the skin/pith/fruit centre is different
- The lemons/limes have been in the water longer
- One of the fruits was older than the others

The children could carry out an enquiry to test some of their explanations. They could include other oranges or other citrus fruits in their tests.



FROM ISSUE 10

Autumn 2020



Scanning electron microscope image of pollen grains from a sunflower. The grains are very small – a line of 100 of them would measure 1cm!

[CLICK HERE FOR A FULL PAGE IMAGE](#)

WHAT TO DO

Download the image on page 10 by following the [link](#), and either display on a whiteboard or give children printed copies.

Ask the children to work in groups of three to discuss the following questions:

WHAT DO YOU THINK THESE THINGS COULD BE?

WHY DO YOU THINK THIS?

After an initial discussion, tell the children that the picture is of grains of pollen from a sunflower and that they have been magnified so we can see them close up. Ask them to think about how the pollen is transferred from one flower to another; at this point, you might want to show them a picture of a sunflower and a bee – see 'sunflower and bees' and

'close up bee and sunflower'. The latter shows the bee touching the pollen on the stamens. Ask the children to look again at the pollen grains and to discuss what pollen grains need to be like in order to be transferred by the bee from one flower to another.

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

Why do you think they have spikes?

What else might they be like?

Why is the bee visiting the flower? What does it want?

In what other ways is pollen spread from flower to flower?

If pollen is spread by wind, what do you think the pollen grains would be like?





FROM ISSUE 11

Spring 2021

WHAT TO DO

Download the image overleaf by following the [link](#) and either display on a whiteboard or give children printed copies. Ask the children to work in groups of three to discuss the following questions:

WHAT DO YOU THINK HAS HAPPENED TO THIS BUBBLE?

WHY DO YOU THINK THIS?

WHAT DO YOU THINK MIGHT HAPPEN TO THE BUBBLE OVER TIME?

WHY DO YOU THINK THIS?



[CLICK HERE FOR A FULL PAGE IMAGE](#)

FURTHER QUESTIONS TO GENERATE AND PROMOTE THINKING AND EXPLAINING

Where are the crystals forming?

What do you notice about the crystals on the surface of the bubble (e.g. are they all the same shape or size)?

What do you see happening at the base of the bubble?

What do you notice about the top of the bubble?

Looking carefully at the whole image, can you find examples of three different states of matter/can you find examples of solids, liquids and gases?

When do you think this photograph was taken?

FOLLOW UP QUESTIONS THAT YOU MIGHT CONSIDER INVESTIGATING:

Are bubbles always spherical?

Does this depend on the shape of the device used to form them?

Does the colour of water used to create the bubble mix change the colour of the bubbles produced?



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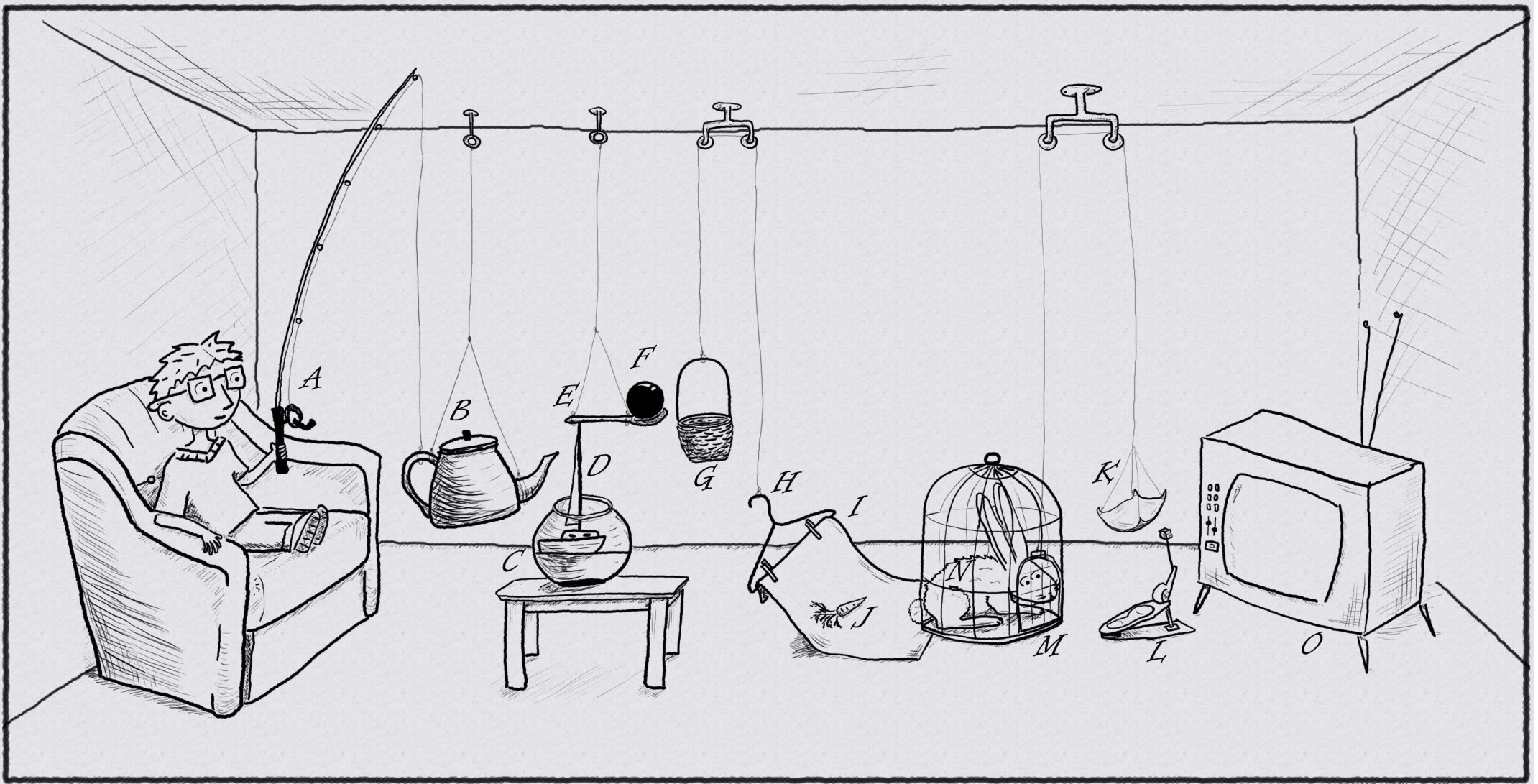


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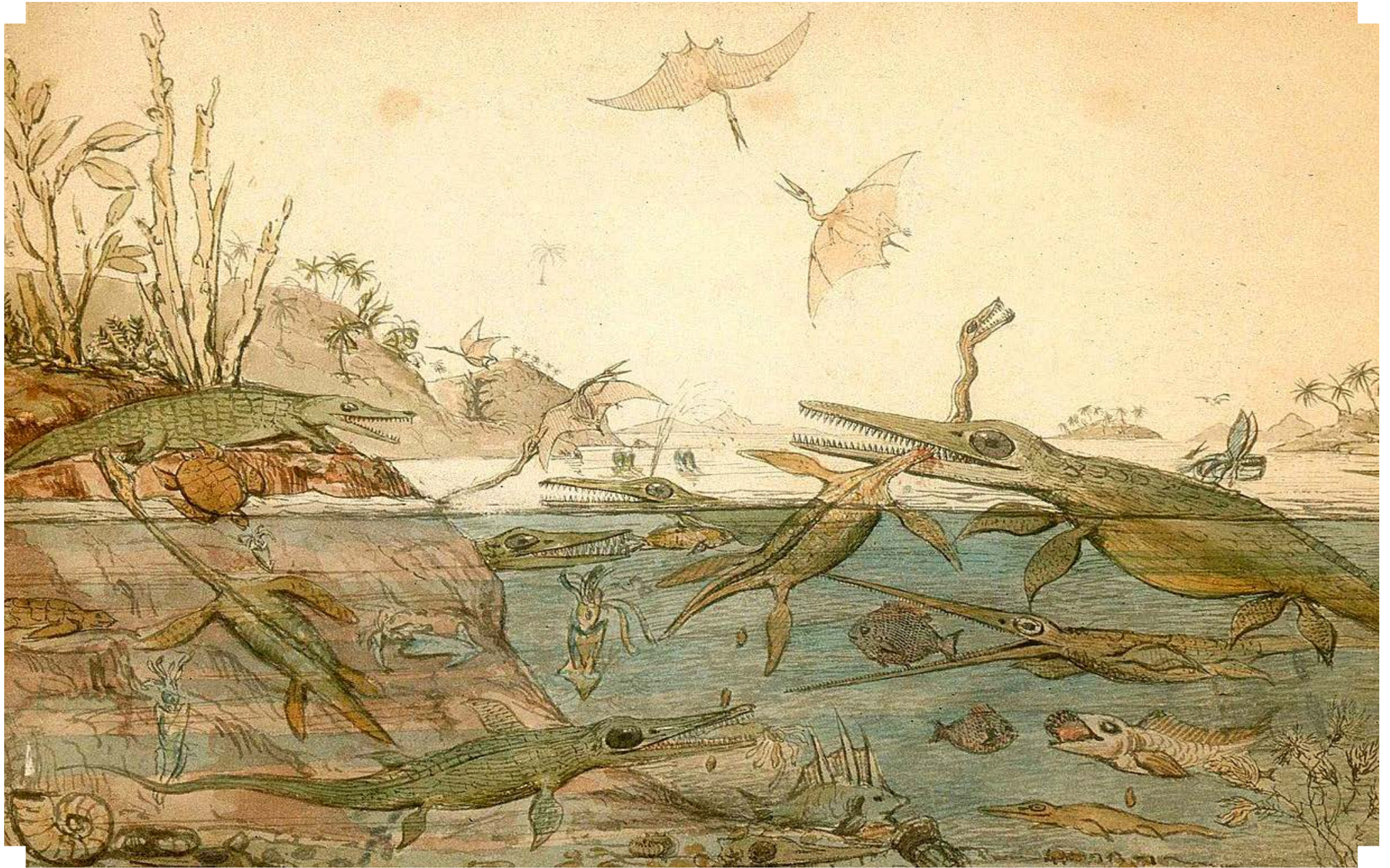


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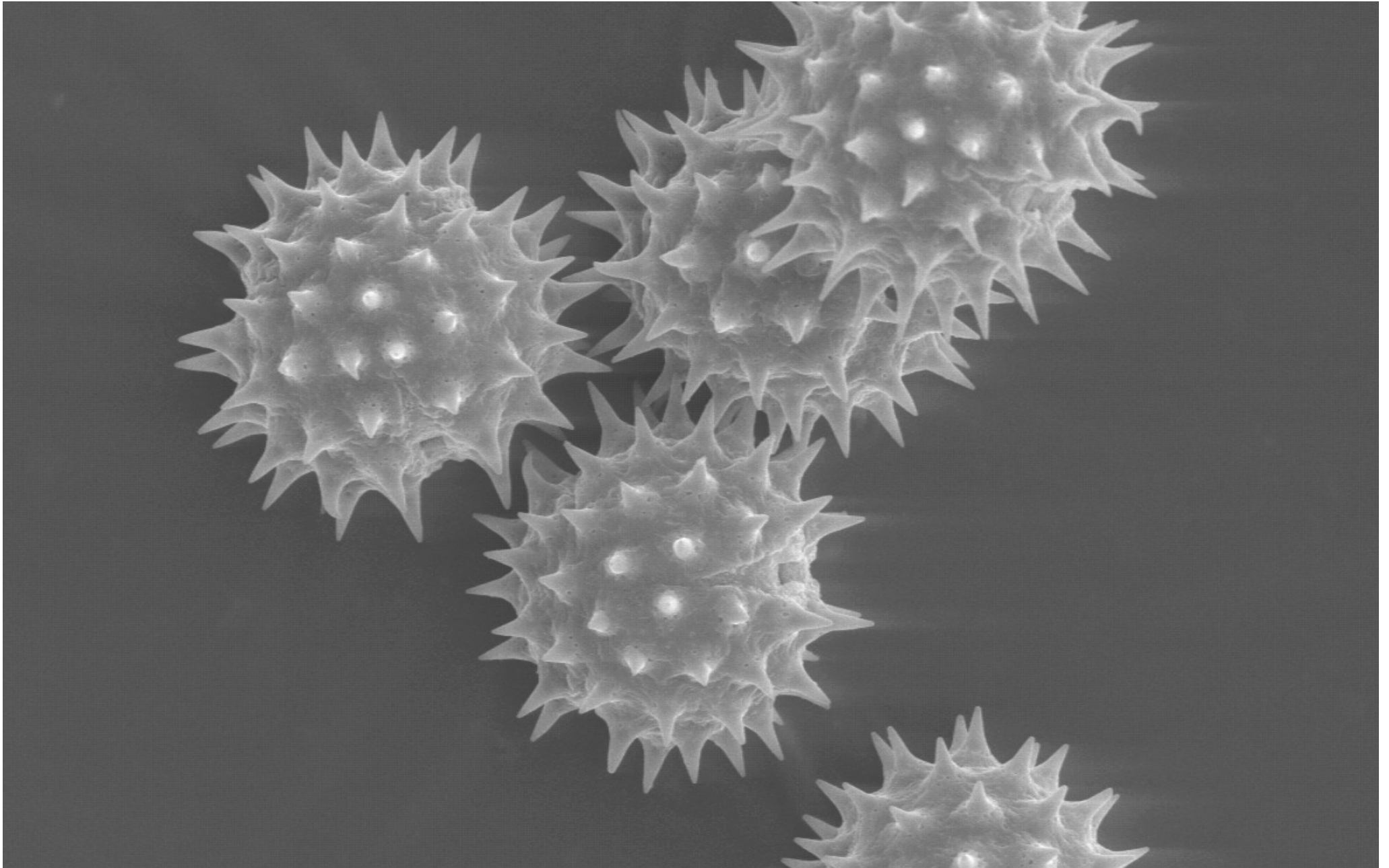


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