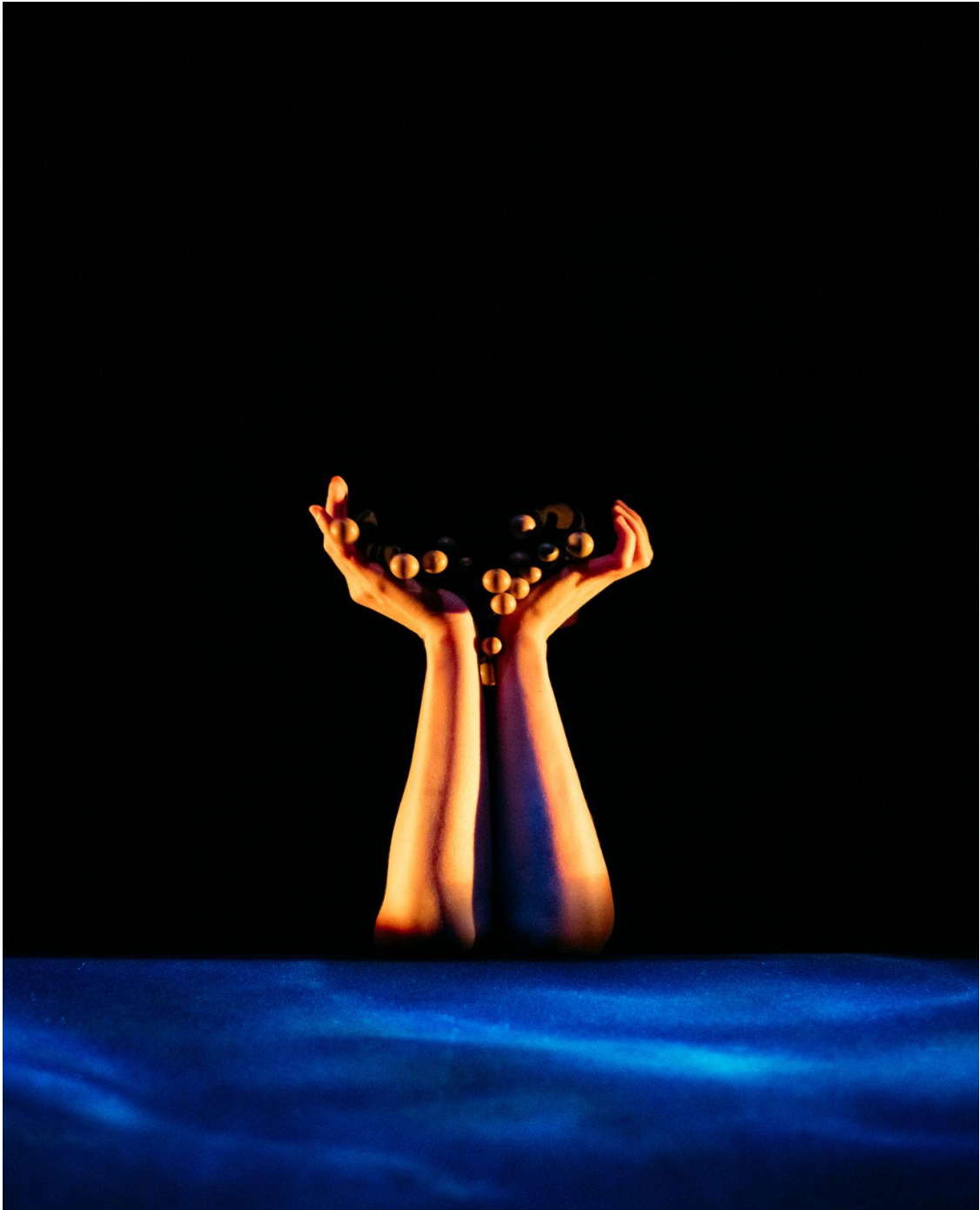




Hopeful Monsters by Hopeful Monster

A story of evolution told with hands.

– Education Pack –

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INTRODUCTION

Welcome to the *Hopeful Monsters Education Pack*.

The aim of the pack is to provide context and activities for lessons both before and after the show.

About the Company

Hopeful Monster is an ensemble of three women working collaboratively to create playful visual theatre inspired by the natural world and informed by science. In evolutionary theory, a 'hopeful monster' is what you get when a sudden genetic mutation produces a radically new organism. Like its namesake, the company aims to create work that is weird and wonderful, playing with the possibilities of puppetry and delighting in the unusual visual creations that emerge.



The company formed in 2017 after training at the Curious School of Puppetry and is now based across the UK (Glasgow, London and North Devon).

About the Show

Hopeful Monsters is a highly visual piece of tabletop theatre inspired by evolutionary theory. The show is a playful illustration of the notion that all living things are made up of the same fundamental building blocks. Using innovative hand puppetry to create unexpected creatures that move and morph in unusual ways, it takes a single element and reveals how much it can do and become. With no central character, the narrative flows between water, land and air on a strange and mesmerising journey through nature. The piece is non-verbal and the action is set to an emotive and humorous soundtrack.

Why We Made the Show

On an atomic level, all life on Earth is based on one primary component, carbon. We were inspired by the idea of what this means: a profound connection between all living things. Shifting the human-centred perspective, we imagined becoming tadpoles, turtles, squirrels, deer, lions...

The show is a meditation on oneness.



CURRICULUM LINKS: SCIENCES

Hopeful Monsters can be linked to the Scottish Curriculum of Excellence on First and Second Level Sciences (Planet Earth, Biodiversity and Interdependence, Biological Systems: Inheritance).

Activities around the following themes would introduce the show well.

- Describe animal characteristics and grouping them;
- Look at variations within a species and how animals are adapted to their environments;
- Observe and draw different food chains in our ecosystem;
- Understand why biodiversity is important and how life on earth is interdependent.

ANIMAL BINGO

Resources: Each pupil will need a copy of the table below and a pen or a pencil.

Activity: Animal bingo.

Can you name an animal for each box? If possible, encourage children to write a different animal to each box (avoiding repetition).

Play it before the show to introduce some new concepts for the children or after the show to work with the animals they saw on stage.

An animal that looks after their young	A reptile	An animal that migrates	A territorial animal
An animal that lives on land	A carnivore	An animal that uses poison as a weapon	An animal with more than 2 legs
An amphibian	An animal that lives in water	An animal that lives in herds / groups	An animal that can fly
An animal that runs really fast	A solitary animal	A mammal	An animal that's good at hiding / camouflage
An animal that can't breathe under water but lives under water	A bird	A playful animal	An animal with a shell

WHAT ANIMALS DID YOU SEE?

Resources: Show photos Pages 4-5 (taken by photographer Mihaela Bodlovic)

Activity: Discuss what animals the children were reminded of when watching the show! (Note there are no correct answers here. Open to the imagination) Observe their habitat, food source and characteristics. Describe them.

CURRICULUM LINKS: EXPRESSIVE ARTS

PAREIDOLIA

Activity: Look at photo examples of 'Pareidolia' eg. seeing a dog in a cloud or a face in a piece of fruit. You could also look at 'ink blots' or optical illusion images (eg. the rabbit and duck).

Discussion points: Things can be seen as two things at the same time. The same image might also look like different things to different people.

CREATE A LANDSCAPE

Resources:

- Clean recycling waste: cardboard boxes, eggboxes, cartons, small tubs, blue plastic bags.
- Masking tape, paper fasteners
- Colourful pens, pencils to decorate
- Flatten and stick together cardboard boxes to create one big terrain. You can push some tables together and lay it out on top.

Activity: Use the recycling waste to create a 3D map together with the children. Where are the mountains and hills? Where are the lakes and rivers? What animals would live here and why? The puppetry exercise below can be adapted to using this map as habitat for the paper creatures.

BEING AN ANIMAL

Resources: A piece of paper or a notebook, a pen or pencil.

Activity: Imagine you are an animal. Tell or write a story about your day as this animal. What did you see around you? What did you have to eat? Who did you meet? What frightened you? Who did you compete with? Who did you work together with to achieve a common goal?

PAPER CREATURES

Resources: Each pupil will need a sheet of A4 paper or a piece of brown wrapping paper. We recommend using an empty room so that pupils can move around freely puppeteering their paper-creatures.

Activity: Scrunch the paper up until it takes and holds a shape. The shape can be as abstract or figurative as pupils like. Tape can be used to secure the shape if necessary.

Decide which way is 'up' which way is 'down'.

Decide where the creature's eyes are - these can be drawn or painted on.

Now we have a creature.

- a. How does this creature move? Does it walk? Does it fly?

- b. What noise does it make?
- c. What does it eat?
- d. How does it interact with another paper-creature?
- e. What happens if more creatures join together and become one big creature?

HABITATS

Resources: Pupils can use everyday objects, their hands and their voices.

Activity: Allocate different habitats to groups in class: forest, ocean, swamp etc. The aim of this exercise is to create an atmosphere.

“When I imagine being in a forest it sounds like this...”: Explore what sounds might fit in these environments. Can you imitate the wind, waterfalls, birds? Build this up into a soundscape! You can also combine this exercise with the “Paper Creatures” and “Create a Landscape” exercises.

BUILDING BLOCK CHALLENGE

Resources: a pile of small objects (eg. pens, buttons, lego bricks, rocks etc)

Activity: In groups or pairs arrange the objects to make a picture on the table. Take a photo from above. Rearrange them into something new. Challenge the pupils to see how many different pictures they make in an allocated time or to make a certain number. Share with the class.

Discussion points: Is the first picture you made your favourite or did you like something you created later? Did the pictures become more surprising as time went on?

HAND DANCE

Resources: clear space to move freely. Add music (optional)

Activity: dance using only your arms, hands and fingers.

Warm up by exploring the movements of each joint in the fingers, wrists, elbow and shoulder. Shake each hand for the count of 10, alternate hands while counting down 1 less each time until you reach 1.

Find gestures and movements with your hands and arms you enjoy. Each person in the group can suggest an action and the others try to copy it (matching the shape, speed and rhythm of the original person) The action should have a clear beginning and end, and be easily repeatable. Once everyone has understood the shape, try repeating it on a loop, going faster and slower and finding a rhythm that suits the form. Put some of the actions together into a sequence. Practice working as a group to move together in unison.

POST-SHOW QUESTIONS TO SPARK CONVERSATION

Please note, not all these questions have 'right' answers.

- How did the show make you feel?
- What is "the survival of the fittest"?
- Why do you think we revisited most of the animals at the end of the piece?
- What environments did you imagine the different animals lived in?
- Can you characterise how an animal living in water is different from one living on land?
- When were creatures competing or collaborating in the show?
- What resources did the animals want? What were they trying to avoid?
- What were the creatures eating? Who was eating and who was being eaten? Can you create food chains based on the show?

CREATURES THAT INSPIRED THE SHOW

First fish to walk: All life started in the water. The fossilised remains of a prehistoric beast called a Tiktaalik, revealed how life took its first unsteady steps on a journey that led to land animals. This animal had powerful fins that would have helped in swimming in the water, but also to scramble on mudflats. It had mixed features suited for both life underwater and life on land such as gills and lungs.

Whales are now perfectly adapted to life underwater, but 50 million years ago their ancestors walked on land. Pakicetus looked nothing like a whale and had four legs. It fed on the creatures in and around the riverbed. Their ancestors would have slowly ventured further into the water and overtime changed to cope with this new environment, eventually becoming the whales we know today. It's amazing to think about this circular evolutionary journey: leaving the water, walking on dry land, evolving to swim again!

Sharks are older than trees. The earliest shark fossil dates back to 450 million years ago and what mostly remains of them is their teeth. This is because, unlike their teeth, their skeleton is made out of cartilage which is much softer than bone and requires special conditions to preserve. Sharks continue to grow teeth all throughout their lives, once broken and worn their old teeth just fall out and get replaced by new ones.

Frogs are nearly 200 million years old. Frog fossils have been found on every continent, even on the Antarctic Peninsula! Most frogs communicate through acoustic signalling but some, especially those living in loud environments with rushing streams and waterfalls, have been found to use foot-flapping, arm-waving and toe-tapping to find mates or stir up prey.

All domesticated **dogs** are descendants of the gray wolf, a now extinct species. Humans have shaped the evolution of dogs. Selective breeding of dogs for different purposes (herding, hunting, guarding, companion) has created the vastly different traits and appearances we see today. Consider the size of a Chihuahua compared to a Great Dane, or the length of a Pug's snout to that of a Borzoi!

Researchers discovered a direct link between modern **bird** species and theropod dinosaurs. The discovery of dinosaurs with feathers completely changed the scientists' understanding of how they looked and behaved.

Giraffes grew longer necks to reach higher leaves, many scientists agree.

Bull giraffes, and occasionally cows, engage in an intricate, often ritualized fight known as "necking" to establish dominance. They repeatedly swing their long necks, delivering powerful headbutts to their rivals' bodies and underbellies. According to an early, now discredited concept by Lamarck, ancestral giraffes stretched to reach higher leaves making their necks grow longer with exertion, passing on their longer necks to their offsprings.

All **cattle** are descendents of a small herd of around 80 wild oxen that were domesticated around 10 500 years ago. Today, in the United Kingdom alone, the total number of cattle is nearly 10 million.

SOURCES AND RESOURCES

First steps on land

- <https://youtu.be/o5Z4mPQBjqA?si=GVvquYP7gLFYKxdR>

Fish:

- <https://www.theguardian.com/science/2014/jan/13/tiktaalik-fossil-fish-four-legged-land-animal>

Whales:

- <https://www.nhm.ac.uk/discover/when-whales-walked-on-four-legs.html>
- <https://evolution.berkeley.edu/what-are-evograms/the-evolution-of-whales/>

Sharks:

- <https://www.nhm.ac.uk/discover/shark-evolution-a-450-million-year-timeline.html>

Frogs:

- <https://www.nhm.ac.uk/discover/news/2023/august/most-complete-frog-family-tree--evolved-later-than-previously-thought.html>
- <https://www.bbc.co.uk/newsround/68476622>
- <https://www.froglife.org/2019/12/11/croaking-science-foot-flagging-an-alternative-method-of-communication-in-frogs/>

Cattle:

- <https://www.ucl.ac.uk/news/2012/mar/dna-traces-cattle-back-small-herd-domesticated-around-10500-years-ago>
- <https://www.gov.uk/government/statistics/livestock-populations-in-the-united-kingdom/livestock-populations-in-the-united-kingdom-at-1-december>

Giraffes:

- <https://www.amnh.org/explore/news-blogs/giraffe-neck-evolution>
- <https://evolution.berkeley.edu/the-history-of-evolutionary-thought/1800s/early-concepts-of-evolution-jean-baptiste-lamarck/>

Birds:

- <https://www.nhm.ac.uk/discover/how-dinosaurs-evolved-into-birds.html>

PHOTOS

