





Explore and Discover...
Growing and changing
Uncover the life cycle mystery



Discover more about the
life cycles of humans and
other animals.

Galleries visited (please see accompanying map)	 Mammals	 Human Biology	 Birds
Suitable for	 Key Stage 2 (ages seven to 11)		
Curriculum links	QCA Science Unit 5B: Life Cycles NC Science: Life Processes & Living Things 2f, 2h		
Example page	www.nhm.ac.uk/growing-changing-ks2		
Pre-visit preparation	<ul style="list-style-type: none"> • vocabulary: womb, acrostic poem, pouch, mammal • a basic understanding that human babies grow inside their mother • an understanding that some animals grow inside their mother yet others develop externally in an egg 		













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Activities within the guide

The children will be asked to complete six challenges:

	Challenge	Location	Description
	1. Growing inside challenge		Discover more about life before birth
	2. Inside the womb challenge		Write an acrostic (the first letters of each line combine to spell a word) poem while 'inside the womb'
	3. A new baby challenge		Discover more about what a new born baby can and cannot do
	4. Special mammal challenge		Learn about how more unusual mammal babies grow
	5. Eggs challenge		Compare the life cycle of birds to that of humans
	6. Bird Nest of the Year award		Be a judge in this competition and decide who in the exhibit will win this prestigious award

These can be done in any order within the three galleries. Depending on how many challenges the children complete, they can reach these levels:

- researcher (two challenges completed)
- scientist (four challenges completed)
- professor (six challenges completed)

Certificates

On return to school, certificates (available at the end of this document) can be printed out and awarded, depending on the number of challenges completed.

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Techniques

There are a range of techniques used within the guide. To complete the challenge, children will be required to:

- gather information from a variety of sources
- make choices based on observation
- write short answers
- choose appropriate descriptive vocabulary
- make sketches
- discuss answers with a partner
- extract information from exhibits and their information boards
- make personal judgements based on information provided

Follow-up activities

- **Award ceremony**

Print out certificates and have an award ceremony.

- **Literacy: Speaking & Listening**

Discuss the experiences had at the Museum and the challenges that were undertaken.

- **Literacy**

Share the acrostic poems written. Create a display of these in the classroom.

- **Science/Literacy**

Are there any mothers expecting babies soon or who have newborn babies?

Write invitations, asking them to visit the class. Midwives could come and talk and show some of the equipment used to monitor the developing baby. Write thank you letters after the visits.

- **Science**

Talk to a local farmer to hire an incubator and hatch some chicks in the classroom. A fantastic experience, providing endless potential for writing, art and mathematics work.

- **Science/Design & Technology**

Birds make nest building look easy. Research some of the different nests birds build. Try and make a nest in the classroom.

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Suggested answers for challenges



Growing inside challenge

Question 2: Many facts are presented in the video, possible answers include:

- we begin life as a single cell
- the fertilised egg is the size of a grain of sand
- after four or five days, the ball of cells reaches the uterus
- at three weeks, the baby is the size of a tomato seed
- at four weeks, the baby is the size of a grain of rice
- at five weeks, the eyes are developing and the baby is beginning to develop arms and legs (like paddles)
- at two months, the bones are forming and the baby is the size of a walnut
- after three months, all the main parts (including the fingers and toes) have begun to form
- after three months, it is possible to tell the sex of the baby
- the baby can't hear until six months
- as the baby gets bigger, it has less room to move
- at 38 weeks, the baby is ready to be born

Question 3: At 80 days, the arms, legs, head and back can be seen. The drawing may also include fingers, toes and nails.



Inside the womb challenge

This challenge provides pupils with the opportunity to be creative. Answers will vary, but should be accurate.



A new baby challenge

Question 2: A new baby can eat, excrete and breathe.

Question 3: A new baby eats milk.

Question 4: Answers will vary, but similarities may include being fed by their mothers, making noise, breathing and excreting. Differences may include being covered with fur or feathers and that the puppy and chick can move around sooner than human babies can.

Question 5: The three main things the parent has to do for the baby are keeping it warm, cleaning it and feeding it.



Special mammal challenge

Question 2: Marsupials.

Question 3: The great grey kangaroo has a baby visible in its pouch.

Question 4: The animal on the left is a duck-billed platypus. The one on the right is a short-beaked echidna.

Question 5: These two mammals are called monotremes and are special because they lay eggs.

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Eggs challenge

Question 3: An ostrich chick grows inside an egg until it is ready to hatch. An ostrich chick is fed by its mother. An ostrich chick can walk about to search for food.

Question 4: The largest egg belongs to an elephant bird (now extinct). The smallest egg belongs to a hummingbird. There is a goldcrest egg in the display, the smallest British bird egg.

Question 5: Answers will vary. Possible responses include ostrich, owl, hummingbird or swan, duck and starling.



Bird Nest of the Year award

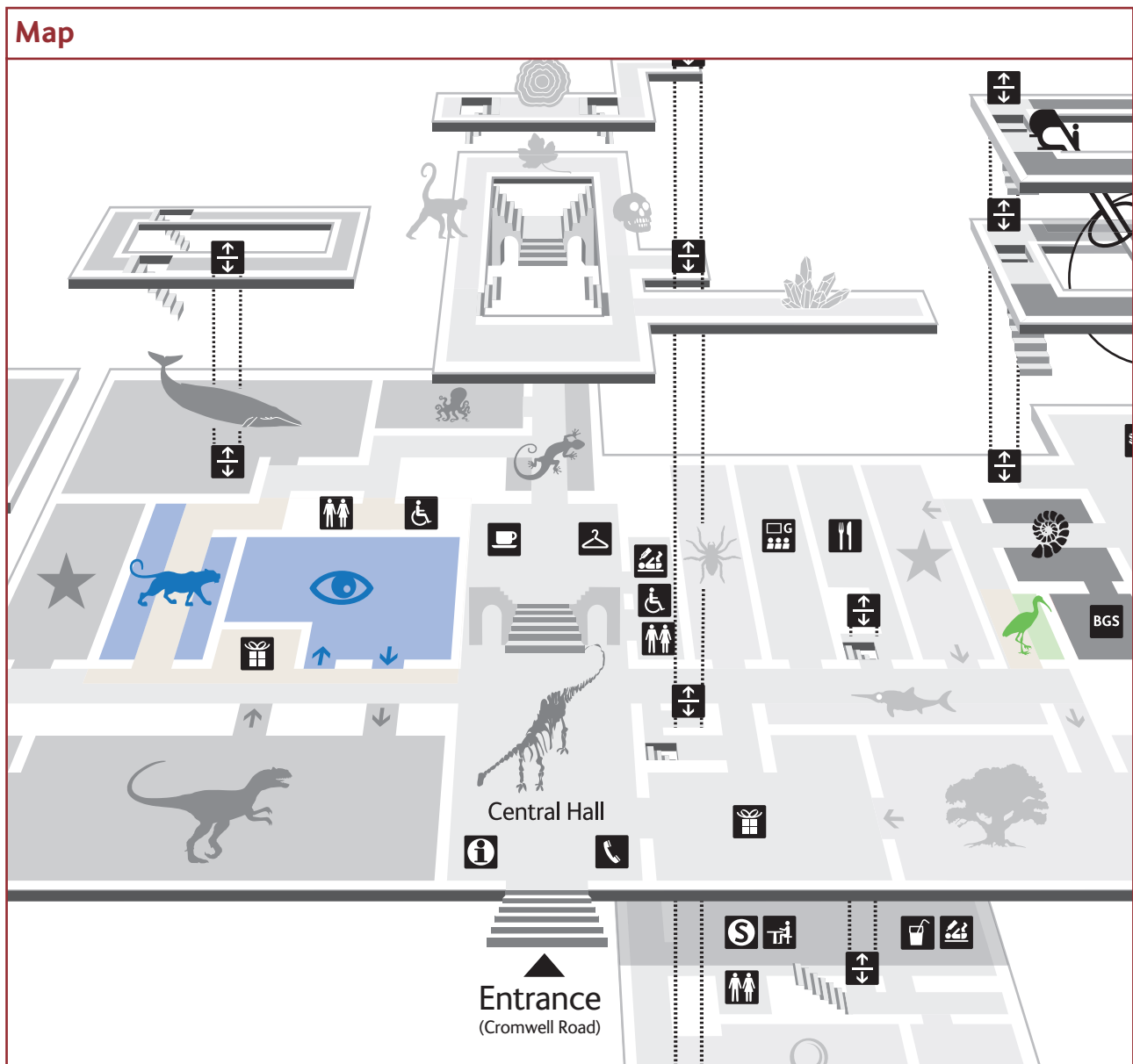
Question 1: Birds build nests to protect their eggs until they hatch and to protect the nestlings (baby birds).

Question 2: Answers will vary, but the objective of this question is to encourage students to look closely at the nests and discuss their characteristics (such as the materials they can see and why they might be helpful) with their peers. Materials used include grass, leaves, twigs and wool.

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A larger, full-colour version of this map showing the whole Museum is available at reception when you arrive.

Certificate

This is to certify that

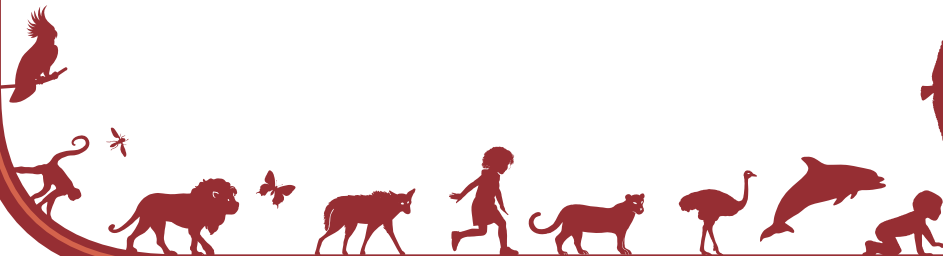
became a

researcher

in the Explore and Discover...
Growing and changing challenge

Teacher's name

Date



Certificate

This is to certify that

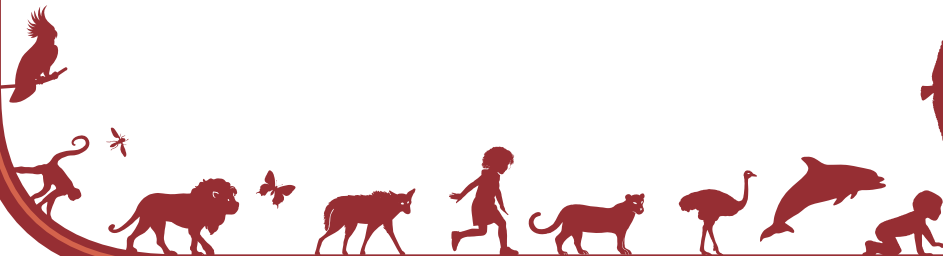
became a

scientist

in the Explore and Discover...
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Teacher's name

Date



Certificate

This is to certify that

became a

professor

in the Explore and Discover...
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Teacher's name

Date

