



Growing up and growing old



About this topic

Curriculum link: Year 5, Animals, including humans

SUMMARY:

In this topic, children look at and describe the changes as humans develop to old age. Pupils draw a timeline to indicate stages in the growth and development of humans and learn about the changes experienced in puberty.

UNITS:

5.1: From baby to old age

5.2: Growing up

5.3: Growing old

ACTIVITY RESOURCES

- 5.1: Gestation periods

- 5.2: Milestones

- 5.3: Getting older

- 5.4: Living to 100

- 5.5: How has life expectancy changed?

ONLINE RESOURCES:

Teaching slides (PowerPoint): Growing up and growing old

Interactive activity: Growing up and growing old

CPD video: Growing up and growing old

Pupil video: Growing up and growing old

Word mat: Growing up and growing old

Editable Planning: Growing up and growing old

Topic Test: Growing up and growing old

Learning objectives

This topic covers the following learning objectives:

- o Describe the changes as humans develop to old age.

Working scientifically skills

This topic develops the following working scientifically skills:

- o Reporting and presenting findings from enquiries, including conclusions, causal relationships and

explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.

- o Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- o Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.



CROSS-CURRICULAR LINKS

This topic offers the following cross-curricular opportunities:

English

- o Summarise main ideas from non-fiction text.
- o Distinguish between statements of fact and opinion.
- o Retrieve, record and present information from non-fiction.
- o Engage in debates, maintaining a focus on the topic and using notes where necessary.

- o Provide reasoned justifications for their views on, e.g. teenagers, elderly people.
- o Use a dictionary and thesaurus.
- o Use punctuation effectively.
- o Think aloud to generate ideas, drafting, and rereading to check that the meaning is clear.
- o Learn a poem by heart and perform it showing understanding through intonation, tone and volume so that the meaning is clear to an audience.
- o Read books about life changes, e.g. *The Graveyard Book* by Neil Gaiman.
- o Write a story or a poem about what it would be like to live past 100.

Numeracy and mathematics

- Collect, present and analyse gestation period data.
- Choose appropriate graphs.
- Collect and record data, e.g. Excel spreadsheets.
- Analyse secondary data.

Design technology

- Investigate and analyse a range of existing products for the elderly.
- Use research and develop design criteria for an aid that is fit for purpose for an elderly person.
- Evaluate their aid against their own design criteria and consider the views of others to improve their work.

PSHE

- Meet and talk with a range of people, listening to their view and opinions.
- Recognise the worth of individuals of different ages by identifying positive things, e.g. their achievements.
- Understand the range of jobs carried out by people they know, and how they can develop skills to make their own contribution in the future.
- Recognise the role of voluntary, community and groups, visit and engage with elderly people.
- Recognise and challenge stereotypes, e.g. teenagers, the elderly.
- As a class or with the whole school, raise some vital funds for a local age awareness charity.

Computing / ICT

- Create interactive timelines using websites such as: www.timetoast.com or www.tiki-toki.com
- Upload a photo to change their face to that of an older person (<http://growmeup.com/#>)
- Design and make items that could make everyday life easier for old people.
- Use ICT tools such as Sketchup to create a virtual model in 3D.
- Create a human timeline.
- Record the children's poems about growing up and find suitable images online to create a photo slideshow.

History

- Timeline of the life of children through the ages. How has life changed?
- The diary of a Victorian child.

RE

- Find out about 'coming of age' ceremonies, such as confirmation and the bar mitzvah/bat mitzvah.



STEAM (SCIENCE TECHNOLOGY ENGINEERING ART AND MATHS) OPPORTUNITIES

Invite into class

- People of different ages from the local community.
- A school nurse to discuss changes from childhood to adolescence.
- Writer / poet to work with children to explore age in creative writing.
- Someone who works with different age groups, e.g. toddlers, teenagers, elderly people to talk about their work.

Visit

- Visit a group of elderly people to participate in activities, interview them etc.



TEACHER SUBJECT KNOWLEDGE

Humans, like all mammals, give birth to live young. The fertilised egg stays inside the female and develops in the womb. The baby is linked to the mother via a placenta, which gives the baby nutrients and oxygen and takes away waste products.

The amount of time it takes for a baby to develop is called the gestation period. In humans this is roughly nine months (266 days). Smaller animals normally have a shorter gestation period than larger animals. For example, a mouse's gestation period is around 20 days and an African elephant's is 645 days.

Human babies are highly dependent on their parents for a long time after birth. They start to walk at around one year old and learn to talk at about 18 months old. They grow rapidly. By the age of five a child can walk, talk and feed itself, but is still very dependent on its parents.

The human life span can be split into a number of stages: infancy, childhood, adolescence, young adulthood, adulthood and old age. The actual length of these stages varies across different cultures and time periods.

Puberty

This is the time when the body matures from that of a child to that of an adult.

The body prepares itself for being able to produce children of its own. Puberty starts at different times, but usually around 10–14 in girls and 12–16 in boys.

Puberty is triggered by hormones in the body – chemical messengers that travel around it. In boys, the testes develop and begin to produce sperm as well as the hormone testosterone. Testosterone causes boys to grow and become more muscular, their voices to ‘break’ and hair to start growing on their chest and face. In girls, the ovaries develop and begin to release the hormone oestrogen. As well as triggering the maturation and release of an egg once a month as part of the menstrual cycle, oestrogen causes girls to develop breasts and their hips to widen. In both boys and girls other hormones cause pubic and underarm hair to begin to grow.

Spots are common for most teenagers; acne is caused by glands in the skin that produce a natural oil called sebum. Puberty hormones make these

glands produce extra sebum, which can clog the pores and cause spots.

Remember to take care when discussing the changes that happen during puberty. Check with your school’s PSHE/SMSC/SEAL coordinator for additional guidance.

Ageing

Ageing is the accumulation of changes in a person over time.

Our bodies become less able to deal with stresses and disease, and our cells gradually become less able to replicate. Commonly, our hair will become grey or white and our skin will lose its elasticity and become wrinkled. Older people’s bodies become more susceptible to diseases such as osteoporosis (weak bones) or arthritis (stiff / swollen joints). Eyesight and hearing often deteriorate too. The upper range of the sound frequencies that we can hear gradually decreases from the age of 18 onwards. This means that children will be able to hear higher sounds than even young adults and the older you get, the lower the upper limit will become.

Due to improved healthcare more people are reaching old age. In Roman times, people who survived childhood could expect to live to about 50, but now we can expect to live much longer than that.



CHILDREN’S MISCONCEPTIONS

Children might think...

- That they know about pregnancy, especially if they have baby brothers or sisters, but they may not know exactly what happens.
- Have general misconceptions about puberty based on playground rumours.
- General misconceptions about what it’s like to be old, based on limited observations of their elderly relatives or from the media.
- Everyone over about 21 is classed as ‘old’.

Children already know...

- That animals have offspring which grow into adults (Year 2).
- That we grow and get bigger as we get older (Year 2).
- About our skeletons and joints (from Year 3).
- The life cycles of different animals, including mammals (Year 5).
- That our bodies change as we get older (from Unit 1).



SCIENTIFIC VOCABULARY

You can download a Word mat of essential vocabulary from *My Rising Stars*.

adolescence: the time in a young person's life when physical and emotional changes leading to adulthood are happening

adolescent: a young person in the process of developing from a child into an adult (teenager)

adult: a person who is fully grown

arthritis: a disease that causes joints to become swollen and painful

gestation period: the amount of time that a baby spends inside its mother's womb before it is born

life expectancy: how many years humans are expected to live. This changes and has lengthened over time

menstruation: a monthly cycle in women. Each month an egg is released and if it is not fertilised by a sperm, the female has her period

pregnant: the condition of a female animal when there is a baby growing inside her womb

puberty: the first part of adolescence, when physical changes begin to happen to the body

teenager: a person aged between 13 and 19 years old

Babies



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What are the similarities and differences between you and a baby?