Year 5: Animals including humans

SCIENTIFIC CONTEXT: Biology

KEY VOCABULARY:

Gestation	The process of developing inside the womb.
Puberty	The period which adolescents reach sexual maturity.
Life Cycle	Series of changes in the life of an organism.
Foetus	Unborn offspring of a mammal.
Baby	Young offspring of human beings.
Adolescent	A young person between the ages of 10-19.
Pre-natal	Before birth
Early Adulthood	Stage of development between the ages of 19-39.
Middle Adulthood	Stage of development between 40-59.
Late Adulthood	Last stage of human development after the age of 60.

As Scientists we will...

Describe the changes as humans develop into old age.

Working Scientifically:

- take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- reporting and presenting findings from enquiries, including conclusions.

Notable Scientist:

Key Questions

1) **Can you name the key stages of the human life cycle?**
2) **What changes do humans go through as they age?**
3) **What changes are experienced during puberty?**

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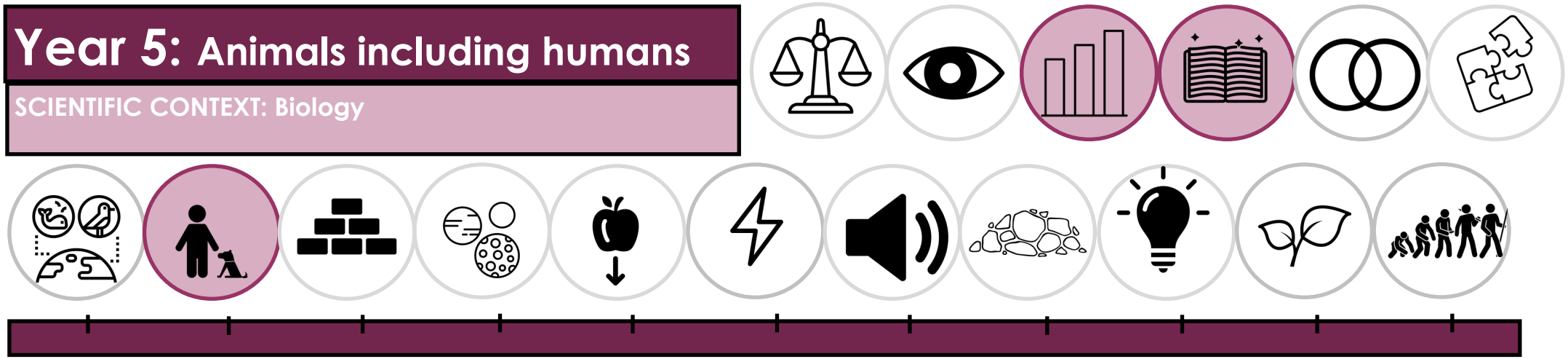

What I need to know:

When babies are young, they grow rapidly. They are very dependent on their parents. As they develop, they learn many skills. At puberty, a child's body changes and develops primary and secondary sexual characteristics. This enables the adult to reproduce.

Opportunities for science capital

Invite in midwives to discuss foetal development.

Invite in vets to discuss different gestation periods.

Part of science capital includes scientific media consumption- documentaries, reports etc. Here are links that provide daily science news for children. Checking in on these every now and then would be beneficial to help children see science in the wider world.

https://www.sciencenewsforstudents.org/

https://www.sciencejournalforkids.org/

Assessment:

By the end of this topic, pupils will be able to describe the changes as humans develop into old age.

Pupils will be able to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.

Pupils will be able to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

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Theme 1: Gestation periods

Starter

Recap

Complete KWL grid.

Main

Substantive Knowledge

Input information on gestation periods.

Disciplinary knowledge

Research

Working scientifically objective: record data using a bar chart.

Research different gestation periods and create a bar graph to present data.

Resources can be found from: https://www.stem.org.uk/resources/elibrary/resource/35389/animal-gestation-periods

and

https://www.stem.org.uk/system/files/elibrary-resources/2019/10/UKS2_Sci_Y5_6_A_Spr_1_%20Human_Species_S1_resources.pdf

Plenary / assessment

Disciplinary knowledge:

Working scientifically objective: reporting and presenting findings from enquiries, including conclusions.

Draw conclusions from the bar chart with key questions: which animals has the longest gestation period? Which has the shortest? Are any the same?

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Theme 2: Foetal Development

Starter

Recap:

Last lesson, last month, last year.

Main

Substantive Knowledge

Input information on foetal development.

Disciplinary knowledge

Research

Working scientifically objective: record data using a scatter graph

Research length and mass of a baby as it grows and create a scatter graph plotting length against mass.

Resources can be found from: https://www.stem.org.uk/system/files/elibrary-resources/2019/10/UKS2_Sci_Y5_6_A_Spr_1_%20Human_Species_S1_resources.pdf

Plenary / assessment

Disciplinary knowledge

Working scientifically objective: reporting and presenting findings from enquiries, including conclusions.

Draw conclusions from the scatter graph, what does the data tell us about foetal development?

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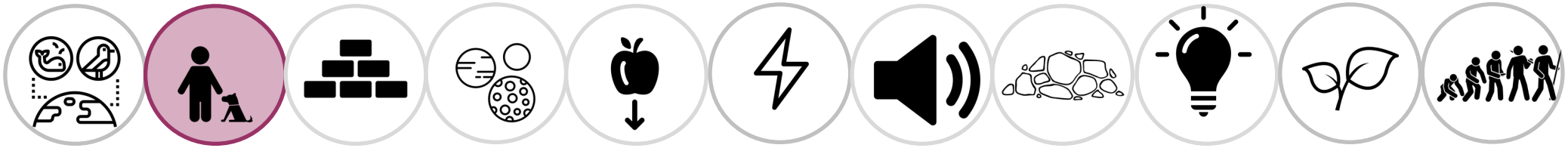

Theme 3: Puberty

Starter

Recap:

Time travel: recap Y4 animals including human objectives.

Main

Substantive knowledge:

Resources from: https://www.stem.org.uk/system/files/elibrary-resources/2019/10/UKS2_Sci_Y5_6_A_Spr_1_%20Human_Species_S2_resources.pdf

Plenary / assessment

Label and explain main changes of a male and female body during puberty.

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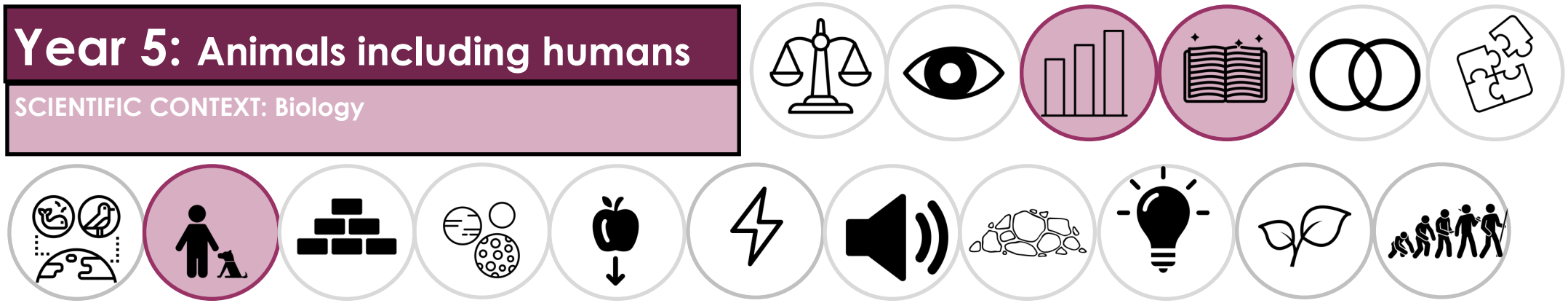

Theme 4: Human Timeline

Starter

Recap:

Beat the Clock!

Main

Substantive knowledge:

Main:

Give children an explanation text on the human life cycle

Children need to use the information in this explanation text to complete a diagram on the human life cycle, which requires them to:

- cut and stick an image for each stage
- name each stage (foetus, baby, child, teenager, adult, elderly)

add the age for each stage (N/A, 0 to 2, 3 to 12, 13 to 17, 18 to 66 and 67+)

Disciplinary knowledge:

Pattern seeking

Working scientifically objectives: take measurements with increasing accuracy and record data and results.

Today we are going to be biologists

What could we measure to show how humans develop as they grow older?

Groups decide e.g. forearm length, arm span, foot length, etc. Discuss how we could measure this and the number of children/adults we would need to measure. How accurate do our measurements need to be? Decide on how many decimal places or unit. Ensure that children understand that they also need to record the age of the person.

Children go to different year groups to measure specified number of children.

Bring data together to create class table.

Ask groups to create scatter graphs to present the data.

Plenary / assessment

Explorify: What if the average life span of a human was 200 years?

Complete KWL