

Volume 2, Issue 3
March 2016

The Sex Educational Supplement

The Puberty Issue

**But this is
soooooo
embarrassing!**

**Oh, grow up!
You're meant
to be the one
teaching it!**



Letter from the editor

The Puberty Issue

Welcome to the sixth edition of the Sex Educational Supplement, which is inspired by our Prepared for Puberty project, supported by the Wellcome Trust.

Puberty is one aspect of sex and relationships education (SRE) that one might assume every child learns about at school, but our survey with over 2000 young people has revealed that around 1 in 4 (24%) female respondents did not learn about periods before they started having periods, and a staggering 50% of young people had not learnt about wet dreams. Government SRE guidance (DfEE, 2000) states that children should learn about puberty before they experience it, but clearly this does not always happen.

So how, when, and what can schools do to help prepare pupils for puberty? National Curriculum science provides an ideal context for learning about growth and lifecycles across Key Stages 1 and 2. Start by discussing changes that pupils are familiar with, for example from baby to infant; the physical changes but also the social and emotional changes. Some specific information about body changes during puberty needs to be introduced by the end of Year 4 and can then be built on in Years 5 and 6. Remember that children will have noticed visible changes amongst older peers or siblings, but may not have had any discussion with an adult about the more and less visible body changes. The key is not to save it all up for one big puberty talk at the end of primary school, but to talk about change and puberty as something that is normal.

Learning about puberty doesn't need to be built around videos or diagrams. It can also be a creative experience. The Sex Education Forum brought together scientists, artists and teachers to experiment with using art to enable pupils to understand the physical dimension of puberty and crucially to explore the emotional aspects too. The lesson ideas and examples of pupil art work

Lucy Emmerson coordinates the Sex Education Forum; a coalition of organisations working together for good quality SRE and campaigning for SRE to be statutory in all schools.



on page 21 show how pupils aged 9-11 years old worked in groups and individually to produce expressive pieces reflecting on feelings ranging from fear to excitement.

A question at the heart of many children's feelings about puberty is 'am I normal?'. Art creates space to look at the diversity of human bodies, which may contrast with text book diagrams that depict a labelled slice through the reproductive system. Working in three-dimensions is another way to bring learning to life.

Puberty is a physical process that lasts approximately 4 years, and typically begins when a child is between 8 and 14 years old, but in some cases can start earlier. Dr Celia Roberts guides us through factors that may be contributing to a current increase in early onset puberty in girls in her expert interview on page 6. All pupils will have wide ranging individual experiences of puberty, but will have a common need to understand what is happening to them and their peers.

A child in every class could start menstruating before leaving primary school, and schools can take practical steps to be *period positive* – some great advice from #periodpositive founder Chella Quint on page 12. Teaching about puberty is also a vital opportunity to challenge gender stereotypes and involve pupils of all genders in

learning about experiences such as periods and wet dreams and highlighting the many commonalities of experience. See lesson ideas for some new activities to try with your class! You might also put together a lending library or puberty book list for parents and carers to encourage more discussion at home. Boys in particular say that they miss out on conversations at home and would have liked more input from their fathers*.

A less visible aspect of puberty is the acceleration in brain development. This is an exciting and relatively new area of science, which Dr John Coleman helps us navigate on page 10. I particularly like John's advice that it would be useful to share aspects of brain development with young people; it also helps parents, carers and educators to step back inside the shoes and head of a teenager. This kind of critical reflection also applies to the external world, and pupils at both primary and secondary levels will value opportunities to critique the marketing of puberty related products and to consider social and cultural and even historical perspectives on puberty. Some lesson ideas for KS3 students and beyond address this on pp 23.

So, I hope the ideas in this magazine will help you to prepare pupils for puberty in good time and with a new element of creativity.

If this is your first time reading the *Sex Educational Supplement* you might also enjoy our back issues: *The Gender Issue*, *The HIV Issue*, *The LGBT Issue*, *The Consent Issue* and *The Pornography Issue*.

Lucy Emmerson
Coordinator
Sex Education Forum
March 2016

*SRE – the evidence (2015) Sex Education Forum briefing, NCB.

Supported by
wellcometrust

Table of contents:

Page 4 - 6

Take the quiz: Boost your knowledge about what happens to the body during puberty.

Page 7 - 8

Expert interview: Dr Celia Roberts guides us through her research on early puberty in girls.

Page 9 - 11

Voices of young people: Findings from our survey about experiences of puberty education.

Page 12 - 13

Expert feature: The adolescent brain – A fascinating tour of adolescent brain development with Dr John Coleman.

Page 14 - 16

What if...? Menstruation management – Chella Quint, creator of #periodpositive, provides advice on how to become a more Period Positive school.

Page 17 - 27

Lesson ideas: Activities for teaching about puberty for all Key Stages and links to resources.

Page 28

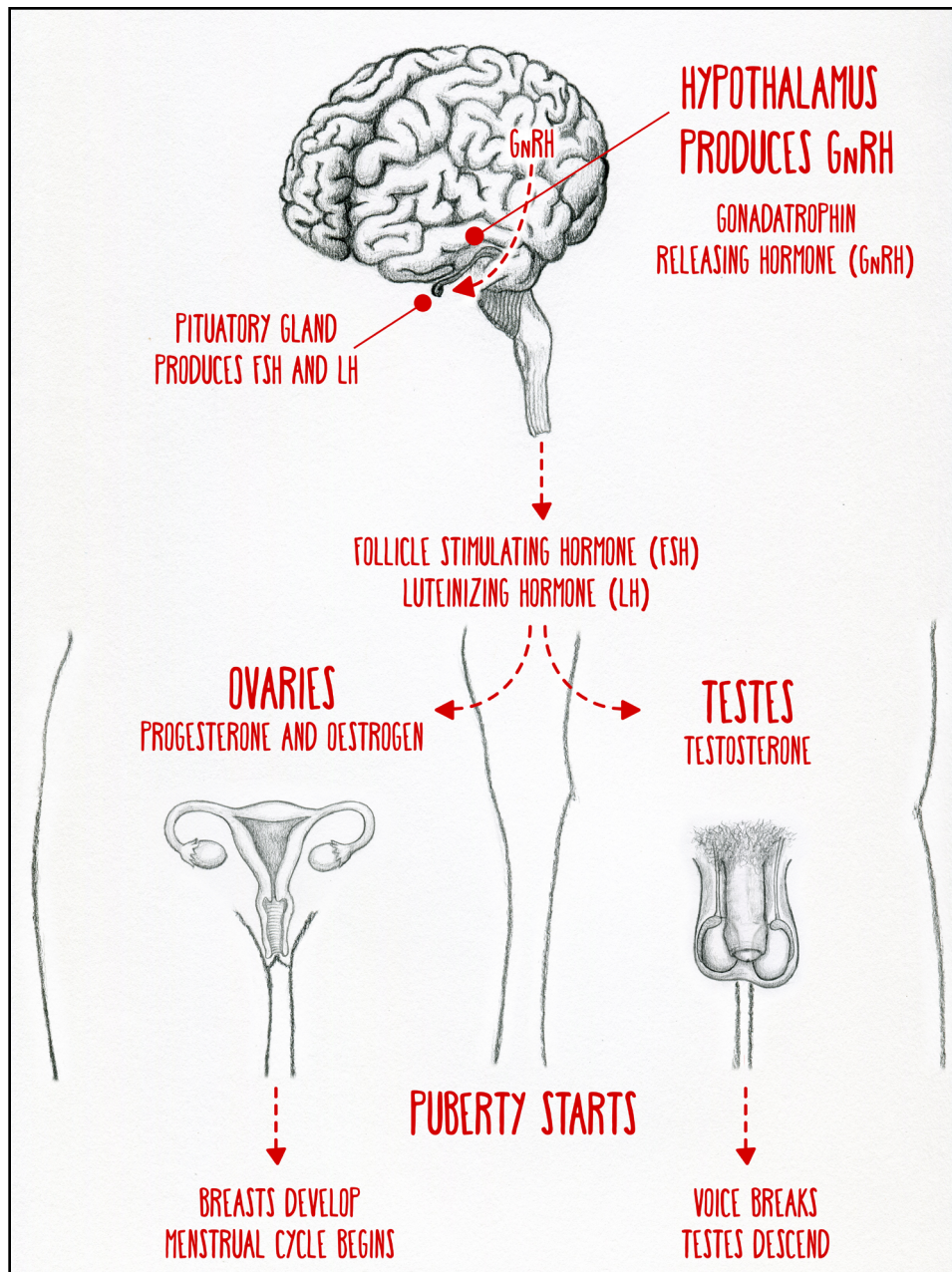
Acknowledgements, information about membership and accessing back issues of The Sex Educational Supplement.

Take the quiz

Know your puberty science

What is puberty?

Puberty comes from the Latin word *pubertas*, meaning adulthood. It can be defined as the transition from child to adult; the physical changes of adolescence to reach sexual maturity; becoming fertile. The start of puberty is triggered by hormones. The first stage of puberty in girls is breast development and pubic hair growth; in boys it is increase in size of testicles and pubic hair growth. It's completely normal for puberty to begin at any point from the ages of 8 to 14. The process of puberty lasts approximately four years.



This quiz is designed for education professionals and aims to help you understand the physical changes of puberty.

For more information on the stages of puberty visit [NHS Choices](#).

Questions

1. Which hormone triggers the start of puberty?

- a) human gonadotropin releasing hormone (GnRH)
- b) testosterone c) follicle stimulating hormone

2. Which hormone(s) trigger the production of sex cells?

- a) oxytocin b) dopamine and serotonin c) testosterone, oestrogen and progesterone

3. Where is oestrogen produced?

- a) hypothalamus b) ovaries c) testes

4. Where is testosterone produced?

- a) hypothalamus b) ovaries c) testes

5. Secondary sex characteristics develop during puberty. Which of the following are secondary sex characteristics?:

(select all that apply) pubic hair, breasts, nipples, facial hair, finger nails, enlarged larynx, increase in height

6. 6) Where does growth during puberty begin?

- a) reproductive organs b) height c) hands and feet

7. What percentage of British girls start their periods (reach menarche) age 10?

- a) 1% b) 10% c) 21%

8. What age is considered an unusually late puberty for girls?

- a) 13 b) 14 c) 15 d) 16

9. What age is considered an unusually late puberty for boys?

- a) 13 b) 14 c) 15 d) 16

10. What is the median age that British girls start their periods (age of menarche)?

- a) 10 b) 11 c) 12 d) 13

11. What is the mean age for boys to begin having wet dreams (nocturnal emissions)?

- a) 10.9 b) 12.9 c) 13.5



Take the quiz

(continued)

Answers

1. a) human gonadotrophin releasing hormone (GnRH) is the first in the chain of hormones that trigger puberty. It is produced in the hypothalamus and prompts the pituitary gland to release follicle stimulating hormone (FSH) and luteinizing hormone (LH) which prompt the ovaries or testes to produce the sex hormones (oestrogen, progesterone and testosterone). See more on hormones from the Society for Endocrinology's [You and Your Hormones website](#).
2. c) testosterone triggers the production of sperm; oestrogen and progesterone trigger the production of eggs.
3. b) ovaries. Oestrogen helps stimulate the development of breast growth, the female reproductive system, and it also helps to regulate the menstrual cycle. Further information from the [You and Your Hormones section on ovaries](#).
4. c) testes. Testosterone helps to stimulate the development of the penis and testicles, as well as promoting muscle growth and hair growth. It is also responsible for lowering the voice. Further information is available from the [Society for Endocrinology](#).
5. Secondary sex characteristics include pubic hair, breasts (mainly in girls, but boys often experience some breast development), facial hair and enlargement of larynx (mainly in boys).
6. c) hands and feet. Growth during puberty begins distally, with enlargement of the hands and feet, followed by the arms and legs, and finally the trunk and chest. A sudden, sharp rise in foot length may indicate onset of puberty. Growth in height stops when puberty ends. (Source: Mitra, S., et al (2011) *Foot Length as a Marker of Pubertal Onset*. *Indian Pediatrics*, Vol 48, pp549-551, July 17, 2011)
7. a) 1%. This is approximated because the data available shows 1.1% of girls reaching menarche by age 10.7 years. This increases to 12.5% of girls reaching menarche by age 11.7 years, and up 59.5% by age 13.1 years. Source, Rubin, C., et al (2009) *Timing of maturation and predictors of menarche in girls enrolled in a contemporary British cohort*, *Paediatric and Perinatal Epidemiology*, 23 (5), 492-504.
8. a) 13. The defining sign of delayed puberty in girls is no breast development by age 13. Source: [Society for Endocrinology](#), accessed 22 January 2016
9. b) 14. In boys, an unusually late puberty would be said to occur if there were no sign of testicular development by age 14. Source: [Society for Endocrinology](#), accessed 22 January 2016
- 10) c) 12. The estimated median age at menarche is 12.93 years. Source: Rubin, C., et al (2009) *Timing of maturation and predictors of menarche in girls enrolled in a contemporary British cohort*. *Paediatric and Perinatal Epidemiology*, 23(5): 492-504.
11. b) 12.9. This is based on one small-scale study, which also found that boys often felt unprepared for first ejaculation (referred to as semenarche or spermarche) and that it occurred earlier than expected. Source: Stein, J et al (1994) *A study of white middle-class adolescent boys' responses to "semenarche" (the first ejaculation)*, *Journal of Youth and Adolescence*, Vol 23, Issue 3, pp 373-384.

Expert interview

Dr. Celia Roberts

Dr Celia Roberts serves as Co-Director of the Centre for Gender and Women's Studies at Lancaster University and has studied early puberty for a decade.



Can you remember your own education about puberty?

I first learnt about puberty at home. I remember feeling utterly embarrassed when my mother read me a book about periods when I was in Year 6 (age 11). She was being kind and open, but I really hated the whole idea and had never heard of this awful business of bleeding! I found it alarming and even though I had learnt about menstruation, when I got my first period at age 12 I felt deeply upset. (On the other hand, I thought growing breasts was pretty great!) At school we were taught about puberty very late – in the 2nd year of high school (age 14). We all watched a film sponsored by a sanitary products company. It did not make much of an impression on me. Looking back, I think I was very poorly educated about both puberty and sexuality and had to rely on Dolly (an Australian teen magazine) for most of my information.

Why does puberty interest you? I think puberty is a hugely important experience – one that should be exciting and positive. As a feminist, I worry that for many girls it's a time of encountering gender-related shame in a whole new way. I think many boys – my own young sons exemplify this – look forward to growing up and see puberty as a sign of moving into a positive new social position. I really want girls to be able to share this feeling and to feel positive about their emerging teen sexuality and bodies.

What counts as early puberty, and has puberty really become earlier? What counts as early puberty is a fiercely debated issue! Since the late 1960s, puberty has been considered early if it came before 8 for girls and 9 for boys. Importantly, we are talking here about the first stages of puberty – breast development and pubic hair growth in girls, increase in size of testicles and pubic hair growth in boys – not menstruation or nocturnal emissions. Nowadays, however, many children – over 40% in some groups – start puberty before these ages. So some scientists argue that we need to change our definitions of 'early'. They

suggest that puberty starting at 7 for girls and 8 for boys should not be considered early anymore. Some people also suggest having different norms for black and white girls, as black girls are more likely to develop earlier. For black girls, then, they suggest that only puberty starting before 6 should be considered early. As I argue in my book, these kinds of claims open up difficult debates around how to define ethnic groups (each research project defines 'racial' categories differently).

One practical suggestion would be to talk about puberty gradually over a number of years and sessions, rather than delivering 'the big talk'. This would help to normalise pubertal development.

It's well-established now that puberty timing has changed – there is a lot of research in a wide range of countries, including the UK, pointing to this – but there is far less agreement about why this is happening. There is a lot of speculation about why this might be. The thinking about causes of early puberty comes from a wide range of disciplines and approaches and there is little crossover and discussion amongst the different lines of thought. The two strongest arguments concern over-weight and environmental toxins, although, in both cases, scientists are far from 'proving' causes. The literature on over-weight is contested, with some arguing that it's clear that pubertal timing is affected by heaviness, and others finding this not to be the case. The argument about environmental toxins is deeply political and very difficult to prove – environmental toxins are ubiquitous and invisible, and their effects are hard to measure. Many people and organisations believe that endocrine-disrupting chemicals in food, water, and manufactured objects are likely to be affecting sexual development and there is good research going on in this field. A third important area of debate looks at the role of early life stress in pubertal timing. This work connects to findings that girls with serious life stressors, such as being internationally adopted, are more likely to develop early. It may also help to explain why black girls in racist cultures are more likely to develop early.

Expert interview

(continued)

Could our social and emotional experiences be involved as triggers for puberty as well as physical and environmental factors then?

I argue in my book, *Puberty in Crisis*, that making divisions of this sort is unsustainable. For me, puberty is an exemplary case for thinking more critically and creatively about the entanglements of social, psychological and biological forces in our lives and bodies. Indeed, I describe puberty as 'bio-psycho-social'. Pubertal timing, then, will inevitably be an outcome of a mix of forces.

We all bring our histories with us in approaching these topics, so having opportunities to process these is very important.

Do you think adults view puberty in the same way as children?

I think adults bring a lot of their own fears and concerns to puberty, stemming both from memories of their own development, and knowledge about adult sexuality and gender discrimination (broadly conceived). I think adults make strong links between pubertal development and sexuality that are perhaps less clear for young people. Adults have also been exposed to years of enculturation in which female sexuality is seen as passive and vulnerable and male sexuality as aggressive and demanding. Parents worry, then, about early developing girls receiving unwanted or inappropriate male attention. They tend to worry less about these girls wanting to have sex and do not express positive feelings about girls' sexual futures. Discussions of boys' early puberty are much less negative.

Is it significant that there is more focus on early puberty for girls compared to boys?

The focus on girls is really important and interesting. Almost all of the existing research focusses on girls – clearly the trend towards earlier pubertal onset is more noticeable in girls. But is this partly because we notice and worry about girls and women more, because we view girls and women as inherently more vulnerable? There is certainly an elaborate scientific tradition of studying female sexuality on which the early puberty literature builds. But the focus on girls might also indicate

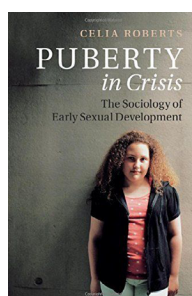
that girls' bodies are more affected by environmental toxins, or that girls experience more stress. These questions remain open in my view.

How can school SRE better prepare children for puberty?

I think SRE must address sexual development at earlier ages. It seems obvious to me that children are less likely to be distressed or shocked by pubertal changes if they expect them and find them somehow familiar. I think SRE can and should open up pathways for children to feel positive both about their bodies as they change and about their sexual futures. One practical suggestion would be to talk about puberty gradually over a number of years and sessions, rather than delivering 'the big talk'. This would help to normalise pubertal development. Younger children notice that older kids' bodies are changing – there is no need to wait until it's happening to them to start a conversation about that. These conversations could also include discussions about diversity and recognise that puberty will happen at different times and in a range of ways for any group of kids, but that eventually everyone will become teenagers and then adults. Including parents in conversations about sexual development (including how it has changed over the last fifty years) may also help parents to reflect on their own experiences and to feel better able to help their children.

Is there anything else that schools can do to support children?

I think that adults need to feel knowledgeable and comfortable about puberty and to have space and time to think about and discuss contemporary changes in pubertal timing. We all bring our histories with us in approaching these topics, so having opportunities to process these is very important. If the adults in schools feel relaxed and confident about helping children through puberty they will find good solutions to any arising issues. On a more practical note, there must be proper menstruation management provisions in primary schools and early menstruators must not be made to feel shamed in any way. Arrangements for swimming and PE must help children to feel positive about the diversity they will see in body types and development stages that will be present amongst any group of peers.



*Dr Celia Roberts' new book, **Puberty in Crisis: The Sociology of Early Sexual Development**, was published by Cambridge University Press in 2015.*

Voice of young people

Survey with young people

Survey with young people

The Sex Education Forum ran an online survey with young people aged 11-25 in November – December 2015. The aim was to find out if young people had learnt about their bodies, sexual development and consent at school and whether or not their school SRE met their needs in this area.

Findings have been published in 'Heads or Tails?; what young people tell us about SRE' (2016). Data from the survey relating to learning about puberty are first published in this article.

A total of 2,648 young people took part in the survey, but those who had not been to school in England have been removed from the survey data for the analysis contained in this report. This leaves 2,326 responses. Because not all respondents completed every question, the total number of respondents to each question is recorded in the data tables.

Young people identifying as female accounted for 66% of responses, with 29% identifying as male and 4.5% as trans, non-binary or other. Over 90% of respondents were attending (or had last attended) a state school; and 7% an independent school.

Findings about puberty education

The survey revealed gaps in young people's education about puberty. Changes affecting boys, such as wet dreams, are particularly neglected and almost a quarter of female respondents had not learnt about periods before they started having periods themselves. Young people identifying as trans, non-binary or other genders were least likely to have learnt all that they needed to about body changes at puberty.

- Nearly four in five (79%) of young people learnt about periods at school, 15% did not.

- Amongst the youngest respondents (11, 12 and 13 year olds) more had learnt about periods at school (83%), but still leaving 13% who had not learnt about periods at school.

- Almost a quarter (24%) of respondents identifying as female did not learn about periods before they started having periods.

- Female respondents were more likely than male respondents to have learnt about periods at school (83% for female respondents compared with 70% amongst male respondents).

- Half of young people (50%) did not learn about wet dreams at school, and 38% of respondents identifying as male had experienced wet dreams before they had learnt about them.

- 30% of young people did not learn all that they needed to about body changes at puberty. This dropped to 22% for male respondents, rose to 33% for female respondents and rose to 46% for respondents identifying as trans, non-binary or other genders.

Ten tips from young people for good quality puberty education

1. Include more detail about body changes such as pubic hair growth, vaginal discharge and wet dreams.
2. Show a diverse range of body forms and shapes in resources.
3. Explain that there is a wide range of experiences of puberty, including age that it starts, and that this is normal.
4. Address the emotional and psychological dimensions of puberty.
5. Take the opportunity to challenge gender stereotypes.
6. Start talking about puberty earlier.
7. Make it clear that sexual feelings (or the absence of them) and development are normal.
8. Plan opportunities for pupils to ask questions.
9. Find ways to involve parents and carers too.
10. Invite discussion about different cultural and religious practices relating to puberty.

Voices of young people

(continued)

Table: Data from Sex Education Forum young people's SRE survey 2015

	Yes	No	Not Sure	Don't understand the question	# Responses to question
Did you learn about periods at school?	79.3%	14.5%	5.73%	0.46%	2180
If you are someone who has periods, did you learn about periods before you started having periods?	70.35%	24.17%	5.21%	0.28%	1440 (female respondents)*
Did you learn about wet dreams at school?	38.31%	50.46%	9.71%	1.52%	2182
If you are someone who has had wet dreams, did you learn about them before you first had them?	53.73%	38.15%	6.33%	1.79%	616 (male respondents)**
Did you learn all that you needed to about body changes at puberty?	57.39%	30.39%	11.66%	0.55%	2178

*This question was open to all respondents because periods are not exclusively experienced by those who identify as female, but respondents seemed to be confused by the question and high numbers of male respondents answered it, therefore for this analysis only female respondents are included.

**As above, this question was open to all respondents but the high volume of female respondents answering it suggested an element of confusion about the question, so only male respondents are included in this data.

Benefits of good education and the gaps in reality

Young people were invited to leave a comment in an open text box in response to the question 'Did you learn all that you needed to about body changes at puberty?' Some comments reflected on the benefits of good education:

"I am now confident about what is happening inside my body thanks to the education in school. I felt very prepared for what was going to be changing." (female respondent, 14 years old)

"School was one of the reasons why I wasn't as worried or scared when my body was changing as I knew what was happening from the lessons." (female respondent, 14 years old)

Other comments revealed the lack of education about puberty:

"They told us our bodies would change. They did not, however, tell us what would happen or how we should deal with it." (female respondent, 14 years old)

"I haven't learned anything at school but parents have explained at home." (male respondent, 14 years old)



Several comments highlighted specific gaps in the content and quality of provision. Key gaps include: information about normal vaginal discharge and lubrication, detail about pubic hair growth and shaving, the diversity of bodies including breasts and genitalia, the age range for the start of puberty, sexual arousal, masturbation and orgasm.

"I didn't learn about all the places that adults grow hair, e.g. the extent of pubic hair (it was just drawn as a little triangle on the mons pubis and did not extend to the upper thigh and anus, for example), stomach, feet, around the nipples etc." (non-binary respondent, 24 years old)

"There was nothing about what normal breasts look like i.e. that inverted nipples are normal, hair will grow and not all breasts look the same between people. Also that one boob can look different compared to the other on one person." (female respondent, 18 years old)

"For me, it was too late. We learnt about puberty aged 11. I started puberty aged 9, and couldn't have felt more like a freak about it, compared to my friends, and the little they knew about what was happening to me." (female respondent, 21 years old)

"I think maybe for Muslims an Islamic view should be given? I felt very upset by having these sort of changes and didn't really understand what was going on. And I felt as though I was a bad Muslim." (male respondent, 21 years old)

"I was told nothing about vaginal lubrication! I spent the better part of about two years thinking there was something wrong with me, that I must have some kind of weird disease, but being scared to ask anyone about it... and then eventually my mother casually told me in passing that it was a thing that was normal and I felt extremely relieved..." (non-binary respondent, 22 years old)

"We were never shown what things might actually look like when puberty was finished which led to a lot of body issues for me." (trans respondent, 21 years old)

"I think that there should have been a bigger emphasis on how different people mature at different ages – this may prevent bullying for premature development." (female respondent, 21 years old)

"We were very briefly explained periods with no opportunity to ask questions. When I first started it was so much worse and I honestly wanted to die, for my first year I didn't go to school when I was on as I didn't know how to control it. I was nowhere near prepared enough." (female respondent, 16 years old)

"Sex-positive talk isn't really encouraged at school so we didn't learn that most but not all people would have sexual urges." (non-binary respondent, 14 years old)

"Bodily changes include hormones and therefore mental health issues. Needs to be openly discussed." (female respondent, 23 years old)

"No comment on stretch marks, breast growth (what's normal what's not), what's normal vagina-wise." (female respondent, 20 years old)

"Things like BV (bacterial vaginosis) and cystitis never explained (lots of friends noticed this too)." (female respondent, 24 years old)

Expert feature

Dr John Coleman

Dr John Coleman is a clinical psychologist who specialises in young people. For the last nine years he has been a Senior Research Fellow at Oxford University. Here, he provides an accessible guide to the teenage brain.

What are the changes that occur in the brain during adolescence?

The first thing to say is that the changes that occur in the brain during adolescence are more extensive than at any other time in the life cycle apart from the changes that occur in the first two years of life. This is an extremely important finding, and has major implications for our understanding of the teenage years. These years represent a critical period in development.

It is also worth noting that the rapid expansion of neuroscience in the last 15 years has been due to the development of the technology of scanning. This technology has made it possible for us to learn more about the brain without using invasive or painful techniques of investigation. However it has to be remembered that – in spite of huge advances – the technology remains limited in what it can achieve. We are at the beginning of a journey, not at the end.

So, at this time, what do we know about the changes that do occur?

- After an increase in grey matter in late childhood, there is a period in adolescence of what is called pruning, where unwanted connections between nerve cells are reduced, and useful connections are strengthened;
- The material that encases the nerve fibres – called myelin – is strengthened, so that impulses can travel faster and more effectively around the brain;
- The bridge between the two halves of the brain becomes more developed, allowing the brain to use its capacity better;
- Two areas of the brain show particular

Dr John Coleman is a clinical psychologist and Senior Research Fellow at Oxford University.



growth and change: these areas are the prefrontal cortex, responsible for thinking, planning and problem solving, and the amygdala, responsible for emotion, arousal and sensitivity to rewards;

- These two areas do not necessarily develop at the same pace. For some young people the amygdala may mature earlier, meaning that for a time reward sensitivity takes precedence over planning and thinking about consequences.

What is the current knowledge of brain development and how this is linked to the experience of puberty?

This is one area we don't know a lot about at the present. We may assume that brain development keeps pace with pubertal development, but this is as yet unknown. Very few studies have investigated this question, partly because of the difficulties of obtaining clear measures of the pubertal stages of development, and partly because the technology of scanning is limited in what it can tell us. However, since we know that changes in hormone levels have a major impact on pubertal development, it seems likely that these changes in hormone levels will also affect brain development.

Do you think we should teach brain science to young people?

Yes. It is extremely useful for teenagers to know something about how their brains are changing, and what this means for emotion and behaviour.

These are some of the things that would be helpful for young people to understand:

- This is a stage in development. It is a process of change. Things will not stay the same. Mood swings, unexpected feelings, frustration and other emotions are reflections of the invisible changes that are occurring in the brain at this time;

- The brain is developing rapidly, giving young people new skills. Memory is improving, vocabulary is increasing, and the ability to think in new ways is becoming possible. This is exciting and should be celebrated.

- Brain development is not something that is fixed. The teenager years are a sensitive time, and young people can do things to help their brains develop. As two examples, physical exercise and a regular sleep routine can make a big difference.

Using screens does not damage the brain, as some people claim. However too much screen time, especially at night, should be avoided.

- Because this is a sensitive period, it is important that a wide variety of new connections in the brain are established at this time. The more connections that are created, the better it will be for the long-term establishment of brain function. The lesson from this is that during adolescence the teenager should be involved in as wide a range of mental activity as possible.

- Using screens does not damage the brain, as some people claim. However too much screen time, especially at night, should be avoided. If teenagers are using screens a lot, they should always take a break at regular intervals.

What are the implications of this knowledge for adults caring for young people? Some of the implications are the same for adults as they are for young people. So, knowing that this is a stage of development, and that things will not stay the same, can be very helpful for parents and carers. There are,

Adults have a role to play. This is something that is not often realised. Because this is such a critical time, the home environment has the capacity to enhance or restrict the process of brain development. Encouragement, praise, and endorsement can all assist healthy brain function.

however, other implications of brain development which can be very useful for adults to be aware of.

- Because there is so much change in the brain at this time, it is inevitable that this will require quite a lot of adjustment. Adults should make allowances for unpredictable or contradictory behaviour;

- Sometimes adults will find the teenager's flip-flop of emotions difficult to live with. Whilst we used to assume that this was due to hormones, now we know that this feature of teenage behaviour is a result of major changes going on in the amygdala and other parts of the brain implicated in emotion regulation;

- Adults have a role to play. This is something that is not often realised. Because this is such a critical time, the home environment has the capacity to enhance or restrict the process of brain development. Encouragement, praise, and endorsement can all assist healthy brain function. In addition, parents and carers can help to establish sensible routines where sleep, exercise and digital use are concerned;

- On the question of sleep one of the results of recent research on the brain has been to highlight the fact that teenage sleep patterns are not the same as those of adults. Teenagers become sleepy later in the evening than adults because of the way the hormone melatonin works during the adolescent years;

- Parents and carers often say they cannot understand why young people do stupid or thoughtless things. Knowing how the brain is developing at this time can help to explain some of this behaviour. The prefrontal cortex sometimes takes a long time to catch up with other parts of the brain. Relationships will be easier to manage if adults can remember that this is a stage, and that substantial change is underway.

What if... ?

Menstruation management

What if ... we want to improve menstruation management in our schools?

There's a long history of shame and secrecy around periods. Some of this comes from historical and cultural taboos that are passed down from one generation to the next, but for the past century or so, media advertising has played an influential role in perpetuating this. Dr. Elizabeth A. Kissling details this in *Capitalizing on the Curse: The Business of Menstruation* (2006) and you can find a quick run down of the issue in [Lifting the Lid](#), a short film I made with the Open University. Advertising messages can make their way into schools in the form of leaflets and free lesson materials from major multinational corporations who manufacture and sell disposable menstrual products. Schools can accidentally transmit to pupils the message that periods should be kept secret, when actually they're something people may choose to keep private, but don't have to. Encouraging an atmosphere where students of all genders can speak freely about periods if they want to helps menstruators to compare notes. Greater openness supports a better overall attitude to the changes of puberty and a positive sense of wellbeing, and may help menstruators to realise if their periods are unusually painful, and seek medical help for reproductive health-related medical conditions such as [endometriosis](#).

When pupils do not have adequate facilities for menstruation management, it can have a negative impact on education and may result in school absence. This has been documented in a number of studies of schools in less economically developed countries, showing a [correlation between poor menstruation management and school absence](#), but there is also evidence that this affects pupils in the UK. [In a letter published in the British Medical Journal](#) in 2010, Dr. Daniel Hindley noted that in a study conducted at the Bolton NHS Foundation Trust, 'menstruation problems' was listed as the 5th most common reason given for school absence in a study of 251 primary and secondary pupil referrals to the Trust. In the letter, he

Chella Quint is a menstruation education researcher, artist and performer based in Sheffield. She founded the [#periodpositive](#) project to promote accurate and shame-free menstruation talk for schools and individuals.



concludes that, "In all cases of non-attendance, it is essential that preventive and early intervention should be seen as the cornerstone of multiagency working to ensure pupils' right to education and to protect their health and wellbeing."

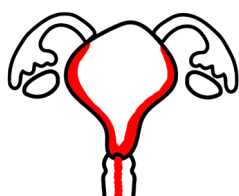
Sometimes the worry alone is enough to disrupt learning. While researching for my Master's Degree, one pupil actually came into a focus group session straight from a GCSE modular exam and happened to report the following:

"I came on during my exam, Miss! Everyone saw! It was the most embarrassing moment of my life and I couldn't even get up! I couldn't even think about my exam!" - Y9 girl, Sheffield, 2013

More recently with DECSY's Gender Respect Project, I replicated smaller scale versions of studies originally published in *'This is the time to grow up': Girls' experience of menstruation in school* by Dr. Shirley Prendergast, a senior research fellow for the Child Care and Development Group at the University of Cambridge, in 1992. Dr. Prendergast found:

"...General anxiety about menstruation in school was very significantly related to a number of aspects of school provision and facilities: less reliable toilet facilities, difficulties keeping supplies safe and obtaining emergency supplies...anxiety was also increased if a girl had not been told about menstruation by anybody in advance of onset". (Prendergast, p109, 1992)

My pupils consistently gave the same replies. As in 1992, pupils in my focus group also reported being very concerned about leaking menstrual blood as their biggest menstruation worry, and rated their school's menstruation management provision as inadequate. Some simple changes to support better menstruation management can make a world of difference,



allowing pupils to concentrate more on their work than on their worries. Dr. Prendergast goes on to recommend a school audit; this is an adapted and slightly updated version.

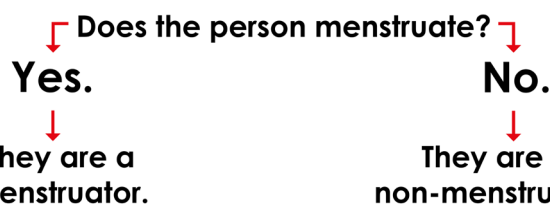
In your school, how easy is it for students to manage their periods? Please tick the appropriate box in this chart for each context, or leave blank if you do not know:

Availability/condition of school toilets (all genders)	Always	Usually	Sometimes	Rarely	Never
Toilets can be accessed during lessons					
Toilets can be accessed during exams					
Toilets can be accessed at break time					
Free menstrual products available					
Reusables (or information about them) available					
Facilities are clean, safe, locks on doors					
Hot water					
Hand drying					
Soap					
Loo roll					
Bins in all toilets					

Carrying out the audit can also be an opportunity to involve pupils, as it is their opinion about the condition of facilities that should count. The audit may reveal inconsistencies from class to class. Having completed an audit, start looking at changes you can make across the school. Here are some ideas for Period Positive schools, which apply to both primary and secondary schools.

1. Don't make assumptions about who has periods. Whether for physiological, gender identity, trauma or medical reasons, you may have pupils who you assume will menstruate but will not – some pupils are intersex, trans, non-binary or have chromosomal or hormonal medical conditions which delay puberty – be sensitive to individual pupils in your class and ensure you are aware of their medical statements and care plans. For trans and non-binary identifying pupils (who may not have indicated their gender identity to all staff) gender-neutral language can be critical to ensuring they receive valuable information that does not exclude.

How to adapt language to include menstruators of all genders in menstruation education:



Instead of	Replace it with
girl/woman (when meaning someone who menstruates)	menstruator
boy/man (when meaning someone who does not menstruate)	non-menstruator
becoming a woman	starting puberty/growing up
feminine hygiene products	menstrual products
femcare	menstruation management
women's health	reproductive health

2. Small pedal bins can be put in the stalls of all toilets for boys and girls, including the disabled toilet. This avoids singling out an early menstruator or trans boy who needs a bin. Explain to pupils that most things can't be flushed down the loo, and these bins are there for pupils' convenience. Many schools hire in 'sanitary disposal units' which are filled with disposable menstrual products and emptied by a specialist company, but many of them are poorly designed, difficult to operate, or too wide for many school toilet cubicles. Actually, ordinary small pedal bins can be used depending on the size of the school. See [advice on clinical waste from Gov.uk](#) which advises that human hygiene waste is packaged separately from other waste streams if premises generate more than one standard bag over the usual collection interval. Consider adding a gender-neutral toilet as some primary and secondary schools have already done. Include menstrual product disposal in conversations about recycling, waste management, littering and citizenship generally.

3. Make a range of free menstrual products available in an accessible way. Staff can place free menstrual products in a range of places, for example in a basket or bowl in plain sight in the reception, library, a year tutor's office, and free dispensers in the toilets themselves. This can encourage more open communication about menstruation. Teachers who wish to support those

What if...?

continued

who feel shy can also put a 'talk to me about periods!' sign or a symbol, for example the #periodpositive logo below, in their classroom if they want to indicate that they can give out spare products, and are knowledgeable about menstruation and happy to answer questions.



4. Show examples of a range of several different brands, styles and types of menstrual products. A lot of people think there are only disposable pads and tampons, but there are reusable menstrual products too and they are gaining popularity for their convenience and cost-effectiveness. Advantages of reusables are that they are washable, comfortable, good for the environment and the budget. Menstrual cups come in a variety of sizes and styles from a number of different brands – teaching young people about reusables as well as disposables helps prepare them to make an informed choice about what they want to use. When teaching about disposables, use more than one brand – not just the free samples sent to schools, and avoid handing out branded leaflets and lesson activities. Cloth pads can also be made using this [free pad pattern archive wiki](#) – patterns or ask for free samples from a growing number of online distributors. Many menstrual cup companies will also provide example cups to schools.

Likewise, avoid using just one type of branded lesson resource as part of puberty education. Rebecca Stothard, subject leader for PSHE in Sheffield stopped using branded resources at her school:

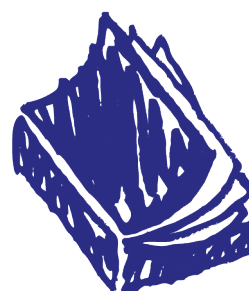
"We decided not to use branded teaching packs in our school because we felt it was unfair to our students to promote any particular brand over another. We now show students

a range of different brands and products, including cloth pads and menstrual cups. We want students to have as much information as possible about all the options so that they can make an *informed, not influenced* choice."

5. Use teachable moments to remove the sense of secrecy about menstruation. Be alert for off-the-cuff opportunities, for example, a pupil needs a pad or someone teases a classmate with a derogatory assumption about being on their period, or a pupil leaks in class. Be sure to respond calmly if a leak happens, as expressing disgust creates a sense of shame around stains and blood. How you handle these moments set the tone – humour, neutrality and matter-of-factness work well – looks of disgust or ignoring these incidents can speak volumes. Teachable moments can also arise in other subjects, for example in physical education (menstruation management in sport, including menstrual cups).

6. Make menstruation education into an ongoing conversation rather than a 'big talk'. The best way to dispel myths and combat shame perpetuated by menstrual taboos is to think of it not as 'the talk' but as an ongoing conversation that can start with a toddler's first question about a parent's menstruation management observed at home, or formally in Key Stage 1 with a discussion of bodily functions and systems. Using humour is a great way in – tiny kids love bodily functions – they find them hilarious! 'Bogeys', 'wee and poo', 'being sick' and 'trumping' ...it's easy enough to explain that 'menstrual blood' is just one more interesting thing that comes out of your body sometimes when you start growing up – but only for people who have a vagina. As pupils get older, using the lesson ideas on page 26 is an easy way to keep the 'period conversation' going.

For more tips on #periodpositive menstruation education and for more lesson ideas visit www.periodpositive.com.



Lesson ideas

Teaching about puberty

These are the National Curriculum Science topics which are relevant to sex education. All maintained primary and secondary schools must teach the National Curriculum. Parents do not have a right to withdraw their child from this. Many academies choose to follow the National Curriculum.

National Curriculum Science PoS statutory from Sept 2014	Notes and Guidance (non statutory)
Key Stage 1	Pupils should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at Key Stage 1.
Year 1 PoS: Animals, including humans identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	Pupils should have plenty of opportunities to learn the names of the main body parts (including head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth, teeth) through games, actions, songs and rhymes.
Year 2 PoS: Animals, including humans notice that animals, including humans, have offspring which grow into adults	Pupils... should also be introduced to the processes of reproduction and growth in animals. The focus at this stage should be on questions that help pupils to recognise growth; they should not be expected to understand how reproduction occurs. The following examples might be used: egg, chick, chicken; egg, caterpillar, pupa, butterfly; spawn, tadpole, frog; lamb, sheep. Growing into adults can include reference to baby, toddler, child, teenager, adult.
Lower Key Stage 2 - Years 3 & 4	
Year 4 PoS: Living things and their habitats explore and use classification keys to help group, identify and name a variety of living things	Pupils could begin to put vertebrate animals into groups, for example: fish, amphibians, reptiles, birds, and mammals [Pupils]... should observe life-cycle changes in a variety of living things, for example plants in the vegetable garden or flower border, and animals in the local environment.
Upper Key Stage 2 - Years 5 & 6	
Year 5 PoS: Living things and their habitats describe the differences in the life-cycles of a mammal, an amphibian, an insect and a bird	Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.
describe the life process of reproduction in some plants and animals	They might observe changes in an animal over a period of time (for example, by hatching and rearing chicks), comparing how different animals reproduce and grow.
Animals including humans describe the changes as humans develop to old age	Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.
Year 6 PoS: Living things and their habitats describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including plants, animals and micro-organisms	Through direct observations where possible, they should classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). They should discuss reasons why living things are placed in one group and not another.
Animals including humans recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.	Pupils should learn how to keep their bodies healthy and how their bodies might be damaged – including how some drugs and other substances can be harmful to the human body. Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.
Evolution and inheritance recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents	They should be introduced to the idea that characteristics are passed from parents to their offspring, for instance by considering different breeds of dogs, and what happens when, for example, labradors are crossed with poodles.

Lesson ideas

continued

Key Stage 1

What are schools required to teach?

Learning about puberty can be connected to a continuous process of learning about growth, change, and life-cycles, concepts which are outlined in the section on 'Animals and humans' in National Curriculum Science.

The Year 1 science National Curriculum programme of study includes pupils being taught to 'identify, name, draw and label the basic parts of the human body'. Although not mentioned specifically, it is important that pupils are taught the names of the external genitalia and know the differences between boys and girls. This is vital for safeguarding so that a child has language to describe the private parts of their body and to seek help if they are abused. Ofsted has raised concerns about primary schools failing to teach correct names for sexual parts of the body and the Government guidance 'Keeping children safe in education' highlights that safeguarding needs to be addressed through teaching opportunities.

Lesson ideas for Key Stage 1

Key questions to explore with pupils at Key Stage 1 are:

- Why are girls' and boys' bodies different?
- What do we call the different parts of girls' and boys' bodies?
- Where do babies come from?
- How much have I changed since I was a baby?
- How are other children similar and different to me?

Lesson idea: Growing and changing

Growing and changing is a clear theme in Key Stage 1 science. The following lesson idea looks at this concept and also provides an opportunity to begin exploring the social and emotional aspects of growing up. It can be used with early years and lower Key Stage 1. It will encourage pupils to look at how much they have changed since they were a baby and to express how other children are similar or different to them.

Starter: As an opening round, with pupils seated in a circle, ask pupils to take turns to share one thing they can do now that they could not do before they started school. The teacher can model a response to start the round. Encourage pupils to come up with new ideas rather than repeating what other children have said. If they get stuck they can pass.

Main activity: Now give each pupil a picture (from a magazine or resource) of a person engaged in a physical activity. Include pictures of people of different ages and genders, from babyhood to adulthood. Fix a large sheet of paper to the wall and ask each pupil in turn to stick their picture along the timeline according to the age when people might be able to do these things. Point out that people grow and change at different rates and will develop different interests and skills in terms of physical activities. Be sensitive to any children

with disabilities and include imagery of people with disabilities in the activity. You may like to ask children to bring in photos of when they were young. What has changed? Emphasise that we all grow and change as we grow older. What will change in the future? If staff create a baby photo collage at the start of the unit of work too, pupils will enjoy guessing who is who!

Plenary: To reflect on the learning, ask pupils what they are looking forward to when they grow up, using a sentence starter such as 'When I'm older I will be able to...'

Linked themes for Key Stage 1

During Key Stage 1 pupils should also begin learning about plant and animal life-cycles, exploring questions such as 'How do different animals have babies?', and 'How do different animals look after their babies before and after birth?'. See primary resource list below.

Key Stage 2

What are schools required to teach?

National Curriculum Science provides a clear context for learning about puberty as part of understanding growth and lifecycles. Learning about the changes experienced in puberty is included in the programme of study for Year 5, but this can be introduced earlier in line with the needs of pupils. Legally, all state-funded schools must have due regard to the government SRE guidance (DfEE, 2000). This states that boys and girls should learn about puberty before they experience it and should learn about how babies are born before they start secondary school. Given that some children will start puberty before Year 5, schools must consider starting teaching about puberty earlier. It is important to create opportunities to explore the emotional and psychological dimension of puberty along with the physical changes, as this will support pupil wellbeing, which schools have a legal duty to promote.

Lesson ideas for Key Stage 2

Year 4 or 5 is an ideal time to begin a module on puberty, providing opportunity to explore the physical, psychological and emotional dimensions. Planning can be informed by using a well-established needs identification technique: 'Draw and write'. Each pupil will need a piece of A4 paper.

Puberty topic: Needs identification activity

Instructions: Do not talk about the topic before the activity. Introduce the activity by inviting them to take part in some 'research' about growing up. Tell them their views and opinions are very important for planning work they will be doing later. Ask them to keep their ideas to themselves and explain that you will be asking them to draw and write in response to some

questions. Explain that they are being asked to do the activity individually because everyone will have different ideas. It is not a test. There are no right and wrong answers. If they need help they should raise a hand and whisper to you if they need help for example with writing (don't worry too much about spelling!).

Give pupils a piece of blank A4 paper. Ask pupils to fold the paper in half and turn it so that it is like a 4 page booklet. They can number the pages so the front is page 1, inside are pages 2 and 3 and the back is page 4. They don't need to put their name on the paper, but just write on the front (page 1) their age in years.

Ask pupils to imagine someone about two years older than themselves. The person can be male, let's call him Jon, or female, let's call her Kim. (Other names can be used, but is important that they are not names of pupils in the class). Now ask them to imagine their person (Kim or Jon) is going out, dressed up and looking grown up. Ask them to draw a picture of what Kim or Jon will look like on page 2 of the booklet. Remind them it is their ideas which are important and they must do it on their own.

Now ask them to write by the drawing how they can tell Kim or Jon (their person) is grown up (you may need to move them on with the drawing – they can come to do colouring in if there is time). Draw some thought clouds from their head and write inside how Kim or Jon (their person) feels about going out looking all grown up.

Ask pupils to draw a bag that their imaginary person can take out with them. Ask what will be in the bag that shows they are growing up? Pupils can either draw or write the contents of the bag. Now ask pupils to turn to page 3 and draw Kim or Jon (their person) getting out of the shower or bath. Around the drawing write how their body is changing that shows they are growing up. Instruct pupils to draw thought clouds and write inside it how Kim or Jon (their person) feels about their body changing.

Finally ask pupils to turn over and on the back of the booklet (page 4) ask pupils to think about themselves. Ask them to draw thought clouds and write how they feel about growing up. Thank the pupils and collect in the booklets, explaining that you will use the pictures and writing to plan the work they will be doing about growing up. Wherever possible, check with pupils that you understand their drawing and add notes to the work to reflect additional information that pupils tell you as you're going round the class, especially if they aren't confident writers yet. Use the pictures to plan lessons that respond to issues identified by the pupils and address any misunderstandings or gaps in knowledge and understanding.

This activity is based on a Growing Up Draw and Write activity provided by Tim Hull, CSN consultancy CIC; it was one of many created by Noreen Wetton. The general draw and write technique and other examples are provided in 'Health for Life' by Noreen Wetton and Trefor Williams (2000). Also available in the [Sex Education Forum SRE consultation activities toolkit](#) (2014).

The results from this activity can be very helpful to inform the learning that follows and may lead to additions or nuances to the 'questions to explore' listed below.

Questions about 'my body' to explore with pupils at Key Stage 2:

- Why is my body changing?
- Why are some children growing quicker than others?
- Why are some girls in my class taller than the boys? How do girls and boys grow differently?
- Why are we all different? Is it ok to be different?
- What are similarities and differences between boys and girls?
- Should boys and girls behave differently?
- What are good habits for looking after my growing body?
- Where can I find information about growing up?

Questions about 'life-cycles' to explore with pupils at Key Stage 2:
Lower KS2

- Why does having a baby need a male and a female?
- What are eggs and sperm?
- How do different animals have babies?
- How do different animals look after their babies before and after birth?
- What happens when people get older?

Upper KS2

- What is sex?
- What is sexual intercourse?
- How many sperm does a man produce?
- How many eggs does a woman have?
- How do sperm reach the egg to make a baby?
- Does conception always occur or can it be prevented?
- How do families with same-sex parents have babies?
- How does the baby develop?
- How is the baby born?
- What does a new baby need to keep it happy and healthy?

Double lesson idea: Fertilisation, sexual reproduction and the role of puberty in humans

This double-lesson idea enables pupils to understand why fertilization is essential to sexual reproduction and the role of puberty in humans. It combines a close look at scientific details with development of communication skills and vocabulary for body parts and processes and gives pupils an opportunity to express scientific concepts visually. It will build well on earlier learning about animal and plant life-cycles. It is adapted from lesson ideas created by Sophie D'Amario and Sue Hopkinson.

Starter: Begin by displaying an image of the human sperm meeting the egg (fertilisation), for example the light microscopy image of egg and sperm available from Wellcome Images (see resources). Ask pupils if they know what is happening. Point out the difference in size between the egg and the sperm and the difference in numbers between the egg (one, or sometimes two produced per cycle/approximately per month) and the sperm (millions are produced at any one time although only a few are visible in the photograph and many don't get as far as the egg), and the fact that only one sperm can fertilise the egg. Ask pupils how the sperm move (swimming with their tails) and if the egg needs to move (the egg moves a short distance within the female reproductive system but can't move by itself, it is wafted along by the cilia). Ask pupils what will happen next... i.e. the fertilized egg may now attach to the uterus (womb) and begin to develop into

Lesson ideas

continued

a fetus and then a baby. Ask 'where does fertilization take place'. It can take place inside the woman's body (in the fallopian tube) or in a laboratory (in vitro fertilization - IVF). Ask 'where does the sperm come from?' and 'where does the egg come from?' Explain that fertilization is part of sexual reproduction, which requires two parents (whereas asexual reproduction requires one). The sperm and egg are the male and female sex cells (gametes) and when they fuse fertilization takes place. Now introduce diagrams or 3D models to show the internal and external parts of the reproductive system so that pupils can see where sperm and eggs are stored and the route that each follow to reach each other. Ask pupils at what age a human can produce sperm or eggs? (Females are born with all their eggs, but they don't ripen until puberty, males begin producing sperm at puberty). Ask what changes happen in a male or female body which signal that the body has matured and is now producing eggs or sperm (clear cervical discharge signaling ovulation and periods/wet dreams).

Main activity 1: Explain that there is a wide range of ages between which puberty begins. Ask pupils to work in pairs and think of three reasons why humans are not born ready to reproduce. During feedback, highlight that the difference between physical readiness and emotional readiness to be a parent, and that parenting is different to reproducing (for example, some babies/children are adopted, some adults donate eggs/sperm so other adults can start families), and reinforce that physical maturity does not equal emotional maturity.

Main activity 2: To support learning about the basic functions of different parts of the reproductive system and to enable pupils to gain confidence using the correct terminology, try playing 'quiz, quiz, trade'. This is a cooperative learning strategy. Children each have a card with a word on one side and its definition on the other (see the chart, right). They move around the classroom and ask each other to define the words on their cards, supporting the other person if they don't know the answer by reading it together, and encouraging them if they get it correct. Each pair then swaps cards and finds a new partner. This can continue until all the cards have been shared.

Main activity 3: Pupils are asked to use a range of materials (such as string, ping pong balls, balloons, tissue paper, paint, felt, cloth, play-dough, straws, tubing, glue etc) to create a 3-dimensional model of either male or female reproductive organs. Provide a range of visual materials such as Robert Winston's 'Body: an amazing tour of the human body'. Explain that they will need to be able to explain what they have created using correct terminology. The range of work created may help pupils to observe that aspects of the anatomy have similar properties, such as clitoris and glans, scrotum and labia, testes and ovaries. During early development of the foetus the genital structures are the same. You might like to involve another audience, for example parents, another group of pupils or the school nurse. This can

Uterus	Also known as the 'womb'. Babies grow here before they are born. This is where blood and tissue grows about once a month to protect a fertilised egg. If there is no fertilised egg, the blood and tissue comes out through the cervix and vagina during a period.
Fallopian tubes	Egg cells travel through these tubes to the uterus.
Cervix	The entrance to the uterus. It opens wide to fit the baby's head and body during birth.
Vagina	A muscular and stretchy tube that leads from the cervix to the vulva on the outside of the body. This is where menstrual blood flows out of the body during a period.
Ovaries	Contain egg cells. Usually one matures at a time during ovulation.
Vulva	On the outside of the body and includes folds of skin called the labia and the clitoris, which is very sensitive.
Prostate gland	Adds liquid to the sperm to make semen.
Penis	On the outside of the body and includes the glans at the tip, which is very sensitive. Semen comes out of the tip.
Testicles	Produce and store sperm.

help keep pupils focused on the task and is a further opportunity for them to practice using correct terminology with confidence.

Plenary: Pupils present their models to the class or invited audience and respond to questions about what their models show.

Double lesson idea: Puberty: physical, psychological and emotional changes

This double lesson idea for upper Key Stage 2 enables pupils to reconsider the life-cycles work from earlier years focusing on physical changes of puberty and developing the theme to find visual expression for the emotional and

psychological experiences involved with puberty. It is adapted from a lesson developed at Dore Primary School by class teachers Laura Guiton & Richard France with input from Headteacher Sue Hopkinson. It is designed on the premise that the class is familiar with using Thinking Actively in a Social Context (TASC), which is a technique developed by Belle Wallace and in use in primary schools.

Lesson 1

Pupils are presented with the following group 'TASC': To organise a project... about puberty. As a group you will need to research the changes you have gone (and will go) through, and decide how to present your information. These will be shown to parents as part of the open afternoon on [date].

- What do we know about the subject?*
- What do you know about the passage of time from birth to adulthood?
- What changes have you gone through - physically, emotionally and academically?

*This relates to the 'gather/organise' segment of TASC

Have a range of science resources available for pupils, such as *Body: an amazing tour of the human anatomy* by Robert Winston.

Lesson 2 is based on an individual TASC activity.

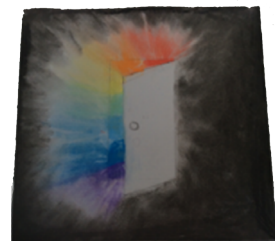
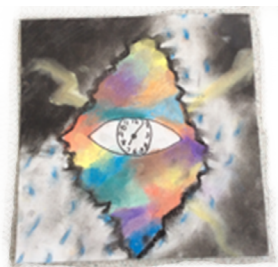
Starter: Begin the lesson with a simple art warm up activity. Have a range of art materials available and give each pupil a piece of paper. Ask pupils to draw the following shapes (triangle, square, rectangle, circle, oval, diamond), pausing as you read each from the list so that pupils can complete each before moving on the next. Each shape must be created using a different art material. Now read through the list again, but this time each shape has an emotion attached to it. For example, ask pupils to draw 'a happy triangle', 'an angry square', an excited circle', 'a grumpy rectangle', a 'disappointed diamond'. Now show pupils examples of famous artists who have created art which expresses strong emotions, for example *Reveal Your Heart!* by Hiroko Sakai.



Main activity: Present the individual TASC: 'What do you feel about puberty? Your bodies are beginning to change. Are you excited/nervous? How do you think you will feel while you are going through these changes? Your task: we would like you to create a piece of art reflecting your thoughts and emotions about these changes.' Examples below of individual work produced by pupils at Dore Primary School in response to this TASC demonstrate the individual and expressive nature of pupils' responses.

Plenary: Ask pupils to articulate what their picture is about.

"I find it a bit deeper doing the art work and it was OK to express it to others [through sharing the art]."



"I liked the art - I could think more and not worry as much."



"The art was a fun way of communicating. I enjoyed it because you got to express yourself."



"I liked it because I learnt about what will happen when we get older."



Lesson ideas

continued

Lesson 3: The practicalities of puberty

Pupils will also benefit from an opportunity to ask questions about puberty with the option of anonymous questions. If there has not been an opportunity earlier a third lesson in the module can be used to address questions such as:

- What kinds of feelings come with puberty?
- What are sexual feelings?
- What are wet dreams?
- What is vaginal discharge?
- How do you manage periods (menstruation)?
- What is masturbation? Is it normal?
- How can I cope with these different feelings and mood swings?

Puberty bag activity - addressing gender stereotyping

This activity was developed by Catherine Kirk for the Sex Education Forum training course, Addressing homophobic, biphobic and transphobic bullying through sex and relationships education. It was adapted from similar activities, including the Puberty Tray in Shropshire's 'Respect Yourself' resource and CWP Resources' 'Puberty bingo'.

Learning objectives:

- to explore how gender stereotypes are used to market menstrual products
- to consider how we can make choices about what products we use on our bodies
- to understand that there is a range of menstrual products available

In advance, prepare a bag or tray of 12-15 items which relate to the bodily changes associated with puberty (e.g. deodorant, razors, shaving cream, soap, shower gel, tampons, re-useable and disposable menstrual pads, menstrual cup, spot cream, face wash). Where possible, it helps to include a version of each product which is marketed at boys/men and girls/women.

Set up: Display the products on a large table or have several tables with the same products. Ask the group to name each product and share what they think it is for. Encourage them to share the products around and to touch them, read their labels, or take them out of their packaging. Select pairs of students and ask them to sort the products according to one or more of the following sorting options. Ask other students to allow them to sort in their own time/way. You could use two hoops to create a Venn diagram, or use a continuum/sorting line - depending on the topic. Once the pair have completed their task, ask the rest of the group to share their thoughts; whether they agree with the selection and why.

Suggested sorting options:

- Parts of the body the product is used for
- Essential/non-essential
- For boys/girls/both/neither
- Preference - something you would/would not buy
- Needed by everyone/only needed by some people
- Used by older generation/young people today

Suggested questions:

- What do our bodies need to stay healthy?
- Is this different for different people? Why?
- What makes us want to buy certain products and not others?
- Is shaving body hair necessary? Why do we shave some parts and not others? What are the different opinions about body hair? (including religious perspectives)
- What influences our decisions about what menstrual products we buy/use?
- What is the impact of these products on the environment? On our budget?
- Why are there more types of each product available now than in the past?

Extension activities:

Ask pupils to go home and speak to a grandparent or older carer about what was available when they went through puberty. If they feel comfortable, they could also ask the older person about their experience of going through puberty and how it was explained to them at school.

Resources KS1 and KS2

Teaching resources

A Curious Journey; a Healthy Relationships Theatre Project aimed at Year 6 pupils, from Collingwood Learning. Puberty is a central theme and the Alice in Wonderland story is used to explore issues from physical changes to relationships with parents. A series of video clips and questions to explore are available from [Collingwood Learning](#).

Anatomically correct male and female cloth models, available from Bodysense from £400. Originally developed for use with pupils with learning disabilities, these realistic models can also be used as teaching aids for a wider range of pupils. 3D 'Wendy' model of female reproductive system is also available from [Bodysense](#).

Body: an amazing tour of human anatomy, by Robert Winston, published by Dorling Kindersley (2005)

Egg and sperm photograph: at Wellcome Images, search for 'Science for schools' tab: '11-14 Microscopy' - image ref B0007320, by Spike Walker.

Fertilisation [video clip](#), BBC Bitesize - this clip lasts 46 seconds

Growing up with Yasmine and Tom is an online resource from FPA. It includes 50 flexible, age-appropriate lesson plans and fun, interactive whiteboard activities for children aged 5–11. Includes lessons on puberty and a module on life-cycles. £299 for subscription, with free trial available.

Jigsaw 'Changing Me' Puzzle; this unit of the Jigsaw sex education resources uses a set of animations and pictures, that help explain menstruation, puberty and conception. The Jigsaw programme includes elements of puberty from Year 3 to Year 6. Training opportunities are available for schools using Jigsaw. The weblink is www.jigsawpshe.com. Cost for the whole Jigsaw Programme is £2925 +VAT; cost per year group is £450 +VAT.

Laying the Foundations; A practical guide to sex and relationships education in primary schools, Second Edition (2012) by Anna Martinez, Vannesa Cooper and Jane Lees. This Sex Education Forum resource provides a complete SRE course for primary schools. £23.99 from Jessica Kingsley Publishing, with 20% discount for Sex Education Forum members.

TASC wheel, by Belle Wallace and the website of the [National TASC Centre](#), which is based in Sheffield, plus information about the use of TASC at [Dore Primary School](#).

Teaching SRE with Confidence in Primary Schools; resources and lesson plans for teaching from reception to Year 6. £125 from CWP Resources.

Resources for children and young people and parents/carers

Pupils may value access to books and leaflets about puberty that they can read by themselves or with a parent or carer. Aim to include resources that will appeal to all genders as well as detailed information about girls' and boys' bodies.

4Boys and 4Girls leaflets from FPA for young people designed to give the facts about sexual development. Packs of 50 cost £12.99

All Change parents and carers; a 10-page leaflet from Sexual Health Sheffield aimed at parents and carers of young people aged 9-13 focused on puberty. £17.50 for 50.

All Change Boys and All Change Girls, leaflets from Sexual Health Sheffield designed for use with young people age 9-13 to prompt discussion about puberty. £17.50 for 50.

Does this happen to everyone? A budding adult's guide to puberty, published by Little Gestalten. See a [film clip](#) available on Vimeo.

I change my pad, by Me and Us and available from Bodysense and Sexual Health Sheffield.

It's Not the Stork!; A Book about Girls, Boys, Babies, Bodies, Families and Friends, by Robie H Harris, illustrated by Michael Emberley. Published by Candelwick Press (Key Stage 1).

It's so Amazing!; A Book about Eggs, Sperm, Birth, Babies, and Families; by Robie H Harris, illustrated by Michael Emberley. Published by Candelwick Press (Key Stage 2)

Making sense of sex: a forthright guide to puberty, sex and relationships for

people with Asperger's Syndrome, by Sarah Atwood. Published by Jessica Kingsley (2008). £12.99.

Periods, what you need to know, a booklet from FPA for girls aged 9+, £12.99 for 50.

Labyrinth.net.au hosts a comprehensive clearinghouse of information about many different brands and types of reusable menstrual products.

KS3

What are schools required to teach?

In secondary school, the new National Curriculum [science programme of study](#) includes pupils learning about 'the structure and function of the male and female reproductive system including the menstrual cycle'. [Government guidance on SRE](#) (DfEE, 2000) emphasises that teaching must focus on boys as much as girls and should aim to build self-esteem. Examples of science-focused lessons about human sexual anatomy and sexual reproduction are included in *Sex Ed Sorted*, a new resource from the Sex Education Forum, due for publication in 2016. Learning in science can be built on through a lesson looking at the social and emotional aspects of puberty.

Lesson idea: Social and emotional aspects of puberty

This lesson idea for Years 7 or 8 includes opportunities to consider religious, belief, family, personal and cultural factors relevant to puberty and growing up. It aims to support pupils in developing a positive sense of identity and self as they go through the transition from child to adulthood.

Starter: Give each pupil a pre-prepared 'human bingo' card which includes items such as 'rides a bike to school', 'likes coffee', 'has a new hair style', 'looks after a younger sibling', 'can bake a cake'. Pupils circulate and look for someone who fits each category until their card is completed. Explain to the group that growing up and going through puberty is an exciting time when you gain independence, new skills and new responsibilities. The adolescent brain is undergoing a lot of change at this time. Puberty also involves physical and emotional transition. One way of exploring this is to look at common questions that young people have about their body, how they look and their feelings.

Main activity: Split the group into smaller groups and distribute the scenarios described in the 'Agony Aunt/Uncle' letters, without the listings of key issues. Give them some time to read through each problem letter and come up with an appropriate and reassuring response.

Bring the groups back together asking them to share the problem and their response. Ask them what they would recommend the person do – for example, to seek help from a trusted adult.

This activity includes scenarios that are culturally and religiously relevant, and you may want to add other scenarios to the list. For an example of some other questions that young people of this age will have about growing up, see the [Sex Education Forum website](#).

Lesson ideas

continued

A note on female genital mutilation (FGM) FGM is not a religious requirement; however, in some communities where FGM is a traditional practice it is practised by community members who have religious beliefs. It is illegal in the UK, and anyone found making arrangements for a girl living in the UK to have the procedure abroad is committing a crime. For more information, see multi-agency practice guidelines, listed below. Any facilitators delivering work in SRE that refers to female genitalia should be aware of such issues, as they may come up in the group. They should also know their setting's child protection procedures should it become apparent that a child is at risk. No faith or belief sees FGM as a requirement.

'Agony aunt/uncle' letters

Dear Auntie Mo,
I am very worried about my penis. My penis seems to have less skin than other ones. Why do some penises have skin covering the end and others don't? What is wrong with me?
From Mr Confused

Key issues for Mr Confused

- It sounds like your penis has been circumcised. Circumcision of the penis is the removal of the foreskin, which is the skin that covers the end of the penis. The skin may be removed for a number of reasons, including cultural, religious (such as Judaism), health or medical reasons.
- The procedure is relatively common depending on cultural and religious norms and can happen anytime to a boy from a new born baby to an adult.

Dear Uncle Joe,
I have noticed that my older brothers don't appear to have any pubic hair around their private parts but I have started to notice some growing around mine. What should I do?
From Mr Hairy

Key issues for Mr Hairy

- For some people it is normal to remove all pubic and underarm hair from their body. This can be done for religious reasons or personal choice.
- There is no law to say you should or shouldn't remove your hair but it is sometimes recommended for example for Islamic reasons.

Dear Uncle Joe,
There is this girl that I really fancy but I am too shy to talk to her. I don't think she has even noticed me. I feel so guilty because my belief says I should not have these impure thoughts. What can I do?
From Mr Shy

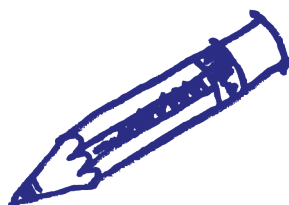
Key issues for Mr Shy

- It is normal to have feelings for other people as you grow up. Often young people, as they try to work out who they are and to whom they are attracted, have what we call 'crushes' on people of the same and the opposite sex.
- Try not to feel bad about yourself and please talk to someone you trust about how you feel.

Dear Auntie Mo,
I'm scared of starting my period. I've heard some people say having periods is dirty and that you can't pray. Why is this?
From Miss Frightened

Key issues for Ms Frightened

- Having your period is perfectly natural and something nearly everyone with a uterus experiences.
- It is the body's way of renewing the uterus every month and also it is an indication that your body is becoming physically able to make a baby.
- It is a good idea to wash your vulva daily when you are on your period to keep clean, but do not wash your vagina with soap – it is self-cleaning through natural lubrication and a balance of healthy bacteria (just like we have in our gut) and soap or other perfumes or sprays will change its natural chemistry.
- In some cases religious belief is that is that menstruators should avoid communal prayers during menstruation, but may still participate in their own private prayers.



Dear Aunty Mo,
I was watching a TV programme the other night when they mentioned masturbation. My father said it was a 'selfish act'. What is it and what does he mean?
From Mr Asking

Key issues for Mr Asking

- Masturbation is when someone touches their genitals and sometimes other areas of their bodies to give themselves sexual pleasure and to achieve orgasm.
- It is not harmful, and it is not illegal as long as you do it somewhere private and not in public.
- Some people believe that sexual acts are to be expressed only within marriage and only for becoming pregnant, and not to be enjoyed on your own.
- Some people, both religious and non-religious, believe masturbation is natural and a healthy, safe form of expressing your sexuality for all genders.

Dear Uncle Joe,
Over the summer holidays, my older sister was taken on holiday back to the country my mother was born in to see our grandparents. I was really jealous at first because they talked about her being ready for a special ceremony, but since she's been back, she's been really quiet and I've heard her crying at night when we're in bed. Before she went away we were really close and we used to play together, but now she just wanders round the house, won't sit still, and barely speaks to me. What should I do?
From Miss Scared

Key issues for Miss Scared

- The best thing to do is talk to an adult you trust about your concern; this could be a nurse at school, a teacher or a learning mentor.
- It is known that some people in this country organise for their daughters to go abroad to have a procedure called female circumcision, female cutting, or female genital mutilation (FGM).
- It involves partial or total removal of the external female genitalia or other injury to the female genital organs for non-medical reasons (the World Health Organisation definition).
- It is illegal to carry it out in the UK or for someone to organise for a child who is a resident of the UK to have it done abroad.
- It has serious health implications, both physical and emotional, and could be why your sister is behaving the way she is.
- She may look uncomfortable when walking or sitting, may take longer in the loo, or may seem more quiet than usual.
- It is important that you talk to someone so they can support your sister, and support you too in case you are also at risk.

Lesson idea: practical aspects of menstruation

Starter: Lay out a selection of products which relate to the bodily changes associated with puberty (see suggestions in puberty bag activity for KS2 above). Ask two pupils to volunteer to come and sort the products into those that are used for menstruation and those that are not. This creates the pool of products for the main carousel activity.

Main activity: This carousel activity explores the practical dimension of menstruation and aims to challenge taboo associated with menstruation. It is a supplement to learning about the menstrual cycle in National Curriculum science and could be used to complement a science lesson. It is an activity for all genders.

Lay out a selection of menstrual products on tables around the class, with their instructions, if possible.

- Menstrual cups (different types and sizes)
- Re-usable (cloth) pads
- Disposable pads (different types)
- Tampons (applicator and non-applicator, natural and synthetic sponges can also be included)

Groups rotate between tables/or products are passed between groups. For each product ask groups to discuss

- a) How it works
- b) How clear the instructions are
- c) Its advantages/disadvantages
- d) How it is disposed of/environmental impact

Plenary: Look at two adverts, for example this [Mooncup](#) advert which contrasts the menstrual cup with tampons, and this [Axe](#) (the name for the Lynx brand in the USA) advert which challenges stereotypes of masculinity.

Key question:

- How does each advert make the case for the advantages of the product it features?

In groups, pupils can write and share a version of the rap battle comparing cloth pads and disposable pads, or showing the different types of men who may choose a certain type of razor.

To end the lesson highlight that everyone's experience of puberty is different but if pupils have particular concerns NHS Choices is a good source of information as are local confidential health services (be prepared with information about local services).

Boys, and even girls, can sometimes make derogatory comments about menstruation out of embarrassment. You need to explain that the more that all genders know about and are comfortable with each other's bodily functions, the better. A myth busting quiz could help. See, for example, the 10 question [quiz](#) from #periodpositive with [teacher answer sheet](#).

Lesson ideas

continued

Fact check:

Endometriosis is a condition in which tissue similar to the lining of the uterus (which is called the *endometrium*) is found outside the uterus, most commonly in the pelvic cavity. 10% of those of reproductive age are affected worldwide. Find out more about endometriosis from [NHS Choices](#).

KS4 - 5

By Key Stage 4, learning about puberty should have been completed, although the above resources can be used or adapted for older pupils as a 'top-up' to ensure all pupils have received their entitlement, but learning about feelings and emotions extends throughout the teenage years. Key questions to explore in SRE with young people aged 14-16 years old ([found in the SEF curriculum design guide](#)) are:

- 'How can I cope with strong feelings such as anger, sadness, desire and love?'
- 'What are the causes of conflict in young people's relationships with friends, family and peers and how can we deal with it?'

Consider watching a TED Talk with pupils that addresses this issue. Sarah Jayne Blakemore's [TED talk](#) about the adolescent brain with pupils, followed by group or pair work to consider the challenges and opportunities of the changes in the brain in terms of managing emotions and relationships. The interview with Dr John Coleman on page 12 highlights facts about brain development which it is useful to share with pupils. Chella Quint's [TEDx talk](#) mentioned above on the language of advertising messages for menstrual products over the last century is humorous and eye-opening.

Resources KS3+

[Ask a biologist](#); a website aimed mostly at school pupils which is devoted to providing the best scientific information available to anyone who is interested in any aspect of biology (the study of life).

[Human fertilization](#); 7 minute video clip from BBC education giving a visual description of the process of fertilisation.

[KS3 FGM Lesson](#), a complete lesson plan with resources, from Islington Council and free to download from Gov.uk

[Masturbation](#); information from NHS Choices. See also masturbation quiz included in 'The Gender Issue' e-magazine from the Sex Education Forum.

Multi-agency practice guidelines, [Female Genital Mutilation](#), HM Government, 2014.

[Penis health](#); information from NHS Choices ranging from 'how to wash a penis' to questions about penis size and shape.

[Is my vagina normal?](#); information from NHS Choices including vaginal discharge, itching and appearance.

[Adventures in Menstruating: Don't use shame to sell](#); Chella Quint's TEDx talk on the language of advertising messages for menstrual products over the last century is humorous and eye-opening. Myth-busting quiz, menstruation management resources and lesson plans are in the resources section of [#periodpositive](#).

[Mooncup vs. tampons](#) and [Axe](#) adverts.

[The curious workings of the adolescent brain](#); this 14 minute TED talk by cognitive neuroscientist Sarah Jayne Blakemore compares the prefrontal cortex in adolescents to that of adults, to show how teenage behaviour relates to the growing and developing brain.



Prepared for Puberty - Teacher reflections

"Creating the 3D models of the body with children aged 10 and 11 stimulated good group discussions. One young lady did a [model of a] 15 year old but put a baby in her stomach (her sister had a baby at 15) so this gave us an opportunity to discuss around this subject."

- Sarah le Vien, educator

I will not deny I was apprehensive about this style of teaching such a potentially delicate topic and I was not sure how the children might respond to the creative challenge. However I can say now that I would do this again next year without hesitation. The children used the pictures we had colour-photocopied and were engaged from the start. The degree of reading for understanding and the correct use of the correct anatomical vocabulary throughout was far better than it might have been had we used the more traditional 'label this diagram' approach."

- Sian Granville, Year 5 teacher.

"Initial lessons gave the children the key information they need to understand and prepare for the physical and emotional changes they will experience during puberty. This was backed up with a solid explanation of the biology involved in reproduction with strong links to earlier exploration of life-cycles. Throughout, children were given the opportunity to ask questions to deepen their knowledge and avoid misconceptions. Their 'Growing Up Skills' and scientific understanding were then deployed in an artistic response to the subject matter. They not only produced some striking visual images using a range of materials, but also were able to describe the processes they had modeled to parents, governors, teachers and peers."

- Richard Hanks, Year 5 teacher.



About this magazine

The Sex Educational Supplement is the termly e-magazine for teachers and other professionals involved in sex and relationships education. It is optimised for web viewing. This special edition has been funded by the Wellcome Trust.

This magazine was produced with editorial contributions, inspiration and advice from Jane Lees, Polly Haste, Chella Quint, Lisa Handy, Celia Roberts, Gillian Turner, John Coleman, Sarah le Vien, Simon Foster, Sophie D'Amario, Paul Woodland, Sue Hopkinson, Jennie Coles, Julie Webb and Catherine Kirk. The puberty illustration on page 3 is by Paul Heard, and the uterus illustration on page 14 and #periodpositive emblem on page 16 are by Chella Quint. The photographs were used with permission from Dore Primary School. The e-magazine was designed by Chella Quint. Thank you all.

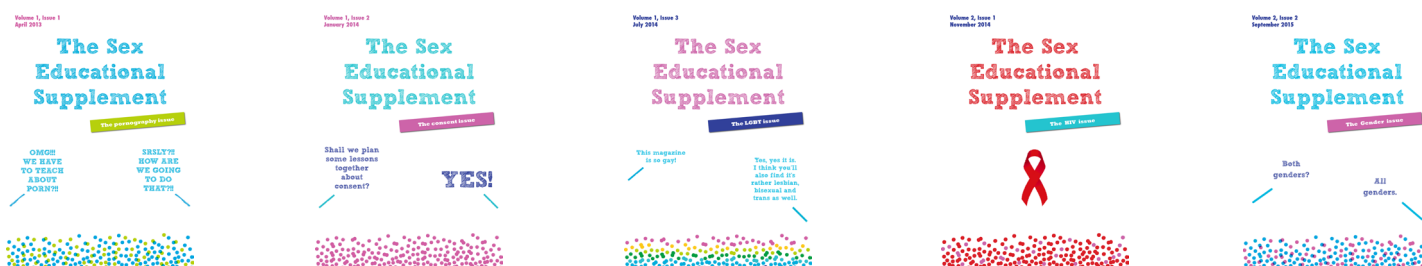
The magazine is a product of the Sex Education Forum. Members of the Sex Education Forum do not necessarily endorse the content in full.

More support with SRE

Network+ membership will ensure that you are up to date with SRE news and receive our SRE resources including future editions of this magazine.

- Annual subscription is £37.50+VAT (£45 inclusive) per school or individual
- Three year membership can be purchased for £99+VAT (£118.80 inclusive)

Members have access to resources in our web portal which includes back issues of The Sex Educational Supplement: The Pornography Issue, The Consent Issue, The LGBT Issue, The HIV Issue and The Gender Issue.



Joining details can be found at www.sexeducationforum.org.uk/members

For free updates about SRE, email us at sefnetworks@ncb.org.uk with the subject heading 'free updates'.

About the Sex Education Forum

The Sex Education Forum is a unique national collaboration of organisations and individuals committed to improving sex and relationships education for children and young people. The Sex Education Forum is hosted at the National Children's Bureau. Charity number 258825.

Follow us: on Twitter @sex_ed_forum and Facebook. Visit us online at www.sexeducationforum.org.uk and follow us on Facebook.

The Sex Education Forum is hosted by National Children's Bureau. NCB Registered Charity No. 258825. Registered in England and Wales No. 952717. Registered Office: 8 Wakley Street, London, EC1V 7QE. A Company Limited by Guarantee.

© 2016 National Children's Bureau