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Factors influencing Grade 7 teachers' implementation of outcomes-based approaches in the national curriculum when teaching 'human reproduction'

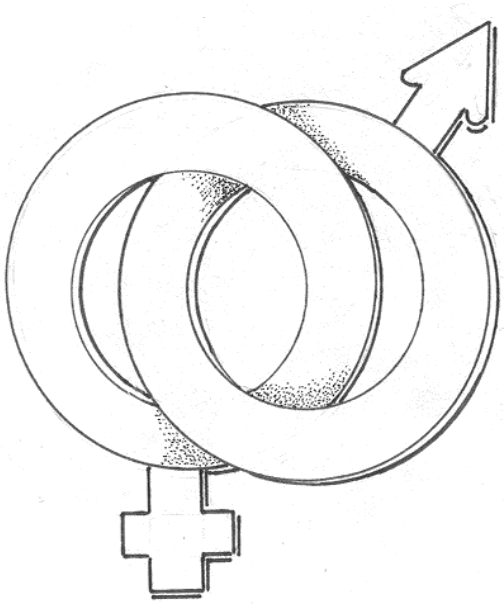
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Grade 7 Natural Science Learning Area

Human Reproduction



Teacher's Guide

Skills

Research and presentation skills

Communication skills
(verbal and written)

Cooperative group work

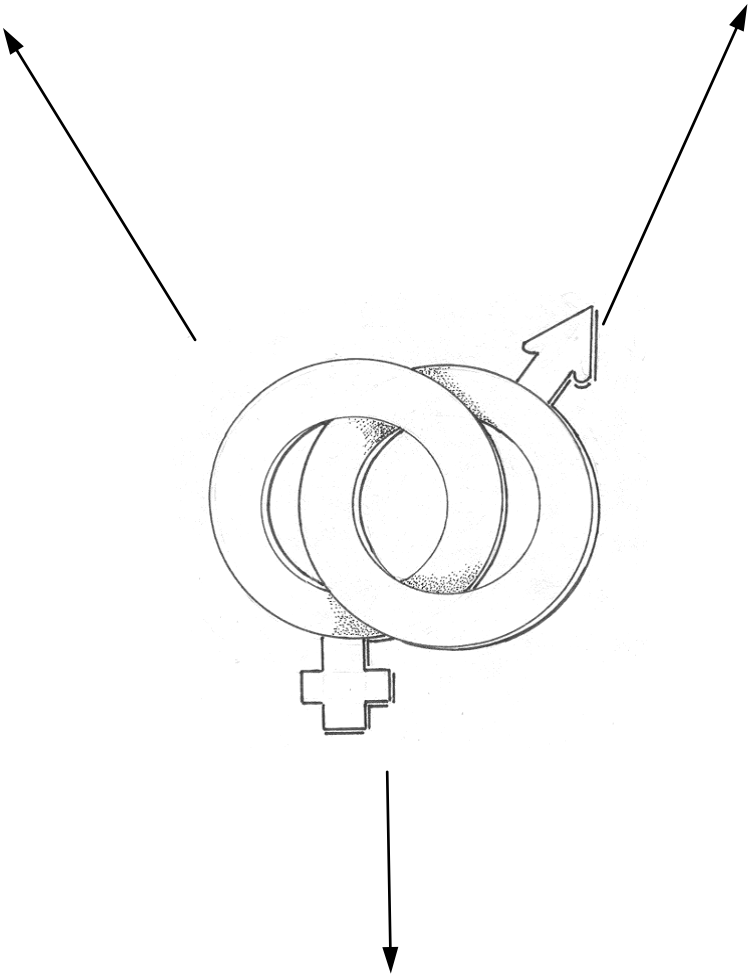
Interpretation of data

Knowledge

Humans change physically and emotionally during puberty in preparation for adulthood and reproduction

The structure of the reproductive system is related to its function

Some diseases are transmitted sexually



Values and attitudes

Respect for human sexuality

Respect for the rights of each individual

Cultural differences valued

Ethical issues considered

Overview of the module (lesson plan) for Grade 7: Human reproduction

The topic "Human reproduction" acts as the context in which skills, knowledge, values and attitudes can be developed, and progress can be seen in the achievement of the Natural Science learning outcomes and assessment standards.

Reproduction in humans, falls within the content area (or knowledge strand) *Life and Living* and the substrand *Life Processes and Healthy Living*. The aspect of human reproduction selected here covers the 1st 2 bullets and touches on the next 2 bullets in this substrand, i.e.

- Humans go through physical changes as they age: puberty means that the body is ready for sexual reproduction
- Human reproduction begins with the fusion of sex cells from mother and father, carrying the patterns for some characteristics of each
- Conception (briefly)
- Knowledge of how to prevent the transmission of sexually transmitted diseases, followed by behaviour choices.

(Animal behaviour (vertebrates) including finding a mate, breeding, raising young, living in a population of the same species, and adaptations for reproduction are concepts in the substrand *Interactions in the Environment* that would have been covered before this section. The remaining core knowledge and concepts on human reproduction for the senior phase should be covered in grade 8 & 9.)

The core knowledge listed above has been selected as the learning context for a Grade 7 module since learners in Grade 7 are entering (or have entered) puberty. The onset of puberty raises many questions for adolescents and there is often a great deal of ignorance around biological processes. The intention here is to help learners see that sexual changes in their bodies are a normal biological process and not something strange and hidden. Along with the physical changes come the emotional changes and strong sexual drives which need to be controlled. Thus there is an emphasis on valuing human sexuality, and on showing respect for one another. Values and attitudes form an important component of this module.

While the changes taking place during puberty are probably the main concern of learners in Grade 7, some children of this age have been raped, are considering becoming sexually active or are already sexually active. Thus we examine very briefly issues around sexual intercourse and sexually transmitted diseases. In grades 8 & 9 when learners are a bit older, these concepts should be explored further, e.g. details on STD's, on conception, pregnancy and birth of a child (*Life Processes and Healthy Living)* and on adults raising children (*Interactions in the Environment)*.

The topics and tasks covered in this module include:
Human reproduction

- Our changing bodies (Tasks 1-3)
- The male sex organs & male responses (Tasks 4-6)
- Circumcision (Task 7)
- The female sex organs (Task 8)
- The menstrual cycle (Tasks 9 & 10)
- Meeting a partner (Task 11)
- Sexual intercourse and responsibility (Tasks 12-14; project)
- Sexually transmitted diseases (research project)

Integration

As stated in the national documents, integration is central to outcomes based education. Integration can take place within a learning area and across learning areas.
In these learning materials, integration across learning areas can be seen in some way in the following tasks:
Life Orientation: All tasks but especially 3, 6, 7, 10, 13, 14, the sugra baby project and the research project.
Arts and culture: Possibly 3, 4, 8 and research project
Mathematics: 9 (???)
Languages: All tasks where discussion is encouraged. Writing in 10, and the essay for the sugar baby project.

Learning styles

The materials cater for different learning styles e.g. using a simple classification of learning styles:

- Visual learner (seeing) – tasks 1, 2, 4, 8, 9, 12
- Auditory learner (hearing) - tasks 1, 2, 3, 5, 6, 7, 11, 13
- Kinesthetic learner (doing) – tasks 2, 3, 4, 10, sugar baby project, research project.
- Tactile learner (touching) – if there are models – 2, 14, project p. 19

Learners

The following extract from the NCS provides a description of the Senior Phase learner Department of Education, 2003, p 59-60)

- *Learners are becoming more independent*
- *They are becoming clearer about their own interests.*
- *They mature physically and sexually.*
- *They mature cognitively and socially and use lateral reasoning.*
- *They continually anticipate the reactions of others to their appearance and behaviour.*
- *Peer influence plays a major role in their social development.*
- *They believe that one must be sensitive about infringing on the rights of others and always avoid violating rules made by their peers.*
- *They respect values and ideas of others, but rely on their own intellect and values in making personal decisions.*
- *… The adolescent is continually anticipating the reactions of others to their appearance and behaviour. … The development of a positive self-regard (self worth) is paramount during this stage……(and more)*

It is important during this phase to get them focused on critical and creative thinking skills, attitude development and the understanding of their role in society.

These materials are designed to address the adolescent learner.

Learner's Materials

Learner's materials are to be found in a separate document. They contain diagrams, explanations and a variety of activities. The Teacher's Guide contains suggestions on how to assess these activities. Please adjust the materials to suit the needs of your classes. This may mean adding material, activities etc and/or leaving out some activities.

If you use the learners' materials without changes, they can write their answers in their notebooks, and these materials can be collected after assessment and used again in following years.

The activities should be outcomes-based, learner-centred and activity-based

Outcomes-based

Both critical and developmental outcomes as well as learning outcomes for the Natural Sciences and assessment standards for Grade 7 have been addressed through the tasks.

Learner-centred
Learners are different, distinct and unique with regard to a number of factors that relate to home background, language, culture, religion, learning styles, and personal factors. The materials attempt to cater for some of these differences. To ensure the classes are more fully learner-centred, the teacher would need to allow learners to make some choices about what and how they learn.

Activity-based
Activities provide opportunities for learners to construct their knowledge and understanding of the world.

Assessment
Assessment takes the form of teacher, peer and self assessment and is formative and summative. Some formative assessment may be informal comments in response to group or class discussion or to work completed in notebooks. Other formative assessment may be more formal, using assessment criteria for an activity and a rating scale, or providing actual marks. In addition to the records you keep, learners should keep a record of all assessment of their work and should use the feedback to improve on their work.

Summative assessment could be carried out at the end of the module in the form of a test which assesses not only learners' knowledge of reproductive structures and processes but also their attitudes and values. Any assessment of attitudes and values would have to be based on how well they argue their position and not on whether they hold to a particular set of attitudes and values.

Some suggestions for the module

This module has been written for schools in Gauteng, each of which is unique. You, as a teacher in one of these schools, will have the best understanding of what is appropriate in your classroom, school and community. We have included some suggestions on how to approach this module and hope you will be able to use some of these ideas.

Consulting with parents
Some parents may be offended by the inclusion of human reproduction in their child's Grade 7 education. For a variety of reasons (religious, cultural, personal etc), they may feel their child should not be exposed to information on human reproduction. However, as you know, learners in Gauteng encounter messages about sex wherever they go: on billboards, on TV, in their discussions with friends etc. In addition, there is extensive sexual activity amongst young people, both forced and with consent. Thus we feel it is essential to explore reproduction with this group of learners. However we want to inform parents about the content of this module and provide them with an opportunity to express their concern. Some parents may not want their children to participate in the module, others may object to parts of the module. Some sort of consultation is needed. We propose that a letter is sent to the Grade 7 parents, informing them of the proposed module and inviting them to a parents' meeting to discuss the matter further.

Your letter could include the following:
- the proposed introduction of the module on reproduction
- the rationale for teaching this in Grade 7 (onset of puberty, need to be informed on how their bodies work and to discuss key issues around their changing body etc)
- a brief outline of the proposed module

- an invitation to a parents' meeting where they can look at copies of the module and discuss any material that they feel is offensive or inappropriate for this age group.
- date, place and time of meeting

Even if parents do not come, at least they will feel they have been consulted on a sensitive part of their child's education. If there are major objections to aspects of this learning programme, you will have to consider how to modify it. If individual parents object, their child may need to be given alternative work while the rest of the class continues with the module.

Discussion in pairs or small groups

Some of the material covered here deals with sensitive issues. Learners often do not feel at ease discussing these issues with the whole class or with their teacher whom they may see as an authority figure. Many of the activities therefore take place in the form of discussions between learners. Learners talk to a partner (person sitting next to them) or to one another in small groups. Learners may feel more comfortable if the groups are single sex groups. Hopefully in these small (single sex) groups, they will feel more relaxed, less shy, and more likely to be open and honest during discussion.

Question box

You could use a question box for all those questions that learners are too embarrassed to ask in class. Take a shoe-box and put a slit in the top, label it and put it in an unobtrusive spot where learners can easily 'post' their questions. Set aside time in each lesson to briefly answer each question. More difficult and sensitive questions should be answered directly while easier questions could be put to the class. Some questions may require a bit of research or asking around. Nurses, doctors and other health workers are an excellent source of information. You could tell your class that you can't answer a particular question and ask them to take the question to one of these health workers and come back with an answer. Look also in the bookstores or libraries or on the internet for further information. An excellent reference book is "Responsible Teenage Sexuality" (see reference list). What about provocative and unpleasant questions? You probably need to acknowledge these in some way without giving the details of the questions and without answering them. Use your discretion.

Code of conduct for classroom discussion

This topic will be embarrassing for most learners when they first start talking about it. So we advise that you help the class to draw up a code of conduct on what behaviour is acceptable and what behaviour is not acceptable. Here are some ideas to get you going. Your learners may have completely different ideas.

It's okay to:	It's not okay to:
• giggle if you can't help it • whisper a question to a friend • talk about the topic outside the classroom	• make jokes with friends about what's being talked about in class • ask private questions • mock and criticise others for ways in which they are different

Your class could extend their code of conduct to rules for class/ group/ pair discussion concerning confidentiality within the group, encouraging participation, supporting each other, respecting one another's opinion, and coping with disagreement.

Lesson plan/s

It is hoped that the information provided in the following sections will enable you to construct your own lesson plans for this part of your Grade 7 work schedule. The information has not been set out according to the lesson plan template provided on pp 62-63 of the teachers' guide for the development of learning programmes: Natural Sciences (Department of Education, 2003)

Human reproduction

Our changing body

These materials cover the structure and function of the male and female sexual organs and associated parts, the changing adolescent body, and some of the questions that learners have about their changing bodies.

Suggested time: 1.5 hours

Class organisation: groups of 4-6 learners (single sex groups?)

Resources needed: learner's materials (page 2) and charts / overhead transparencies/ models
Optional: Flip chart "TALKING ABOUT LIFE" produced by the Gauteng Provincial Government Departments of Health and Education. An excellent series of coloured charts that were distributed to all schools (according to the Dept of Health). Ask the Life Orientation teachers if they have it (or other similar charts), or check with the Life Orientation facilitator for your district to see if they still have these charts at their office.

What are the outcomes of this task?
Learners will be able to:
- identify physical changes that occur during adolescence in males and females
- talk about how these changes differ in different individuals
- identify emotional changes that occur during adolescence
- demonstrate respect for each person's unique sexual development

What will be done to achieve this learning?
- A code of conduct will be drawn up by the learners.
- Learners are introduced to the topic by talking about physical differences evident between boys and girls from birth. They start to talk about external sexual structures with only one person and in a context that most of them should be familiar with i.e. a baby. (Task 1)
- They then look at a typical conversation between teenagers in which the teenagers express their anxieties about the changes or lack of changes in their bodies. This introduces them to the topic of this activity in a context they can possibly identify with. Hopefully they are a little more comfortable now and can use Figures 1 and 2 in the learner's materials (and the charts) to identify physical changes. This material also provides them with a starting point for a discussion on how the rate and extent of change differs in different individuals. (Task 2 – Physical changes)
- This is followed by something less tangible, but affecting all teenagers - identification of emotional changes they experience and the link to hormonal changes. In groups, learners brainstorm and produce a list of emotional changes and then select one example and role play it. The class then discusses each role play. (Task 3 - Emotional changes)

How will the learner's achievement be assessed?
Informal assessment can take place here. You may simply want to look at the work in their books or listen to some of their discussion and then comment or encourage them.

For task 3, you could use a rubric such as the one below:

Fill in the name of the person being assessed. Think about how well that person has contributed to teamwork and put a tick in the block that best describes them.

Name:	Not at all	Sometimes	Often
Contributes ideas during the brainstorming			
Listens to others			
Takes part in the planning of the role play			
Encourages others			
Carries out the role given to them			

Supporting information for the teacher
Remember to help your class to draw up a code of conduct - and to stick to it.

Sexuality and the act of sex
At the beginning of this unit, you should distinguish between sexuality and the act of sex or sexual intercourse. Here are some ideas that you can use as you discuss these terms with your class.

Sexuality is an expression of being male or female and includes the perceptions that we have about masculinity and femininity. These are influenced by the beliefs, attitudes and values of our families, religions, and the societies in which we live. Sexuality refers to the whole person, their thoughts, feelings, attitudes, values, experiences, ideas and behaviour as these aspects of sexuality relate to their being a man or a woman.
The “act of sex” or sexual intercourse is only one aspect of sexuality.

Answers to questions:
Task 2: Physical changes
1. & 2. Male: 1- height changes; 2 - hair starts to grow on the face (or acne, pimples); 3 - voice deepens; 4 - shoulders get wider; 5 - hair grows under the arms (or increased sweating & odour); 6 - pubic hair grows; 7 - testes get bigger; 8 - penis grows longer
Female: 9 - grows taller; 10 - hair grows under arms (or increased sweating & odour); 11 - breasts develop; 12 - sexual organs develop inside the body; 13 -hips get wider; 14 - pubic hair grows; 15 - monthly periods start
Other physical changes: muscles develop in boys (and breasts enlarge slightly in some boys), pimples, acne, increased sweating when nervous or excited especially around the genitals and armpits where the greatest number of sweat glands are found. You may want to talk to your class about the need for regular washing or an unpleasant odour will be given off by these glands.

3. Teenagers often become extremely anxious about the changes in their bodies - too fast or too slow, breasts that are too big or too small, body shapes that don't conform with the "ideal" figure portrayed by the media. It would be useful to follow up the group work with a class discussion of questions 1-3. Here one could talk about the uniqueness of each individual, challenge the "ideal figure" concept and discuss the role of inheritance and environment (food, exercise, health etc) on the way we develop and the rate of development. (See information provided in the learner's materials "Do we all change at the same time?"

Task 3: Emotional changes
1. The book “Responsible Teenage Sexuality” has a chapter on the emotional development of the teenager (see ref.). The book identifies common feelings and behaviour during adolescence. These include inferiority; arguments; fantasies; crushes; anger and disillusionment; self-consciousness; romanticising; experimentation; rejection; authoritative attitude (bossiness); embarrassment, dependence and independence; sexual feelings; and cognitive development.

The book discusses each of these responses. If your learners have older brothers and sisters, they will probably have a lot to say about emotional changes in teenagers.

2. Role plays: Either let each group create their own scenario for the role plays or create different scenarios, put them on cards and hand a card to each group to role play. If your learners choose their own scenario, ask them to report to you first and if there is duplication, ask them to do another one.

3. Here is an opportunity for your learners to talk about growing up and being responsible for how they think, feel and behave. The sex hormones may be causing changes but they can make wise decisions and remain in control of their lives.

The male sex organs

Suggested time: 30 mins

Class organisation: Class and/or individual work

Resources needed: Learner's materials (page 6)
(Charts/ models/ overhead transparencies, if available)

What are the outcomes of this activity?
Learners will be able to:
- identify the male sex organs and associated structures
- describe the functions of each male sex organ and of associated structures
- extract information on structure and function from a front view of the male sex organs and use it to interpret a side view
- draw an outline of the male sex organs either by tracing a diagram or by freehand drawing

What will be done to achieve this learning?
- Learners examine Figure 3 on page 6 of the learner's materials which illustrates the male sex organs and describes their functions.
- Learners use this information to identify the same structures from a different perspective (Figure 4) and to determine which structures carry out certain functions. They can draw the outline either by placing their page over Figure 4 on page 7 of the learner's materials, holding two pages against a window and tracing the outline of the diagram or by freehand drawing.

How will the learners' achievement be assessed?
A mark can be given for correct information provided in their notebooks. A summative assessment can be done at the end of the module in the form of a test.

Supporting information for the teacher
This activity helps learners to identify the male sex organs and learn about their functions. Learners could work on their own, using the diagrams in the learner's materials to find out about the structure and function of these organs and/or you could use appropriate visual aids to discuss structure and function with the whole class.

The task of looking at and analysing a diagram from a different perspective (side view) helps the learners to develop a three-dimensional (3D) perspective of these structures. A model of the reproductive organs in a male, if available, would further help to develop a 3D perspective.

Task 4: Answers to questions:
2a – 2 urethra; b – 3 sperm duct; c - 4 testis; d – 2 urethra; e – 4 testis

3 Testes have to be kept at a constant temperature just a bit lower than body temperature so that sperm can be produced. Testes are pulled closer to body in cold weather to absorb heat from the body and so keep the temperature constant; and testes hang away from body in hot weather to avoid absorbing any extra heat from the body thus keeping a constant temperature.

What's happening to my body? Male responses

Suggested time: 30 minutes

Class organisation: group work

Resources needed: learner's materials (page 7) and cards (handout provided at workshop)

What are the outcomes of this activity?
Learners will be able to:
- talk about male sexual responses
- distinguish between myth and reality concerning male sexual responses
- identify responsible human behaviour concerning human sexuality

What will be done to achieve this learning?
- Learners play a card game in which they try to answer questions about male responses that start during puberty e.g. pimples, erections and wet dreams. Answers are provided on the other side of the card. (Task 5)
- In the 2nd part of this activity, responsible human behaviour is discussed in each group and ideas listed in each learner's notebooks. (Task 6)

How will the learner's achievement be assessed?
- No formal assessment during the discussion of the questions on the cards. (Task 5)
- Assessing the list of ideas: A rating scale could be used or simply a written response providing some comment on how comprehensive, imaginative, thoughtful, interesting and appropriate their list of ideas is. (Task 6)

Supporting information for the teacher
Task 5: The questions on the cards reflect typical concerns or dilemmas about erections, wet dreams and other male responses. The questions have been provided in a card game because of the sensitive nature of this material. The intention is that learners see these as a natural part of the functioning of their bodies. By using a game to talk about these questions and issues, learners may feel more at ease trying to discuss each topic. They need to be able to discuss this information in the privacy of their groups. For many girls, some of this information may be completely new to them. For boys, they might have deep concerns around some of the issues raised. We anticipate that if you are using single sex groups, the conversation will take place at different levels.

Task 6: In assessing their ideas, it would be important to compliment learners on the positive features of their list and avoid criticising their ideas.

Circumcision

Suggested time: 30 mins

Class organisation: Group work

Resources needed: Learner's materials (page 8)

What are the outcomes of this activity?
Learners will be able to:
- explain what circumcision is
- describe the practices of different cultures, religions and people with regard to circumcision
- demonstrate their respect for differences in practice with regard to circumcision

What will be done to achieve this learning?
- Learners read information about circumcision, refer to the diagrams (Figure 5) and look at what different people say about when and why boys are circumcised (page 9).
- Learners are then asked to share information about the practices of their own culture with other members of the group (task 7). Their views on health and circumcision are also discussed.

How will the learner's achievement be assessed?
Informal: comments as you circulate from group to group or in group feedback on the discussion at the end.

Supporting information for the teacher
Task 7: Circumcision is a sensitive issue. As you know, learners from some cultures are not allowed to talk about either circumcision or the associated initiation rites. Before starting this activity, this matter could be discussed briefly, and learners reminded to respect the rights of others "to remain silent"! You may feel that you want to turn this into a brief information session or not discuss it at all. This depends on your class. However the discussion provides learners with the opportunity of finding out about the practice of people from different backgrounds. Learners may have many other questions regarding circumcision since the topic has been raised on TV talk shows, in magazines etc.

With regard to the last question, as long as boys/men clean under the foreskin, there is probably no difference with regard to health. However recent research has shown that circumcision significantly reduces the chance of becoming infected with HIV/AIDS. This is because the foreskin can be scratched or torn very slightly during sexual intercourse and the virus enters through these tiny wounds. In addition there are large numbers of Langerhans cells which are target cells for the HIV virus. However research also shows that during circumcision, if sterile instruments are not used, the initiate can contract HIV/AIDS, other STD's or some form of infection when the viruses and bacteria are passed from one initiate to another.
For more information, use the internet e.g
Stinson, K. Male circumcision in South Africa: How does it relate to public health. http://www.africanvoices.co.za/culture/circumcision.htm

Female circumcision (task 8.4) varies in different groups. Some groups remove only the hood (skin) covering the clitoris (Sunna circumcision in the Sudanese Islamic culture). Some go further and remove the hood, clitoris and partially or totally remove the inner lips (folds/ labia minora) of the vulva, and sowing together of what remains of these inner lips leaving only a small opening. This can lead to urinary infection, septicemia, haemorrhaging and cyst formation. The most extreme form of female circumcision involves removing all the above-mentioned parts and the inside of the outer lips (folds / labia majora). The remains of the outer lips are held together by thorns or are stitched together and the girls legs are tied together for 2-6 weeks so healing can occur. A very small opening is left to allow urine and menstrual blood to leave. This circumcision is performed on young girls. The opening is cut open for sexual intercourse and childbirth. This can cause severe medical complications. Another form of circumcision involves pricking the clitoris with needles, burning or scarring the genitals, ripping or tearing the vagina, introducing herbs into the vagina to cause bleeding and a narrowed vaginal opening.

Female circumcision, like male circumcision, is about the “rite of passage” from childhood to adulthood. It’s purpose is also to control women’s sexuality (remaining a virgin and thus being marriageable), reducing or removing sexual pleasure. The countries practicing female circumcision the most in Africa are Somalia followed by Egypt, Sudan, Ethiopia and Mali. While female circumcision is practiced by African Muslims in these areas, it is seen as a cultural rather than religious practice by many Muslims who strongly oppose the practice. Female circumcision is also carried out in parts of the Middle East, Indonesia, and a few groups in India and South America, and the practice has spread to Western countries as Muslims practicing this ritual have moved there.

The female sex organs

Suggested time: 1 hour

Class organisation: Classwork and individual work

Resources needed: Learner’s materials (page 10)
(Charts/ models/ overhead transparencies, if available)

What are the outcomes of this activity?
Learners will be able to:
- identify the female sex organs and associated structures
- describe the functions of each female sex organ and of associated structures
- extract information on structure and function from a front view of the female sex organs and use it to interpret a side view.
- draw a labelled diagram of the female sex organs either freehand or by tracing.

What will be done to achieve this learning?
- Learners examine Figure 6 illustrating the female sex organs and describing their functions (and the charts).
- They use this information to identify the same structures from a different perspective (figure 7) and to identify which organs carry out particular functions.
- They draw an outline of the sex organs either freehand or by tracing.
- Learners read about breasts and thrush.

How will the learner’s achievement be assessed?
A mark can be given for correct information provided in their notebooks.
A summative assessment can be done at the end of the module in the form of a test.

Supporting information for the teacher
This activity helps learners to identify the external female sexual parts and the internal female sex organs and to learn about their functions.
- Learners could work on their own using Figure 6 in the learning materials, or you could use visual aids with the whole class, to review the structure and function of these organs.
- Learners should not be expected to memorise drawing Figure 7. This is simply an opportunity to practice drawing as a means of recording structures.

Task 8: Answers to questions:
2 a - 4 cervix; b - 2 ovary; c - 5 vagina; d – 1 Fallopian tube; e - 2 ovary, f - 3 uterus
3 a - 7 vaginal opening; b - 8 anus; c - 6 urinary opening
4 Refer to earlier discussion of female circumcision.

Breasts and thrush: Information on breasts and on thrush has been provided. Talk about this briefly with your learners. They will refer to it later in task 10.

The menstrual cycle

Suggested time: 1.5 - 2 hours

Class organisation: classwork, individual work, groups of 2/3

Resources needed: learner's materials (page 12).

What are the outcomes of this activity?
Learners will be able to:
- explain the physical and emotional changes taking place during the menstrual cycle
- talk about hygiene and menstruation
- analyse, interpret and explain symptoms associated with menstruation in a written response
- identify and explain myths around menstruation

What will be done to achieve this learning?
- Learners read the questions to and answers from Dr Naidoo about periods and view the annotated diagrams on the menstrual cycle (Figure 9).
- Questions about the menstrual cycle help them to analyse and extract information from the diagrams and text. (Task 9)
- Information is provided about hygiene, the importance of menstruation and changes in the menstrual cycle.
- Learners then answer typical questions about menstruation and respond to myths based on their understanding of the menstrual cycle. (Task 10)

How will the learners achievement be assessed?
Task 9: Learners' answers to the questions about the menstrual cycle can be checked and assessed either formally or informally.

Task 10: Their letters as Dr Naidoo can be handed in and formally marked.
Discuss the criteria that will be used to mark these letters before the letters are written. eg
- clear and concise responses
- good interpretation and analysis of the condition/myth
- good use of biological information to support answers
- non-judgmental approach to answering questions
- good advice provided on what to do
- creative response as Dr Naidoo, informal chatty style typical of advice columns

Once again, some sort of rating scale would need to be used eg excellent to very poor.

Supporting information for the teacher
Single sex groups would once again enable girls to talk with greater ease about their worries and concerns about menstruation. Their questions would probably differ from boys questions. You might however feel that mixed groups are better so that boys and girls learn to discuss menstruation as a natural biological process with each other.

Dr Naidoo is a fictitious person in a fictitious magazine called Teenmag.

Answers to questions:
Task 9:
1a Average: every 28 days; can be every 20 – 35 days – varies in different people.
b Average: 4 days; can be between 2 and 8 days – varies in different people.

c Blood comes from broken blood vessels as lining of uterus breaks down, mucous comes from lining of uterus.

d When she ovulates (releases an egg from her ovaries). This is usually midcycle, i.e. around day 14. The egg travels along the Fallopian tube where it can be fertilised.

e Yes. Sperm can survive for a few days in the uterus and Fallopian tubes. If a girl has sex and ovulates a few days later, the sperm may still be alive to fertilise the egg when it reaches the Fallopian tubes.

If she ovulates and a few days later has sex, the ovum will still be in the Fallopian tubes and can be fertilised by the sperm.

In addition, women ovulate on average on the 14th day of their menstrual cycle, but some menstruate earlier and some later. If an ovum and sperm are present in the Fallopian tubes, she can fall pregnant.

(This can be discussed again when you look at task 12 where learners work out how the sperm reaches the ovum to fertilise it.)

f No. The lining of the uterus remains thick and the fertilised egg attaches to this lining and develops into a baby. If a girl were to start having her periods while pregnant, this means the lining has started to break down and she is having a miscarriage.

g Fertilisation of the egg has not taken place, and this starts the next cycle where the lining breaks down and a new egg and new uterus lining develops. (These changes are related to hormonal levels but hormonal changes have not been discussed here in any detail.)

2 Maria: (August 1) August 29; September 26; October 24
Lavanya: (August 1) September 1; October 2; (Nov 2)

Task 10: as Dr Naidoo, their response could include the following:

Sarah: Her periods are probably just starting late. This is normal. If her periods haven't started by the age of 18, she should see a doctor – she may have hormonal problems. She should check that diet is healthy and she is eating properly.

Sibongile: Hormonal changes during puberty cause pimples because the sex hormones make the oil glands produce more oil. Before the periods start, more fluid is retained in the body including the skin and this can cause the openings of the oil glands to be blocked resulting in pimples.

Nozuko: The cramps are caused by the contraction of the muscular uterus walls and the tearing away of the lining of the uterus. Can relieve muscular contractions by placing a hot water bottle on the stomach, and taking pills or herbal medicines that relax the muscles (You could introduce a discussion here with the class on different ways of relieving menstrual pain. Learners could find out about remedies from their parents and grandparents.)

Fatima: Hormonal changes just before menstruation cause premenstrual tension (PMT) in most women. This is worse in some people than others. Depression and crying is typical of premenstrual tension.

Constance: Exercise will not harm a girl since the muscles of the uterus are not used during exercise. Rather the uterus muscles tend to relax slightly possibly due to the movement of the body and this can help to relieve menstrual pain.

Jennifer: If she has been involved in sexual intercourse, she is probably pregnant. If she is anorexic or has gone on a crash diet, this could cause her periods to stop. She should take a pregnancy test.

Mariette: Some people like bigger breasts, others smaller breasts. She should enjoy whatever size she has.

Anne: Milk is produced by milk glands in the breasts and these are the same whether a girl's breasts are small or big. The size of the breast depends on how much fat they have in their breasts.

Carole: She probably has thrush which is caused by a fungus. She can get a vaginal cream or pills from a clinic or chemist that will destroy the fungus.

Margaret: Swimming and bathing will not affect a person's health during menstruation, Water will not flow up into the uterus (womb). It's unhealthy not to bathe during menstruation since bacteria can begin to multiply in blood collecting in the pubic hair.

Meeting a partner

This material is a review of the previous term's work on reproduction in vertebrates and a comparison between humans and some animals with regard to meeting a partner, preparing for the act of sex and control.

Suggested time: 1.5 hours

What is sexual intercourse?

Suggested time: 15 minutes

Class organisation: pairs

Resources needed: learner's materials (page 17)

What are the outcomes of this activity?
Learners will be able to:
- Analyse and interpret animal behaviour (including human behaviour)
- Share ideas with a partner

What will be done to achieve this learning?
Learners talk in pairs about the need for and role of a partner in animals, including humans.

How will the learner's achievement be assessed?
Informal assessment as you circulate around the classroom and listen to learner's ideas. You could have brief feedback with the whole class on learners' responses to the questions, but this probably isn't necessary.

Supporting information for the teacher
"Meeting a partner" provides an introduction to the topic "sexual intercourse and responsibility". The questions help to link human behaviour to behaviour in some other animals in particular birds and mammals. A wide range of answers could be given which might include the need for a partner for mating, protection of young, sharing the task of feeding the young, providing a safe environment for bringing up the young, companionship etc. Answers may go beyond this into a discussion of human relationships and the need for support and companionship, same sex partners, or no partners at all but the need for friends.

Sexual intercourse and responsibility

Suggested time: 1 hour

Class organisation: individual, group and class work

Resources needed: learning materials (page 18)

What are the outcomes of this activity?
Learners will be able to:
- explain simply sexual intercourse
- draw flow diagrams of the process of fertilization using text and diagrams
- explain how sexual intercourse can lead to pregnancy
- describe cultural, religious, family and personal views on responsible sexual behaviour

What will be done to achieve this learning?
Task 12: Learners will use diagrams of the sex organs to trace the movement of sperm from the testes to the Fallopian tubes where fertilisation takes place. Learners will need to be taught how to draw flow diagrams.

Task 13: In groups, learners share their ideas about how their cultures or religions (or personal family rules) protect them against sexual activity before they are ready. After a group discussion on responsible behaviour, learners write about their personal views on responsible sexual behaviour.

Information is provided on who can be contacted in the case of rape

How will the learner's achievement be assessed?
Task 12: You can check (and mark) the learners' flow diagram. It should look something like this:

(sperm in)
testis
↓
sperm duct
↓
urethra
↓
vagina
↓
uterus
↓
Fallopian tube
(fertilisation of egg)

Summative assessment at the end of the module could be used to assess their understanding of biological facts and concepts.

3.2.2 Informal assessment of discussion of cultural and religious rules.
Formative assessment of the written tasks i.e.
Responsible sexual behaviour - a written evaluation using a rating scale of excellent to very poor with reasons. The paragraph could be assessed on:
- a clear logical argument for the position taken
- a clear indication that the rights and free choice of others is taken into consideration
- a well written and coherent discussion of the topic.

Supporting information for the teacher
Sexual intercourse has been dealt with very briefly so that learners are aware of what intercourse is, how girls become pregnant, and what constitutes rape. No further details are included for this age group.
When this module was reviewed, some people felt that a biological diagram of the act of sex would be inappropriate for this age group. If you would like to use such a diagram to explain sexual intercourse, it can be found in the "Talking about Life" series of charts and in any book on reproduction in humans.

The link with animal behaviour has been made to point out that there are controls on sexual activity in the animal kingdom and that these controls exist within families in the rules they set out and in the religious and cultural rules within a society. Once again in assessing the learner's paragraph on appropriate sexual behaviour, it would be important not to impose one's own beliefs and thus judge a learner's opinions about the matter. Rather they should be assessed on how well they argue their position.

Preventing fertilisation

Suggested time: 30 minutes (classwork and/or homework)

Class organisation: classwork

Resources needed: learner's materials (p. 19), pamphlets on condoms, condoms, one type of contraceptive pill. Pamphlets and contraceptives should be available at local clinics.

What are the outcomes of this activity?
Learners will be able to:
- identify the most common contraceptives
- describe briefly how they work

What will be done to achieve this learning?
Learners will read the information in the learner's materials and can look at pamphlets and charts on the use of condoms and the pill, can examine examples of these contraceptives and talk about how they are used and how they can protect a person from sexually transmitted diseases.

How will the learner's achievement be assessed?
Class discussion can be used to assess the learner's understanding on how to prevent fertilisation and avoid sexually transmitted diseases (task 14).

Supporting information for the teacher
This is a very brief discussion focussing only on the two major contraceptive methods, and in particular on the use of the condom to prevent sexually transmitted diseases. With all the discussion around AIDS, learners may be able to comprehensively discuss this topic. Visual aids could be very useful as a focal point for the discussion and learners could be encouraged to talk about what they know about these contraceptives. You could then identify gaps in their knowledge and misconceptions and explore these further. Another lecture from a teacher on the use of condoms may just switch them off!

Sexually transmitted diseases

This unit provides a brief look at sexually transmitted diseases excluding HIV/AIDS.

Suggested time: 1 hour and homework

Class organisation: individual work

Resources needed: learner's materials, books, pamphlets from clinics (to be collected by learners)

What are the outcomes of this activity?
Learners will be able to:
- gather relevant information from various sources
- select appropriate information
- tabulate data collected
- gather and present suitable visual material

What will be done to achieve this learning?
- Learners will collect information on three sexually transmitted diseases from books, pamphlets collected at clinics and from any other available source.

- They will tabulate information on these diseases so that they can compare the diseases.
- They will collect diagrams and/or photos from magazines and place these in their notebooks. Alternatively they can copy diagrams.

How will the learner's achievement be assessed?
A rubric could be used or a mark given for the table and the diagrams.

Table: Sexually transmitted diseases

	Gonorrhoea	Syphilis	Hepatitis B
How you get the disease	sexual contact	sexual contact	sexual contact body fluids eg blood, saliva and urine
Length of time from infection till seen/felt in body	1-10 days	stage 1: 1-3 months stage 2: 3-6 months stage 3: many years	1-6 months
Symptoms	Women: pelvic pain, painful urination, vaginal discharge or fever Men: painful urination, discharge or drip from penis or no symptoms	stage 1: painless sore on external sexual parts stage 2: fever, headache, general rash stage 3: very ill	stage 1: flu, fatigue, weight loss, painful joints stage 2: jaundice, the skin and whites of the eyes are yellow stage 3: gradual recovery
Treatment	antibiotics	antibiotics	rest and healthy food A vaccine can be given to prevent the disease

Supporting information for the teacher
This is a brief look at STD's, providing learners with an opportunity for some research into these common, and in the case of Hepatitis B, potentially life-threatening diseases. HIV/AIDS could be included in this table but has probably already been dealt with extensively.

The question in the shaded block about the crowd of people provides an opportunity to talk about the fact that in most cases, you cannot see whether the person has an STD. So there is nothing to warn a person before a sexual encounter that they are about to be infected with some very unpleasant and possibly life threatening STD.

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