

Lesson Plan 11: Toilets

**50 minutes total**

Lesson Description



Participants discuss different toilet options, and the needs and preferences of different user groups to ensure that toilets are accessible and easy to use. As well, they identify key questions to consider when designing appropriate toilets. Participants will design a toilet by the end of this lesson.

Learning Outcomes



At the end of this session participants will be able to:

1. Describe common toilet technologies.
2. Discuss factors for designing an appropriate toilet.
3. Discuss modifications to make toilets accessible and easy to use for different people.

Materials



- Flipchart paper
- Markers
- Scissors
- Drop hole cutout
- Toilet Posters
- Sanitation System Design Workbook

Preparation



- Review topic in Technical Brief: Sanitation System – User Interface
 - Write the heading “*Sit or Squat*” on flipchart paper
 - Write the heading “*Toilet Design Factors*” on flipchart paper
 - Draw the outline of a key shaped drop hole with dimensions 18 cm wide and 40 cm long and cut it out. Inside the first drop hole, draw the outline of another key shaped drop hole with the dimensions 16 cm wide and 25 cm long.
 - Print Toilet Posters (1 set for every 4–5 participants)
 - Optional: Write the learning outcomes on flipchart paper
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Introduction**5 minutes****Option A:**

1. Explain that this lesson is going to start with a quick energizer. When you say squat the participants should squat and when you say sit the participants should sit in their chair.
2. Call out one of the words in any order you want until the participants have done at least 10 actions.
3. Explain to participants that they have been demonstrating the two ways people defecate – squatting and sitting.
4. Present the lesson description or learning outcomes.

Option B:

1. Ask the participants to name every type of toilet they have used. Write the answers on flipchart paper.
2. Ask the participants why there are so many different kinds of toilets?
 - *Different preferences, cultural reasons, local design, type or number of users*
3. Present the lesson description or learning outcomes.

Sit or Squat**10 minutes**

1. Explain that the term “toilet” is defined as the pan or seat inside a latrine into which people urinate or defecate. The word “toilet” sometimes means a ceramic cistern flush toilet; however, CAWST uses the word more broadly.
2. Explain the following terms and add them to the Word Wall. Ask the participants “What are the common practices in your community?”

- *Wipers, washers, anal cleansing water, anal cleansing materials*



3. Ask the participants “What do you need to think about when deciding between a squat and a sit toilet?” Record answers on the “*Sit or Squat*” flipchart.

- *What is culturally acceptable and practiced*
- *Age of users*
- *Health of users*
- *Physical limitations of users*

4. In pairs, ask the participants to discuss “You are in a community where most people prefer to squat, but there are some users with physical limitations such as elderly, people with disabilities and pregnant women. What could you do to make the toilet accessible?” Share some responses as a large group.
 - *Place a portable seat or chair directly over the squat hole*
 - *Install support bars to help people squat, balance and pull themselves back to standing*
5. In pairs, ask the participants to discuss “You are in a community where most people prefer to sit, but there are also small children using the latrine. What could you do to make the toilet accessible?” Share some responses as a large group.
 - *Place a stepping stool in front of toilet so that children can easily climb onto the toilet set*
 - *Place a seat cover with a smaller hole over the adult-sized seat for children to sit on*
 - *Install support bars so that children have something to hold onto for balance*

Toilet Design Options

25 minutes



1. Explain the following to the participants:



- *Toilets can be dry or wet. In dry latrines, the excreta drops directly down through a hole into the pit, tank or chamber. In wet latrines, water flushes the excreta through a pipe into the pit, tank or chamber. CAWST also uses the term water flushed latrines.*
 - *The decision about which type of toilet to choose can depend on many things, including the availability of water and what anal cleansing materials are used.*
 - *The type of toilet is also linked to the excreta storage technology chosen. Not all toilets and storage technologies are compatible with each other. This will be discussed in more detail during the lesson on excreta storage.*
2. Tell participants that they are going to be put in teams. You will present common types of toilets and then ask a challenge question. Points will be awarded to the teams for their answers. The first team to raise their flag will get to answer the question first. Teams are allowed to discuss with their members before raising their flag. If the answer is not correct or there is another correct answer, the other teams will be allowed to answer.



3. Divide the participants into teams of 4 or 5 people. Ask them to pick an item that will represent their flag (e.g., hat, book, shoe).



4. Hand out the Dry Drop Hole Poster to each group. Explain the following points:
 - *A drop hole toilet is considered a dry toilet because it does not require water for flushing feces and urine to excreta storage.*
 - *The drop hole can be many different shapes. The recommended size is 16–18 cm wide and 25–40 cm long.*
5. Show participants the key shaped drop hole cutout and ask them to pass it around. Explain that this is what the recommended dimensions look like.

6. Tell participants their first team question is now. Ask the teams “What are some ideas for designing a hygienic lid or cover that will prevent flies and reduce smells?” Allow as many teams to answer that have unique ideas. Encourage the teams to come up and draw their designs on flipchart paper. Discuss the following points:

- *A lid should be easy to clean as they become dirty quickly.*
- *The most hygienic lid is one that you don't touch with your hands. A foot operated design is good.*
- *Note that covers should not be used with ventilated improved pit (VIP) latrines.*

7. Award one point for each correct answer and record points on flipchart.



8. Hand out the Pour Flush Poster to each group. Explain the following points:



- *Pour flush pans are often made from porcelain with a very smooth finish that is easy to flush and clean. They can also be made using concrete or plastic*
- *The pour flush pan can be set directly into the slab for squatters, or into a seat for sitters.*
- *A well designed and smooth pour flush pan only needs 2–3 litres of water for flushing, whereas a poorly designed pan can need 5 litres or more.*
- *Soft wiping materials can be flushed, but other anal cleansing materials should be collected and safely disposed of another way (e.g., buried). To reduce the need for water, it is recommended to collect toilet paper or other dry anal cleansing materials separately.*

9. Tell participants their second team question is now. Ask the teams “How does the pour flush toilet control smells?”

- *The pour flush is designed with a bend in the pipe. There will always be water in this bend between uses. This water blocks airflow up from the pit, tank or chamber below. This is called a water seal.*

10. Award one point for each correct answer and record points on flipchart.



11. Hand out the Cistern Poster to each group. Explain the following points:



- *Usually made of a tank above the pan or seat that supplies water for flushing.*
- *There is a way to release the water down into the pan to flush away the excreta, usually by pushing a handle or button, or pulling a string.*
- *They have a water seal to control smells.*
- *Low volume cisterns may need 3–6 litres of water per flush, but older designs may use up to 9–20 litres.*

12. Tell participants their third team question is now. Ask the teams “What kind of home would this be best suited for, considering the amount of water needed?”

- *Since cistern flush toilets can use quite a lot of water, they are better suited to homes with a large water holding tank or a reliable piped water supply.*

13. Award one point to each correct answer and record points on flipchart.



14. Hand out a Urine Diversion Poster to each group. Explain the following points:



- *Urine diversion is an option for any latrine.*
- *Urine can be collected separately from feces by using a special pan or seat. The urine flows through a pipe into a container where it is stored.*
- *Urine diversion toilets are often dry, but they can be water flushed.*
- *Using a urine diversion pan or seat can be a new experience for people. They may need some education and reminders on how to use it correctly. It can also be difficult for small children to use correctly without getting their urine and feces mixed together.*



15. Tell participants the fourth team question is now. Ask the teams “What are the benefits of diverting and collecting urine separately from feces?”

- *There is less smell when urine and feces are kept separate.*
- *There is less volume and weight of excreta in the pit, tank or chamber. This can be important for latrines that fill up quickly and need to be emptied.*
- *It is simpler to use urine alone as a fertilizer. Urine makes an excellent fertilizer – it contains more nutrients and fewer pathogens than feces.*
- *The urine can be drained directly into the ground using a soak pit. It is rare to have pathogens in urine.*

16. Award one point to each correct answer and record points on flipchart.



17. Hand out a Urinal Poster to each group. Explain the following points:



- *Urinals only collect urine – there is no place to collect or store feces.*
- *Conventional urinals require water to flush, but waterless urinals do not.*
- *Most urinals are designed for men or boys, but there are also female urinals.*

18. Tell participants the last team question is now. Ask the teams “How do you stop smells in waterless urinals?”

- *You can use a water seal or a ball in the outlet.*
- *Pour a small amount of oil (e.g., half a cup) into the urinal so that it sits in the top of the u-bend water seal, urine can pass through the oil because it is heavier*
- *Cut the end of a condom, place it over the outlet pipe, acts like a valve in the pipe*

19. Award one point to each correct answer and record points on flipchart.

20. Tally the points and announce the winning team.

Toilet Design**15 minutes**

1. Ask participants “What factors do you need to consider to design your toilet?” Record responses on the “*Toilet Design Factors*” flipchart.



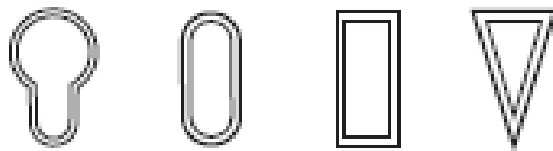
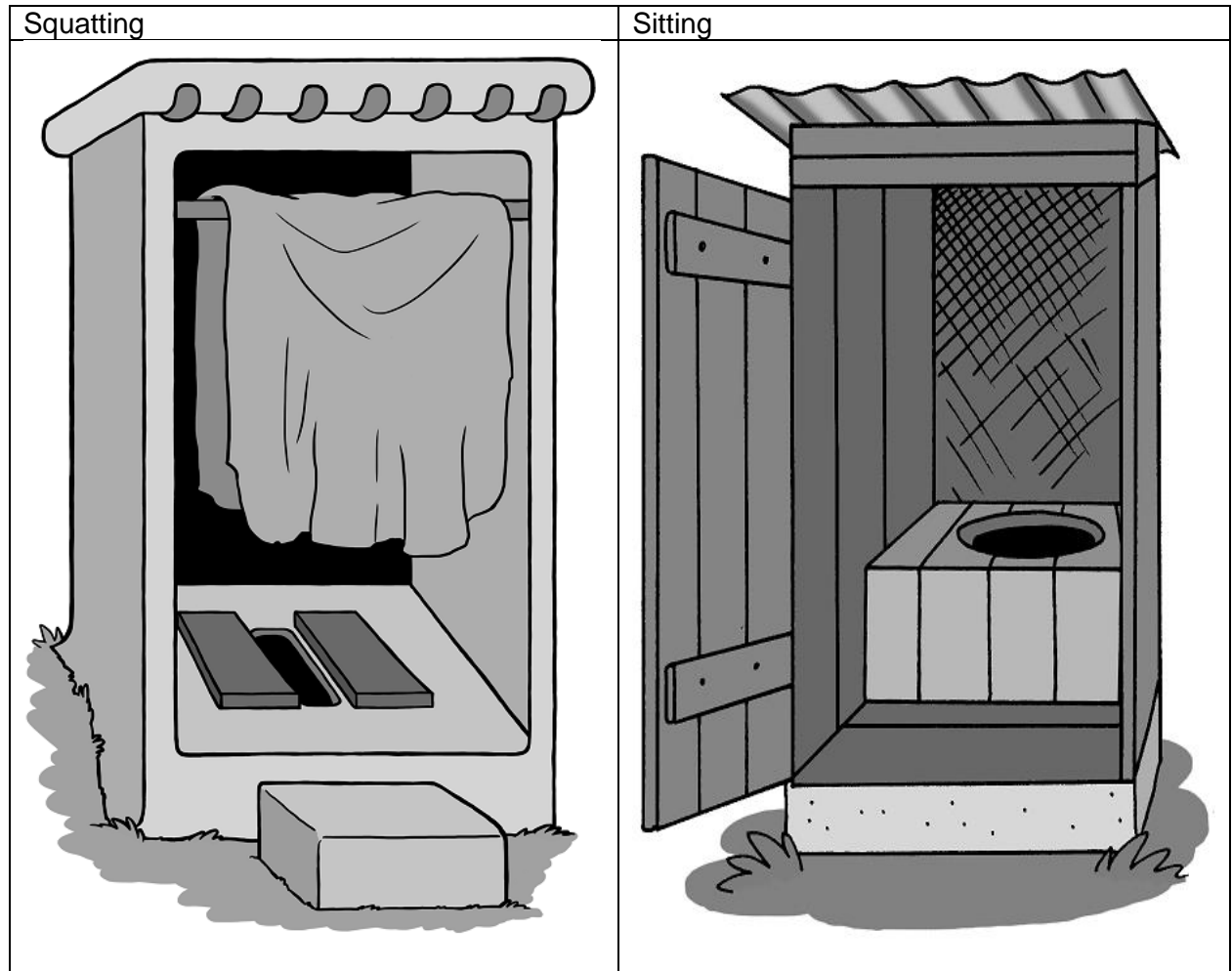
- *Who will be using the toilet?*
 - *Is it common practice to sit or squat?*
 - *How do people cleanse themselves after defecating and urinating?*
 - *Is there enough water available year-round for cleansing and flushing?*
 - *Should urine be collected separately?*
 - *How much will each option cost?*
 - *Are parts readily available?*
 - *Is the design accessible and easy to use for everyone who needs to use it, including children, the elderly, and people with disabilities and illnesses?*
2. Place the flipchart somewhere visible for the rest of the workshop.

Review**10 minutes**

1. Explain that the participants will now design their toilet. Ask the participants to turn to the Toilet section in their Sanitation System Design Workbook. Tell them they will have 10 minutes to complete the worksheet.
2. Encourage participants to discuss any questions or challenges with each other or with you.

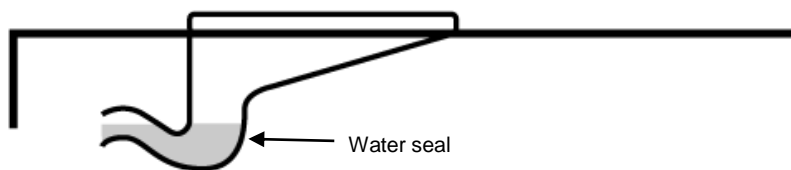
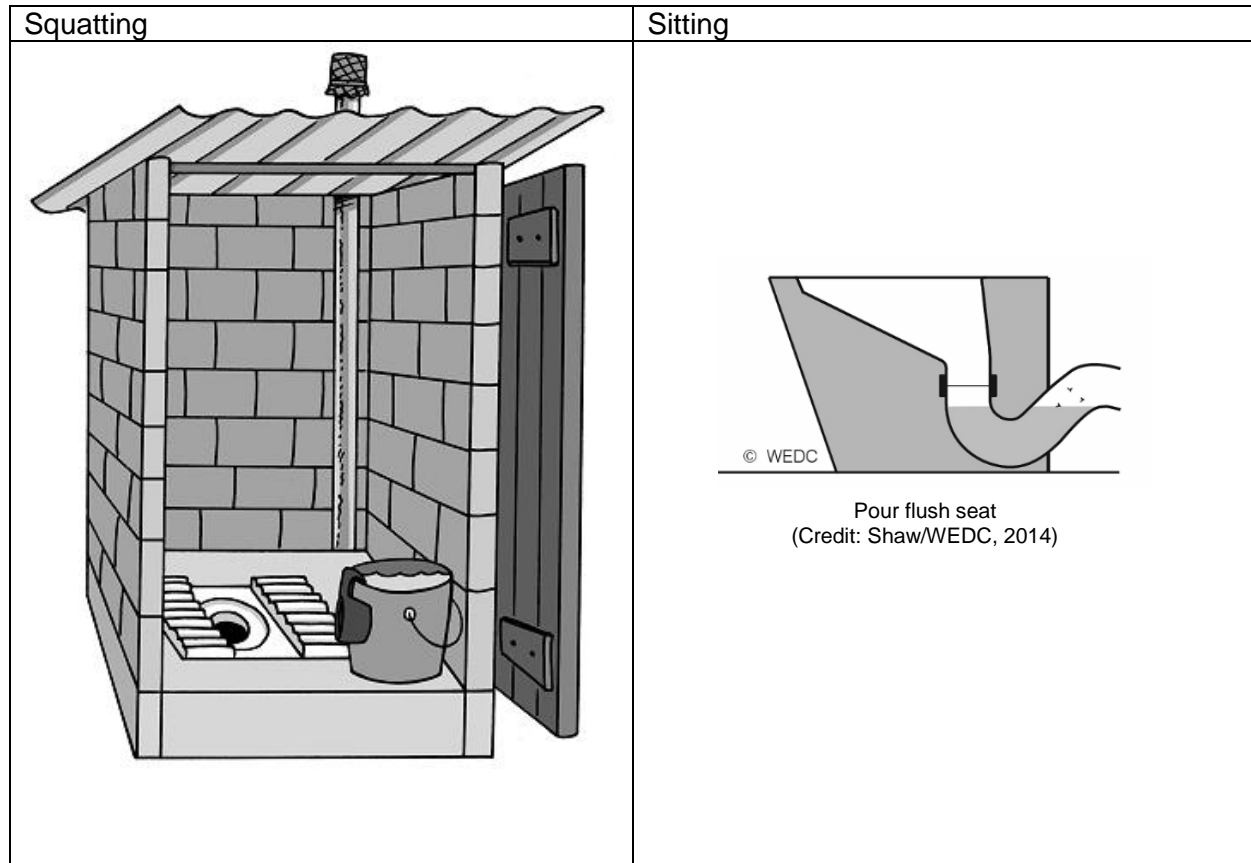
Reflections on Lesson

DRY DROP HOLE TOILET POSTER



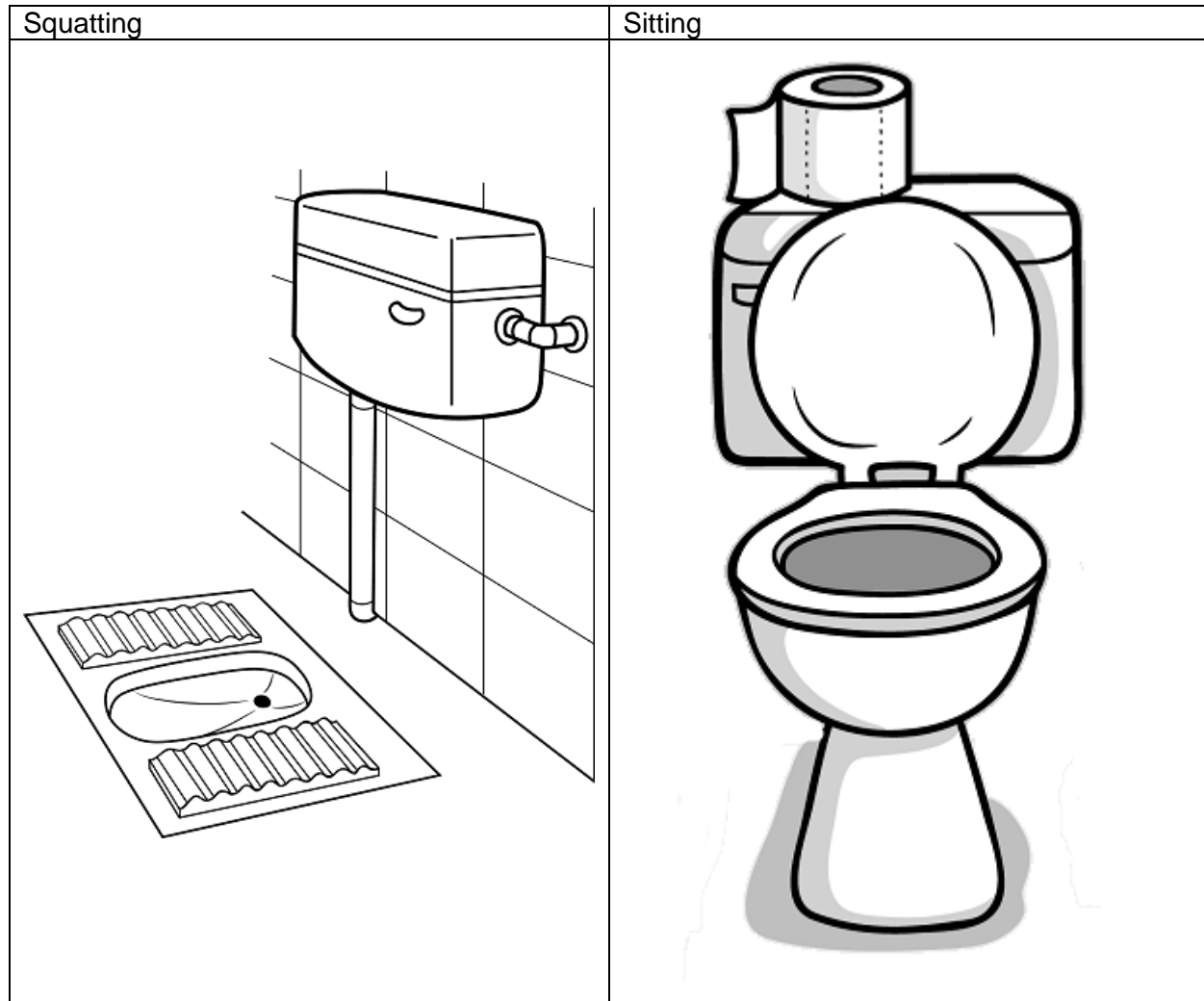
Different drop hole shapes, left is the keyhole shape
(Credit: Reed/WEDC, 2012)

POUR FLUSH TOILET POSTER

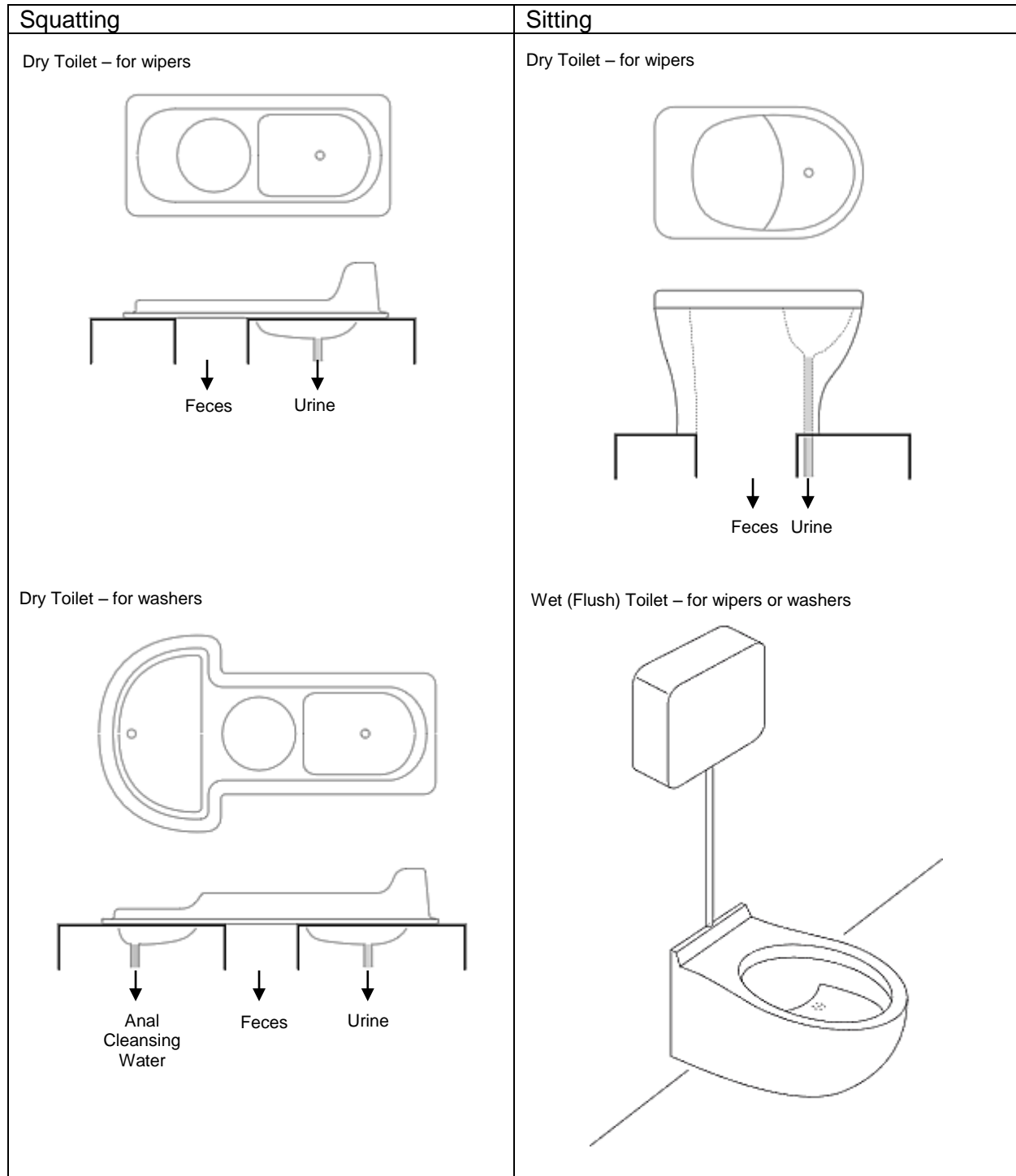


Side view of a pour flush pan and water seal
(Credit: Tilley et al., 2014)

CISTERN FLUSH TOILET POSTER



URINE DIVERSION TOILET POSTER



(Credit: Tilley et al., 2014)

URINAL POSTER

