SNOMED CT in Pathology workbook answers

The following exercises aim to enable you to learn how to navigate around SNOMED CT, see how concepts are displayed using a browser and what important information can be extracted from such a view.

Part 1 – Finding your way around the browser

1.	Look at the top level hierarchies in a SNOMED CT browser. How many hierarchies are there? **19**
2.	Use the browser to find out how many direct child concepts 71388002 |Procedure (procedure) has? **34**
3.	What is the parent concept of 14089001 |red blood cell count (procedure)? **88308000 |Blood cell count (procedure)**
4.	What are the parent concepts of 364687002 |Urine observable (observable entity)? **106090003 |Body fluid property (observable entity) and 364684009 |Body product observable (observable entity)**
5.	Look at the concept 104125004 | Red blood cell count, automated, synovial fluid (procedure) and 104122001 | Red blood cell count, automated, urine (procedure). What is the difference in their attribute relationships and why is there is a difference? Component → Erythrocyte Method → Evaluation - action Has specimen → Synovial fluid specimen Component → Erythrocyte Method → Measurement - action Has specimen → Urine specimen **They both have the same Component and Method, however, the specimens are different as can be seen in the attribute Has specimen**

6.	Search for the observable entity concept with a description Red blood cell count. How many acceptable synonyms does this concept have? (Hint: use details view in browser) **2**
a.	What is the preferred term? **Red blood cell count**
b.	What is the fully specified name? **Red blood cell count (observable entity)**
c.	What is the concept ID? **1022451000000103**

Part 2 – Tips using the browser

1.	Try to search for the concept "Presence of hepatitis B virus core antibody in serum (observable entity)" using the least amount of characters in the search field. Try to change the order of the words you type and see if it makes a difference. **How about "hep b vir pr an"** **Word order makes no difference**
2.	When searching for the term "Quantitative measurement of mass concentration of diazepam in saliva specimen (procedure)". Which words do you think are not necessary to type to still return the required concept? **of, in**
3.	Search for Blood. How many specimen descriptions are there that include the text Blood? (Hint: Semantic Tag Filter on the left should help) **105**
4.	How many observable entity **concepts** are there that include the text "mass concentration"? **210**
5.	Abbreviations can be helpful when searching for terms. What abbreviation would you use to find the concept 16556605 |Whole blood clotting time procedure (procedure) and does it help?

	WBCT, yes
6.	BS is often used as an abbreviation for Glucose measurement, blood. Does this abbreviation make finding the concept Glucose measurement, blood (procedure) easier? **No, too many concepts with BS so it's better to search "blood gluc meas"**
7.	Search for the abbreviation FBC. What can FBC stand for? **Full blood count**

Part 3 – Understanding SNOMED CT hierarchies

The following information might help in making the right choice to the following questions:

Procedure concepts – represent activities performed in the provision of health care. Includes invasive procedures, administration of medicines, imaging, education, therapies and laboratory test orders/requests, e.g. complete blood count (procedure)

Observable concepts – represent a question or assessment which can produce an answer or result, e.g. blood zinc level

Specimen concepts – these are obtained, usually from a patient, for examination or analysis, e.g. urine specimen

Situation concepts – represent concepts in which the clinical context is specified as part the definition of the concept itself, i.e. when the conditions are absent or in the past or relate to someone other that the subject of the record, e.g. family history of asthma (situation)

Clinical **finding** concepts – represent the result of a clinical observation, assessment or judgment and include concepts used to represent diagnosis, e.g. abnormal blood test

It's also worth noting that **procedures** and **findings** have the following default context:

Refers to patient of record (subject of record)
Occurring now or at a specified time (current or specified time)
Finding is actually present (known present)
Procedure has actually occurred (done)

1.	Search for the term 'red blood cell count' in your browser. Which one of the concepts returned would be used for ordering the red blood cell count? **Red blood cell count (procedure)**
2.	Which one of the concepts returned would be used for recording the red blood cell count? **Red blood cell count (observable entity)**
3.	Search for a term in your browser.

	Which concept would you use for the action of ordering a blood serotonin level? **412837009 |Blood serotonin measurement (procedure)**
4.	Which concept would you use for recording a blood serotonin level? **1021811000000106 |Blood serotonin level (observable entity)**
5.	Which concept would be used to state a serotonin level that has increased? **131139004 |Increased serotonin level (finding)**

Can you see the importance of knowing whether a concept is an observable or finding or procedure?

6. For each of the following descriptions, select which hierarchy you think their concept belongs to from the following options (have a guess first and if stuck, use the browser to help):
Procedure, Observable, Specimen, Situation, Finding

Haemoglobin variant test	**Observable**
Glucose measurement, blood	**Procedure**
History of anaemia	**Situation**
Colour of stool	**Observable**
Blood glucose level at bedtime	**Observable**
Increased glucose level	**Finding**
Bone biopsy sample	**Specimen**
Microbial smear examination	**Procedure**
Lymph node aspirate	**Specimen**
Haematology test not needed	**Situation**
Mass concentration of glycerate in urine	**Observable**
Abnormal sputum	**Finding**
Autopsy, gross examination with brain	**Procedure**

Clotted blood sample	**Specimen**
Mean platelet volume	**Observable**
Fat globules in urine	**Finding**