

**Science 10: Life Science  
Item-Level Response Report (Provincial Level)**

**British Columbia**

**All Schools**

**June/2008**

Provincial Science 10 Item-Level Response Reports include data for all BC students who wrote the exam in June 2008 (about 34,740 students). Both public and independent schools are included. The Science 10 June 2008 (Life Science) provincial Item-Level Response Report displays the proportion of students who made errors on each test item and a description of the misconception.

<b>Form</b>	<b>Item #</b>	<b>Question type</b>	<b>Number of Students who Responded to the Item</b>	<b>Percentage of Students who Answered Incorrectly</b>	<b>Specific Curricular Aspect that Needs Attention [&gt;20% selected incorrect response]</b>
A	1	MT	34554	47	<ul style="list-style-type: none"> <li>Students confused the term "mitosis" with "meiosis".</li> </ul>
A	2	MT	34503	45	<ul style="list-style-type: none"> <li>Students confused the term "meiosis" with "mitosis".</li> </ul>
A	3	MT	34689	18	N/A
A	4	MT	34682	17	N/A
A	5	MT	34650	7	N/A
A	6	TF	34702	36	<ul style="list-style-type: none"> <li>Students did not understand the function of the ribosomes and their location within the cell.</li> </ul>
A	7	MC	34671	51	<ul style="list-style-type: none"> <li>Students incorrectly answered that centrioles are found in large numbers in muscle cells; did not understand the function of centrioles.</li> </ul>
A	8	TF	34710	24	<ul style="list-style-type: none"> <li>Students did not understand how to interpret a diagram of a plant cell that has lost water when placed in a salt-water solution.</li> </ul>
A	9	MC	34672	44	<ul style="list-style-type: none"> <li>Students did not understand that human cells do not have cell walls, and therefore would not be affected by penicillin's action.</li> </ul>

A	10	TF	34670	46	<ul style="list-style-type: none"> <li>Students did not understand how the surface area to volume ratio changes as cell size decreases.</li> </ul>
A	11	TF	34691	39	<ul style="list-style-type: none"> <li>Students did not understand the term "cytokinesis"; confused "cytokinesis" with "mitosis".</li> </ul>
A	12	MC	34700	53	<ul style="list-style-type: none"> <li>Students were unable to correctly identify the stage of mitosis from a diagram; mistook metaphase with prophase in a diagram.</li> </ul>
A	13	MC	34696	43	<ul style="list-style-type: none"> <li>Students were unable to correctly describe the events that occur during prophase from a diagram; did not understand the processes that occur during prophase.</li> </ul>
A	14	MC	34666	30	*
A	15	TF	34682	36	<ul style="list-style-type: none"> <li>Students did not understand that a host is needed for a virus's survival and reproduction.</li> </ul>
A	16	MC	34710	40	<ul style="list-style-type: none"> <li>Students incorrectly answered that a graph showed that nicotine reduces the oxygen content of fetal blood; misinterpreted a bar graph that did not contain enough information to answer the question.</li> </ul>
A	17	MC	34716	5	N/A
A	18	TF	34729	10	N/A
A	19	TF	34717	25	<ul style="list-style-type: none"> <li>Students did not understand how to complete a Punnett square and interpret the percent probability of a certain trait.</li> </ul>
A	20	MC	34678	42	<ul style="list-style-type: none"> <li>Students were unable to complete a Punnett square for a hybrid cross and/or were unable to write the correct ratio of dominant to recessive phenotypes from a hybrid cross.</li> </ul>
A	21	TF	34716	21	<ul style="list-style-type: none"> <li>Students did not understand the term "codominance";</li> </ul>

					did not understand that there are three different phenotypes in codominance.
A	22	MC	34723	41	<ul style="list-style-type: none"> <li>Students were unable to interpret a diagram (showing the phenotypes of two parent pea plants and the four offspring produced) to determine the genotypes of the parents; chose the correct phenotype for the homozygous recessive parent but not for the other.</li> </ul>
A	23	MC	34702	41	*
A	24	MC	34669	40	<ul style="list-style-type: none"> <li>Students did not understand how to complete a Punnett square and/or write a genotypic ratio.</li> </ul>
A	25	MC	34675	39	*
A	26	MC	34703	51	<ul style="list-style-type: none"> <li>Students did not understand the term "sex-linked inheritance"; mistook incomplete dominance with sex-linked inheritance.</li> </ul>
A	27	MC	34686	49	<ul style="list-style-type: none"> <li>Students were unable to choose the best genotype to cross with a flower to determine its genotype.</li> </ul>
A	28	MC	34702	43	*
A	29	MC	34668	22	*

Note:

'\*' indicates that there were fewer than 20% of the students who selected any of the possible incorrect answers to the item, hence, no curricular note is reported;

'N/A' indicates that there were fewer than 20% of the students who incorrectly answered the item, hence, no curricular note is reported.

**Question Type:** Multiple Choice (MC), Matching (MT), True/False (TF).