



SCIENCE SUMMARY TABLE

Grade 10

The summary table below may be used with the grade 10 science Paper-Based Item Sampler or Online Tools Training (OTT). It provides an answer key, alignment to the Alaska standards, and depth of knowledge level for each question. Please note, there are two different answer keys for each grade level: one for the paper-based item samplers and one for the OTT.

Paper-Based Item Sampler - Part 1

Question #	Answer Key	Alignment	DOK
1	Part A: A Part B: B	HS-LS1-5	3
2	D	HS-LS2-6	2
3	A	HS-LS3-2	2
4	C	HS-LS3-2	2
5	Part A: C Part B: B	HS-PS1-1	2

Paper-Based Item Sampler - Part 2

Question #	Answer Key	Alignment	DOK
6	Part A: A Part B: C	HS-PS3-3	3
7	A, E	HS-PS1-8	2
8	A	HS-PS1-1	2
9	B	HS-LS4-3	2
10	B	HS-LS2-8	2

Paper-Based Item Sampler - Part 2

Question #	Answer Key	Alignment	DOK
11	Part A: A Part B: C	HS-LS1-7	2
12	A, D, E	HS-LS4-2	2
13	A	HS-LS4-4	2
14	B	HS-LS1-1	2
15	C	HS-PS2-2	2

OTT - Part 1

Question #	Answer Key	Alignment	DOK
1	<p>Part A:</p> <div style="text-align: center;"> <div style="display: inline-block; border: 1px solid black; padding: 2px 10px; margin-right: 5px;">6CO_2</div> <div style="display: inline-block; vertical-align: middle;">+</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 10px; margin-right: 10px;">$6\text{H}_2\text{O}$</div> <div style="display: inline-block; vertical-align: middle;">→</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 10px; margin-right: 5px;">$\text{C}_6\text{H}_{12}\text{O}_6$</div> <div style="display: inline-block; vertical-align: middle;">+</div> <div style="display: inline-block; border: 1px solid black; padding: 2px 10px;">6O_2</div> </div> <p style="text-align: center;"> reactants products </p> <p><i>(Students can receive credit for any order of reactants and any order of products.)</i></p> <p>Part B: The amount of product decreases.</p>	HS-LS1-5	3
2	<p>Argument 1: The growth rings of already established trees would be wider than before the environmental change due to greater water availability.</p> <p>Argument 2: New bristlecone pines would start to grow in nearby areas due to stronger winds.</p>	HS-LS2-6	2
3	A	HS-LS3-2	2
4	1.5 kg	HS-PS2-1	2
5	<p>Part A: C</p> <p>Part B: B</p>	HS-PS1-1	2

OTT - Part 2

Question #	Answer Key	Alignment	DOK																								
6	Part A: A Part B: C	HS-PS3-3	3																								
7	A, E	HS-PS1-8	2																								
8	<div style="border: 1px solid black; padding: 10px;"> <p style="text-align: center;">Atomic Models</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>U-235</p> </div> <div style="text-align: center;"> <p>Pu-239</p> </div> <div style="border: 1px solid black; padding: 5px; font-size: small;"> <p>Key</p> <p>n neutrons</p> <p>p protons</p> <p>e electrons</p> </div> </div> <div style="margin-top: 10px; text-align: right;"> <p>92 p</p> <p>94 p</p> <p>92 e</p> <p>94 e</p> </div> </div>	HS-PS1-1	2																								
9	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>0.5 kg</th> <th>1.0 kg</th> <th>1.5 kg</th> <th>2 m/s²</th> <th>4 m/s²</th> </tr> </thead> <tbody> <tr> <td>Mass of hammer</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Mass of ball</td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>Acceleration of hammer</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </tbody> </table>		0.5 kg	1.0 kg	1.5 kg	2 m/s ²	4 m/s ²	Mass of hammer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Mass of ball	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Acceleration of hammer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	HS-PS2-1	2
	0.5 kg	1.0 kg	1.5 kg	2 m/s ²	4 m/s ²																						
Mass of hammer	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																						
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Acceleration of hammer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>																						
10	D1: decreases D2: mates D3: decreases D4: an increase	HS-LS2-8	2																								

OTT - Part 3

Question #	Answer Key	Alignment	DOK
11	<p>Part A: A</p> <p>Part B:</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p>glucose + oxygen → carbon dioxide + water</p> </div> <p><i>(Students can receive credit for any order of reactants and any order of products.)</i></p>	HS-LS1-7	2
12	A, D, E	HS-LS4-2	2
13	A	HS-LS4-4	2
14	B	HS-LS1-1	2
15	C	HS-PS2-2	2