Answer key to Handout E13-2-01 - for Tree 56-02-21
(Tree was sampled for this study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.)

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need all the lines.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? **59 years**
5. What is the shortest time between fires? **6 years**
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. \(\frac{113}{5}=22.6\) years
7. Write a report of your results. **Evaluation:** Does the report have these items?
   - title
   - author’s name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

<table>
<thead>
<tr>
<th>Fire year</th>
<th>Years between fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1924</td>
<td>59</td>
</tr>
<tr>
<td>1865</td>
<td>6</td>
</tr>
<tr>
<td>1859</td>
<td>13</td>
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<td>1846</td>
<td>23</td>
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<tr>
<td>1823</td>
<td>12</td>
</tr>
<tr>
<td>1811</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fire history of Tree 56-02-21

Bark: 2001

Fire scar: 1924

Fire scar: 1865

Fire scar: 1859

Fire scar: 1846

Fire scar: 1823

Fire scar: 1811

Pith: 1746

\(^1\)Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 - for Tree 51-01-09
(Tree was sampled for this study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history
and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.)

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire
scar on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need all the lines.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the
date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? **79 years**
5. What is the shortest time between fires? **6 years**
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of
ergies in that column. **228/10=22.8 years**
7. Write a report of your results. **Evaluation:** Does the report have these items?
   - title
   - author’s name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

<table>
<thead>
<tr>
<th>Fire year</th>
<th>Years between fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1883</td>
<td>54</td>
</tr>
<tr>
<td>1829</td>
<td>17</td>
</tr>
<tr>
<td>1812</td>
<td>12</td>
</tr>
<tr>
<td>1800</td>
<td>6</td>
</tr>
<tr>
<td>1794</td>
<td>9</td>
</tr>
<tr>
<td>1785</td>
<td>8</td>
</tr>
<tr>
<td>1777</td>
<td>28</td>
</tr>
<tr>
<td>1749</td>
<td>79</td>
</tr>
<tr>
<td>1670</td>
<td>7</td>
</tr>
<tr>
<td>1663</td>
<td>8</td>
</tr>
<tr>
<td>1655</td>
<td></td>
</tr>
</tbody>
</table>
Fire history of Tree 51-01-09

1Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 - for Tree 51-25-02
(Tree was sampled for this study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.)

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need all the lines.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? 66 years
5. What is the shortest time between fires? 21 years
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. \(\frac{141}{4}=35.3\) years
7. Write a report of your results. Evaluation: Does the report have these items?
   - title
   - author's name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

<table>
<thead>
<tr>
<th>Fire year</th>
<th>Years between fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1877</td>
<td>21</td>
</tr>
<tr>
<td>1856</td>
<td>27</td>
</tr>
<tr>
<td>1829</td>
<td>66</td>
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<tr>
<td>1763</td>
<td>27</td>
</tr>
<tr>
<td>1736</td>
<td></td>
</tr>
</tbody>
</table>
Fire history of Tree 51-25-02

1Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 for Tree 51-25-03A

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the big fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar marked on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need every line.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? 22 years
5. What is the shortest time between fires? 5 years
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. \( \frac{92}{9} = 10.2 \) years
7. Write a report of your results. **Evaluation:** Does the report have these items?
   - title
   - author’s name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

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1 Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Fire history of Tree 51-25-03A

1Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 for Tree 51-25-03B

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the big fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar marked on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need every line.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? **22 years**
5. What is the shortest time between fires? **5 years**
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. **92/9 = 10.2 years**
7. Write a report of your results. **Evaluation:** Does the report have these items?
   - title
   - author’s name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

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1 Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Fire history of Tree 51-25-03B

1Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 - for Tree 56-03-01
(Tree was sampled for this study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.)

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need all the lines.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? **53 years**
5. What is the shortest time between fires? **10 years**
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. **136/5=27.2 years**
7. Write a report of your results. Evaluation: Does the report have these items?
   - title
   - author’s name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

<table>
<thead>
<tr>
<th>Fire year</th>
<th>Years between fires</th>
</tr>
</thead>
<tbody>
<tr>
<td>1917</td>
<td>36</td>
</tr>
<tr>
<td>1881</td>
<td>10</td>
</tr>
<tr>
<td>1871</td>
<td>13</td>
</tr>
<tr>
<td>1858</td>
<td>53</td>
</tr>
<tr>
<td>1805</td>
<td>24</td>
</tr>
<tr>
<td>1781</td>
<td></td>
</tr>
</tbody>
</table>
Fire history of Tree 56-03-01

Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.
Answer key to Handout E13-2-01 - for Tree 56-04-06B
(Tree was sampled for this study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.)

1. Draw 3 more arrows above to show where the fires scarred the right side of the catface.
2. Look at the fire-scarred tree cookie in your classroom. In this table, under “Fire year,” write the date of every fire scar on the tree cookie. Write the dates in order, from the most recent to the oldest. You might not need all the lines.
3. Back at your desk, figure out how many years occurred between fire years. To do that, subtract each date from the date above it and write the answer under “Years between fires.”
4. What is the longest time between fires? **78 years**
5. What is the shortest time between fires? **15 years**
6. What is the average time between fires? That is the total of the “Years between fires” column divided by the number of entries in that column. **345/10=34.5 years**
7. Write a report of your results. **Evaluation:** Does the report have these items?
   - title
   - author's name
   - date
   - 1 paragraph or more
   - complete sentences
   - how many fires the tree experienced
   - the longest and shortest time between fires
   - the average number of years between fires
   - Statement: whether the average is shorter or longer than the author’s lifetime
   - 1 fact from human history – will require some outside research by the student

<table>
<thead>
<tr>
<th>Fire year</th>
<th>Years between fires</th>
</tr>
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<tbody>
<tr>
<td>1771</td>
<td>25</td>
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<tr>
<td>1746</td>
<td>15</td>
</tr>
<tr>
<td>1731</td>
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<td>48</td>
</tr>
<tr>
<td>1605</td>
<td>33</td>
</tr>
<tr>
<td>1572</td>
<td></td>
</tr>
</tbody>
</table>

First fire
Second fire
Third fire
Fire history of Tree 56-04-06B¹

¹Sampled for the following study: Moody, Tadashi J.; Fites-Kaufman, JoAnn; Stephens, Scott L. 2006. Fire history and climate influences from forests in the northern Sierra Nevada, USA. Fire Ecology. 2(1):116-141.