**Research Question:** Which battery life will last longer in a simple circuit unit.

Name Brand: Energizer or

Store Brand: Sunbeam

**Hypothesis:** We think that the name brand battery will last longer in a simple circuit than a store brand battery.

**Materials:** One Energizer D+ battery, One Sunbeam D+ battery, Two circuit boards with light bulbs, Timer, and Journal for recording data

**Procedure:**

1. The first simple circuit board will receive a new Energizer D+ battery and a new light bulb.
2. The second simple circuit board will receive a new Sunbeam D+ battery and a new light bulb.
3. Both circuits will be closed at the same time to observe the life of the batteries within the simple circuit board.
4. A journal will be kept to document the hours that each battery has within the simple circuit, and any observations that are noticed.

**Results:**

Sunbeam

Store Brand Battery

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Start  Time | End  Time | Total  Hours | Observation |
| Day 1  7-12-17 | 8:00 p.m. | 12:00 a.m. | 4 hours | Light bulb  bright |
| Day 2  7-13-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light bulb  bright |
| Day 3  7-14-17 | 12:00 a.m. | 7:00 a.m. | 7 hours | Light bulb  dimming |
| Day 3  7-14-17 | 7:00 a.m. | 2:34 p.m. | 7 hours  34 minutes | Battery died |

Total Battery Life for Sunbeam battery was 42 hours and 34 minutes.

**Results:**

Energizer

Name Brand Battery

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date | Start  Time | End  Time | Total  Hours | Observation |
| Day 1  7-12-17 | 8:00 p.m. | 12:00 a.m. | 4 hours | Light bulb bright |
| Day 2  7-13-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light bulb bright |
| Day 3  7-14-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light bulb bright |
| Day 4  7-15-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light starting to dim |
| Day 5  7-16-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light dim |
| Day 6  7-17-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light dim |
| Day 7  7-18-17 | 12:00 a.m. | 12:00 a.m. | 24 hours | Light bulb dimming more |
| Day 8  7-19-17 | 12:00 a.m. | 3:13 p.m. | 15 hours  13 minutes | Battery  died |

Total Battery Life for Energizer battery was 163 hours and 13 minutes.

**Conclusion:** Our experiment showed that the Energizer battery lasted 120 hours 39 minutes longer than the Sunbeam battery.