

A Black-throated Blue Warbler that weighs 10 grams uses 168 calories/hour, just by being alive. This is called it's Standard Metabolic Rate (SMR).



How much energy is burned when the bird:
•Flies?

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How much energy is burned when the bird:

- **Flies?** 10x more energy than SMR

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How much energy is burned when the bird:

- Flies? 10x more energy than SMR
- Hops?

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How much energy is burned when the bird:

- **Flies?** 10x more energy than SMR
- **Hops?** 5x more energy than SMR

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How much energy is burned when the bird:

- **Flies?** 10x more energy than SMR
- **Hops?** 5x more energy than SMR
- **Sleeps?**

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How much energy is burned when the bird:

- **Flies?** 10x more energy than SMR
- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*

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How much energy is burned when the bird:

- **Flies?** 10x more energy than SMR
- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*

*Sleeping does not use the same amount of energy as SMR because birds expend energy to stay warm at night, when temperatures are usually lower than during the day.

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- **Sings?**

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- **Sits?**

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- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*
- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**

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Photo courtesy of Robert Royse www.roysephotos.com

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- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*
- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**

**Sitting does not use the same amount of energy as SMR because it's not just 'stationary sitting:' it includes occasional hopping and turning around. Also, birds must expend energy to stay warm even during the day. Most likely, sitting uses less than sleeping because daytime temperatures are generally warmer than nighttime temperatures.

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- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*
- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**
- **Incubates eggs?**

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- **Hops?** 5x more energy than SMR
- **Sleeps?** 2.2x more energy than SMR*
- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**
- **Incubates eggs?** 1.3x more energy than SMR

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- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**
- **Incubates eggs?** 1.3x more energy than SMR
- **Digests food?**

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- **Sings?** 2x more energy than SMR
- **Sits?** 1.5x more energy than SMR**
- **Incubates eggs?** 1.3x more energy than SMR
- **Digests food?** 0.3x more energy than SMR