

Making Sense of SCIENCE

Energy: Student Work Samples & Task A for Grades 6-8

Kirsten R. Daehler and Jennifer Folsom

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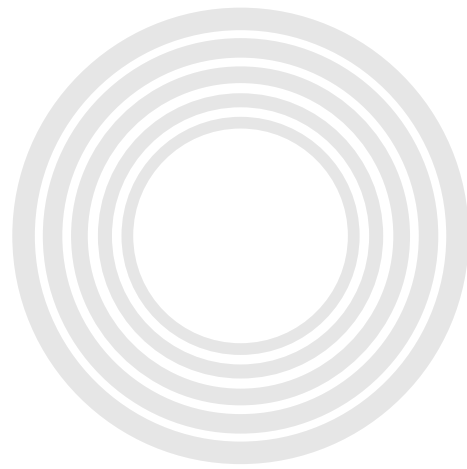
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Making Sense of SCIENCE

ENERGY



STUDENT WORK SAMPLES & TASK – SET A

Introduction to the Student Work Samples

Students completed this “Energy for Hawks” task as a mid-unit check of how they were thinking about energy in food webs. Before doing this task, the 6th graders did experiments to determine how the amount of light affected plant growth. They also read about plant needs and where plants get energy to make glucose. In addition, they explored food webs for various ecosystems and discussed why organisms eat food. To complete this task, students worked individually and did *not* have their notebooks, but the class definitions of food, energy, and matter were posted.

This student work was collected for educators to use for their own professional learning as part of the Making Sense of SCIENCE professional development courses. It is ideal to use with the first session of our Making Sense of Student Work protocol. It can also be used with many other protocols designed to support teachers looking collaboratively at student work.

The samples in this download include ones from students with high, medium, and low levels of

understanding. They show an authentic variety of responses from a typical classroom. To protect students’ identities, their names have been removed and each has been assigned an alias.

Also included in this PDF is a black line master of the task. This task is part of a larger Formative Assessment Task Bank. The full task bank and other task banks on different topics are available for download. Visit our website for more information and to purchase these items.

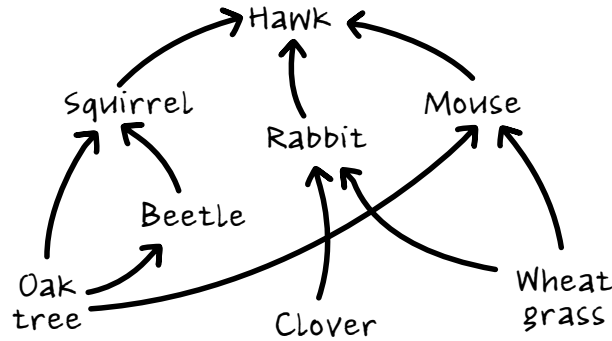
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Name: _____

ENERGY FOR HAWKS

TASK



1 Put a ✓ next to things that provide energy to hawks.

_____ sun

_____ squirrel

_____ wheat grass

_____ beetle

_____ water

_____ air

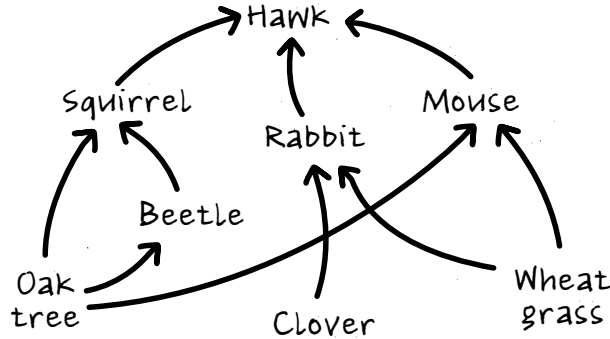
_____ rabbit

_____ clover

_____ oak tree

2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

ENERGY FOR HAWKS



1 Put a ✓ next to things that provide energy to hawks.

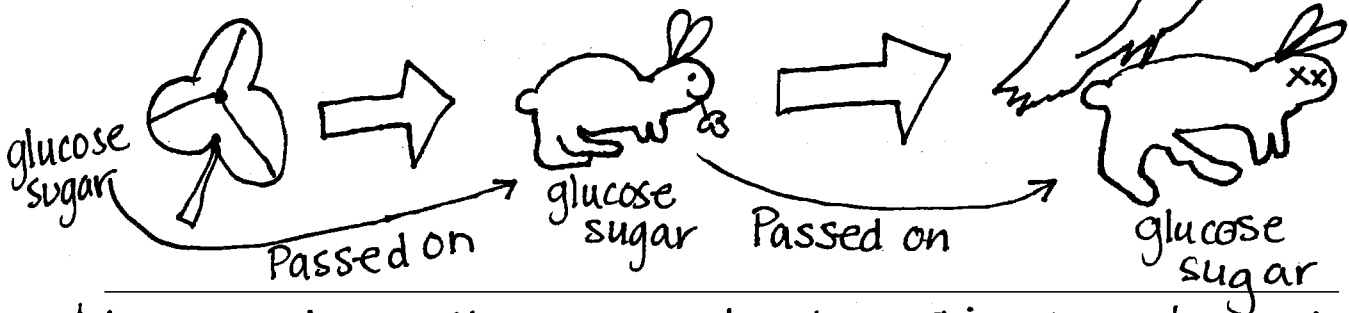
- sun
- beetle
- rabbit

- squirrel
- water
- clover

- wheat grass
- air
- oak tree

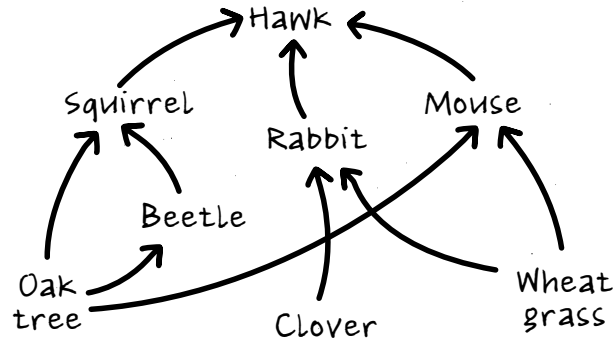


2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.



No animal can live on meat only. This is why all of the above give energy to the hawk. The rabbit eats the clover, gaining the photosynthesis sugars made by the plant. When the rabbit is eaten by the hawk, the sugars are passed on once again.

ENERGY FOR HAWKS



- 1 Put a ✓ next to things that provide energy to hawks.

sun

squirrel

wheat grass

beetle

water

air

rabbit

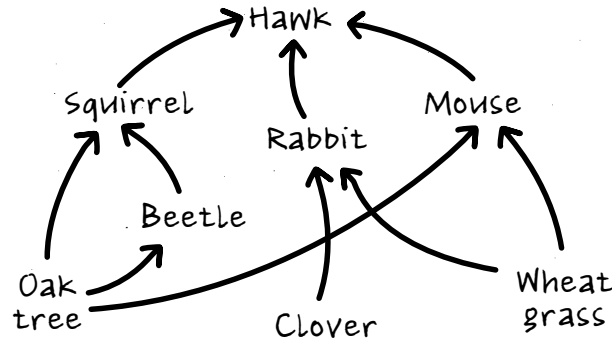
clover

oak tree

- 2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

I checked everything because the hawk eats the squirrel, rabbit and mouse since these eat everything else, the hawk gets their nutrients too. And the sun, water, and air provide energy for them too because he needs those to survive.

ENERGY FOR HAWKS



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sun

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wheat grass

beetle

water

air

rabbit

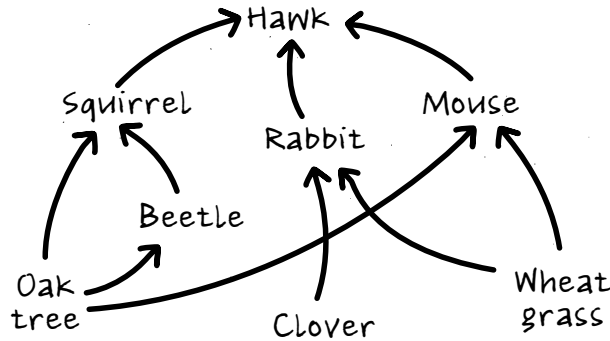
clover

oak tree

- 2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

Well, if you think about it the Rabbit itself isn't giving energy to the hawk. The clovers and wheat grass and oak trees are giving them energy. If it weren't for the sun there wouldn't be any energy in the first place.

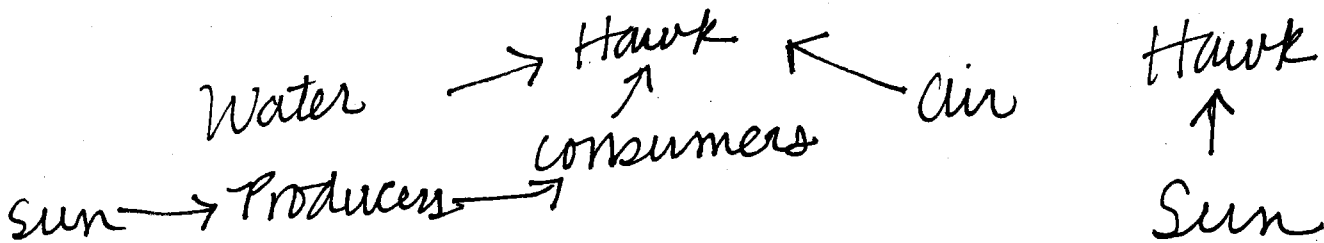
ENERGY FOR HAWKS



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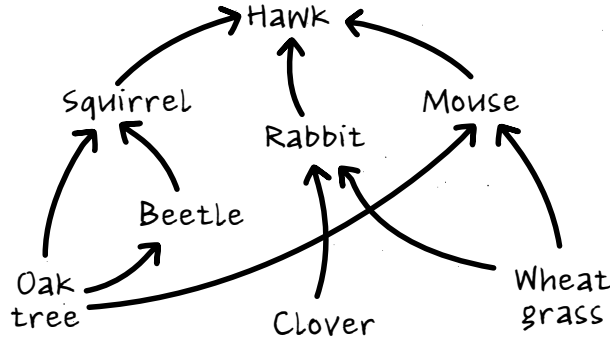
- | | | |
|--|--|---|
| <input checked="" type="checkbox"/> sun | <input checked="" type="checkbox"/> squirrel | <input checked="" type="checkbox"/> wheat grass |
| <input checked="" type="checkbox"/> beetle | <input checked="" type="checkbox"/> water | <input checked="" type="checkbox"/> air |
| <input checked="" type="checkbox"/> rabbit | <input checked="" type="checkbox"/> clover | <input checked="" type="checkbox"/> oak tree |

2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.



The sun gives energy to the producers, clovers, wheat grass, and oak tree. From there, it is passed to the beetle, squirrel, rabbit and mouse. After that the sun's energy is passed the hawk from from the animals that ate the produce. The hawk can't live without air and ~~water~~ water, so that also provides him energy.

ENERGY FOR HAWKS



1 Put a ✓ next to things that provide energy to hawks.

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beetle

water

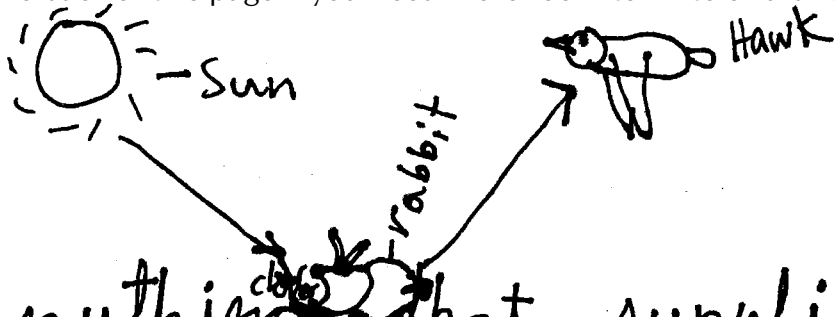
air

rabbit

clover

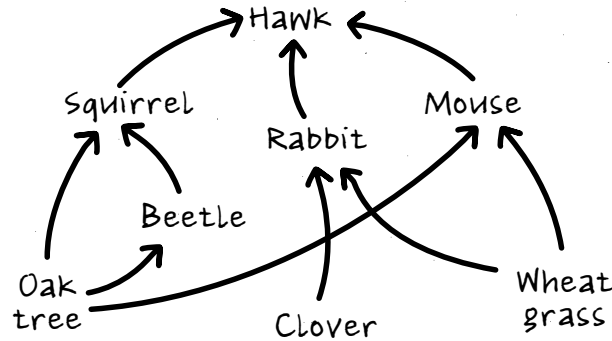
oak tree

2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.



Anything that supplies energy to something else to another to the Hawk. The sun is the main source, which leads to the clover, then the rabbit and so on. The sun gives it, the clover stores it which goes to the rabbit then hawk.

ENERGY FOR HAWKS



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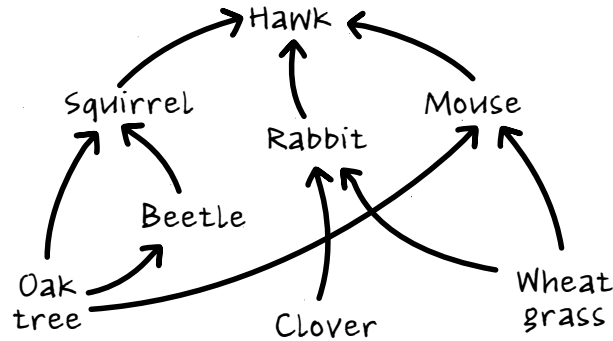
clover

oak tree

- 2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

The organisms all have energy in them, and they are eaten by the hawk. The water and air aren't consumed to provide energy, they are merely building blocks

ENERGY FOR HAWKS



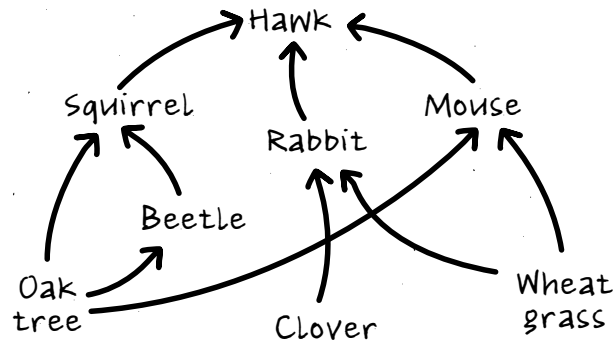
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| | | |
|--|--|---|
| <input type="checkbox"/> sun | <input checked="" type="checkbox"/> squirrel | <input checked="" type="checkbox"/> wheat grass |
| <input checked="" type="checkbox"/> beetle | <input type="checkbox"/> water | <input type="checkbox"/> air |
| <input checked="" type="checkbox"/> rabbit | <input checked="" type="checkbox"/> clover | <input checked="" type="checkbox"/> oak tree |

- 2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

The Hawk feeds on squirrels, rabbits, and mice.
 The squirrel eats the beetle and the oak tree.
 The rabbit eats the clover and wheat grass.
 The mouse eats wheat grass and the oak tree.
 This means that the hawk is a secondary consumer,
 to the beetle, oak tree, clover, and wheat grass.

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rabbit

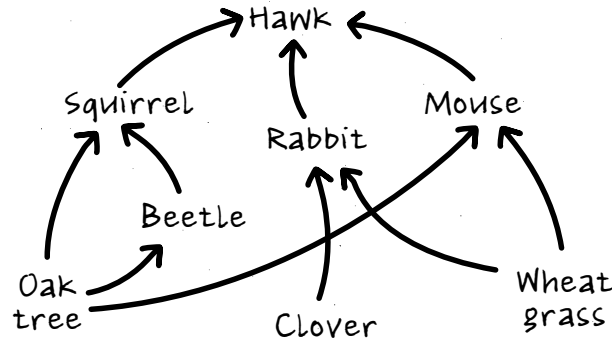
_____ clover

_____ oak tree

- 2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

The hawk only gets energy from its food, which is the squirrel, the rabbit and the mouse. It does not get energy because it does not eat it. Through the sun is the basis for the energy, it does not produce energy for the consumers, just producers.

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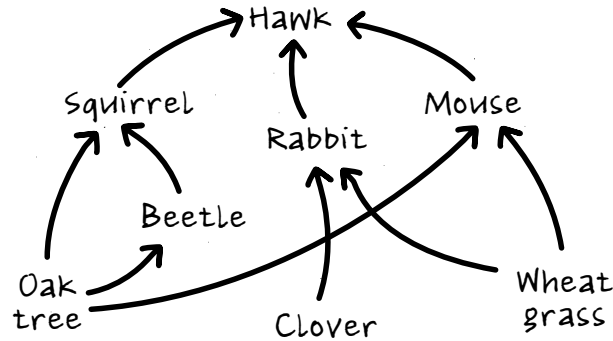
clover

oak tree

2 Describe the “rule” or reasoning you used to decide which things provide energy to hawks. Use the back of this page if you need more room to write or draw.

I checked all of the sources because the hawk only eats three things: squirrel, rabbit, and the mouse. However, the oak tree, sun, beetle, clover, water, wheat grass, and air, provide energy for the rabbit, squirrel, and mouse. Without those things these three animals would die and then the hawk wouldn't have anything to eat either. When the hawk eats these animals, it is getting energy from everything else too!

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I knew the rabbit and the squirrel gave the hawk energy because the hawk eats them. I know that because there are arrows pointing from the animals to the hawk. The arrows showed the transferred energy between the two.