What type of energy is stored in molecular bonds?

Chemical
Mechanical (movement)
Heat
Light

What type of energy transfer would occur when food is used for energy to create movement?

Chemical ----> Kinetic (Mechanical

How is energy stored and released in molecules?

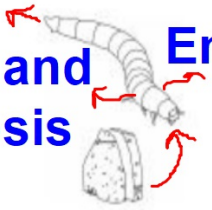
Bonds:
Breaking: Digestion
Building bonds: Biosynthesis

What type of energy transfer would occur when food is used for energy to keep an organism warm?

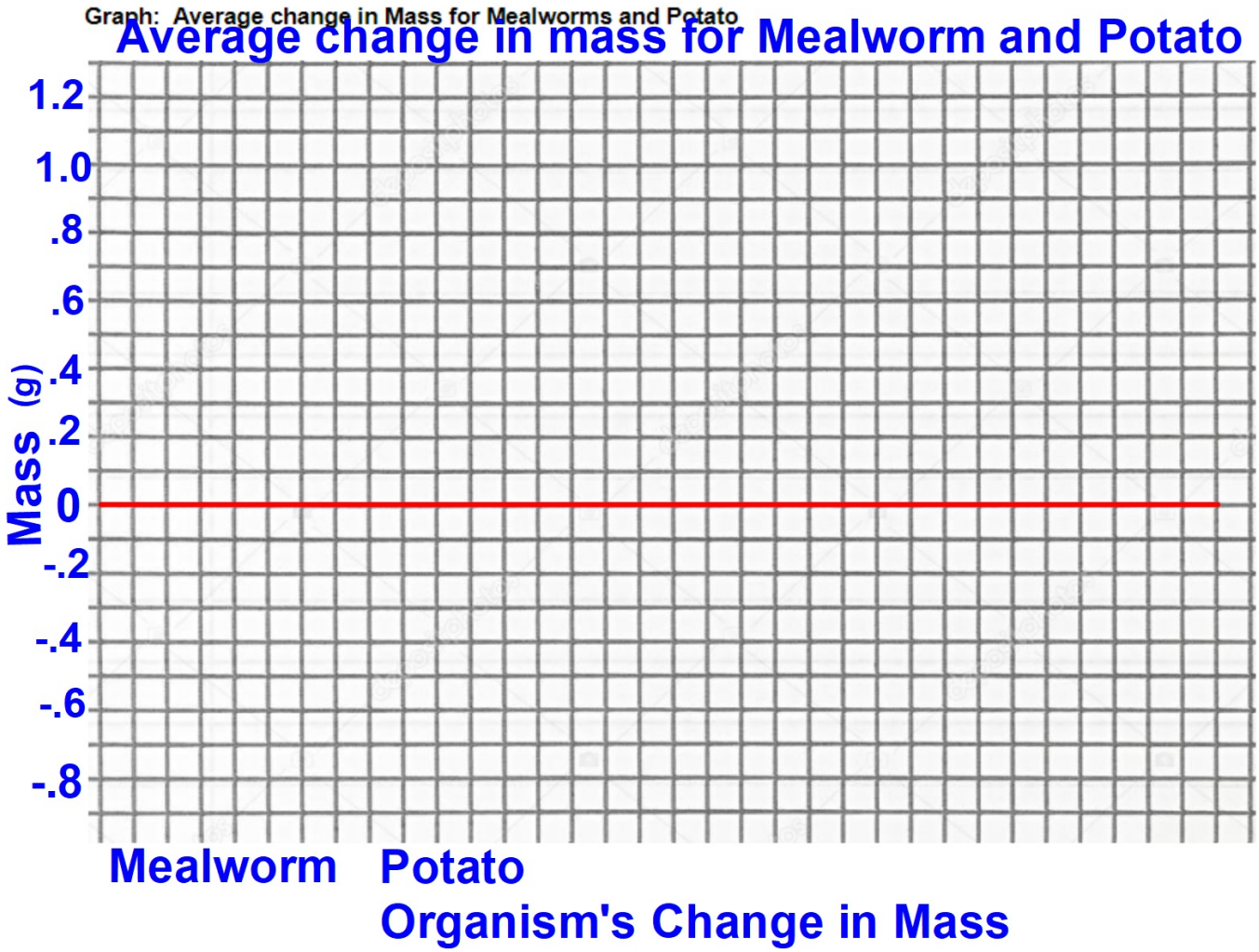
Chemical -------> Heat

Water Plants

Predictions Tool: What do you predict you will observe when mealworms eat? (Hypothesis

Macroscopic scale: *Make predictions about what you will observe.*	Atomic-molecular scale: *Explain your predictions using the Three Questions.*
Predictions about mass How will the movement of matter change the mass of: the food? Potato ↓ -.1g the mealworms? ↑ .7g everything in the container? → =	Where will the matter in the food move to after one day? *Draw labeled arrows to show how food molecules might be moving into and out of the mealworm as it eats, breathes, grows, and moves.* **Digestion and Biosynthesis**  **Energy: Movement and heat**
Predictions about changes in BTB How will matter changes in this system affect CO_2 in the air and the color of the BTB? O_2 ↓ CO_2 ↑ **Blue** → **Yellow**	What molecules do you think are in the mealworm's food before it eats? **Carbs and protein** **Chemical Change** What will happen to the food molecules that the mealworm eats? **Fats and Protein** **Digestion + Biosyntheis** What other molecules will be involved? **Water and O_2**
Predictions about energy What evidence of energy change will you be able to observe? **Movement**	What forms of energy do you think are in the mealworm's food? **Carbs (chemical)** **Energy Transformation** How will the energy stored in the food change after the mealworm eats? **Digestion and Biosythesis, Kinetic energy and Heat**

Graph: Average change in Mass for Mealworms and Potato



Where are molecules moving? **Use the Prediction sheet to help you!!!**

Claim:	
Evidence	Reasoning

(mass change)

How are atoms in molecules being rearranged into different molecules?

Claim:	
Evidence	Reasoning

(food labels)

What is happening to energy? **(BTB)**

Claim:	
Evidence	Reasoning

(evidence of mealworms using energy)

Dried Mealworms	Potato