



IXL Skill Alignment

6th grade alignment for Stanford NGSS Integrated Curriculum



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Unit 1

Setting Things in Motion

Textbook section	IXL skills
Lift-Off Task: Objects in Motion	
Task 1: Energy in Motion	<p>Thermal energy transfers</p> <ol style="list-style-type: none"> Predict heat flow and temperature changes KKW Compare thermal energy transfers 5H9 <p>Gravitational potential energy</p> <ol style="list-style-type: none"> Identify changes in gravitational potential energy DCR <p>Energy transformations</p> <ol style="list-style-type: none"> Energy transformation SUY Explore energy transformations: roller coaster ride 3F7 Explore energy transformations: bike ride B8D
Task 2: Sense and Respond	<ol style="list-style-type: none"> Body systems: perception and motion 2QP Science literacy: how does the nervous system produce phantom pain? 38J
Task 3: Interacting Subsystems	<ol style="list-style-type: none"> Body systems: circulation and respiration 6DU Body systems: digestion MVZ Body systems: removing waste 98Q Organization in the human body: the heart and the circulatory system WYZ
Task 4: Got Cells?	<ol style="list-style-type: none"> Understanding cells WXW
Task 5: Parts of a Whole	<p>Animal cells</p> <ol style="list-style-type: none"> Animal cell diagrams: label parts YVE Identify functions of animal cell parts BXL <p><i>Also consider</i></p> <ul style="list-style-type: none"> Plant cell diagrams: label parts XUB Identify functions of plant cell parts XAA

- Compare cells and cell parts 76D
- Structure and function: carbohydrates, lipids, proteins, and nucleic acids M5W
- Understanding the chemistry of cellular respiration 2UU

Unit 1 Pop-Out: Engineering for Equity

1. Evaluate tests of engineering-design solutions V6M
 2. Explore the engineering-design process: going to the Moon! ZFL
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Unit 2

Extreme Living

Textbook section	IXL skills
Lift-Off Task: Extreme Conditions	<ol style="list-style-type: none"> 1. Identify parts of the engineering-design process HVS 2. Explore the engineering-design process: going to the Moon! ZFL 3. Coral reef biodiversity and human uses: evaluate solutions UVK
Task 1: Climate Part 1: Heating the Planet	<ol style="list-style-type: none"> 1. Weather and climate around the world F5U 2. Weather or climate? Cite text KBT 3. Analyze models of the Earth-Sun-Moon system 8FB 4. What causes the seasons on Earth? 7XR
Task 2: Climate Part 2: Oceans and Atmosphere	<ol style="list-style-type: none"> 1. Factors affecting climate: latitude N9C 2. Use data to describe climates P9X 3. Identify how particle motion affects temperature and pressure PK7
Task 3: A Water Molecule's Journey	<p>Water cycle</p> <ol style="list-style-type: none"> 1. Label parts of water cycle diagrams HJN 2. Select parts of water cycle diagrams YR6 <p>Particles and change of state</p> <ol style="list-style-type: none"> 3. Particle motion and changes of state MSU
Task 4: Thermal Energy Transfer	<p>Experimental design</p> <ol style="list-style-type: none"> 1. Identify questions that can be investigated with a set of materials GTS 2. Identify independent and dependent variables JZJ 3. Identify control and experimental groups WKB <p>Collect temperature data</p> <ol style="list-style-type: none"> 4. Collect and graph temperature data 6Z6

Temperature and thermal energy transfers

5. How are temperature and mass related to thermal energy? GTZ
6. Compare thermal energy transfers 5H9

Understand diffusion at the particle level

7. Understand an experimental protocol about diffusion VD8
8. How does particle motion affect temperature? XU5

Task 5: Extreme Living Solutions**Thermal energy transfer**

1. Predict heat flow and temperature changes KKW

Engineering design

2. Identify parts of the engineering-design process HVS
 3. Evaluate tests of engineering-design solutions V6M
 4. Use data from tests to compare engineering-design solutions 8Z4
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Unit 3

Nature via Nurture

Textbook section	IXL skills
Lift-Off Task: The Mystery of the Algal Bloom	
Task 1: Forecasting the Weather	<ol style="list-style-type: none"> 1. Identify and compare air masses ES8 2. Explore air masses D2S 3. How do air masses form? 9L8
Task 2: What Affects Plant Growth?	<p>Design experiments</p> <ol style="list-style-type: none"> 1. Identify control and experimental groups WKB 2. Identify independent and dependent variables JZJ 3. Identify the experimental question 8UX <p>Environmental factors</p> <ol style="list-style-type: none"> 4. How do plants use and change energy? PFE 5. Understand an experimental protocol about plant growth WQN
Task 3: Genetics or Environment?	<ol style="list-style-type: none"> 1. Inherited and acquired traits: use evidence to support a statement N5L 2. How do genes and the environment affect plant growth? QSM 3. Genes, proteins, and traits: understanding the genetic code 8F7
Task 4: From Parent to Offspring	<p>Parents and offspring</p> <ol style="list-style-type: none"> 1. Match offspring to parents using inherited traits 5KT <p>Genetic variation</p> <ol style="list-style-type: none"> 2. Genetics vocabulary: genotype and phenotype 36F 3. Genetics vocabulary: dominant and recessive 47E 4. Complete and interpret Punnett squares 7HH 5. Use Punnett squares to calculate ratios of offspring types CCA

6. Genetic variation in sexual reproduction 7G2

Plant reproduction

7. Flowering plant and conifer life cycles ZXZ

8. Moss and fern life cycles KLJ

Unit 4

A Warmer World

Textbook section	IXL skills
Lift-Off Task: Bad News For Bees	<ol style="list-style-type: none">1. Coral reef biodiversity and human uses: explore a problem N2U2. Identify steps of the scientific method VYB
Task 1: Heating Up	<ol style="list-style-type: none">1. The greenhouse effect SKV2. Evaluate claims about natural resource use: fossil fuels GK5
Task 2: It Takes Two	<ol style="list-style-type: none">1. How can animal behaviors affect reproductive success? Identify evidence to support a claim SJT2. Calculate the averages of traits in a population 5YA3. Use food chains to predict changes in populations WBH
Task 3: Feeling the Impact	<ol style="list-style-type: none">1. Coral reef biodiversity and human uses: evaluate solutions UVK