

### Understanding the IB-PYP

The International Baccalaureate (IB) Primary Years Program (PYP) is underpinned by six transdisciplinary themes around which learning is planned. These are:

- Who we are
- Where we are in place and time
- How we express ourselves
- How the world works
- How we organize ourselves
- **Sharing the planet**

Students inquire into, and learn about, these globally significant issues in the context of **units of inquiry**, each of which addresses a **central idea** relevant to a particular transdisciplinary theme. **Lines of inquiry** are identified in order to explore the scope of the central idea for each unit. **Key concepts** are powerful, over-arching ideas that transcend individual subject-areas and allow students to develop a coherent, in-depth understanding. These units of inquiry collectively constitute the school's **program of inquiry**. At Valley Prep, the six transdisciplinary themes will be implemented gradually over the next three years. Our first theme is: *How the World Works*. This theme will be infused with STEAM activities which further develop the students' ability to problem-solve and think-critically ... two skills which are at the core of the IB-experience.

### Transdisciplinary Theme: **Sharing the Planet**

An inquiry into rights and responsibilities in the struggle to share finite resources with other people and with other living things; communities and the relationships within and between them; access to equal opportunities; peace and conflict resolution.

**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Preschool will be exploring **how trash affects our environment**

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

The trash we produce and how we respond affects our environment.

### Lines of Inquiry

- What happens to trash after we throw it away?
- How trash affects the environment
- Our responsibility to reduce, reuse, and recycle trash
- Conservation of resources

### Key Concepts

- Causation – Why is it like it is?
- Change – How is it changing?
- Function – How does it work?
- Responsibility – What is our responsibility?

### Subject connections

- Science: conservation of resources, recycling, and reusing trash
- Social Studies: How trash affects the environment and what different societies do to address the problem
- Language Arts: Stories include: Trashy Town; We are Extremely Very Good Recyclers; Love Earth: The Beauty Makeover
- Art: Project made from recyclables
- Foreign Language: Vocabulary thru song: reduce, reuse, recycle, trash, Earth, environment
- Music: Make recycled instruments and watch a video on Landfill Harmonics
- PE: Sports around the world



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Pre-Kindergarten will be exploring **the responsibility of caring for animals**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

People take responsibility and care for animals

### Lines of Inquiry

- Characteristics and needs of animals
- How people care for animals
- Our responsibilities for the well-being of animals

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Characteristics and needs of animals
- Social Studies: Interactions between humans and animals
- Language Arts: Stories include: The Watcher; The Skunk; Helping Our Animal Friends
- Foreign Language: Taking care of pets
- Art: Project involving Andy Warhol who had over 25 cats at once.
- Music: Cymbals and drumming in layers, Turkey and West Africa connected to Western Music.
- PE: Sports around the world



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Kindergarten will be exploring **the worlds of insects**

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Humans share the world with insects

### Lines of Inquiry

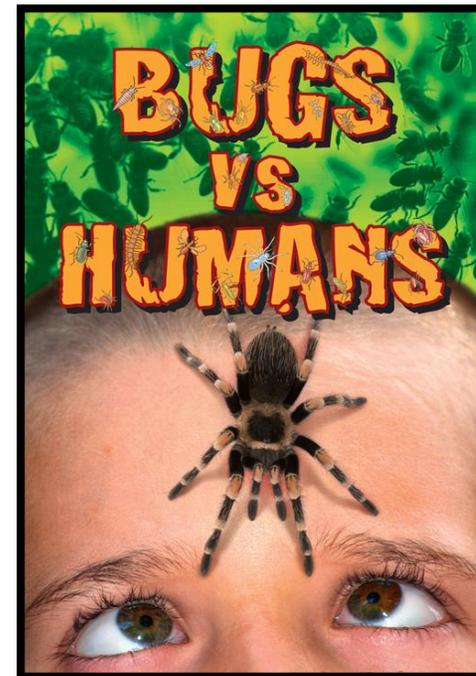
- Characteristics of insects
- Where insects live
- The role of insects
- Human responsibility

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?
- Form – What is it like?

### Subject connections

- Science: Characteristics of Insects, Life Cycle of Butterflies, Pollination
- Social Studies: Finite resources and human choices
- Language Arts: Stories include: I Didn't Know That Some Bugs Glow in the Dark; The Bugliest Bug; World of Insects: Aphids, Damselflies, Earwigs, Stink Bugs
- Technology: Build insect models with K'Nex. Students will also make a life-size food web, with animation.
- Art: Pop-up Butterfly on pastoral backing
- Music: Cymbals and drumming in layers, Turkey and West Africa connected to Western Music.
- PE: Sports around the world



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### Transdisciplinary Theme: **Sharing the Planet**

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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. First Grade will be exploring **our natural resources**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Saving our resources is necessary for Earth's survival.

### Lines of Inquiry

- Importance to the world: recycling and conservation
- Effects of limited resources
- Renewable, recyclable, and nonrenewable resources

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Rocks & Minerals
- Social Studies: Natural Resources (use of)
- Language Arts: Stories include: Peter's Place, Earth Smart, Eco-Solutions
- Foreign Language: City-life in Spanish-speaking countries
- Music: Xylophones in South America and Africa connected to Western Music
- PE: Sports around the World
- Art: Native American Indian "Sand Art"
- Technology: Students will program Dash robots to bring pieces of recyclable material to the correct recycle bin & complete an animated animal research project



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Second Grade will be exploring the **environment**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Natural and human made changes affect environments.

### Lines of Inquiry

- Types of habitats
- Human and natural impact on environments
- Animals response to change

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Environments (natural & human changes)
- Social Studies: People & Places (dynamics of groups & communities)
- Language Arts: Stories include: The Curious Garden; Grand Canyon; Do You Really Want to Create a Mudslide?
- Physical Education: Sports around the world
- Art: Before and After drawings of the environment
- Technology: Bridge building engineering challenge
- Music: Xylophones in South America and Africa connected to Western Music.



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Third Grade will be exploring **human action on the environment**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Earth is a system of resources where humans have a positive and negative impact.

### Lines of Inquiry

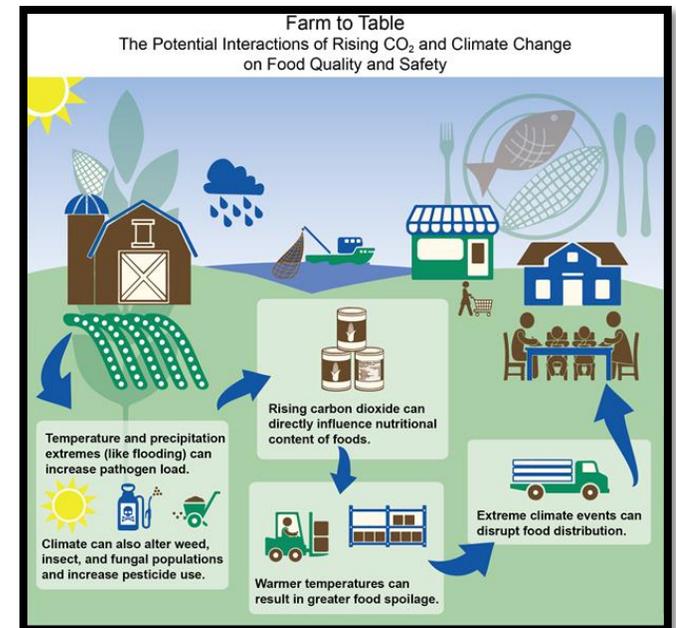
1. Available resources affect living and nonliving things
2. Effects of human action on the environment
3. Our personal responsibility to help sustain Earth's resources

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Ecosystems
- Social Studies: Our Land & Resources (geography, landforms, conservation)
- Language Arts: Stories include: Once Upon a Farm, Desert Town/ Prairie Town, Global Warming
- Music: Xylophones in South America and Africa connected to Western Music.
- Physical Education: Sports around the world
- Technology: Students will build and program a robot that helps to improve the environment
- Art: Each student creates a 3D bldg. that would be found in a large metropolitan city.



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Fourth Grade will be exploring **energy transfer & conversion**

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Energy may be converted, transferred, and used to support human progress.

### Lines of Inquiry

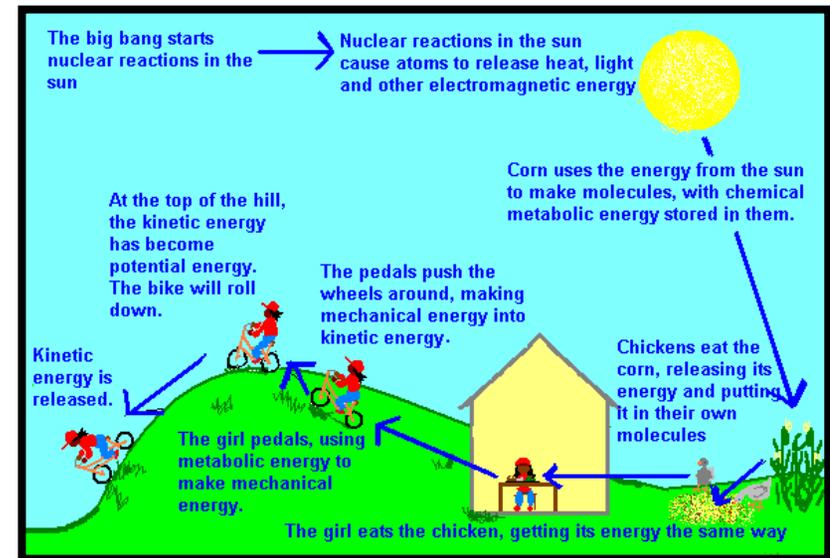
- How energy resources work
- How energy resources can be harnessed and adapted
- Our responsibility to conserve, develop, and distribute energy

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Electricity & Magnetism (alternative energy forms and how to create them)
- Social Studies: Changes in California as settlers populated areas
- Language Arts: Stories include: The Boy Who Harnessed the Wind, Energy Island, Buried Sunlight
- Physical Education: Sports around the world
- Art: Pop Art illustration incorporating all forms of available energy
- Technology: Students will reinforce their understanding of energy by experimenting with circuits using Little Bits, Makey-Makeys, and snap circuits.
- Music: South America and Africa connected to Western Music.



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Fifth Grade will be exploring **Community responsibility**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Water management plays a role which influences the environment

### Lines of Inquiry

- The role of water in the environment (function)
- The relationship between water management and the environment (connection)
- The change in the environment due to water management (change)
- Our responsibility to maintain this balance in the environment (responsibility)

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?
- Function - How does it work?

### Subject connections

- Science: Water conservation in the community
- Social Studies: The role of water in the environment
- Language Arts: Short stories include: A Long Walk to Water, Grand Canyon, Letting Swift River Go
- Music: The percussion instruments of Latin America and Africa connected to Western Pop music.
- Foreign Language: Water conservation and pollution worldwide
- Art: Art of the world



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Sixth Grade will be exploring **Shared Resources**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Shared resources are essential to communities

### Lines of Inquiry

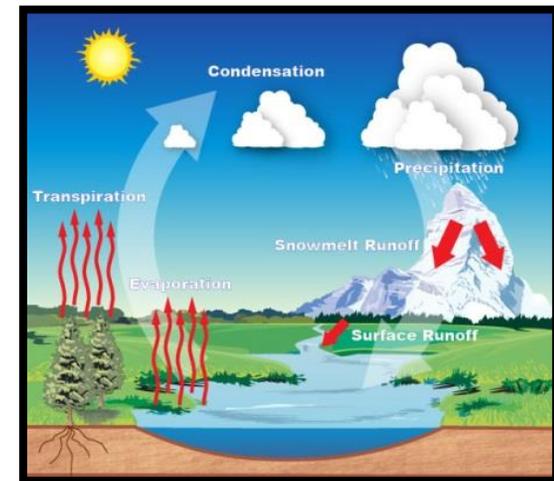
- How water resources affect trade & expansion
- How water affects the landscape
- How proximity to water transportation affects expansion.

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: Fresh water resources locally and worldwide; the effects of water on landscaping
- Social Studies: The impact of the seas on trade, culture, and expansion
- Language Arts: Collaborate to write a story about a character learning to care for the environment and share resources with others
- Music: The percussion instruments of Latin America and Africa connected to Western Pop music.
- PE: Sports of the world
- Art: Art around the world



## **UNIT OF INQUIRY FOR SEVENTH GRADE**

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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Seventh Grade will be exploring **World Health: Past & Present**

**Dates of this unit:** April 1 – April 31 2017

### **Central Idea**

Change occurs when ideas and values are in conflict

### **Lines of Inquiry**

- How public health can have societal impact
- How world health issues are related to values and customs
- How individual health impacts others

### **Key Concepts**

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### **Subject connections**

- Science: Personal and world health issues
- Social Studies: The impact of the Black Death
- Language Arts: "Passing on the Flame" a look at the Olympics
- Music: The percussion instruments of Latin America and Africa connected to Western Pop music.
- PE: Sports of the world
- Art: Art around the world
- French: Comparing the efforts of American citizens and Francophone nations to save the planet.



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**Unit of Inquiry:** Each class at Valley Prep will be investigating a different aspect of *Sharing the Planet*. Eighth Grade will be exploring the **Impact of Technology on the Environment**.

**Dates of this unit:** April 1 – April 31 2017

### Central Idea

Resources are limited and future demands need to be met.

### Lines of Inquiry

- How natural resources are impacted by technology & product expansion
- The continued importance of agriculture in the modern world

### Key Concepts

- Change – How is it changing?
- Connection – How is it connected to other things?
- Responsibility – What is our responsibility?

### Subject connections

- Science: global Agriculture
- Social Studies: The Industrial Revolution in the United States with new technologies and product expansion
- Language Arts: Research essay on the effect of technology on the environment
- Music: The percussion instruments of Latin America and Africa connected to Western Pop music.
- PE: Sports of the world
- Art: Art around the world
- French: Agricultural life in France

