**Guide to Linking *Uncovering Student Ideas* Life Science**

**Probes to Disciplinary Core Ideas**

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| **Disciplinary Core Idea** | **Probe and USI Book Code** | **Grade Span Connection** |
| LS1.A Structure and Function | Is It an Animal? (USI V1, 2005, 2019) | Related K-5 |
| Is It Living? (USI V1, 2005, 2019) | Related K-12 |
| Is It Made of Cells? (USI V1, 2005, 2019) | Aligned 6-8; Related 9-12 |
| Human Body Basics (USI V1, 2005, 2019) | Related 6-8; Aligned 9-12 |
| Functions of Living Things (USI V1, 2005, 2019) | Related 3-5; Aligned 6-12 |
| Is It a Plant? (USI V2, 2007) | Related K-5 |
| Needs of Seeds (USI V2, 2007) | Related K-5 |
| Plants in Light and Dark (USI V2, 2007) | Related 3-12 |
| Whale and Shrew (USI V2, 2007) | Related 6-12 |
| Cells and Size (USI V3, 2008) | Related 6-12 |
| Respiration (USI V3, 2008) | Related 6-12 |
| Digestive System (USI V4, 2009) | Related 6-12 |
| Cucumber Seeds (USI LSV1, 2011) | Related 3-12 |
| The Virus Debate (USI LSV1, 2011) | Related 6-12 |
| No Animals Allowed (USI LSV1, 2011) | Related K-5 |
| Is It an Amphibian? (USI LSV1, 2011) | Related K-5 |
| Pond Water (USI LSV1, 2011) | Aligned 6-8; Related 9-12 |
| Atoms and Cells (USI LSV1, 2011) | Related 6-12 |
| Which One Will Dry Out Last? (USI LSV1, 2011) | Related 9-12 |
| Chlorophyll (USI LSV1, 2011) | Related 6-12 |
| Apple Tree (USI LSV1, 2011) | Related 3-8 |
| DNA, Genes, and Chromosomes (USI LSV1, 2011) | Aligned 9-12 |
| Human Body (USI LSV1, 2011) | Related 6-12 |
| Excretory System (USI LSV1, 2011) | Related 6-12 |
| Is It Living? (USI K-2, 2013) | Related K-2 |
| Is It an Animal? (USI K-2, 2013) | Related K-2 |
| Is It a Plant? (USI K-2, 2013) | Related K-2 |
| Is It Made of Parts? (USI K-2, 2013) | Aligned K-2 |
| Seeds in a Bag (USI K-2, 2013) | Related K-2 |
| Do They Need Air? (USI K-2, 2013) | Aligned K-2 |
| LS1.B Growth and Development of Organisms | Functions of Living Things (USI V1, 2005, 2019) | Related 6-12 |
| Does It Have a Life Cycle? (USI V3, 2008) | Aligned 3-5 |
| Sam’s Puppy (USI V3, 2008) | Aligned 6-8; Related 9-12 |
| Chicken Eggs (USI V4, 2009) | Related 6-12 |
| Eggs (USI LSV1, 2011) | Related 3-8 |
| Chrysalis (USI LSV1, 2011) | Aligned 3-5 |
| LS1.C Organization for Matter and Energy Flow in Organisms | Functions of Living Things (USI V1, 2005, 2019) | Related 6-12 |
| Seedlings in a Jar (USI V1, 2005, 2019) | Aligned 6-12 |
| Needs of Seeds (USI V2, 2007) | Related K-5 |
| Plants in Light and Dark (USI V2, 2007) | Related 6-8 |
| Is It Food for Plants? (USI V2, 2007) | Aligned 6-8; Related 9-12 |
| Giant Sequoia Tree (USI V2, 2007) | Related 3-5; Aligned 6-12 |
| Respiration (USI V3, 2008) | Related 6-12 |
| Is It Food? (USI V4, 2009) | Related 3-12 |
| Chicken Eggs (USI V4, 2009) | Related 6-12 |
| Digestive System (USI V4, 2009) | Aligned 6-12 |
| Chlorophyll (USI LSV1, 2011) | Related 6-12 |
| Apple Tree (USI LSV1, 2011) | Related 6-12 |
| Light and Dark (USI LSV1, 2011) | Related 6-8; Aligned 9-12 |
| Food for Corn (USI LSV1, 2011) | Aligned 6-8; Related 9-12 |
| Seeds in a Bag (USI K-2, 2013) | Related K-2 |
| LS1.D Information Processing | Functions of Living Things (USI V1, 2005, 2019) | Related 6-12 |
| Plants in Light and Dark (USI V2, 2007) | Related K-8 |
| Pumpkin Seeds (USI LSV1, 2011) | Related K-8 |
| Rocky Soil (USI LSV1, 2011) | Related K-8 |
| Senses (USI K-2, 2013) | Aligned K-2 |
| LS2.A InterdependentRelationships in Ecosystems | Needs of Seeds (USI V2, 2007) | Related K-8 |
| Rotting Apple (USI V3, 2008) | Aligned 3-5 |
| No More Plants (USI LSV1, 2011) | Aligned 3-5; Related 6-8 |
| Changing Environment (USI LSV1, 2011) | Related 6-12 |
| Seeds in a Bag (USI K-2, 2013) | Related K-2 |
| LS2.B Cycles of Matter and Energy Transfer in Ecosystems | Giant Sequoia Tree (USI V2, 2007) | Related 6-8; Aligned 9-12 |
| Rotting Apple (USI V3, 2008) | Aligned 3-8 |
| Earth’s Mass (USI V3, 2008) | Related 3-8; Aligned 9-12 |
| Light and Dark (USI LSV1, 2011) | Related 6-8; Aligned 9-12 |
| Is It a Consumer? (USI LSV1, 2011) | Aligned 6-8 |
| Food Chain Energy (USI LSV1, 2011) | Related 6-8; Aligned 9-12 |
| Ecosystem Cycles () | Aligned 6-8; Related 9-12 |
| No More Plants (USI LSV1, 2011) | Related 3-8 |
| LS2.C Ecosystem Dynamics, Functioning, and Resilience | Habitat Change (USI V2, 2007) | Aligned 3-5, Related 6-12 |
| No More Plants (USI LSV1, 2011) | Aligned 3-5 |
| Changing Environment (USI LSV1, 2011) | Related 3-12 |
| LS2.D Social Interactions and Group Behavior | No probes available at this time. Check future editions of USI | N/A |
| LS3.A Inheritance of Traits | Baby Mice (USI V2, 2007) | Aligned 6-8; Related 9-12 |
| DNA, Genes, and Chromosomes (USI LSV1, 2011) | Related 6-8; Aligned 9-12 |
| Eye Color (USI LSV1, 2011) | Related 6-12 |
| LS3.B Variation of Traits | Baby Mice (USI V2, 2007) | Related 3-5,9-12; Aligned 6-8 |
| Eye Color (USI LSV1, 2011) | Related 6-12 |
| LS4.A Evidence of Common Ancestry and Diversity  | Mountaintop Fossil (USI V2, 2007) | Related 3-8 |
| Is It a Fossil? (USI E&ES 2016) | Related 3-5 |
| LS4.B Natural Selection | Habitat Change (USI V2, 2007) | Aligned 3-5; Related 6-12 |
| Adaptation (USI V4, 2009) | Related 3-12 |
| Is It “Fitter”? (USI V4, 2009) | Aligned 6-12 |
| LS4.C Adaptation | Habitat Change (USI V2, 2007) | Aligned 3-5; Related 6-12 |
| Adaptation (USI V4, 2009) | Aligned 3-5; Related 6-12 |
| Is It “Fitter”? (USI V4, 2009) | Related 6-12 |
| Biological Evolution | Related 9-12 |
| Changing Environment (USI LSV1, 2011) | Aligned 6-12; Related 9-12 |
| LS4.D Biodiversity and Humans | Habitat Change (USI V2, 2007) | Related 3-12 |

**Key to USI Book Codes:**

USI V1, 2005: Keeley, P. 2019. *Uncovering Student Ideas in Science- Vol. 1, 2nd Edition- 25 Formative Assessment Probes.* Arlington, VA: NSTA Press. (1st edition- 2005)

USI V2, 2007: Keeley, P., F. Eberle, and J. Tugel. 2007. *Uncovering Student Ideas in Science- Vol. 2- 25 More Formative Assessment Probes.* Arlington, VA: NSTA Press

USI V3, 2008: Keeley, P., F. Eberle, and C. Dorsey. 2008. *Uncovering Student Ideas in Science- Vol. 3- 25 Another Formative Assessment Probes.* Arlington, VA: NSTA Press

USI V4, 2009: Keeley, P., and J. Tugel. 2009. *Uncovering Student Ideas in Science- Vol. 4- 25 New Formative Assessment Probes.* Arlington, VA: NSTA Press

USI LSV1, 2011: Keeley, P.,2011. *Uncovering Student Ideas in Life Science- 25 New Formative Assessment Probes.* Arlington, VA: NSTA Press

USI K-2, 2013: Keeley, P.,2013. *Uncovering Student Ideas in Primary Science- 25 New Formative Assessment Probes for K-2.* Arlington, VA: NSTA Press

USI E&ES, 2016: Keeley, P., and L. Tucker. 2016. *Uncovering Student Ideas in Earth and Environmental Science- 32 New Formative Assessment Probes.* Arlington, VA: NSTA Press

**Connections to the Disciplinary Core Ideas (DCIs)**

**Related**- Formative assessment probes are useful in identifying related ideas that students use to develop a full understanding of the DCIs. Related means the concept or idea elicited by the probe is related to the DCI but not an exact match by grade level or key idea. For example, “Is It Living?” addresses the concept of living things; a concept necessary to understanding structure and function relationships in LS1.A. Another example is “Habitat Change” , which is aligned to a 3-5 idea, but elicits the necessary prerequisite idea to understanding the 6-8 and 9-12 DCI’s.

**Aligned-** Some formative assessment probes are an exact match to the grade level DCI and can be used for both formative and summative purposes. For example, “Does It Have a Life Cycle?” is a direct match to the grades 3-5 LS1.B DCI.