About STEM-Smart

STEM-Smart “MAP Review-Prep-Practice: Science” is a set of three online products designed to help students prepare for the Missouri Assessment Program (MAP) science tests scheduled for 2021. The content reviews and practice test items are based on the Missouri Blueprint for Science (MBS). The practice test items in the reviews feature immediate feedback for students, opportunities to go back to answer practice questions until they get them right, and a report (How did I do?) based on their first response to the items. With a simple click or touch of a screen, teachers can generate practice online tests with items representative of previous MAP exams. Students’ responses to test items are scored and stored automatically so that teachers can track individual student and whole class performance.

Easy to Use

Teachers have total control of student access to STEM-Smart and what science content students get to review. Individually assigned usernames and passwords allow students to access only those reviews opened by the teacher. This is done by simply highlighting and clicking on reviews listed in the table of contents for each science unit on a teacher dashboard. Any kind of smartboard can be used to demonstrate access and operation of STEM-Smart as a whole class activity, but the real power of STEM-Smart is to have students work on the reviews and practice items individually or in teams, in class or out of class, to maximize the benefit of STEM-Smart’s interactivity and immediate feedback.

Two final features: STEM-Smart can be read in English or Spanish with the simple click of the EN or SP language buttons. And struggling readers and those requiring accommodations can have everything read to them with the click of the Voice-over icon embedded in the STEM-Smart reviews!

For Missouri!

STEM-Smart MAP Review-Prep-Practice is designed to align to the Missouri Blueprint for Science (MBS). The science content and questions in the reviews are intended to give students that extra boost in confidence to do their best on the MAP. The tables on the following pages show the alignment of the MBS and suggested 5th grade, 8th grade and Biology STEM-Smart reviews.
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<th>Reporting Category</th>
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| **Physical Science**| *Structure and properties of matter*  
|                    |   *Types of interactions of matter*  
|                    |   *Forces and motion*  
|                    |   *Types of force interactions*  
|                    |   *What is energy*  
|                    |   *Relating energy and forces*  
|                    |   *Conservation of energy*  
|                    |   *Wave properties*  
|                    |                   | Review 1: Properties of matter  
|                    |                   | Review 2: Temperature matters  
|                    |                   | Review 3: When matter is mixed  
|                    |                   | Review 4: Physical and chemical changes  
|                    |                   | Review 5: What is energy anyway?  
|                    |                   | Review 6: Two basic forms of energy  
|                    |                   | Review 7: All kinds of energy  
|                    |                   | Review 8: Balanced forces are boring  
|                    |                   | Review 9: Net forces make things happen  
|                    |                   | Review 10: How much force is needed?  
|                    |                   | Review 11: Machines change force  
|                    |                   | Review 12: Sound wave energy  
|                    |                   | Review 13: How light behaves  
|                    |                   | Review 14: Electric circuits are simple  
|                    |                   | Review 15: Don’t mess with electricity  
| **Unit 2**         | *Structure and Function*  
|                    | *Matter and energy flow in organisms*  
|                    | *Information processing*  
|                    | *Interdependence in ecosystems*  
|                    | *Life cycles and energy transfers*  
|                    | *Heredity, natural selection, adaptations*  
|                    | *Biodiversity*  
|                    |                   | Review 1: How do body systems work?  
|                    |                   | Review 2: How animals behave.  
|                    |                   | Review 3: What are plants up to anyway?  
|                    |                   | Review 4: Solar power for life.  
|                    |                   | Review 5: How do living things change?  
|                    |                   | Review 6: What are some animal adaptations  
|                    |                   | Review 7: How do life forms change?  
|                    |                   | Review 8: Habitats? Ecosystems? What’s up?  
|                    |                   | Review 9: What makes a biome?  
|                    |                   | Review 10: How do living things interact?  
| **Unit 3**         | *Earth’s place in the universe*  
|                    | *History of Earth*  
|                    | *Earth’s materials and systems*  
|                    | *Water, weather and climate*  
|                    | *Earth and human activity*  
|                    |                   | Review 1: Sedimentary rocks  
|                    |                   | Review 2: Weathering and erosion  
|                    |                   | Review 3: Renewable or not?  
|                    |                   | Review 4: Day and night!  
|                    |                   | Review 5: Our solar system  
|                    |                   | Review 6: Weather and climate  
|                    |                   | Review 7: The water cycle  
|                    |                   | Review 8: What fossils tell us  
|                    |                   | Review 9: Phases of the moon  
|                    |                   | Review 10: Dynamic Earth  
| **Unit 4**         | *Identifying and defining problems*  
|                    | *Systematic problem solving*  
|                    | *Alternative problem solutions*  
|                    |                   | Review 1: Practices of science  
|                    |                   | Review 2: Scientific investigations  
|                    |                   | Review 3: Measurement and analysis  
|                    |                   | Review 4: Evidence, reason and knowledge  
|                    |                   | Review 5: Let’s argue about it!  

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| **Unit 1** From Molecules to Organisms: Structure and Process | *Structure and function  
*Organism growth and development  
*Matter and energy in organisms | Review 1.: How do cells work?  
Review 2: What do cells do?  
Review 3: What makes a cell a cell?  
Review 4: What’s up with organ systems?  
Review 5: How do organ systems work?  
Review 6: Building bodies |
| **Unit 2** Ecosystems: Interactions, Energy and Dynamics | *Interdependence in ecosystems  
*Matter and energy cycles in ecosystems  
*Ecosystem dynamics | Review 1: Life starts with the Sun  
Review 2: Living things depend on plants  
Review 3: How energy flows in living things |
| **Unit 3** Heredity: inheritance and variation of traits | *Inheritance of traits  
*Variation of traits | Review 1: DNA transmits information  
Review 2: How mutations happen  
Review 3: What makes living things unique? |
| **Unit 4** Biological Evolution: Unity and Diversity | *Common ancestry and diversity  
*Natural selection  
*Adaptation | Review 1: What’s up with this evolution stuff?  
Review 2: Understanding evolution  
Review 3: How does evolution work?  
Review 4: Selection happens  
Review 5: What are adaptations?  
Review 6: Advantages and disadvantages?  
Review 7: Endless adaptations |
| **Unit 5** Earth and Human Activity | *Biogeology  
*Natural resources  
*Human impact  
*Global climate change | Review 1: How humans fit into natural systems  
Review 2: Humans using natural resources |