

7th Grade Science Curriculum

| Concept | Content (DCI) | SEP | Assessment | Standard |
|---|---|--|--|--|
| From Molecules to Organisms: Structures and Process | <ul style="list-style-type: none"> ● cell structure ● cell functions <ul style="list-style-type: none"> ○ diffusion ○ osmosis ● mitosis/meiosis | <ul style="list-style-type: none"> ● planning and carrying out investigations ● analyzing and interpreting data ● constructing explanations and designing solutions | <ul style="list-style-type: none"> ● test/quizzes ● labs/student directed investigations ● diffusion and osmosis models | <ul style="list-style-type: none"> ● MS LS1 – 1 ● MS LS1 – 2 ● MS LS1 – 3 ● MS LS1 – 4 ● MS LS1 – 5 |
| Growth, Development, and Reproduction of Organisms | <ul style="list-style-type: none"> ● genetics ● heredity ● genetic mutations ● environmental impact on genes | <ul style="list-style-type: none"> ● engaging in an argument from evidence ● develop and use model | <ul style="list-style-type: none"> ● respiration/photosynthesis model ● mitosis/meiosis model | <ul style="list-style-type: none"> ● MS LS3 – 1 ● MS LS3 – 2 ● MS LS4 – 5 |
| Natural Selection and Adaptations | <ul style="list-style-type: none"> ● adaptation ● survival ● selective breeding | <ul style="list-style-type: none"> ● obtaining, evaluating, and communicating information | <ul style="list-style-type: none"> ● genes and heredity project ● discussions/feedback | <ul style="list-style-type: none"> ● MS LS4 – 1 ● MS LS4 – 2 ● MS LS4 – 3 ● MS LS4 – 4 ● MS LS4 – 6 |

For more information on DCI or Disciplinary Core Ideas:

<https://www.nextgenscience.org/sites/default/files/resource/files/AppendixE-ProgressionswithinNGSS-061617.pdf>

For more information on Science and Engineering Practices:

<http://www.nextgenscience.org/sites/ngss/files/Appendix%20F%20%20Science%20and%20Engineering%20Practices%20in%20the%20ONGSS%20-%20FINAL%20060513.pdf>

For more information on the Next Generation Science Standards:

Middle School:

<http://www.nextgenscience.org/msls1-molecules-organisms-structures-processes>

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|---------------------------------------|--|---|--|--|
| Forces and Interactions Energy | <ul style="list-style-type: none"> • Newton's Laws of Motion (1,2,3) • gravitational pull • forces • velocity • acceleration • friction • kinetic vs potential energy • conservation of energy • transfer of energy | <ul style="list-style-type: none"> • asking questions and defining problems • planning and carrying out investigations • analyzing and interpreting data • constructing explanations and designing solutions • engaging in an argument from evidence • develop and use models | <ul style="list-style-type: none"> • test/quizzes • labs/student directed investigations • design protection for an egg upon impact • model of stored potential energy • discussions/feedback | <ul style="list-style-type: none"> • MS PS4 – 1 • MS PS4 – 2 • MS PS4 – 3 • MS PS3 – 1 • MS PS3 – 2 • MS PS3 – 3 • MS PS3 – 4 • MS PS3 – 5 |

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For more information on the Next Generation Science Standards:

<http://www.nextgenscience.org/mss2-earth-systems>

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| Waves and Electromagnetic Radiation | <ul style="list-style-type: none"> ● amplitude ● energy ● reflection ● transmission ● absorption ● refraction | <ul style="list-style-type: none"> ● analyzing and interpreting data ● using mathematics and computational thinking ● obtaining ,evaluating, and communicating information ● develop and use models | <ul style="list-style-type: none"> ● test/quizzes ● labs/student directed investigations ● soil formation model ● discussions/feedback | <ul style="list-style-type: none"> ● MS PS4 – 1 ● MS PS4 – 2 ● MS PS4 – 3 |

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