




# Suggested Units by Grade for Next Generation Science Standards (NGSS) CSTA K-12 Computer Science Standards





| K   | Curriculum Series Suggested Units                                   |  | Standards                   |   |
|---|---|--|-----------------------------|---|
|   | Engineering   | YES Elementary™<br>Engineering Sun Hats    | K-PS3-1,2<br>K-2-ETS1-1,2,3 | EiE® for Kindergarten<br>Here's the Scoop: Designing Trash Collectors |
| YES Enrichment™<br>Engineering Bubble Wands |   | K-PS2-2<br>2-PS1-2<br>K-2-ETS1-1,2,3       |                             |   |
| Computer Science                            | EiE® for Kindergarten<br>Sort It Out: Programming Robots to Recycle | Data & Analysis, Algorithms & Programming* |                             |   |

| 1 <sup>st</sup> Grade                   | Curriculum Series Suggested Units                  |   | Standards                     |   |
|---|--|---|-------------------------------|---|
|   | Engineering  | YES Elementary™<br>Engineering Nightlights  | 1-PS4-2,3,4<br>K-2-ETS1-1,2,3 | Engineering is Elementary®<br>To Get to the Other Side: Designing Bridges |
| YES Enrichment™<br>Engineering Bandages |  | 2-PS1-2<br>K-2-ETS1-1,2,3   |                               |   |
| Computer Science                        | Computer Science Essentials®<br>Programming Robots | Computing Systems, Data & Analysis, Algorithms & Programming, Impacts of Computing* |                               |   |







| 2 <sup>nd</sup> Grade                | Curriculum Series Suggested Units                   |   | Standards                            |  |
|--------------------------------------|---|---|--------------------------------------|--|
|                                      | Engineering   | YES Elementary™<br>Engineering Pumpkin Pollinator                                   | 2-PS1-2<br>2-LS2-2<br>K-2-ETS1-1,2,3 | Engineering is Elementary®<br>A Work In Progress: Improving A Play Dough Process |
| YES Enrichment™<br>Engineering Sails |   | K-PS2-2<br>2-PS1-2<br>K-2-ETS1-1,2,3  |                                      |  |
| Computer Science                     | Computer Science Essentials®<br>Creating Animations | Computing Systems, Data & Analysis, Algorithms & Programming, Impacts of Computing* |                                      |  |

| 3 <sup>rd</sup><br>Grade   | Curriculum Series  |   | Curriculum Series  |   |
|--|--|---|--|---|
|  | Suggested Units  | Standards   | Suggested Units  | Standards                               |
| Engineering  | YES Elementary™<br>Engineering Magnetic Dog Doors          | 3-PS2-1,3,4<br>3-5-ETS1-2   | Engineering is Elementary®<br>Catching the Wind: Designing Windmills | 3-PS2-1,2<br>3-ESS2-1<br>3-5-ETS1-1,2,3 |
|  | YES Enrichment™<br>Engineering Rescue Shuttles             | 3-PS2-2<br>3-5-ETS1-1,2,3   |  |   |
| Computer Science  | Computer Science Essentials®<br>Building Automated Systems | Computing Systems, Data & Analysis, Algorithms & Programming, Impacts of Computing* |  |   |

| 4 <sup>th</sup><br>Grade   | Curriculum Series  |   | Curriculum Series   |                                |
|--|--|---|---|--------------------------------|
|  | Suggested Units  | Standards   | Suggested Units   | Standards                      |
| Engineering  | YES Elementary™<br>Engineering Safety Vests              | 4-PS3-4<br>4-PS4-3<br>3-5-ETS1-1, 2   | Engineering is Elementary®<br>Now You're Cooking: Designing Solar Ovens | 4-PS3-4 4-ESS3-1<br>3-5-ETS1-1 |
|  | YES Enrichment™<br>Engineering Upcycled Toys             | 3-PS2-2<br>5-ESS3-1<br>3-5-ETS1-1,2,3   |   |                                |
| Computer Science  | Computer Science Essentials®<br>Designing Computer Games | Computing Systems, Data & Analysis, Algorithms & Programming, Impacts of Computing* |   |                                |

| 5 <sup>th</sup><br>Grade   | Curriculum Series  |   | Curriculum Series   |                           |
|--|--|---|---|---------------------------|
|  | Suggested Units  | Standards   | Suggested Units   | Standards                 |
| Engineering  | YES Elementary™<br>Engineering Plastic Filters           | 5-LS2-1<br>5-ESS1-1<br>5-ESS3-1<br>3-5-ETS1-1,2,3                                   | Engineering is Elementary®<br>A Long Way Down: Designing Parachutes | 5-PS2-1<br>3-5-ETS1-1,2,3 |
|  | YES Enrichment™<br>Engineering Sock Assistive Devices    | 3-5-ETS1-1,2,3  |   |                           |
| Computer Science  | Computer Science Essentials®<br>Analyzing Digital Images | Computing Systems, Data & Analysis, Algorithms & Programming, Impacts of Computing* |   |                           |

**Grades  
6–8**

| <i>Curriculum Series</i>  |   | <i>Curriculum Series</i>   |  |
|---|---|--|--|
| <b>Suggested Units</b>  | <b>Standards</b>  | <b>Computer Science Module</b>   | <b>Standards</b>   |
| <i>YES Middle School™</i><br>Engineering Medicine Coolers                     | <b>MS-PS1-6</b><br><b>MS-PS3-3</b><br><b>MS-ETS1-1,2</b>                        | <i>YES Middle School™</i><br>Heatwave Visualizations          | <b>Algorithms &amp; Programming, Impacts of Computing*</b> |
|   |   | <i>YES Middle School™</i><br>Medicine Cooler Alarms           | <b>Data &amp; Analysis, Impacts of Computing*</b>          |
| <i>YES Middle School™</i><br>Engineering Eco-friendly Slippers                | <b>MS-PS3-1</b><br><b>MS-PS2-2</b><br><b>MS-ETS1-1,2</b>                        | <i>YES Middle School™</i><br>Step Counters                    | <b>Algorithms &amp; Programming, Impacts of Computing*</b> |
|   |   | <i>YES Middle School™</i><br>User Reviews Analysis            | <b>Data &amp; Analysis, Impacts of Computing*</b>          |
| <i>YES Middle School™</i><br>Engineering Landing Pads                         | <b>MS-PS2-1</b><br><b>MS-PS3-2</b><br><b>MS-PS3-5</b><br><b>MS-ETS1-1,2,3,4</b> | <i>YES Middle School™</i><br>Delivery Notification Systems  | <b>Algorithms &amp; Programming*</b>                       |
|   |   | <i>YES Middle School™</i><br>Bounce Height Measurements     |  |
| <i>Engineering Everywhere®</i><br>Put a Lid on It: Engineering Safety Helmets | <b>MS-PS2-1</b><br><b>MS-LS1-8</b><br><b>MS-ETS1-1,2,3,4</b>                    |  |  |
| <i>Engineering Everywhere®</i><br>Go Fish: Engineering Prosthetic Tails       | <b>MS-LS1-4</b><br><b>MS-ETS1-1,2,3,4</b>                                       |  |  |