

## Fourth-Grade Science

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## TIMSS 2011 TCMA National Item Selection

## Fourth-Grade Science

| Country<br><br>Item (pts) |          |     | ● Item covered in national curriculum |          |       |         |                    |        |           |                 |          |       | ○ Item not covered in national curriculum |          |         |        |                      |               |       |  |  |  |
|---------------------------|----------|-----|---------------------------------------|----------|-------|---------|--------------------|--------|-----------|-----------------|----------|-------|---|----------|---------|--------|----------------------|---------------|-------|--|--|--|
|                           |          |     | Poland                                | Portugal | Qatar | Romania | Russian Federation | Serbia | Singapore | Slovak Republic | Slovenia | Spain | Sweden                                    | Thailand | Tunisia | Turkey | United Arab Emirates | United States | Yemen |  |  |  |
| S01_01                    | S031356  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ●   | ●        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S01_02                    | S031291  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ○   | ●        | ○       | ●      | ●                    | ●             |       |  |  |  |
| S01_03                    | S031230  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ○   | ●        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S01_04                    | S031325  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ●   | ○        | ●       | ●      | ○                    | ●             |       |  |  |  |
| S01_05                    | S031068  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ●         | ○               | ●        | ●     | ●   | ●        | ●       | ●      | ●                    | ○             |       |  |  |  |
| S01_06                    | S031418  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ●         | ●               | ●        | ○     | ●   | ○        | ●       | ●      | ●                    | ○             |       |  |  |  |
| S01_07Z                   | S031197Z | (2) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ●               | ●        | ●     | ●   | ●        | ●       | ●      | ●                    | ○             |       |  |  |  |
| S01_08                    | S031371  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ●   | ●        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S01_09                    | S031376  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ●        | ○     | ●   | ○        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S01_10                    | S031044  | (1) | ○                                     | ●        | ●     | ●       | ●                  | ○      | ○         | ●               | ●        | ●     | ●   | ○        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S01_11Z                   | S031390Z | (2) | ●                                     | ●        | ○     | ●       | ●                  | ○      | ○         | ●               | ●        | ●     | ●   | ○        | ●       | ○      | ○                    | ●             |       |  |  |  |
| S02_01                    | S051057  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ○      | ●         | ●               | ●        | ●     | ●   | ○        | ●       | ○      | ○                    | ●             |       |  |  |  |
| S02_02                    | S051032  | (1) | ○                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ●   | ●        | ○       | ○      | ○                    | ●             |       |  |  |  |
| S02_03Z                   | S051049Z | (1) | ○                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ●               | ●        | ●     | ●   | ○        | ○       | ○      | ○                    | ●             |       |  |  |  |
| S02_04                    | S051033  | (1) | ○                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ○        | ●     | ●   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_05                    | S051173  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ●   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_06                    | S051086  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ●         | ●               | ●        | ●     | ●   | ●        | ●       | ●      | ●                    | ●             |       |  |  |  |
| S02_07                    | S051179  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ●               | ●        | ●     | ●   | ●        | ●       | ●      | ○                    | ○             |       |  |  |  |
| S02_08                    | S051074  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ●               | ○        | ●     | ○   | ●        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_09                    | S051119  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_10                    | S051071  | (1) | ○                                     | ○        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_11                    | S051100  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S02_12                    | S051156  | (1) | ○                                     | ○        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_01                    | S041117  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_02                    | S041120  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ●               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_03                    | S041003  | (1) | ○                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_04                    | S041224  | (2) | ○                                     | ●        | ●     | ●       | ●                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_05                    | S041163  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_06                    | S041039  | (1) | ●                                     | ●        | ○     | ○       | ●                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_07                    | S041014  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_08                    | S041181  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_09                    | S041174  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_10                    | S041049  | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_11                    | S041208  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_12                    | S041060  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_13A                   | S041201A | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S03_13B                   | S041201B | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_01                    | S051041  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_02                    | S051037  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_03                    | S051008  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_04                    | S051004  | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_05Z                   | S051026Z | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_06                    | S051130  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_07                    | S051114  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_08Z                   | S051121Z | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_09                    | S051147  | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_10                    | S051105  | (1) | ●                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_11                    | S051110  | (1) | ●                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S04_12                    | S051111  | (1) | ●                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |
| S05_01                    | S031340  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             |       |  |  |  |

## Sixth Grade Countries

Botswana  
Yemen (6)

## Benchmarking Participants

Alberta, Canada  
Ontario, Canada  
Quebec, Canada  
Abu Dhabi, UAE  
Dubai, UAE

## Fourth-Grade Science

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| Country<br><br>Item (pts) |          |     | ● Item covered in national curriculum |          |       |         |                    |        |           |                 |          |       |        |          |         |        | ○ Item not covered in national curriculum |               |                       |                       |   |                           |   |   |   |                           |   |   |   |   |   |   |
|---------------------------|----------|-----|---------------------------------------|----------|-------|---------|--------------------|--------|-----------|-----------------|----------|-------|--------|----------|---------|--------|---|---------------|-----------------------|-----------------------|---|---------------------------|---|---|---|---------------------------|---|---|---|---|---|---|
|                           |          |     | Poland                                | Portugal | Qatar | Romania | Russian Federation | Serbia | Singapore | Slovak Republic | Slovenia | Spain | Sweden | Thailand | Tunisia | Turkey | United Arab Emirates                      | United States | Yemen                 | Sixth Grade Countries |   |                           |   |   |   | Benchmarking Participants |   |   |   |   |   |   |
| S05_02                    | S031236  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ●        | ●     | ●      | ○        | ●       | ○      | ●   | ○             | Sixth Grade Countries | ●                     | ● | Benchmarking Participants | ● | ○ | ● | ●                         | ● | ● | ● | ● | ● |   |
| S05_03Z                   | S031391Z | (2) | ●                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ○        | ●     | ●      | ●        | ●       | ●      | ●   | ○             |                       | ●                     | ● |                           | ○ | ● | ● | ●                         | ● | ● | ● | ● | ● | ● |
| S05_04                    | S031361  | (1) | ○                                     | ○        | ○     | ●       | ○                  | ○      | ○         | ●               | ●        | ●     | ●      | ○        | ●       | ●      | ●   | ○             |                       | ○                     | ● |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_05                    | S031001  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ●         | ●               | ●        | ●     | ●      | ○        | ●       | ●      | ●   | ●             |                       | ○                     | ○ |                           | ● | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_07                    | S031410  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_08                    | S031421  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ●      | ○         | ●               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_09                    | S031298  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ●      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_10                    | S031076  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S05_11                    | S031275  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_01                    | S041311  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_02                    | S041178  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_03                    | S041182  | (1) | ●                                     | ●        | ●     | ●       | ●                  | ●      | ○         | ●               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_04                    | S041180  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_05                    | S041187  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_06A                   | S041013A | (1) | ○                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_06B                   | S041013B | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_07                    | S041067  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_08                    | S041305  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_09                    | S041048  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_10                    | S041110  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_11                    | S041069  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_12                    | S041100  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S06_13                    | S041092  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_01                    | S031254  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ●         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_02                    | S031266  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_03                    | S031233  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_04                    | S031204  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_05                    | S031273  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_06                    | S031299  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_07                    | S031281  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_08                    | S031077  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_09                    | S031311  | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             |                       | ○                     | ○ |                           | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ | ○ | ○ |
| S07_10Z                   | S031088Z | (2) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S07_11                    | S031389  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_01                    | S051044  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_03                    | S051003  | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_04                    | S051168  | (1) | ●                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_05                    | S051010  | (1) | ●                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_06                    | S051035  | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_07                    | S051059  | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_08                    | S051142  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_09A                   | S051131A | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_09B                   | S051131B | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_10                    | S051151  | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S08_11                    | S051157  | (1) | ○                                     | ○        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S09_01                    | S041009  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S09_02                    | S041223  | (1) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S09_03                    | S041026  | (1) | ○                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S09_04                    | S041177  | (2) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |
| S09_05                    | S041183  | (2) | ●                                     | ●        | ●     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○      | ○        | ○       | ○      | ○   | ○             | ○                     | ○                     | ○ | ○                         | ○ | ○ | ○ | ○                         | ○ | ○ | ○ | ○ |   |   |

## Fourth-Grade Science

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## Fourth-Grade Science

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## TIMSS 2011 TCMA National Item Selection

## Fourth-Grade Science

| Country<br><br>Item (pts) |          |     | ● Item covered in national curriculum |          |       |         |                    |        |           |                 |          |       | ○ Item not covered in national curriculum |          |         |        |                      |               |       |  |  |  |
|---------------------------|----------|-----|---------------------------------------|----------|-------|---------|--------------------|--------|-----------|-----------------|----------|-------|---|----------|---------|--------|----------------------|---------------|-------|--|--|--|
|                           |          |     | Poland                                | Portugal | Qatar | Romania | Russian Federation | Serbia | Singapore | Slovak Republic | Slovenia | Spain | Sweden                                    | Thailand | Tunisia | Turkey | United Arab Emirates | United States | Yemen |  |  |  |
|                           |          |     | Sixth Grade Countries                 |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Botswana                              |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Yemen (6)                             |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Benchmarking Participants             |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Alberta, Canada                       |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Ontario, Canada                       |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Quebec, Canada                        |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Abu Dhabi, UAE                        |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
|                           |          |     | Dubai, UAE                            |          |       |         |                    |        |           |                 |          |       |   |          |         |        |                      |               |       |  |  |  |
| S13_08                    | S041105  | (1) | ●                                     | ○        | ○     | ●       | ○                  | ○      | ○         | ○               | ●        | ●     | ○   | ●        | ○       | ●      | ●                    | ●             | ○     |  |  |  |
| S13_09                    | S041193  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ●        | ●     | ●   | ●        | ○       | ●      | ●                    | ○             | ○     |  |  |  |
| S13_10Z                   | S041149Z | (2) | ○                                     | ●        | ●     | ●       | ○                  | ●      | ●         | ●               | ○        | ○     | ●   | ○        | ○       | ●      | ○                    | ○             | ○     |  |  |  |
| S13_11                    | S041032  | (1) | ●                                     | ●        | ○     | ●       | ●                  | ○      | ○         | ○               | ●        | ●     | ●   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S13_12                    | S041068  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ●      | ○         | ○               | ●        | ○     | ○   | ○        | ○       | ●      | ○                    | ○             | ○     |  |  |  |
| S13_13                    | S041303  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_01                    | S051054  | (1) | ○                                     | ●        | ○     | ●       | ●                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_02                    | S051024  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_03A                   | S051132A | (1) | ●                                     | ●        | ●     | ●       | ○                  | ●      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_03B                   | S051132B | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_04                    | S051040  | (1) | ○                                     | ●        | ○     | ○       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_05                    | S051193  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_06                    | S051063  | (1) | ●                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_07                    | S051012  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_08                    | S051115  | (1) | ○                                     | ●        | ●     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_09                    | S051180  | (1) | ○                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_10                    | S051106  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |
| S14_11                    | S051148  | (1) | ●                                     | ●        | ○     | ●       | ○                  | ○      | ○         | ○               | ○        | ○     | ○   | ○        | ○       | ○      | ○                    | ○             | ○     |  |  |  |