

Lesson

CCSS

NGSS

Elementary Lesson 1: The Science of Roller Skating

Topics Area, Geometry and Friction

K.CC.A.1 K-PS2-1
K.CC.A.3 K-2-ETS1-1
K.CC.B.5 K-2-ETS1-2
K.OA.A.1 2-PS1-1
K.G.A.2 2-PS1-2
1.G.A.1 3-PS2-1
2.G.A.1 3-5-ETS1-1
3.G.A.1 4-PS3-1
4.MD.A.2 4-PS3-2
5-PS1-3
5-PS2-1

Elementary Lesson 2: Motion & Rink Design

Topics Force/Friction, Diameter/Circumference

K.CC.A.3 K-PS2-1
K.CC.B.5 K-2-ETS1-1
K.MD.A.1 K-2-ETS1-2
1.NBT.B.2 3-PS2-1
1.MD.A.1 3-5-ETS1-1
1.G.A.1 4-PS3-1
2.OA.C.4 4-PS3-2
2.G.A.1 5-PS2-1
3.G.A.1
4.NBT.B.4
4.MD.A.2

Elementary Lesson 3: Music, Math, & Roller Skating

Topics Waves, Beats per Minute and Frequency & Speed

K.CC.A.3 1-PS4-1
K.CC.B.4 4-PS3-2
K.CC.B.5 4-PS4-1
3.OA.C.7
3.NBT.A.2
3.MD.A.1
3.MD.B.4
4.OA.A.2

Elementary Lesson 4: Super Sound! Acoustics & Rink Design

Topics Sound Systems, Frequency and Path of Sound

K.MD.B.3 1-PS4-1
3.OA.C.7 4-PS3-2
4.OA.A.2 4-PS4-1

Elementary Lesson 5: Engineering Magic & Lighting

Topics Type of Light and Lighting Design

3.OA.C.7 1-PS4-2
4.OA.A.2 4-PS3-2
4.MD.C.5 4-PS4-2

Lesson

CCSS NGSS

Elementary Lesson 6: Heart, Health & Fitness

Topics Basic Anatomy, Heart Health, Calculating on Average

1.OA.A.1
2.OA.A.1
4-PS3-2
4-LS1-1
5-PS3-1

Elementary Lesson 7: Formulas, Fractions, & Math; The Relationship Between Math & Roller Skating

Topics Mean, Medium and Mode, Geometry and
Calculating Speed

3.OA.A.3
3.OA.A.4
3.G.A.1
4.OA.A.2
4.G.A.1
5.OA.A.2

Middle Lesson 1: The Science of Roller Skating

Topics Design, Geometry and Open Ended Design Program

6.G.A.1
7.G.A.2
MS-ETS1-1
MS-ETS1-2
MS-ETS1-3

Middle Lesson 2: Motion & Rink Design

Topic Ratio and Proportion, Calculating Distance

6.EE.B.5
7.EE.B.3
MSETS1-1
MS-ETS1-2
MS-ETS1-3

Middle Lesson 3: Music, Math, & Roller Skating

Topics Waves, Calculation of Beats per Minute, Frequency and
Speed

MS-PS4-1
MS-PS4-2

Middle Lesson 4: Super Sound! Acoustics & Rink Design

Topics Sound System Design, Frequency and Path of Sound

MS-PS4-1
MS-PS4-2

Middle Lesson 5: Science of Lighting

Topics Pythagorean Theorem, Lights and X,Y,Z, Axis

6.G.A.1
7.G.B.4
7.G.B.5
8.G.A.1
8.G.B.6
8.G.B.7
8.G.B.8
MS-PS4-1
MS-PS4-2

Lesson

CCSS

NGSS

Middle Lesson 6: Physics of Artistic Roller Skating

6.EE.A.2

MS-PS2-2

MS-PS3-1

MS-PS3-2

MS-PS3-5

Topics Angular Momentum, Center of Mass and Projectile Motion

Middle Lesson 7: Heart, Health & Fitness

MS-LS1-1

MS-LS1-3

Topics Cardiovascular System. Heart Health and the Importance of exercise

Middle Lesson 8: Formulas, Fractions & Math; The Relationship Between Math & Roller Skating

6.EE.A.2

6.SP.A.2

7.SP.A.1

7.SP.A.2

7.SP.B.3