

LESSON PLANS: ONTARIO

Grade 2: Geometry and Spatial Sense 3D Objects and Shapes

 45 MINS

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 Mathletics

Overall Curriculum Expectations:

- Compose and decompose two-dimensional shapes and three-dimensional figures.

Specific Curriculum Expectations:

- Identify and describe various three-dimensional figures (i.e., cubes, prisms, pyramids) and sort and classify them by their geometric properties.
- Create models and skeletons of prisms and pyramids using concrete materials and describe their geometric properties.
- Build a structure using three-dimensional figures and describe the two-dimensional shapes and three-dimensional figures in the structure.



ITEMS NEEDED

- ✓ Interactive whiteboard
- ✓ Mathletics teacher and student logins
- ✓ eBook student pages from Grade 2, Space and Shape
- ✓ Shape manipulatives
- ✓ Math journals
- ✓ Computers/mobile devices



ASSESSMENTS

- ✓ Observation and participation
- ✓ Reviewing completed student worksheet
- ✓ Results from the Mathletics curriculum activities, located under Reports in Teacher Console
- ✓ Assessment from teacher eBook under Assessment; pages 44–49



ACCOMMODATIONS/ MODIFICATIONS

- ✓ Provide students with extra worksheets about 3D shapes from grade 1 or grade 3 Shape and Space.
- ✓ Encourage students to click on “Something Easier” and “Something Harder” within the curriculum activities of Mathletics.



EXTENSION OF LEARNING

- ✓ Curriculum activities
- ✓ Explore more in Concept Search and “Rainforest Maths.”
- ✓ Students can record 3D objects they come across over the next couple of days.

Introduction to Lesson



10 MINS

Teacher Background:

Ask the class, *What does 3-dimensional mean?* This will allow students to bring up their prior knowledge. Students can also fill out a KWL chart for further extension. On the interactive whiteboard, go to

Mathletics Teacher Console > Demonstrations > Concept Search > Animated Math Dictionary > search for “three-dimensional”

Discuss with the students the definition and the picture displayed. Click back to **Concept Search** within **Demonstrations**, and click on the **Concept Search** icon. Enter 3D objects in the **Search** field on the top left. It will bring up a few different slides; click on the first slide, which displays multiple objects. There are ten slides here and not all will apply to the lesson (slides 2, 3, 5, 7 are applicable). To further the extension, teachers can search each object in the **Search** field.

For further extension, ask students:

- What objects in the classroom have the same shape?
- How are these shapes similar or different?
- Why do you think these are 3D shapes?
- What could these shapes be used for (buildings, household products)?
- What 2D shapes do you see in these 3D shapes?

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Grade 2: Geometry and Spatial Sense

3D Objects and Shapes

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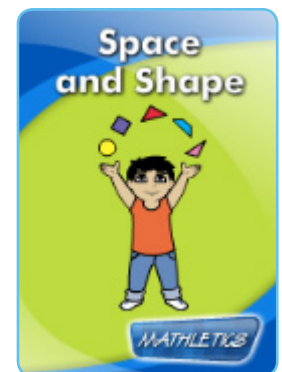
Mathletics

The Lesson

 20 MINS

eBook: Space and Shape

- In the Grade 2 "Space and Shape" student eBook, refer to pages 18–19 and 24–25. Students will carry out these activities with partners. Students will need items listed, along with shape manipulatives. Have students discuss vertices, edges, and faces using 3D shapes. After they complete the pages, have students search the classroom of other objects they believe to be 3-dimensional. They can record these objects in their journals. If there is time, show and share with the class.
- **Reinforcement:** Using computers or mobile devices, students complete curriculum activities in the Student Console. Suggested activities: Collect the Objects, Collect the Objects 2, Relate Shapes and Solid, How Many Faces?, How Many Corners?, How Many Edges? In Rainforest Math, under Grade 2, 3D shapes, students can explore several different options, including a quiz they can complete with a partner.
- **Extra-time activity/cross-curriculum activity:** Students can create 3D shapes using straws/toothpicks and play dough. They are to pick a shape and create it using the materials provided. This can be conducted as an individual or partner activity. Students can write a display card for their shape, naming their shape and describing its geometric properties. (Sephora Sphere; she has no vertices, no edges, and no faces. She is round and rolls.)



Consolidating the lesson

 15 MINS

- Show two different objects and ask students, How are they similar? How are they different? They can refer to some of the strategies they used while completing the activities earlier. Have the students indicate the name for each of the objects they came across today (cubes, spheres, cones, cylinders, pyramids).
- On the interactive whiteboard, bring up "Rainforest Maths" from the Teacher Console. Click on Grade 2, 3D Shapes. Complete the quiz as a class.



For more information contact our friendly team...

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