

Turtle Math Worksheets

Grade 8 – Mathematics



Lesson Details

Grade Level:	8	Curriculum Links:	Mathematics	Time Needed:	40 minutes – 1 hour
Learning Goal	To gain practice and confidence in math, as well as explore applications related to the real world.				
Success Criteria	By the end of this lesson, students will have successfully completed the worksheet.				
Specific Expectations	<p><i>Quantity Relationships</i></p> <ul style="list-style-type: none"> Determine common factors and common multiples using prime factorization of numbers. <p><i>Operational Sense</i></p> <ul style="list-style-type: none"> Solve problems involving percents, expressed to one decimal place; Use estimation when solving problems involving operations with whole numbers, decimals, percents, integers, and fractions, to help judge the reasonableness of a solution; Solve multi-step problems arising from real-life contexts and involving whole numbers and decimals, using a variety of tools and strategies. <p><i>Proportional Relationships</i></p> <ul style="list-style-type: none"> Solve problems involving proportions, using concrete materials, drawings, and variables; Identify and describe real-life situations involving two quantities that are directly proportional. 				
Materials Needed	Worksheet (attached), Pencil, Calculator (optional).				

Lesson Description

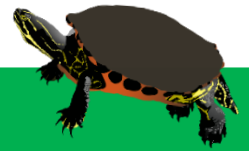
Overview	Students will complete fun math problems, related to turtles, in the attached worksheet.
Activity	<ol style="list-style-type: none"> Hand out the worksheet to the students. Optional: Students can work individually or in small groups. Optional: As a class, take up the worksheet.
Blacklist Masters	<ul style="list-style-type: none"> Worksheet (attached) For more information, please visit https://www.turtleguardians.com/
Place-Based Learning	Students can relate what they have learned about turtles to their local wildlife.
Inquiry-Based Learning	<p>Using Structured Inquiry, students will complete the worksheet.</p> <p>Ask the students:</p> <ul style="list-style-type: none"> Why is it important to protect turtle nests from predators? What are the different features of a wetland? Turtles are reptiles that are considered at-risk species, what other at-risk reptile species can you think of?
Turtle Stories	Try your hand at making new math problems for others to solve. Students are encouraged to share what they have learned and any new problems created on the Turtle Stories website, found here: https://www.turtlestories.ca/

Lesson Description

Turtle Guardian Program Links

In **Level 1** (Ontario Turtle Identification) of the **Turtle Guardian Program**, students will learn how to identify all 8 species of Ontario's turtles, information about their habitats and how to help them. For more information, please visit <https://www.turtleguardians.com/what-is-a-turtle-guardian/>

My Notes



Turtle Math Worksheet



Spiny Soft-Shelled Turtles lay their eggs on land like most turtles. Jamie, a wildlife technician, has decided to put a fence around the nests they find to help prevent raccoons and skunks from eating the eggs.

A. If the average nest is a cylinder 10 cm deep with a radius of 6 cm, what is the volume of the nest?

1130.40 cm³

B. What is the surface area of that nest (include top, bottom and sides)?

602.88 cm²

C. Jamie decides that they want to place fencing around the nest. The fencing will go 4 cm deeper and 2 cm wider than the nest, what length of fencing, in metres, would they need to circle the nest?

0.5 m

D. If the fencing costs \$12.00 a metre, how much would it cost to fence the turtle nest?

\$6.00

 2

Daniel wants to plant some trees around a wetland. He can carry 5 small OR 1 large and 2 small trees at a time. Daniel parks his truck 6 metres from where he can plant the trees.

A. If Geoff has 35 trees in total, 30 small trees and 5 large trees, and he always carries a full load, what is the smallest number of trips he can take to move all the trees?

9 trips total

4 with five small trees each load and 5 with one large and two small trees each load

B. How many metres did Geoff walk to make all those trips?

108 m

 3

Milk Snakes are found in Ontario and are nocturnal. Farmers used to think that the snakes milked the cows, but in reality they were around the farms for another reason – the mice!

A. If one Milk Snake eats 15% of the mice on the farm and three Milk Snakes can eat 45 percent of the mice on the farm, how many mice will two Milk Snakes eat if there are 30 mice on the farm?

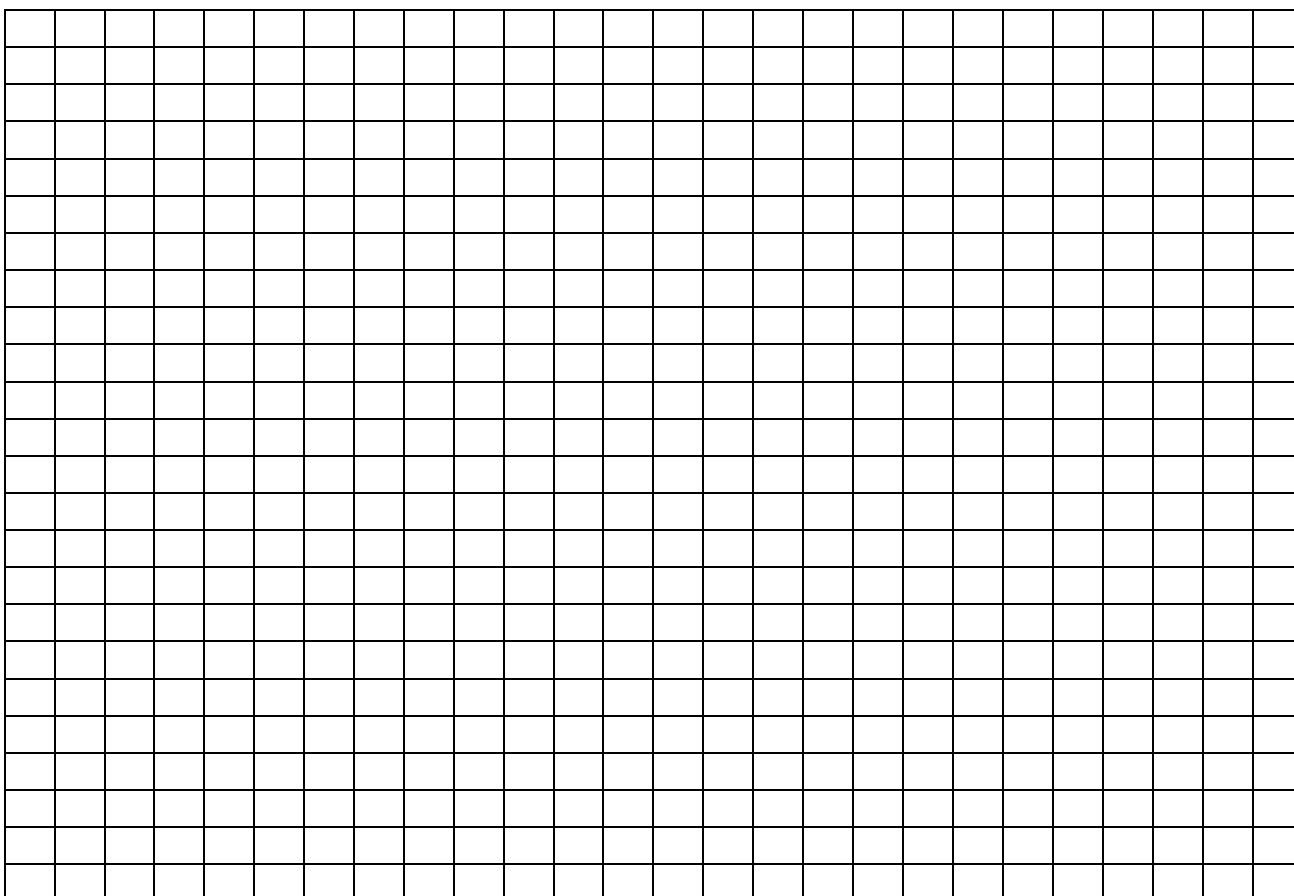
9



Ontario Provincial Parks are a great place to see turtles. In the table below there are several species of turtles at risk and the total number found by Ontario Parks Staff in the summer of 2019

Number of Specimens Found at Ontario Parks in the Summer of 2019					
Species	Park				
	Grundy Provincial Park	Six Mile Lake Provincial Park	Emily Provincial Park	Balsam Lake Provincial Park	Killbear Provincial Park
Snapping Turtle	13	20	16	18	14
Painted Turtle	7	9	4	6	13
Musk Turtle	0	2	0	0	14
Wood Turtle	30	35	30	32	30

A. Create a chart representing the number of specimens found at a park of your choosing. Don't forget to label your axis and title your graph.





Victoria was out for a hike and spotted a Blanding's Turtle basking beside a 2.5 m tall log. Victoria took a picture of the turtle. In the picture the log appears to be 3 cm in height and the turtle appears to be 1 cm long.

A. How long is the turtle in real life?

0.83 m or 83 cm



Ribbon snakes can be differentiated from garter snakes by a white half moon shape in front of their eye. You track 80 ribbon snakes and find that 15 eat only frogs, 20 eat frogs and fish, 12 eat only fish and the rest each a mixed diet of fish, frogs and other animals they are able to catch.

A. What percentage of snakes eats each diet?

18.75% eat only frogs

25% eat frogs and fish

15% eat only fish

41% eat a mixed diet



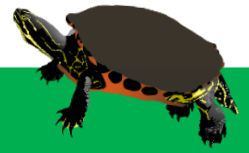
Meredith was walking through a wetland habitat looking for turtles. She saw 10 Spotted Turtles and 8 Painted Turtles.

A. What is the ratio of Spotted Turtles to Painted Turtles? Can this ratio be reduced?

10:8 Yes, 5:4

B. If Meredith saw four times as many Spotted Turtles and twice as many Painted Turtles, would the ratio change?

No



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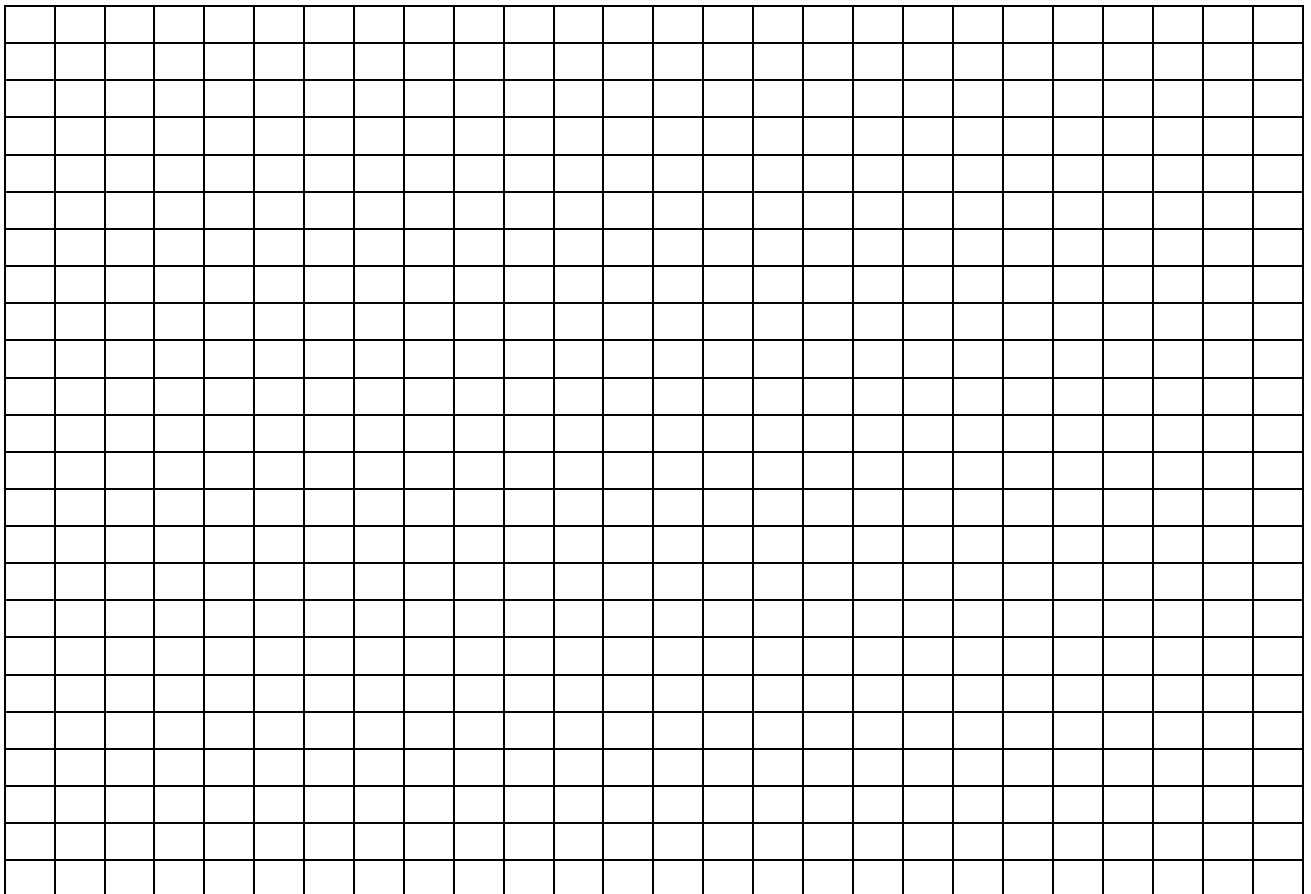
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