

Turtle Math Worksheets

Grade 7 – Mathematics



Lesson Details

Grade Level:	7	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"> Identify and compare integers found in real-life contexts. <p><i>Operational Sense</i></p> <ul style="list-style-type: none"> Divide whole numbers by simple fractions and by decimal numbers to hundredths, using concrete materials; Use a variety of mental strategies to solve problems involving the addition and subtraction of fractions and decimals; Solve problems involving the multiplication and division of decimal numbers to thousandths by one-digit whole numbers, using a variety of tools, and strategies; 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 that involve determining whole number per cents, using a variety of tools. 				
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 is a turtle rehabilitation centre? Why is field equipment necessary for monitoring turtles? What are the characteristics of a wetland?
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



Siena went to the hardware store so that she could buy some fencing for the Spotted Turtle nests that need protecting from raccoons and skunks. She bought 15 pieces of fencing at \$9.98 for each piece.

A. If sales tax is 13%, how much will each piece of fence cost after tax? How much did she spend in total?

After tax: \$11.28

Total: \$169.16

B. In total how much did she spend in taxes on all the pieces?

\$19.46

C. If she was given back \$5.84 in change, how much money did she hand to the clerk?

\$175.00

D. If each square piece of fencing has a perimeter of 80 cm, what is the length of each side?

20 cm

E. If she built a cube shaped cage using 5 of the pieces of fencing (the sixth side is the ground), what is the volume of the cage?

0.008 m³ or 8000 cm³



Heather is working at a turtle rehabilitation centre which helps take care of injured turtles after they have been hit on roads. She needs to make a pond system for the centre. To make a pond enclosure she needs 4 pieces of fencing – one for each wall, to make two enclosures she needs 8 pieces of fencing. If she places two pond enclosures side-by-side she needs only seven pieces of fencing since the enclosures can share one edge.

A. How many pieces of fencing will she need in order to make five enclosures side-by-side? Show the formula used.

Needs: 16 pieces # of Sides = (# of Cages X 3) + 1

B. If Heather wanted to make eight enclosures, what is the minimum number of pieces of fencing she would need?

25

C. If each piece of fencing costs \$3.76 plus 14% sales tax, what is the total cost of one piece of fencing?

\$4.29

D. How much will Heather have to spend to make the five enclosures?

\$68.64

E. How much will she have to spend to make the eight enclosures?

\$107.25



While doing some research on reptiles you decide to figure out their speeds. You record a garter snake moving from one end of your tent to the other (1.5 metres) in 5 seconds. Later that summer you see a skink move from under a rock to another rock about 30 cm away in 2 seconds. On another day you see a Common Snapping Turtle, and it swims from one side of the pond to the other (4 metres) in 20 seconds. On the last day of the summer you see a painted turtle moving on land heading back to the pond; it moves 2.3 metres in 1 minute and 45 seconds.

A. Draw a diagram for each reptile indicating the distance travelled and time taken to move that distance.

B. What is the speed of each reptile in meters per second?

Garter Snake: 0.3 m/s

Five-Lined Skink: 0.15 m/s

Common Snapping Turtle: 0.2 m/s

Painted Turtle: 0.02 m/s

C. What is the speed of each reptile in kilometers per hour?

Garter Snake: 1.08 km/hr

Five-Lined Skink: 0.54 km/hr

Common Snapping Turtle: 0.72 km/hr

Painted Turtle: 0.072 km/hr

D. Name the reptiles from the fastest to the slowest based on your observation.

Garter Snake, Common Snapping Turtle, Five-Lined Skink, Painted Turtle



Turtles are cold blooded creatures, or ectotherms. They need to use the sun to warm up their bodies. To do this, turtles bask on logs or rocks in the sun. Sam was watching Painted Turtles bask on a log. They decided to record the temperatures when they saw turtles basking over 5 days. Their observations are recorded below.

Day	Temperature	Number of Turtles
1	18° C	5
2	24° C	3
3	22° C	4
4	30° C	1
5	15° C	7

A. Create an integer line and plot the temperatures.

B. What is the temperature difference between the hottest day and the coolest day?

15° C

C. What conclusion can you draw from this information?

More turtles bask when it is cooler out. This is because they need the sun to warm up their bodies more, whereas when it is warmer they don't have to bask as much.



Field equipment, such as tools to measure turtles is important for monitoring turtle populations. The Turtle Guardians buy \$127 worth of new equipment. The team attends a public education event where they raise \$58 and attend a farmer's market where they raise \$81. What integer represents the total amount of money after purchasing the equipment?

a) 139

b) -12

c) 12

d) -139



Turtle Math Worksheet



Siena went to the hardware store so that she could buy some fencing for the Spotted Turtle nests that need protecting from raccoons and skunks. She bought 15 pieces of fencing at \$9.98 for each piece.

A. If sales tax is 13%, how much will each piece of fence cost after tax? How much did she spend in total?

B. In total how much did she spend in taxes on all the pieces?

C. If she was given back \$5.84 in change, how much money did she hand to the clerk?

D. If each square piece of fencing has a perimeter of 80 cm, what is the length of each side?

E. If she built a cube shaped cage using 5 of the pieces of fencing (the sixth side is the ground), what is the volume of the cage?



Heather is working at a turtle rehabilitation centre which helps take care of injured turtles after they have been hit on roads. She needs to make a pond system for the centre. To make a pond enclosure she needs 4 pieces of fencing – one for each wall, to make two enclosures she needs 8 pieces of fencing. If she places two pond enclosures side-by-side she needs only seven pieces of fencing since the enclosures can share one edge.

A. How many pieces of fencing will she need in order to make five enclosures side-by-side? Show the formula used.

B. If Heather wanted to make eight enclosures, what is the minimum number of pieces of fencing she would need?

C. If each piece of fencing costs \$3.76 plus 14% sales tax, what is the total cost of one piece of fencing?

D. How much will Heather have to spend to make the five enclosures?

E. How much will she have to spend to make the eight enclosures?



While doing some research on reptiles you decide to figure out their speeds. You record a garter snake moving from one end of your tent to the other (1.5 metres) in 5 seconds. Later that summer you see a skink move from under a rock to another rock about 30 cm away in 2 seconds. On another day you see a Common Snapping Turtle, and it swims from one side of the pond to the other (4 metres) in 20 seconds. On the last day of the summer you see a painted turtle moving on land heading back to the pond; it moves 2.3 metres in 1 minute and 45 seconds.

A. Draw a diagram for each reptile indicating the distance travelled and time taken to move that distance.

B. What is the speed of each reptile in meters per second?

C. What is the speed of each reptile in kilometers per hour?

D. Name the reptiles from the fastest to the slowest based on your observation.



Turtles are cold blooded creatures, or ectotherms. They need to use the sun to warm up their bodies. To do this, turtles bask on logs or rocks in the sun. Sam was watching Painted Turtles bask on a log. They decided to record the temperatures when they saw turtles basking over 5 days. Their observations are recorded below.

Day	Temperature	Number of Turtles
1	18° C	5
2	24° C	3
3	22° C	4
4	30° C	1
5	15° C	7

A. Create an integer line and plot the temperatures.

B. What is the temperature difference between the hottest day and the coolest day?

C. What conclusion can you draw from this information?



Field equipment, such as tools to measure turtles is important for monitoring turtle populations. The Turtle Guardians buy \$127 worth of new equipment. The team attends a public education event where they raise \$58 and attend a farmer's market where they raise \$81. What integer represents the total amount of money after purchasing the equipment?

- a) 139
- b) -12
- c) 12
- d) -139