

Lesson Printables

Be a rockstar and only
print what you need!



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Sunlight Zone
Activity: 3

Twilight Zone
Activity: 4

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Activity: 5

Extras
Angle Cheat Sheet: 6
Answers: 7

Let's identify and measure angles

Why learn this?

Learning how to measure angles is an essential skill that help students prove their understanding of the difference between different types of angles. This skill can be applied to many real life situations in architecture, geometry, engineering, etc.

How do you measure angles?

Types of angles

An angle is the measure of the amount of turn between two lines/rays. There are 6 types of angles. Being able to identify each type of angle can help students when measuring.

- Acute angle: measures less than 90° .
- Right angle: measures exactly 90° .
- Obtuse angle: measures between 90° and 180° .
- Straight angle: measures exactly 180° .
- Reflex angle: measures between 180° and 360° .
- Full rotation: measures 360° .

Using a piece of paper to identify angles

- Use a sticky note or the corner of a piece of paper.
- Line up the bottom of the paper with one of the rays of the angle. The corner of the paper should meet the vertex (point where two lines meet) of the angle.
- If the other ray of the angle lines up perfectly with the corner of the paper, it is a right angle.
- If the other ray is 'less than' the paper (or covers the whole angle), it is an acute angle.
- If the other ray goes 'beyond' the paper (or you can still see some of the angle), it is an obtuse angle.

Using a protractor to measure angles

- First, identify what type of angle you are measuring. This will help students identify what number range they should be looking for on the protractor.
- Line up the 'target zone' part of the protractor with the vertex (point where two lines meet) of the angle. Make sure one of the rays of the angle is aligned with the horizontal line of the protractor.
- Follow the other ray to see what number it touches on the protractor. Remember to use the number that matches your type of angle.
 - If you are measuring an acute angle, you know the measurement must be less than 90° .
 - If the line you are measuring is 'too short', use a ruler to extend the line and make measuring a little easier.

Let's warm up!

Starter Activity - Cosmic Calculations

Students are shown several planets with numbers on them. Each planet has 3 moons surrounding it. Each moon has a number. If the three moons can be used to create each planet number, what could the pattern be? Students can use any of the four operations. For example, the first planet has the number 17 and moon numbers 4, 3 and 5. If students multiply 3 and 4 and then add 5, they get the planet number.

To support, students could:

- Be asked guiding questions:
 - If you just add the numbers, do you get the correct planet number?
 - What other operations could you investigate?

To challenge, students could:

- Fill in the missing numbers on some of the moons and planets.

Let's do this!

Main Activity - Students are given 6 angles to identify, estimate and measure. Measuring angles on the computer screen will be very difficult. For this reason, we have only provided printables versions of the Twilight and Midnight Zone activities. You could also draw your own angles for students to measure. Students will need their own protractor to measure the angles. If you do not have a protractor, students could focus on identifying the types of angles. *Please note, in this year group, students are expected to be able to measure angles with accuracy, so we recommend purchasing a protractor for future lessons.*

To support, students could:

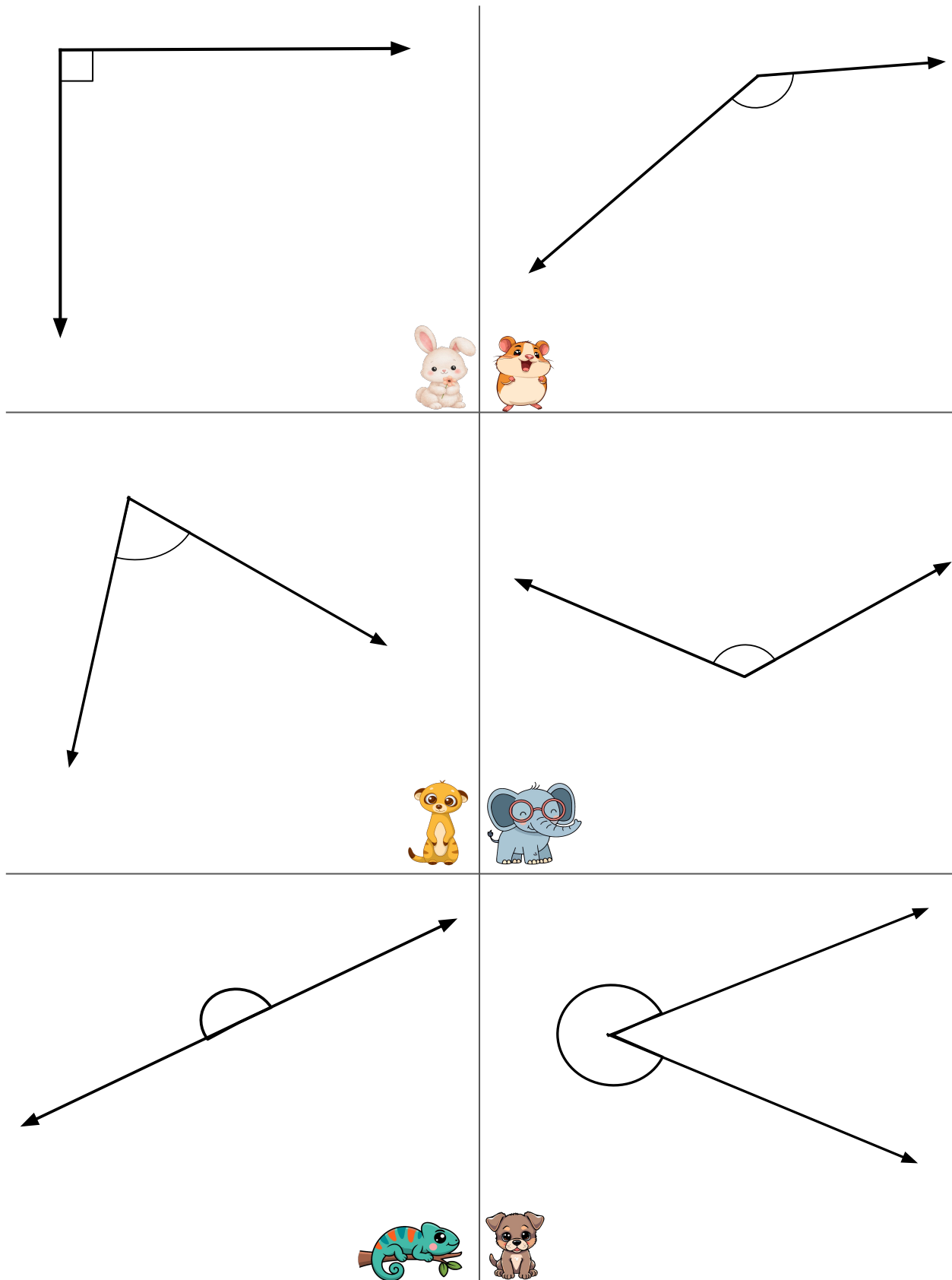
- Focus on just identifying different types of angles. See Sunlight Zone.
- Ask an adult to help them extend the lines in each angle in order to make measuring easier.

To challenge, students could:

- Measure the angle using a protractor and then apply their understanding of full rotations to help them identify the reflex angle measurement.

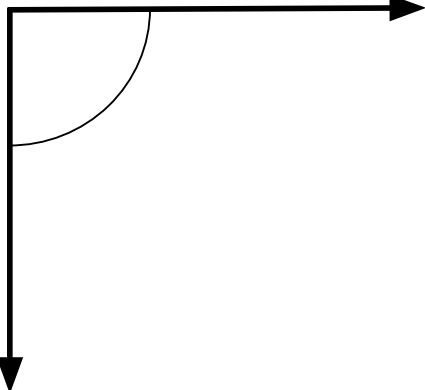
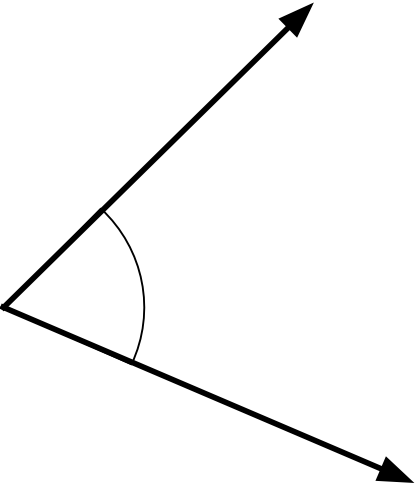
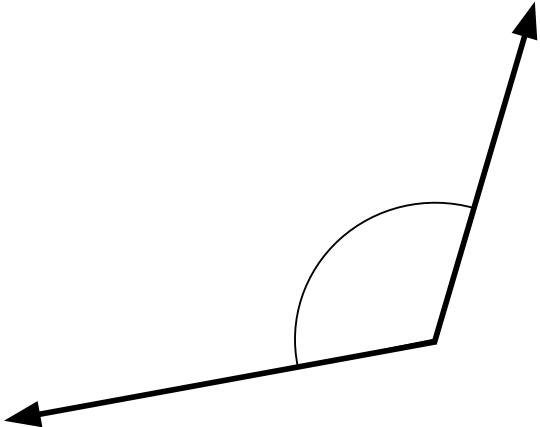
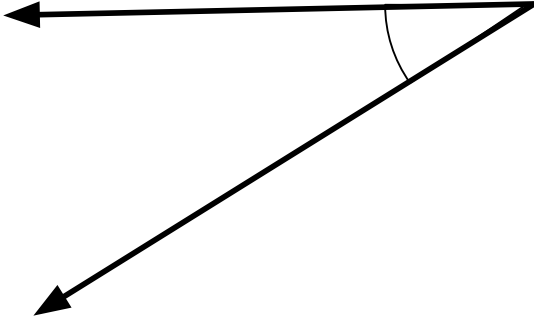
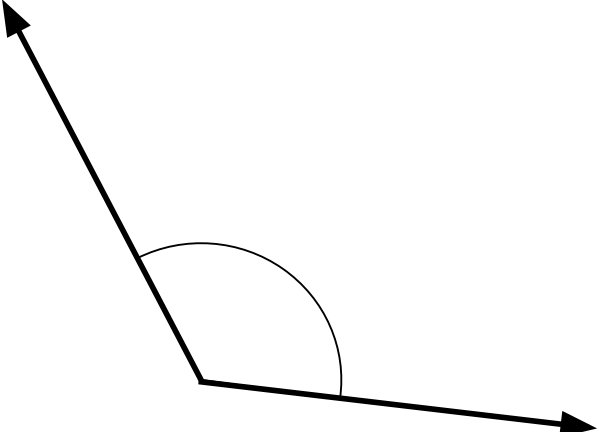
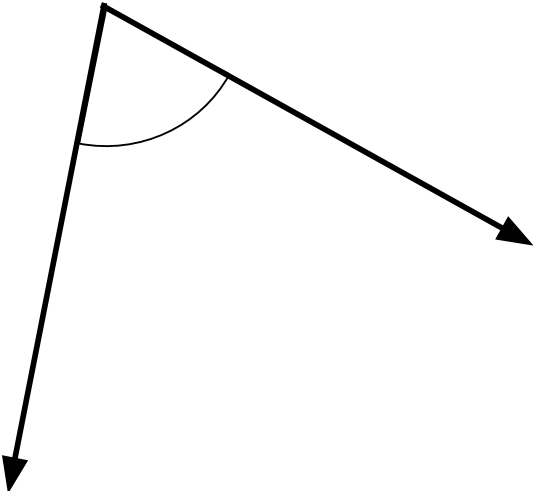
Sunlight Zone

Identify the name of each animal's angle.



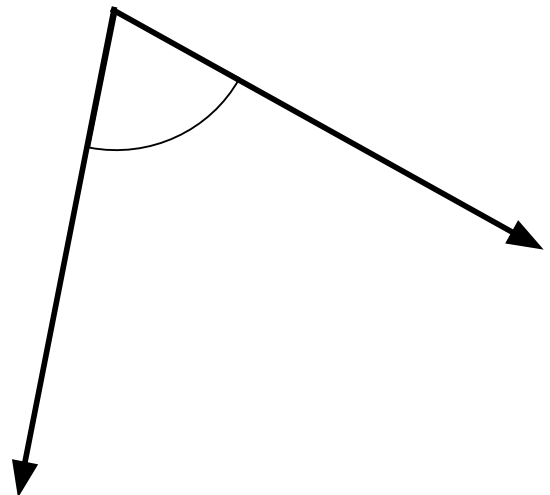
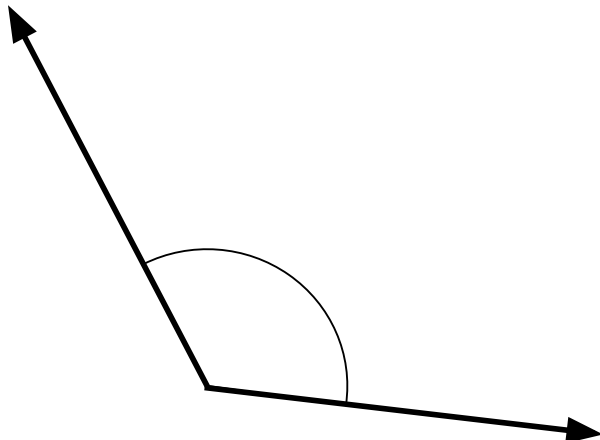
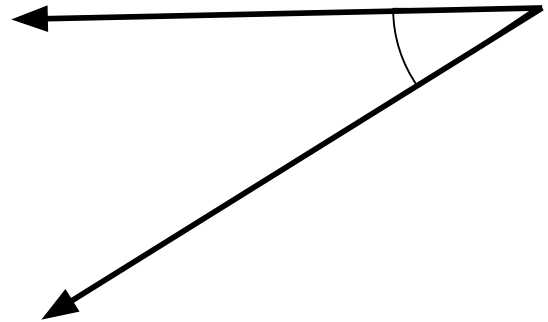
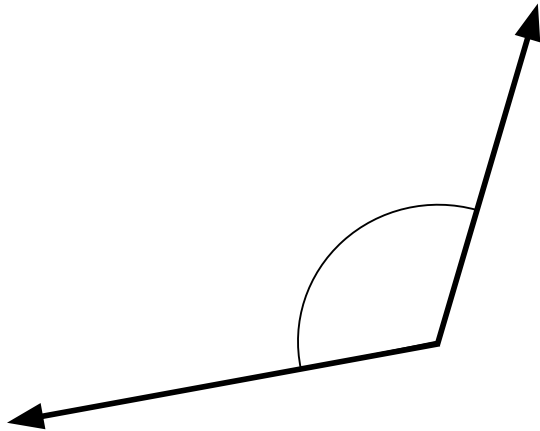
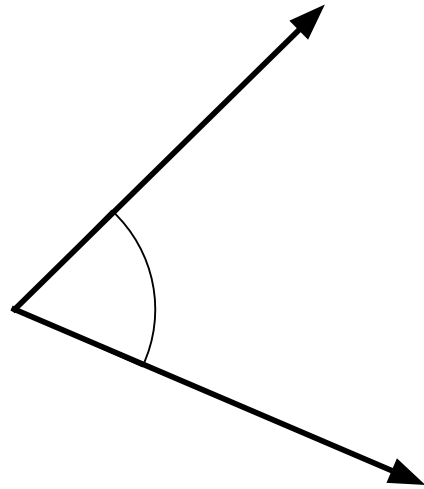
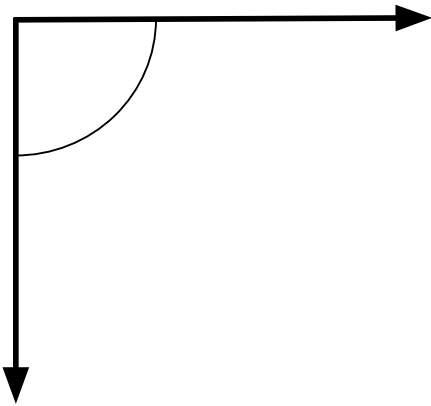
Twilight Zone

Identify the name of each animal's angle. Use a piece of paper to help you.
Estimate and then measure each angle using a protractor.

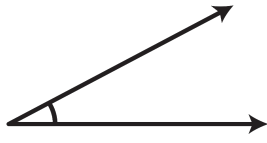
Midnight Zone

Identify the name of each animal's angle.
Estimate and then measure each angle using a protractor.



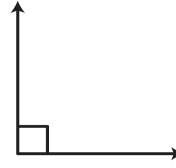
Types of Angles

Acute Angle



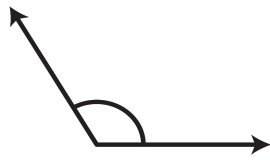
Less than 90°

Right Angle



90°

Obtuse Angle



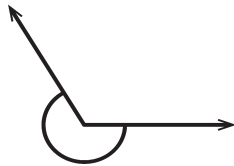
Between
 90° and 180°

Straight Angle



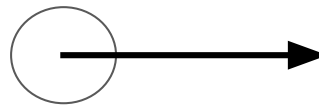
180°

Reflex Angle



Between
 180° and 360°

Full Rotation



360°

Answers

Sunlight Answers	
Rabbit	right angle
Hamster	obtuse angle
Meerkat	acute angle
Elephant	obtuse angle
Chameleon	straight angle
Dog	reflex angle

Twilight/Midnight Answers	
Rabbit	90°
Hamster	70°
Meerkat	120°
Elephant	30°
Chameleon	125°
Dog	70°