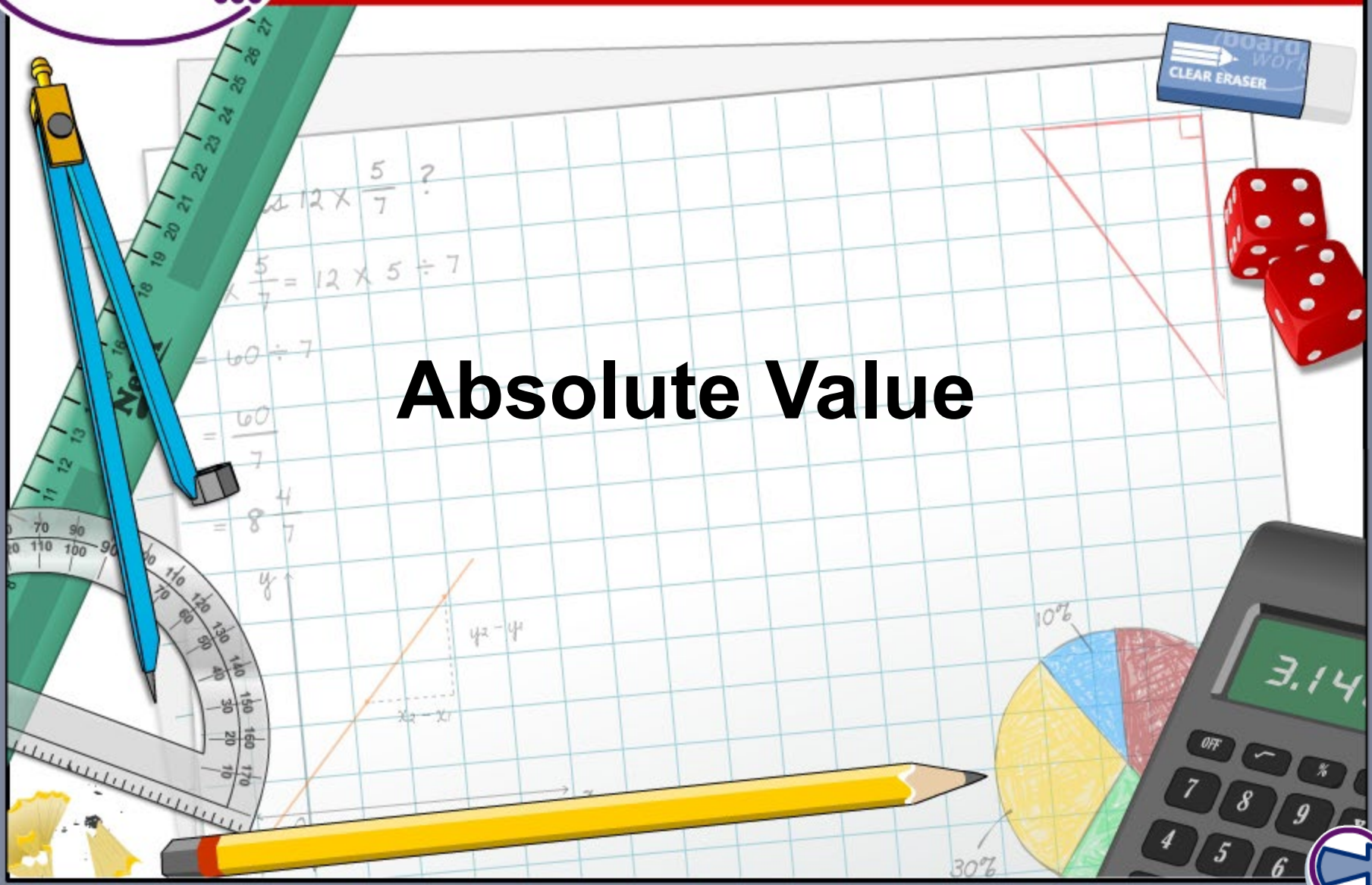


Absolute Value

Information

Common core icons

This icon indicates a slide where the Standards for Mathematical Practice are being developed. Details of these are given in the Notes field.

Slides containing examples of mathematical modeling are marked with this stamp.

This icon indicates an opportunity for discussion or group work.

The **Standards for Mathematical Practice** outlined in the Common Core State Standards for Mathematics describe varieties of expertise that mathematics educators at all levels should seek to develop in their students.

These are:

1) Make sense of problems and persevere in solving them.

2) Reason abstractly and quantitatively.

3) Construct viable arguments and critique the reasoning of others.

4) Model with mathematics.

5) Use appropriate tools strategically.

6) Attend to precision.

7) Look for and make use of structure.

8) Look for and express regularity in repeated reasoning.

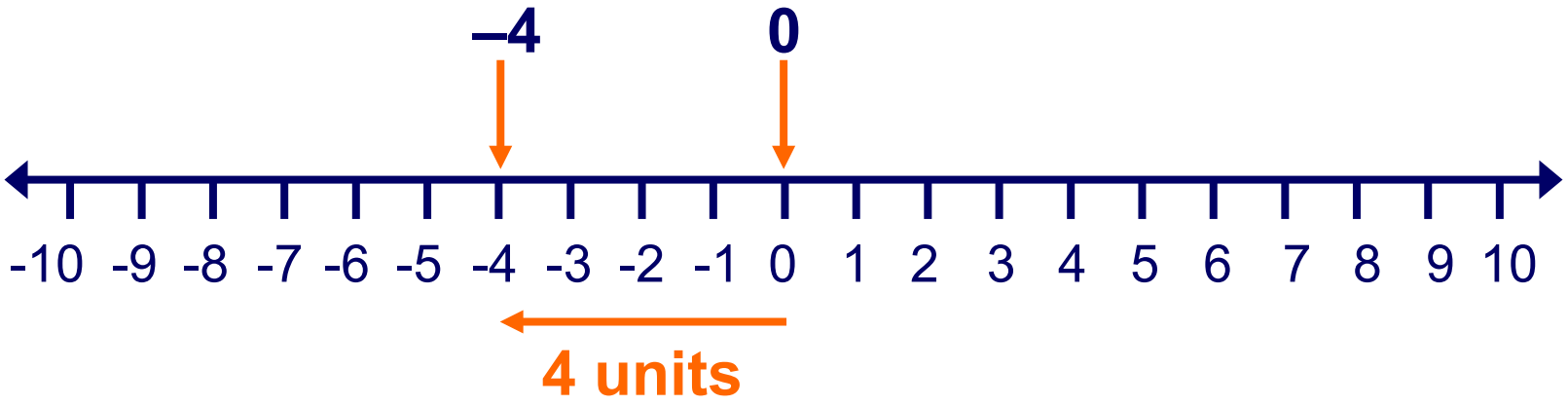
This icon indicates that the slide contains activities created in Flash. These activities are not editable.

This icon indicates teacher's notes in the Notes field.

Absolute value

The **absolute value** of a number is its **magnitude**.

In other words, the absolute value of a number is the distance that the number is from the origin, zero, on the number line.



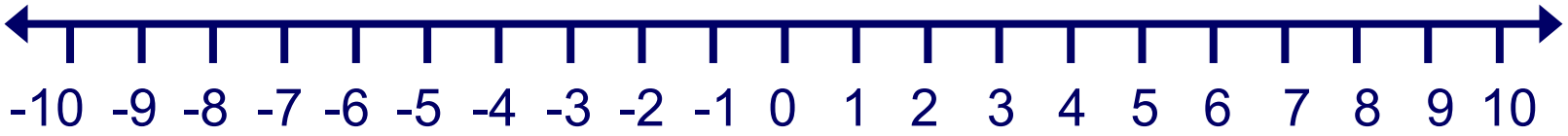
For example, –4 is 4 units away from 0, so |–4| = 4.

The symbol "| |" means "the absolute value of."

The absolute value of a positive number is just the number itself. For example, |5.8| = 5.8.

Absolute value

Figure out the absolute value of these numbers.
Use the number line for reference.

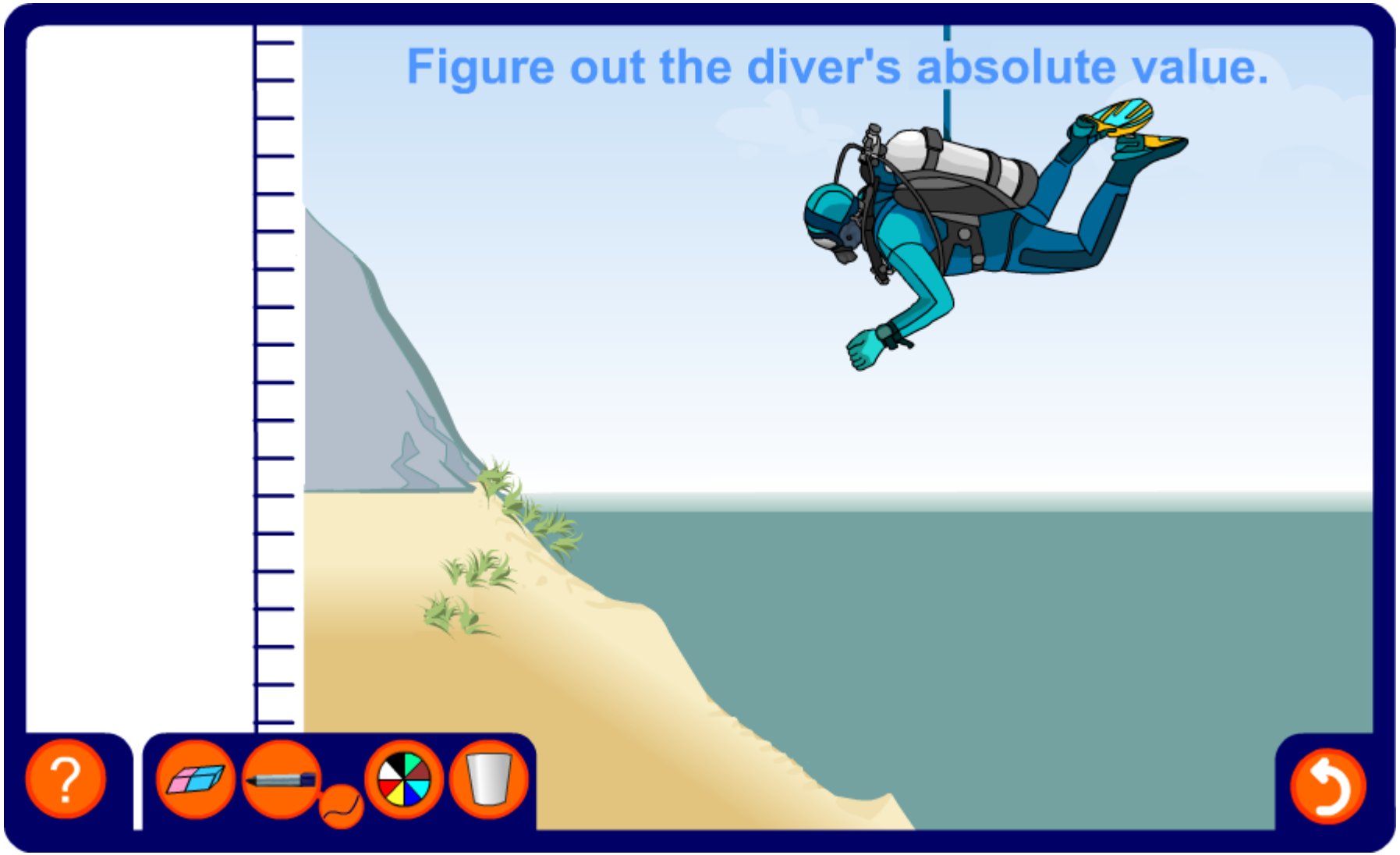


$|2| = 2$ $|-5| = 5$ $|-2| = 2$ $|0| = 0$

Taylor checked her bank account balance and saw that it was –$10. What is the size of her debt?

$|-10| = 10$

Diving



Ordering absolute values and integers

How would you order the following **absolute values** from the least to the greatest?

$|-4|,\ |54|,\ |0|,\ |-1|,\ |23|,\ |6|,\ |-12|$

$|0|$ $|-1|$ $|-4|$ $|6|$ $|-12|$ $|23|$ $|54|$

How would you order the following **integers** from the least to the greatest?

$-4,\ 54,\ 0,\ -1,\ 23,\ 6,\ -12$

-12 -4 -1 0 6 23 54

What do you notice about the difference in the order?

Comparing absolute values

MODELING

It is important to be able to compare two absolute values.

During a swimming race Anthony is 7 seconds behind the fastest swimmer. Grace is 5 seconds behind the fastest swimmer.

Who is the farthest behind? Show your answer in terms of absolute value.

Anthony = |–7|
Grace = |–5|

|–7| is greater than |–5|, so Anthony is the farthest behind.

Using absolute values

Answer the following questions using absolute values.

Press **start** to begin.

start