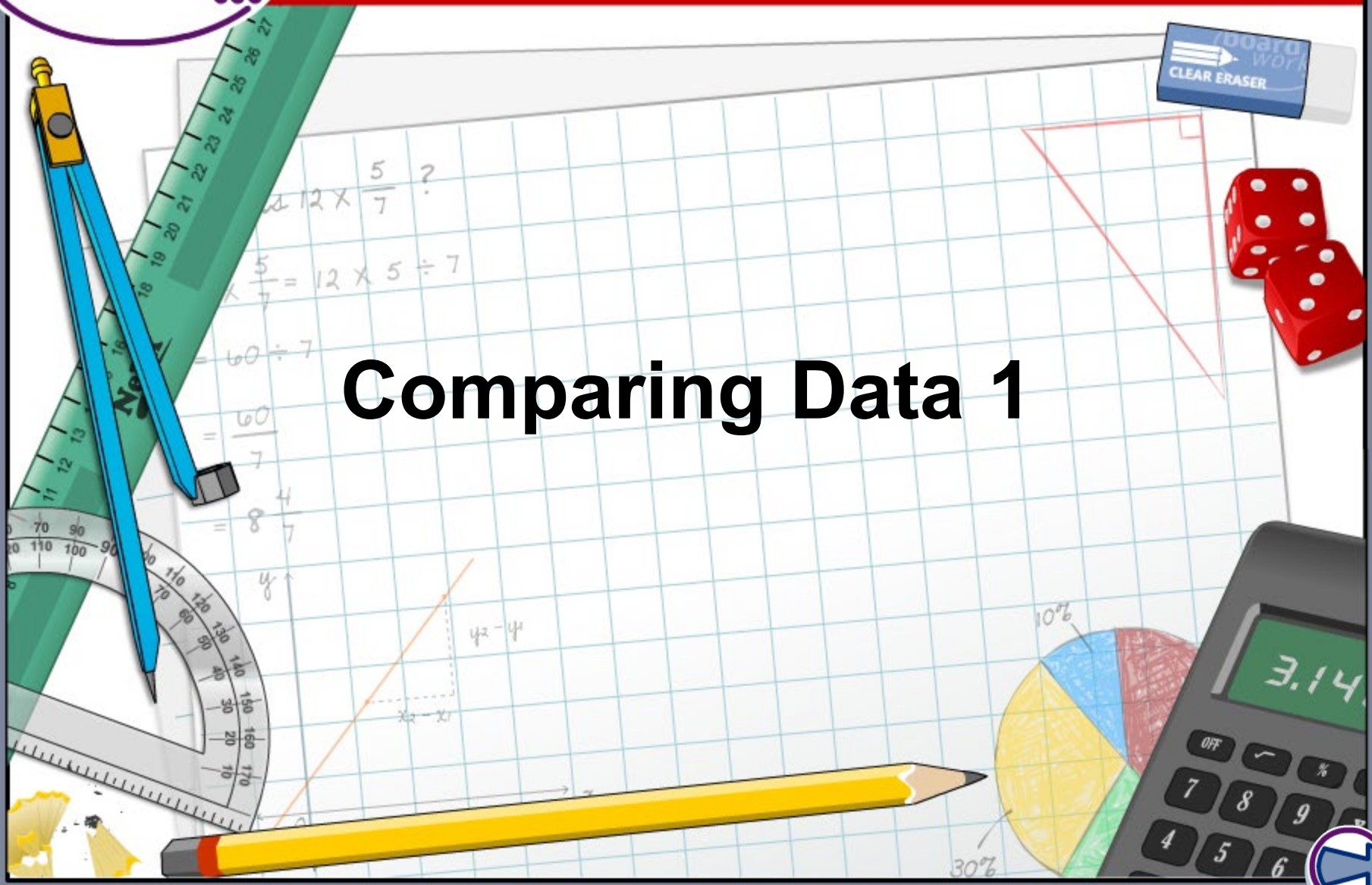
Comparing Data 1



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.

Data sets

A cyclist kept track of the number of miles she rode each day. The values are shown below:

This collection of values is called a **data set**. By organizing and analyzing a data set, we can answer questions about it. This type of mathematics is called **statistics**.

Organizing data

12 miles

Organizing data is an important first step in data analysis.

Place the cyclist's data in order from largest to smallest. What do you notice about it?

Press **start** to begin.

start

21 miles

12 miles

Data analysis – finding the center

MEAN | MEDIAN | MODE

One way to analyze data is to look at the **center** of the data. This can be done in different ways, allowing you to answer different types of questions.

Click on each of the tabs to find out about three methods of looking at the center of a data set.

Data analysis – spread

RANGE | INTERQUARTILE RANGE

Another way to analyze data is to look at the **spread** of the data. This describes how scattered or spread out the data points are.

Click on each of the tabs to find out about methods that analyze the spread of a data set.

Data analysis – shape

SYMMETRIC | NEGATIVELY SKEWED | POSITIVELY SKEWED

Another way to analyze data is to look at the **shape** of the data. This describes how the data in the data set rises and drops.

Click on each of the tabs to find out about three ways of describing the shape of a data set.

Comparing data vocabulary

Match each term to its definition

m

stat

m

me

data set

ta

t

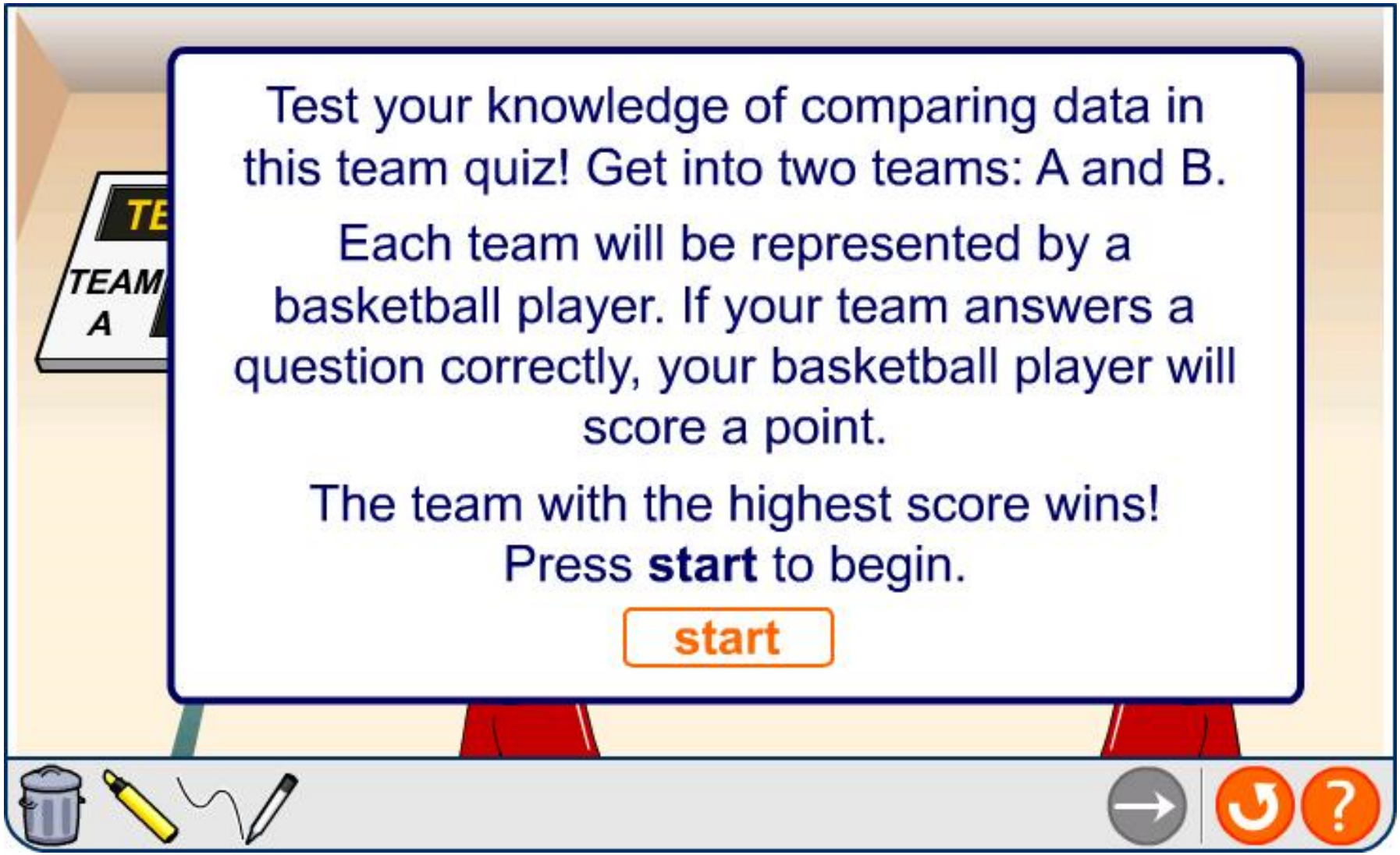
the average of a data set

Match each comparing data term to its correct definition.

Press **start** to begin.

start

Comparing data basketball



Madison's allowance

Discuss these questions in class, or in groups.

Madison is planning to ask her parents if she can earn a weekly allowance. To prepare, she has taken a survey of members of her class who receive allowance.

43, 5, 5, 7, 7, 7, 7, 8,
10, 10, 10, 10, 15, 20, 25

Here is the data Madison collected. Each value represents the dollar amount a student receives weekly.