

## Popular Networking

### Purpose:

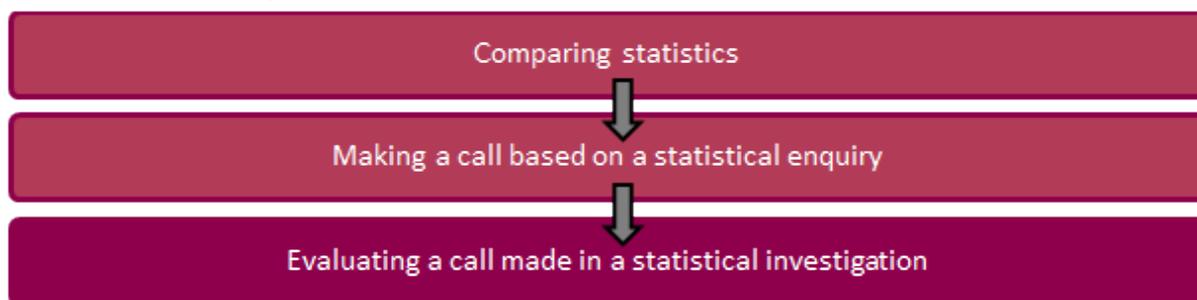
The purpose of this activity is to engage students in the evaluation of a published statistical report.

### Achievement Objectives:

S4-2: Evaluate statements made by others about the findings of statistical investigations and probability activities.

### Description of mathematics:

The background knowledge and skills that need to be established before and/or during this activity are outlined in the diagram below:



#### Comparing statistics

In a year 7 class, heights range from 145 cm to 168 cm, with a median of 151 cm. The year 8 class in the next room has a range of heights from 143 cm to 174 cm with a median of 153 cm. Which year group has the greatest range of heights?

#### Making a call based on a statistical enquiry

In a year 7 class, the average (mean) height of a student is 152 cm. The year 8 class in the next room has an average height of 154 cm. Use this information to say if you can make the call as to whether year 8 students in this school tend to be taller than year 7 students? (...and do they tend to be taller?)

#### Evaluating a call made in a statistical investigation

In a year 7 class, the average (mean) height of a student is 152 cm. The year 8 class in the next room has an average height of 151 cm. A student in the school said that year 8 students are shorter than year 7 students. Comment on whether the student could make this call.

This activity may be carried out with step by step guidance, or by allowing the student to follow their own method of solution. The approach should be chosen in sympathy with students' skills and depth of understanding.

## Activity:

In the newspaper article, 'Which Social Media for Teens?', it was reported that young people are using different forms of social media than they did a few years ago.

Read the article below and comment on whether the reporter's statements are consistent with the survey data.

### Which Social Media for Teens?

It looks like Facebook is no longer cool amongst the teens of today. Instagram and Twitter have taken over the most popular social networks among American children and these kids are ditching Facebook.

Research has shown that today's teens are no longer using Facebook. Rather, they are using Instagram and Twitter. There has been a steady decline in the usage of Facebook, with all other social networks increasing in popularity. Surveys of 15,000 social network users between the ages of 13 and 19 over the past three years, gave the following results:

Social Network	2013	2014	2015
Facebook	82%	78%	42%
Instagram	65%	69%	75%
Twitter	60%	58%	55%
Tumblr	45%	40%	42%
Pinterest	17%	21%	23%
Google+	5%	8%	12%
Other	23%	24%	30%

Source: This article has been created for the purpose of this statistics exercise and is not from any publication.

## The procedural approach

The student is able to evaluate a statistical report, linking their comments to the relevant parts of the report.

Prompts from the teacher could be:

1. Look through the table of data and consider any trends that are present.
2. Reading through the article, scan for any trends you identified.
3. List the statements you agree with, noting the data that support these statements.
4. Reading through the article again, seek out any comments that you disagree with and/or that cannot be supported by the data.
5. List the statements you disagree with, noting the data that do not support these statements.

Statement	Agree? or not?	Why? or why not?
• Facebook not cool	not	42% still use it. They might be the cool ones
• All the others increasing	not	Twitter decreasing also, Tumblr up+down
• Today's teens no longer using	not	42% still use it.

T: You've listed what you disagree with in the reports, but what about any parts you agree with?

S: Well, Instagram and Twitter are the most popular now, Facebook used to be.

T: Any other thoughts about this report?

S: Yeah, they didn't mention Tumblr, which is quite popular, and also lots of people use several kinds.

## The conceptual approach

The student is able to evaluate a statistical report, linking their comments to the report and its context.

Prompts from the teacher could be:

1. Look through the table of data and consider any trends that are present.
2. Reading through the article, scan for any trends you identified.
3. Reading through the article again, seek out any comments that you disagree with and/or that cannot be supported by the data.
4. Evaluate the report.

T: So, do you agree with the comments made by the reporter?

S: Yes and no. My gut feeling is that they are right about Facebook, Instagram and Twitter because that is what I thought was happening, but the numbers aren't really saying that.

T: Why not?

S: Well, first thing is that Facebook has an age limit. I'm not old enough to use it. I could lie about my age, but parents and school are getting better at finding us out if we use it so its not that Facebook is no longer cool, its that it isn't so easy to get onto. Also now that we have smartphones, the things that use less data to message are more popular, like instagram and twitter so those are more useful when we're not at home on the wifi.

T: So, knowing about this topic, you can look more deeply into this data.

S: Yeah, there's lots more going on than the reporter talks about. Like, we don't know who is using more than one of them so it's not really clear. A more interesting survey would have been if they asked what is the main social network used. So all the percents in a year would add up to 100. That would tell us what was the most popular network.